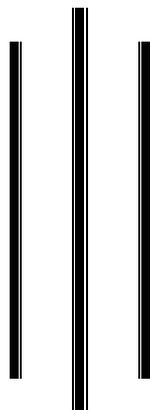
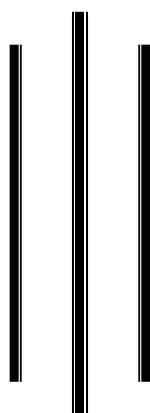


Monitoring Report
on
**Implementation Status of Agriculture Development
Strategy (2015-2035)**



Developed By:
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Ministry of Agriculture and Livestock Development
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Submitted To:
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Abbreviations

ADB	Asian Development Bank
ADS	Agriculture Development Strategy
ADSCS	ADS Coordination Section
ADS JSR IC	ADS JSR Implementation Committee
ADS JSR TC	ADS JSR Technical Committee
AFSP	Agriculture and Food Security Project
AFU	Agriculture and Forestry University
AICL	Agriculture Inputs Company Limited
AITC	Agriculture Information and Training Center
AKC	Agriculture Knowledge Center
AMIS	Agriculture Management Information System
ASDP	Agriculture Sector Development Programme
ATF	ADS Trust Fund
CADIC	Central Agriculture Development Implementation Committee
CAESC	Community Agriculture Extension Service Centre
CARD	Contribution to Agriculture and Rural Development
CIMMYT	International Maize and Wheat Improvement Center
CTEVT	Council for Technical Education and Vocational Training
DDC	District Coordination Committee
DSTEF	Decentralized Science, Technology, and Education Fund
DESTEP	Decentralized Science and Technology Program
DFTQC	Department of Food Technology and Quality Control
DLS	Division Department of Livestock Services
DoA	Department of Agriculture
DoF	Department of Forests and Soil Conservation
DoI	Department of Irrigation
DPs	Development Partners
DSTEP	Decentralized Science, Technology, and Education Program
EU	European Union
EUTCF	European Union Technical Cooperation Facility to ADS
FAO	Food and Agriculture Organization of the United Nations
FANSEP	Food and Nutrition Security Enhancement Project
FNSP	Food and Nutrition Security Plan of Action
FANUSEP,	Food and Nutrition Security Program
FDI	Foreign Direct Investment
FMS	Farmer marketing schools
FSQ	Food Safety and Quality
FGD	Focus Group Discussion
GAFFSP	Global Agriculture and Food Security Program
GAP	Good Agricultural Practices
GMP	Good Manufacturing Practice
GoN	Government of Nepal
GVAHP	Good Veterinary and Husbandry Practices
HACCP	Hazard Analysis Critical Control Point
HRD	Human Resource Development
ICTs	Information Communication Technologies
IFAD	International Fund for Agricultural Development

INAGEF	Innovation and Agri-entrepreneurship Fund
INAGEP	Innovation and Agro-entrepreneurship Program
ISFP	Improved Seeds for Farmers Programme
JSR	Joint Sector Review
KII	Key Informant Interview
KOICA	Korea International Cooperation Agency
KUBK	Kisankalagi Unnat Biu-Bijan Karyakram
M&E	Monitoring and Evaluation
MDAC	Ministerial Development Action Committee
MoALD	Ministry of Agriculture and Livestock Development
MoF	Ministry of Finance
MoICS	Ministry of Industry, Commerce and Supplies
MoLMCPA	Ministry of Land Management, Cooperative and Poverty Alleviation
MoEWRI	Ministry of Energy, Water Resources and Irrigation
MSNP	Multi-sector Nutritional Plan
MTEF	Medium-term Expenditure Frameworks
NABL	National Accreditation Board for Testing and Calibration Laboratories
NADSCC	National ADS Coordination Committee
NADSIC	National ADS Implementation Committee
NADSISU	National ADS Implementation Support Unit
NAES	National Agricultural Extension Strategy
NACCFL	Nepal Agriculture Cooperative Central Federation Ltd.
NAGRC	National Agriculture Genetic Resources Center
NARC	Nepal Agricultural Research Council
NBSM	Nepal Bureau of Standards and Metrology
NDAC	National Development Action Committee
NeKSAP	Nepal Food Security Monitoring System
NFC	National Farmers' Commission
NLSIP	Nepal Livestock Sector Innovation Project
NPC	National Planning Commission
NRB	Nepal Rastra Bank
NRFC	National Natural Resources and Fiscal Commission
NSAF	USAID funded Nepal Seed and Fertilizer Project
PADS	Provincial Agriculture Development Strategy
PAM	Provincial Agriculture Ministry
PDCCD	Planning and Development Cooperation Coordination Division
PMAMP	Prime Minister Agriculture Modernization Project
PPC	Provincial Planning Commission
PPP	Public Private Partnership
R-E-E	Research, Extension and Education
SDC	Swiss Agency for Development and Cooperation
SDGs	Sustainable Development Goals
SFACL	Small Farmers' Agricultural Cooperatives Limited
SKBBL	Sana Kisan Laghuitta Bittiya Sanstha Limited
SPS	Sanitary and Phytosanitary
SQCC	Seed Quality Control Center
SRR	Seed Replacement Rate
STC	Salt Trading Corporation Limited
TA	Technical Assistance
ToR	Terms of Reference

UNDP	United Nations Development Program
USAID	United States Agency for International Development
VADEP	Value Chain Development Program
VCDA	Value Chain Development Alliances
VCDF	Value Chain Development Fund
VCDP	Value Chain Development Program
VHLSEC	Veterinary Hospital and Livestock Service Expert Center
WFP	World Food Programme
WTO	World Trade Organization

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1. INTRODUCTION

1.1 Background

The Agriculture Development Strategy (ADS) is a twenty-year (2015-2035) vision for agriculture development in Nepal. The strategy was prepared by the Ministry of Agricultural Development with support from 13 development partners. The strategy was approved by Government of Nepal (GoN) on 26th July 2015 as a major policy guideline for agricultural transformation in the country. The ADS document presents the overall agriculture development strategy and a 10-year action plan with roadmap, which also includes visions, outcomes, outputs, and activities for the sector. The roadmap and action plan are formulated to attain its vision of a “self-reliant, sustainable, competitive, and inclusive agricultural sector that drives economic growth and contributes to improved livelihoods and food and nutrition security leading to food sovereignty.” The basic features of ADS are - it is based on concept of value chain, growth strategy, sustainability, multiple priorities (food-based, nutrition-based, right-based, and market oriented), inclusive and pluralistic (government, farmer groups/cooperatives and private sector engagement) approaches, and welfare. Various indicators and targets are included in the document to monitor progress towards the vision during implementation of the ADS. To achieve its vision, the ADS is expected to accelerate agriculture growth through four strategic components consisting of governance, productivity, profitable commercialization, and competitiveness. Monitoring and evaluation are the main outputs of the governance component, which is also the instrument to assess progress towards achieving intended sector results. The ADS envisions monitoring its progress regularly, professionally and in a participatory manner, and update the document every five years of implementation. Since the implementation of ADS has already completed its first five-years, an independent comprehensive monitoring exercise on implementation status of ADS was conducted by MoALD during FY 2022/023. The overall aim of exercise was to assess the credibility of the ADS implementation and to ascertain the extent of achievements during the first five-years compared to the targets, identify gaps, and suggest areas for improvement for future. Further, this monitoring report will also fulfill the precondition for disbursement of the remaining tranche from Budget Support Component of EU Support to Contribution to Agriculture and Rural Development (CARD) in Nepal, ACA/2017/038-862. The report presents the findings of monitoring exercise.

1.2 Objective

The overall objective of the exercise was to prepare a comprehensive monitoring status report of the ADS implementation compared to monitoring plan prepared by the Ministry of Agriculture and Livestock Development (MoALD) in 2019.

Specific tasks of the exercise were as follows.

- i. Review the ADS document, and the monitoring plan prepared by MoALD in 2019.
- ii. Conduct comprehensive monitoring work by collecting information on ADS progress related to its vision, outcomes and output indicators and associated activities.

- iii. Identify issues and gaps in ADS implementation and suggest actions to address them.
- iv. Prepare a comprehensive report on implementation status of ADS during the first five-years of its implementation.

1.3 Rational of the Study

The ADS is a living document, and it envisions being updated every five years through regular monitoring and periodic review. It has also included a provision for external review every five years and carry out requisite adjustments in the document. In this context, the ADS vision indicators are being reviewed annually by the MoALD through the ADS Joint Sector Review (JSR) mechanism (as provisioned in ADS), a mechanism established in 2018 by MoALD jointly with development partners supporting Nepal's agriculture development. The JSR tracks annual progress towards the five-yearly vision indicators of ADS, analyzes reasons for any shortfalls and recommends ways for resolutions, which is published in the form of annual report. Therefore, monitoring of ADS outcomes and outputs is needed to ascertain the extent of achievements against targets for its first five years, which is also envisioned in the ADS document and is a covenant for disbursement of the 4th tranche for European Union (EU) support to Contribution to Agriculture and Rural Development (CARD). The outputs of this monitoring exercise will serve as key information and background reference document for carrying the upcoming first five-yearly review and revision of the ADS document, for which MoALD has programmed and budgeted for the current fiscal year.

1.4 Limitation of the Study

This rigorous exercise was done within a short span of time due to lengthy process and time taken in making arrangements for resources to start the work. Hence, the field study particularly the extensive household survey could not be conducted but Key Informant Interview (KII), Focus Group Discussion (FGD) and consultation with relevant federal ministries, institutions, and stakeholders were done to collect information on cross cutting areas and validate the secondary information. The precise checklists for KII, FGD and consultations were developed and administered to validate the secondary information and make the best use of time and resources and minimize errors and gaps in information gathering.

2. METHODOLOGY

A technical committee chaired by the Joint Secretary of the MoALD was formed to lead the monitoring exercise. The exercise was supported by several experts from MoALD and a consultant. The study mainly adopted methodologies like desk study, field study, data analysis, consultation meetings, and workshops. These are schematically presented in Figure 1.

2.1 Desk Study

The desk study involved review of relevant documents published by government agencies and private sector including from selected provinces and municipalities and collection of latest available secondary data and information. The documents

reviewed mainly included ADS, sectoral federal and provincial ministries (agriculture, forestry, land management, irrigation, finance, cooperatives) and National Planning Commission (NPC) publications, Provincial ADS (PADS), JSR Annual Reports, Economic Survey, Publications from Nepal Rastra Bank (NRB) and CBS publications. A draft report was prepared to share and validate its findings during the field study and consultation meetings and workshops.

2.2 Field Study

The information on cross cutting areas were gathered through KII, FGD and consultation meetings with relevant federal and provincial institutions and stakeholders. This was also done to validate secondary data gathered during the desk study. KIIs were conducted mainly with federal, provincial and local institutions whereas FGDs were conducted with leader farmers and farmer groups focusing on top five ADS priority commodities like maize, lentil, tea, vegetable and dairy.

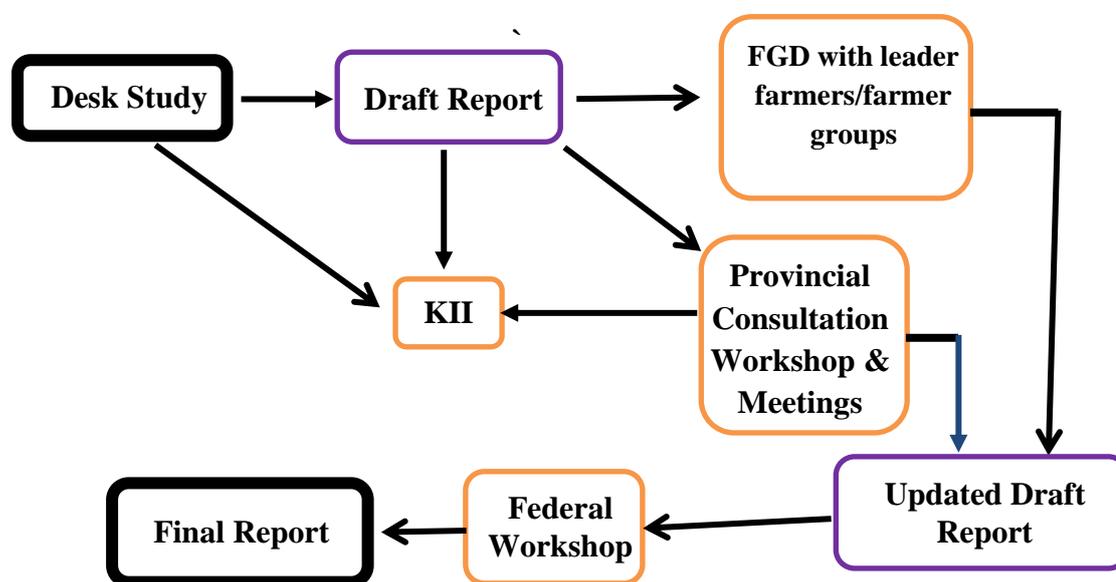


Figure 1: Schematic presentation of study activities

The KIIs were conducted with 27 officials. The list of officials in KII is given in Annex 1a. The FGDs were conducted with leader farmers, farmer groups, cooperatives, private companies and foreign returnee innovative youths. The list of participants in FGD included 44 leader farmers, farmer and cooperative members, private company members and foreign returnee youths and the list of participants is given in Annex 1b.

2.3 Data Analysis

Data analysis was done in MS Excel. Average, percentage, frequencies, charts and tables were used to interpret and present the data.

2.4 Consultation Meetings and Workshops

Consultation meetings and workshops were organized to share and validate the findings of the monitoring exercise and gather feedbacks from concerned

stakeholders. Consultation meetings were organized with Agriculture Knowledge Center (AKC), Sunsari, Veterinary Hospital and Livestock Service Expert Center (VHLSEC), Sunsari, PMAMP, Morang, PMAMP, Jhapa and Inaruwa, municipality of Province 1. Following this, a Consultation Workshop was organized on 20 January 2023 in Hotel Asiatic, Biratnagar in Province 1 involving province level stakeholders like provincial line ministries, Provincial Planning Commission (PPC), Nepal Agriculture Research Council (NARC), Agriculture Development Bank (ADB) farms and stations, AKC, VHLSEC, farmer cooperatives, agribusiness commodity associations, farmer representatives etc. A total of 62 participants participated the consultation workshop. The list of participants is given in Annex 1c.

Finally, a national level workshop was organized involving federal agencies including relevant ministries, institutions, agencies, departments, commissions and committees to share and validate the findings of the monitoring exercise and gather feedbacks from concerned stakeholders. The list of participants is given in Annex 1d. The final report was prepared after incorporating comments and suggestions from the workshop. Finally, the technical committee recommended the final report to the ministry for approval.

3. MAJOR FINDINGS OF THE STUDY

3.1 Government Initiatives for ADS Implementation

Nepal had unitary governance system when ADS was formulated. In 2015, the country adopted federal system of governance with the promulgation of new Constitution of Nepal creating seven provinces and 753 municipalities. It posed great challenge for GoN to transform ADS into federal structure and devise a strong formalized functional coordination and linkage mechanisms, reform and formulate relevant policies, laws, programs and projects, sensitize and advocate ADS, orient institutions and human resources to ADS implementation, adopt ADS in provinces and municipalities, and develop implementation monitoring and evaluation mechanisms. Still there is a lack of formalized linkage and coordination mechanism among three tiers of government (federal, provincial and local) for adoption and effective implementation of ADS. The GoN has taken several initiatives towards these and some crucial ones are presented below.

Institutional Arrangements: Several new institutions have been formed and some exiting one have been restructured after federalization. It was great challenge for GoN and MoALD in particular to synergize the requirements for federal structure and meeting requirements of ADS. In the past, there was only one agriculture ministry and now there are eight agriculture ministries - one at federation and one each in seven provinces. Agriculture and livestock directorates, agriculture and livestock training centers, AKCs, VHLSECs and farms have been established including restricting and reorganization of existing one in all seven provinces. Agriculture and livestock sections have been created in all 753 municipalities. In addition to these, GoN has formulated and implemented (some are still in implementation phase) some project with the support from DPs to facilitate implementation of ADS.

Several initiatives have been taken toward ADS. These included formation of implementation and coordination committee in the chairmanship of Honorable

Minister for Agricultural Development and Honorable Vice Chancellor of National planning commission respectively, formation of ADS Support unit in many agencies including ADS implementation Unit established in then MoAD, deputization of four flagship managers and budget provided for each flagship program, the budget heading of whole ministry changed to ADS implementation, ADS baseline data updated for 2015, endorsement of Food and Nutrition Security Plan of Action, and development of ADS Trust Fund (ATF) implementation guidelines.

From the very first fiscal year 2072/73 of ADS implementation, MoALD began with working on pre-requisite and preliminary activities. These included - formal release of approved ADS document by the Secretary to media and public on 3 September 2015, establishment of National ADS Implementation Committee (NADSIC) chaired by Hon'ble Minister of Agriculture with Vice Chairman of NPC as co-chair, establishment of National ADS Coordination Committee (NADSCC) chaired by Hon'ble Vice-chairman of NPC, establishment of National ADS Implementation Support Unit (NADSISU) in MoALD, formation of ADS JSR Committee and ADS JSR Technical Committee, establishment of National Farmers' Commission (NFC), deputation of ADS Flagship Program Managers to define and implement Flagship Programs, and dedicated ADS Focal Desk and Focal Person in concerned ministries, departments, directorates and centers at federal, provincial and local levels. Some municipalities have initiated identifying focal persons to specifically look into ADS. The Ministry established 58 Project Implementation Units with staffs, program and budget to implement Prime Minister Agriculture Modernization Project (PMAMP) programs in all 77 districts as a 10-year road map project of ADS.

The GoN formulated and enacted National Farmers' Commission Formation Executive Order 2016 to form NFC. The NFC was established on 19th January 2017 to develop agriculture as a dignified and attractive profession by creating and advocating peasants' rights and making friendly environment to guarantee peasants' rights by facilitating implementation of their constitutionally assured rights in co-operation with the GoN and concerned stakeholders. The objectives of NFC are - protecting and promoting the rights of farmers by modernizing, commercializing, and diversifying the agricultural sector, formulating relevant agriculture policies, laws and plans, making agriculture research and dissemination farmer-friendly, and protecting the rights and interests of farmers. NFC has conducted several studies and submitted for approval which included Working Procedure on Farmer Classification, Farmers' Identity Card, Land-use Utilization Act, Farmers' Right Act, Utilization of Barren land etc.

Currently, one Federal Level Ministry for Agriculture and Livestock Development as well as Seven Province Level Ministry for Agriculture Sector are the dedicated government institutions for agriculture development in Nepal.

Publication, Advocacy and Capacity Building: In the second fiscal year (2073/74), ADS main document was printed both in English and Nepali together with ADS Summary Sheet and these were widely circulated among concerned institutions to facilitate ADS implementation. The ADS and related reports/documents were digitally published together with organization of meetings and workshops at local, provincial and federal levels to advocate and sensitize ADS among relevant stakeholders, media and general public. Participants in meetings and workshops at

federal level included concerned federal public and private institutions (Federation of Nepal Chamber of Commerce and Industries, Confederation of Nepalese Industries, commodity associations, cooperatives, Peasant Coalition, farmer groups and associations, leader farmers, academicians, I/NGOs, agri-entrepreneurs, etc.). In province level, awareness enhancement program through provincial workshops were organized in Province 1, Bagmati, Karnali and Sudurpaschim Provinces and later in the rest. The participants at province level included concerned public institutions as well as relevant private institutions. Similarly, the participants at local level included selected municipalities, private entities like District Chamber of Commerce and Industries, commodity associations, cooperatives, Peasant Coalition, farmer groups and associations, leader farmers, academicians, I/NGOs, agri-entrepreneurs, representatives of DPs at local level etc.

Other crucial activities completed by the Ministry during the second fiscal year of ADS implementation included implementation of ADS reformulation study per federal structure, and creation of ADS website. Now, Provincial ADS (PADS) has already been formulated in all provinces and the cabinet of Sudurpaschim Province has already approved it. In addition, the Ministry has updated ADS Baseline Data in 2015 and circulated approved ADS Implementation Guideline, ADS Monitoring Plan 2019, and 10-Year ADS Action Plan to all concerned institutions to facilitate ADS program implementation. The Ministry also organized several trainings for federal, province and local level government employees who are directly involved in ADS implementation.

Policy and Law Reforms: GoN has formulated and reformulated policies and laws to support ADS implementation. The MoALD has formulated new policies and laws to facilitate ADS implementation. These included National Fishery Policy, 2079, National Animal Health Policy, 2078, National Livestock and Poultry Breeding Policy, 2078, National Dairy Development Policy, 2078, National Agroforestry Policy, 2076, National Food Safety Policy, 2076, Food Right and Food Sovereignty Act, 2075, Land Use Act, 2076, Land Use Regulation, 2078, Land Use Policy, 2072, and Food and Nutrition Security Plan of Action, 2015. Revision of National Agricultural Extension Strategy (NAES) and National Agriculture Policy, 2004 as an umbrella framework to guide all other agriculture related sectoral/sub-sectoral policies is under process with the technical and financial supports from EUTCF. In the changed federal context, agriculture extension strategy needs extensive consultations, so some background papers have already been prepared¹. Agribusiness Promotion Act is in final stage of preparation. The Ministry has also drafted ADS Trust Fund (ATF) Regulation to ensure financing of ADS defined activities implementation and it is still in the process of endorsement and approval.

Specific Project Design and Implementation: PMAMP is the largest project of GoN to support ADS implementation. It was designed PMAMP through its own human resources to support ADS implementation for the first 10-year period exclusively through own investment, human resources and institutional set-up. It was executed in 2016 to support implementation of four ADS flagship programs (Food and Nutrition

¹ which include agriculture extension in Nepal under federal system, revitalizing agricultural advisory services, community-based agricultural extension support, mechanization hire services, rethinking agricultural input subsidies, price support instruments, seed governance, public private partnership in market infrastructure, and enabling environment for agribusiness development and organic fertilizer management.

Security Program - FANUSEP, Decentralized Science and Technology Program - DESTEP, Value Chain Development Program - VCDP, and Innovation and Agro-entrepreneurship Program - INAGEP). To enhance production, productivity and commercialization of agriculture, PMAMP envisages establishment of small commercial production centers (pockets), commercial production centers (blocks), commercial production and processing centers (zones) and large commercial production and industrial centers (super zones). Till the fiscal year 2078/79, 16 super zones, 177 zones, 1,605 blocks, and 7,706 pockets against the target 21, 300, 1500 and 15000 respectively have been established with a total investment of NPR 130,742 million. In the later part, blocks are implemented by provinces and pockets by municipalities and the rest by federation. PMAMP covers all 77 districts and all seven provinces through its 58 Project Implementation Units.

The Project is also supporting establishment of resources centers in super zones such as breeder seed production, regulatory laboratories, organic manure production, biopesticide production, large agriculture markets, large irrigation infrastructures, agriculture training centers, agriculture research centers, agriculture college, and agro-industries to modernize agriculture. The beneficiaries are professional farmer groups, cooperatives, agro-entrepreneurs, water user groups, agro-entrepreneurs, registered companies, and agriculture market committee members. Super-zone management committee has been established in each super zone.

Other projects implemented to support ADS included Nepal Livestock Sector Innovation Project, Food and Nutrition Security Enhancement Project, Agriculture Sector Development Project, Rural Entrepreneurship and Economic Development Project, Nuts and Fruits in Hilly Area Project, and Value Chain Development of Fruits and Vegetables.

Priority Investment for ADS Implementation: The ADS is a major policy guideline for agriculture development in Nepal. Hence, GoN is allocating budget for ADS program implementation with high priority as per programs and policies suggested by the ADS. Since, food and nutrition insecurity has been one of the major issues in the country, food sovereignty and food security has been explicitly mentioned in the Constitution of Nepal and ADS too has clearly and elaborately defined activities for food and nutrition security. The GoN is allocating program budget as per ADS to address food and nutrition security issues in the country.

The public budget allocated as program subsidy is the direct public investment for agriculture development in the country. The total annual budget and subsidy to enhance food, vegetable and fruit production from fiscal year 2073/74 to 2077/78 is presented in Table 1. The subsidy occupies 44.41% of total budget and its spending for this period has been very much encouraging (99.18% of total allocated).

Table 1: Annual budget and subsidy target and achievement

Fiscal Year	Budget, NPR million	Subsidy, NPR million	Food Production, '000 mt			Vegetable Production, '000 mt			Fruit Production, '000 mt		
			Target	Achievement	Achievement, %	Target	Achievement	Achievement, %	Target	Achievement	Achievement, %
2072/73 (2015/16)	21515										
2073/74 (2016/17)	27438	10780	9325	9345	100	3700	4125	111	1211	975	80
2074/75 (2017/18)	24261	8760	9792	9657	99	3800	4099	107	1339	1010	75
2075/76 (2018/19)	29946	12290	10476	10328	98	4000	4271	106	1480	1178	78
2076/77 (2019/20)	34832	16830	10390	10369	99	4089	4089	100	1300	1096	84
2077/78 (2020/21)	37402	19680	10800	10558	98	4280	4196	98	1305	1360	104
2078/79 (2021/22)	41099										
2079/80 (2022/23)	48160										
Total	243138	68340	50783	50257	99	19869	20780	105	6635	5619	85

Note: Figures in parentheses are fiscal year in AD.

Source for subsidy: Fifty-ninth Annual Report of Auditor General, 2079.

3.2 Contribution from Development Partners for ADS Implementation

DPs supports have been since the initial phase of designing and formulation of ADS. DPs supports are continued for ADS implementation too. In addition, DPs are supporting ADS implementation through various project and sub-projects as per their own country priorities. Brief about some DP support for ADS implementation are presented below.

EUCARD: EU Contribution to Agriculture and Rural Development (CARD) in Nepal was signed on 28 June, 2018 and is now extended up to 28 June 2023. The total amount of support was 40 million Euro out of which 36 million was allocated for Budget Support Component and 4 Million was allocated for Complementary Support Component. The EUTCF support to ADS was in operation since April 2019 and was completed in June 2022. The EUTCF is a part of the larger EU supported program - CARD. The Provincial ADS has been prepared in all seven Province with the support from EU TCF to ADS. The EUTCF's terms of reference is to support the GoN in realizing ADS priorities at all three levels of government in formulating policies, strengthening capacities, and improving coordination, with a particular focus on improving agriculture planning, monitoring and evaluation systems.

The EUTCF support to ADS is EUR 4 million and it has six result areas namely (i) ADS communications, (ii) governance and policies, (iii) agricultural planning, (iv) monitoring and evaluation, (v) human resource development, and (vi) support to public finance management. The EUTCF is also expected to provide policy advice to federal and provincial agriculture ministries and assist in meeting conditions for budget tranche release under the CARD program contributing to poverty reduction, food and nutrition security, climate change resilience, and improving competitiveness of the sector to generate higher and equitable incomes in rural areas. The EUTCF has been supporting the promotion of relevance, effectiveness, efficiency, impact and sustainability of ADS implementation and acting as a flexible tool to respond to MoALD priorities. Summary of EUTCF supports is presented in Table 2.

Table 2: EUTCF supports

#	EU EUTCF Supports	Coverage			Participants			Others
		Province	District	Municipality	Male	Female	Total	
1	Communications							
	District level orientation	...	72	All municipalities of 72 districts	-	-	-	-
	Separate ADS webpage on PAM website	7	-	-	-	-	-	-
	Establishment of coordination mechanisms	7	-	753	-	-	-	-
	Intergovernmental & DP coordination meetings	4 (Lumbini, Gandaki, Karnali & Bagmati)	-	-	-	-	-	-
2	Governance and Policies							
	Review of National Agriculture Policy, 2004	-	-	-	-	-	-	In process
	Establishment of ADS desk	7	-	-	-	-	-	-
	Designation of ADS Focal Person	-	-	Some	-	-	-	-
	Preparation of policy related documents*	-	-	-	-	-	-	17
	Background papers for agriculture extension strategy**	-	-	-	-	-	-	10
3	Agricultural Planning							
	Planning workshops and training to align ADS in PAM and municipalities***							4
	Three-day cluster level training on agri. development planning, database management and farmer registration software	7	77	753	236	1238	1474	-
4	Preparation of PADS							
	Framework to prepare PADS							1
	Preparation of PADS****	7	-	-	-	-	-	-
5	Monitoring and Evaluation (M&E)							
	Revision of existing M&E system (updated formats & web-based digital platform)							1
6	Preparation of ADS M&E Plan							For 3 levels of government
7	Development of Baseline Information at Municipality Level							
	Cluster level training							

#	EU EUTCF Supports	Coverage			Participants			Others
		Province	District	Municipality	Male	Female	Total	
	for municipal officials Preparation of sample agricultural profiles for pilot municipalities							
8	Design and Rollout of Farmer Registration Software Financial & technical support to design software Farmer registration	7						1 117059
9	Human Resource Development TOT on agricultural development planning for PAM and subsidiary institutions Training on statistics and econometrics for policy analysis for MoALD and PAM staffs							54 officials
10	Capacity Needs Assessment and Capacity Development Plan Capacity needs assessment	7		140				
11	Sector Budget Support Preparation of Status of Action Plan Implementation and Indicators 2018/19-2022/23 Collection of budget information from relevant federal and provincial line ministries							

* Institutional Mapping; Guidelines for ADS Coordination at Provincial Level; Post-Covid Recovery Concept Note; Concept Note on Absorption of Returnee Migrants; Study on Importation of Rice; Synthesis Report of Publications of Urea Application for Rice; Seed Sector Development; Sectoral Review and Analysis for Lumbini Province; Review of International Standards for Organic and Biofertilizers; Organic Agriculture Policy for Karnali Province; Report on Agricultural Advisory Services; Status Report on Agricultural Marketing for Madhesh Province; Social and Environmental Safeguards Assessment for REED Project; Buy-back Guarantee Scheme for Rice and Vegetables; Animal Health Bill for Sudurpaschim Province; Agribusiness Policy for Karnali Province; Agriculture Extension Policy Review.

** Agriculture Extension in Nepal; Revitalizing Agricultural Advisory Services; Community Based Agricultural Extension Support; Mechanization Hire Service; Rethinking Agricultural Input Subsidies; Price Support Instruments; Seed Governance; Public Private Partnership in Market Infrastructure; Enabling Environment for Agribusiness Development; Enabling Environment for Organic Fertilizer Management.

*** Planning workshop per ADS; Development of Local Level Agricultural Planning Methodology; Training on Agriculture Development Planning for Local Government Staffs; Three Day Cluster Level.

**** USAID support for Lumbini and SDC support for Sudurpaschim and Province I.

ASDP (Agriculture Sector Development Program): In line with the ADS, this is a follow-up programme of High Value Agriculture Project for 10 hill and mountain districts of Karnali Province (Dailekh, Dolpa, Humla, Jajarkot, Jumla, Kalikot, Mugu, Rukum Western, Salyan, and Surrket). The Program is funded by the GoN and International Fund for Agriculture Development as per the financing agreement signed on 4 June 2018 and is in implementation since July 2018 for a period of six years with total funding of USD 68 million. The MoALD is the main executing agency.

The Program aims to reduce poverty and food insecurity in Program districts and development objective is to contribute to the income and food security of smallholders and disadvantaged rural groups involved in commercially-oriented production and marketing system in selected high value agriculture value chains. The value chain commodities are ginger, turmeric, timur, off season vegetables, potato seed, apple, goat, honey, dairy, walnut, citrus and highly nutritious indigenous crops, such as bean, buckwheat, barely.

The Programme has two components - value chain development and programme coordination. The first component includes four subcomponents (outcomes): (i) inclusive and sustainable value chain expanded and diversified, (ii) market-oriented rural infrastructure functional, (iii) rural financial services for value chain development strengthened, and (iv) agriculture services sustainably support innovation and value chain development.

FANSEP (Food and Nutrition Security Enhancement Project): FANSEP compliments one of the flagship programs of food and nutrition security of ADS. The Project plays direct role in achieving all the targets related to food and nutrition security set in ADS and others. The Project has four components viz. Climate and Nutrition Smart Agriculture Technology Adaptation and Dissemination, Income Generation and Diversification, Improving Nutrition Security, and Project management, communication, and M&E.

The Project is funded by Global Agriculture and Food Security Program (GAFSP). The grant agreement between GoN and International Development Association (IDA) for the Project was signed on 14th November 2018. The total Project cost is USD 28.70 million of which USD 22.7 million is GAFSP grant and the rest is counterpart funding from GoN. This Project is implemented by MoALD, supervised by the World Bank and Technical Assistance is provided by Food and Agriculture Organizations of the United Nations. This project is implemented in 16 Rural Municipalities of eight districts (Gorkha, Dhading, Sindhupalchowk, Dolakha, Dhanusha, Mahottari, Siraha and Saptari) for the duration of five years. The project aims to reach 65,000 direct beneficiaries.

REED (The Rural Enterprise and Economic Development) Project: This is a World Bank funded Project which aims to stimulate the development of rural enterprises by strengthening market linkages among smallholder producers and players in the agricultural commodity value chain and by strengthening the enabling environment for the development of enterprises in key economic corridors of the country.

The Project covers all provinces except Karnali, four economic road corridors (Pakhribas-Dhankuta, Butwal-Rupandehi, Bardibas-Mahottari and Dadeldhura), 35 districts, and 171 municipalities. The Project provides funding for productive partnership's start-up business plans, upgrading and building demand-driven market centers, value chain related infrastructures and semi-public infrastructures and facilities at local level to support the partnerships and their communities.

Nuts and Fruit Projects: This is ADB funded technical assistance Project. The Project was signed on 7 June 2021 and is effective from approval date on 30 June 2021 and will end on 31 December 2025. Total budget of the Project is USD 1,400,000.

The Project aims to enhance the capacity of the executing and implementing agencies to implement the ensuing project and bring in expertise that is not available locally. The technical assistance has three outputs: (i) improvement in disease-free nursery management and certification system; (ii) digitization of agriculture input support system; (iii) exploration of carbon capture of fruit and nut orchard; and (iv) improvement of climate resilience of orchard management. The technical assistance adds value to the project implementation by enabling the implementing agencies to explore innovative ideas and approaches, such as carbon capture measurement and financing through revegetation of barren land, planting fruit and nut trees, digital payment for agricultural subsidies and other financial support, nursery management, and certification system development for nut and fruit farming which are new to Nepal.

The Project is implemented through three-tier government system (National Center for Fruit Development, Provincial Agriculture Ministry, and local governments). The Project also supports the project implementation at farmer level by engaging national farmer group facilitators. These facilitators will support local governments which are lacking human resources to effectively reach out to approximately 40,000 households.

NLSIP (Nepal Livestock Sector Innovation Project): This is the World Bank funded Project approved on 7 December 2017. The Project is in implementation from 2018 and will be closed on 30 June 2023. Total cost of the Project is USD 115 million. The Project is implemented by MoALD.

The objectives of the Project are to increase productivity, enhance value addition, and improve climate resilience of smallholder farms and agro-enterprises in selected livestock value-chains in Nepal. The Project has four components viz. (i) strengthening critical regulatory and institutional capacity, (ii) promoting sector innovation and modernizing service delivery, (iii) promoting inclusive value chains for selected livestock commodities, and (iv) project management and knowledge generation.

3.3 Joint Sector Review Mechanism for ADS

The ADS JSR mechanism has been established jointly by the GoN represented by MoALD and DPs supporting Nepal's agriculture sector with the objectives of (i) jointly conducting strategic reviews of the agriculture sector to identify issues that

affect the implementation performance, (ii) contributing to alignment and harmonization of GoN and DP priorities in the sector, and (iii) preparing and contributing to the execution of a time-bound action plan to address issues for achieving intended sector results. The JSR mechanism has been operational since October 2018. The ADS JSR has been a viable institutional structure for periodic review of agriculture sector performance as well as a platform for regular interaction between the GoN and DPs. The mechanism has already brought out three ADS JSR annual reports.

Since ADS was formulated jointly by the GoN and DPs, its review and revision after five years of implementation will have to be done jointly. The MoALD has allocated budget for this task in the current fiscal year 2079/80 (2022/23). The GoN and DPs have discussed about this in various joint meetings. Both the GoN and DPs are jointly finalizing ToR for ADS review and revision. Asian Development Bank (ADB), the World Bank, International Fund for Agricultural Development (IFAD), European Union (EU), United States Agency for International Development (USAID) and Food and Agriculture Organization of the United Nations (FAO) are actively involved for this. The ADS review and revision will be completed within this fiscal year if everything goes well.

3.4 Government initiatives to jointly conduct the first five-yearly review of ADS

The ADS has been formulated jointly by GoN and DPs. Hence, the joint meeting of GoN and DPs on 4th November 2022 has made decision to conduct first five yearly reviews and revision of ADS too jointly. The MoALD has provisioned review and revision program and budget for the current fiscal year 2079/80 (2022/23 AD). Currently, the GoN is finalizing ToR for ADS review and revision. Several joint meetings have been organized to discuss on it. The EU, Asian Development Bank (ADB), World Bank, IFAD, FAO and USAID are actively involved in these activities. If no unavoidable circumstances like COVID-19 occur, ADS review and revision will be completed within the stipulated time.

3.5 Status of ADS Implementation and Achievements After Five Years of Implementation Based on ADS Monitoring Plan (2019)

This section describes activities performed to achieve desired outputs and outcomes. There are 4 outcomes, 35 outputs (Annex 2a) and 232 individual actions (Annex 2b) in ADS. Brief about activities performed to achieve these outcomes and outputs are presented below.

3.5.1 Component 1: Improved Governance

Governance refers to the capacity of government to design, formulate and implement policies and discharge functions. Key elements of governance include - accountability, participation, predictability, and transparency. There are 54 activities under 10 outputs of this outcome. Brief about performance status of these activities is presented below.

a. Credibility of Policy Commitment

As committed in ADS, the GoN has formulated and enacted nine new policies and two new laws. Similarly, two existing policies are at the final stage of revision and two new laws are in the process of approval. It has been done to facilitate implementation of ADS. The list of these policies and laws is presented in Table 3.

Table 3: List of new and revised policies and laws

#	Policies	Laws
New policies and laws:		
1	National Fishery Policy, 2079	Land Use Act, 2076
2	National Animal Health Policy, 2078	Land Use Regulation, 2079
3	National Livestock and Poultry Breeding Policy, 2078	
4	National Dairy Development Policy, 2078	
5	National Agroforestry Policy, 2076	
6	National Food Safety Policy, 2076	
7	Food Right and Food Sovereignty Act, 2075	
8	Land Use Policy, 2072	
9	Food and Nutrition Security Plan of Action, 2015	
Existing policies at the final stage of revision:		New laws in the process for approval:
1	National Agriculture Policy, 2004	Agribusiness Promotion Act
2	National Agricultural Extension Strategy, 2063	ADS Trust Fund Regulation

During the first two years of ADS implementation, awareness campaigns were intensively organized. Such campaigns included various documents. Brief about these is presented below.

The English version of cabinet approved **ADS document** printed in fiscal year 2072/73 (Photo 1a and 1b) was translated into Nepali (Photo 1c and 1d) together with ADS Summary Booklet (Photo 2) in Nepali in the same year with the support from International Fund for Agricultural Development (IFAD) funded Improved Seeds for Farmers Programme (ISFP) (or Kisankalagi Unnat Biu-Bijan Karyakram - KUBK). These publications were widely distributed among relevant and interested stakeholders;

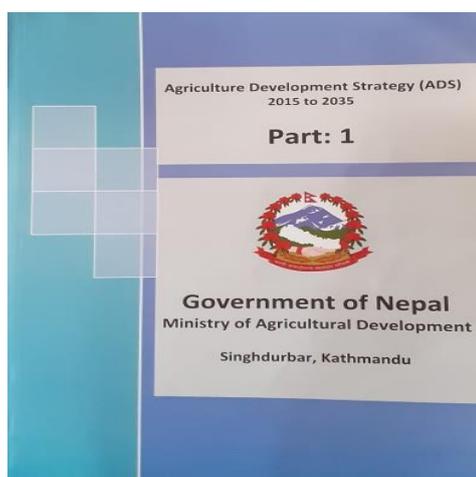


Photo 1a: ADS main document part 1 (English)



Photo 1b: ADS main document part 2 (English)

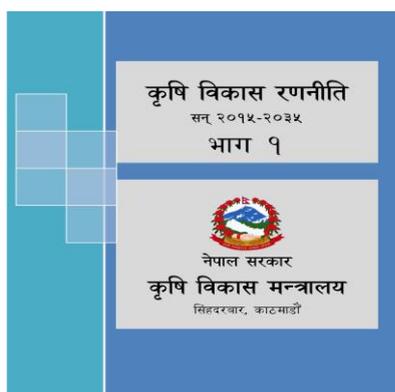


Photo 1c: ADS main document part 1 (Nepali)

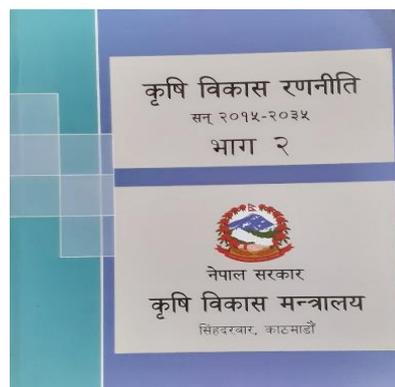


Photo 1d: ADS main document part 2 (Nepali)

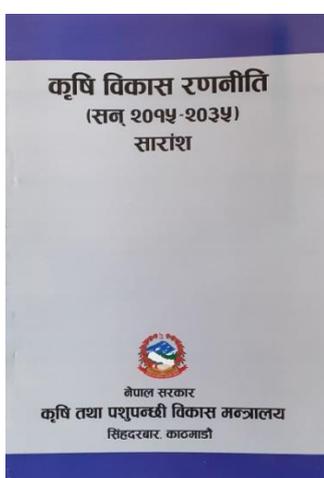


Photo 2: ADS summary (Nepali)

Information on ADS is regularly issued in widely circulated publications like Agriculture and Livestock Diary (Photo 3a) and MoALD Bulletins and Annual Monitoring Report Books (Photo 3b). A dedicated ADS section has been designed in PAM webpage. A sample photo (Photo 3c) has been presented of Sudurpaschim Province.

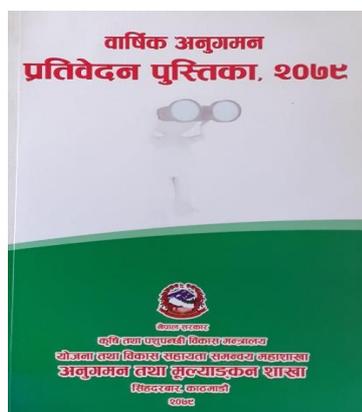


Photo 3a: Agriculture and livestock diary Photo 3b: MoALD annual monitoring report book

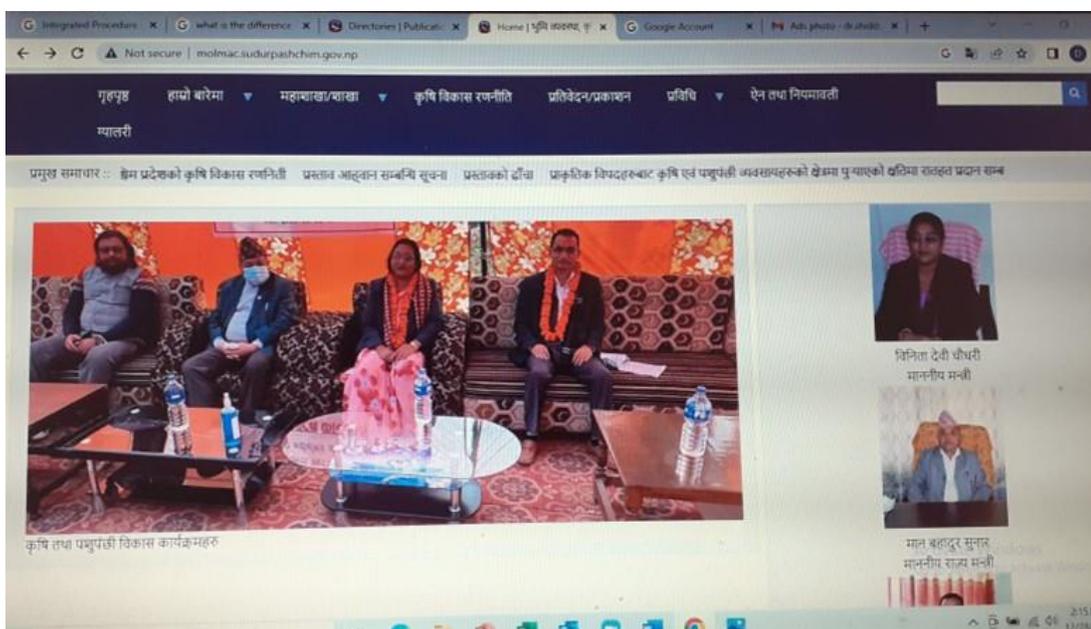


Photo 3c: Dedicated ADS section in agriculture ministry webpage of Sudurpaschim province.

Presentations about ADS were made at central, regional and district level program planning and progress review workshops during the fiscal years 2072/73 to 2074/75 before federalization. Such presentations were regularly done at federal, provincial, district level agriculture offices like Agriculture Knowledge Center (AKC), Veterinary Hospital and Livestock Service Expert Center (VHLSEC), and selected municipalities after federalization since 2075/76 highlighting on adoption and program planning of ADS at local level in the federalized context.

The first formal press/media release of approved ADS was done by then Secretary Mr. Uttam Kumar Bhattarai on 3 September 2015 and its formal declaration of implementation was done on 23 July 2021 in a program chaired by then Secretary and attended by the Hon'ble Minister as Chief Guest. Briefing about ADS and progress made are done in the regular MoALD press conferences. Media/press are also invited to attend NADSIC and NADSCC meetings where progress and issues are discussed thoroughly.

The MoALD is continuously monitoring ADS implementation by allocating budget in each year since the implementation of ADS in 2015/16. In fiscal 2076/77 (2019/20 AD) about NPR 308.1 million was allocated for ADS monitoring and coordination (MoALD, 2021). The sectoral performance and issues identified during monitoring are critically discussed in NADSIC (CADIC before 2075) and NADSCC meetings. The NADSCC mainly coordinates with other relevant ministries and entities. Issues related to policy and programme together with remedies are discussed in ADS JSR meetings which is equivalent to ADS conference. It is chaired by Hon'ble Minister for Agriculture and participated by DPs and media. Before this, through discussions are

held in ADS JSR Technical Committee (ADS JSR TC) chaired by Joint Secretary and Co-chaired in rotation by DPs (currently EU) and then in ADS JSR Implementation Committee (ADS JSR IC) chaired by Secretary. ADS Coordination Section (previously named ADSISU in ADS) as ADS Secretariat is proactively and critically involved in all these activities.

Deputation/transfer and tenure of GoN officials is governed mainly by Civil Service Act 2049. Due consideration is made at transfer/deputation and tenure of key positions such as Secretary MoALD, Joint Secretary Planning and Development Cooperation Coordination Division (PDCCD) MoALD, Director General of departments (Department of Agriculture DoA, Department of Livestock Services - DLS, Department of Food Technology and Quality Control - DFTQC), flagship program managers, and Program/Project Directors based on the need of the government as well as program and project requirements.

The NADSIC meeting held on 8 July 2022 chaired by Hon'ble Minister for Agriculture made decision to carry out the ADS 5-year review in the current fiscal year 2022/23. The ADS JSR TC meeting held on 4 November 2022, decided to conduct this task jointly by GoN and DPs. Accordingly, GoN has allocated NPR 4.5 million for this activity. Implementation of this activity is on process. The review and evaluation will be done by an independent panel. The review and assessment will include a section on policy credibility highlighting on two issues of consistency of policy implementation with the ADS and continuity in policy and program implementation. The recommendations of review and evaluation panel will be evaluated by NADSIC and make final decisions regarding the need of updating or adjusting specific parts of the ADS.

The NADSIC and the NADSCC will be charged with the implementation and coordination of the ADS and to promote changes to ensure implementation of the ADS consistently with policy commitments.

The GoN is committed to implement ADS. GoN has formulated new policies and laws together with revision of some existing policies and laws to support ADS implementation. New policies and laws included National Fishery Policy, 2079, National Animal Health Policy, 2078, National Livestock and Poultry Breeding Policy, 2078, National Dairy Development Policy, 2078, National Agroforestry Policy, 2076, National Food Safety Policy, 2076, Food Right and Food Sovereignty Act, 2075, Land Use Act, 2076, Land Use Regulation, 2079, Land Use Policy, 2072, and Food and Nutrition Security Plan of Action, 2015. Revision of National Agricultural Extension Strategy (NAES) and National Agriculture Policy, 2004 as an umbrella framework to guide all other agriculture related sectoral/sub-sectoral policies is under process. Agribusiness Promotion Act is in final stage of preparation. The Ministry has also drafted ADS Trust Fund (ATF) Regulation to ensure financing of ADS defined activities implementation and it is still in the process of endorsement and approval.

The GoN formulated and enacted National Farmers' Commission Formation Executive Order 2016 to constitute the NFC. The NFS as a high level fully authorized and permanent farmer's commission was established on 19th January 2017 to promote farmers' rights, develop agriculture as a dignified and attractive profession

by creating and advocating peasants' rights, and making friendly environment to guarantee peasants' rights by facilitating implementation of their constitutionally assured rights in co-operation with the GoN and concerned stakeholders. The NFC is functioning at full fledge.

b. Improved Coordination in ADS Implementation

The relevant institutional mechanisms have been established and are functional with their defined Terms of Reference (ToR) to implement and coordinate ADS since the first year of ADS implementation. Such institutions include NADSCC (chaired by Vice-chairperson of NPC), NADSIC (chaired by Minister for Agriculture) instead of CADIC (Central Agriculture Development Implementation Committee) and NFC have been formed. In the federalized context, new mechanisms like ADS JSR Committee, ADS JSR Implementation Committees (ADS JSR IC) and ADS JSR Technical Committees (ADS JSR TC) have been formed. ADS JSR Committee is chaired by the Agriculture Minister, Implementation Committee by the Secretary and the Technical Committee the Joint Secretary and Co-chaired by DPs in rotation (currently EU). These committees include representatives of NFC, National Peasants Alliance, stakeholder organizations, cooperatives, private sector and media. The concept of Community Agriculture Extension Service Centre (CAESC) has been piloted in some provinces like Karnali, Bagmati, Madhes etc. with the construction of CAESC buildings in some districts like Sindhuli and Rautah districts with the support from UN-WOMAN, FAO, MoALD, WFP and other stakeholders as a pilot project.

The GoN and DPs are supporting capacity strengthening of NADSCC through organization of regular meetings, seminars/workshops, visits, monitoring and supervision. ADS Coordination Section (ADSCS) is working as ADS Secretariate is coordinating and facilitating these activities. The coordination mechanism has been established in all seven provinces. Intergovernmental and DP coordination meetings have already been held in Bagmati, Lumbini, Gandaki and Karnali provinces.

The GoN has already established sub-committees such as (a) Subcommittee comprising agriculture and irrigation; (b) Subcommittee comprising government sector, private sector, cooperative sector, and farmer organizations; (c) Subcommittee comprising government sector and NGOs/INGOs; (d) Subcommittee comprising government and development partners; (e) Subcommittee comprising Research-Extension-Education institutions; and (f) Subcommittee comprising Food Security, Nutrition, and Food Safety initiatives.

Considering the importance and gravity of ADS, a new permanent section named ADSCS has been instituted in MoALD to function as ADS secretariat. The ADSCS under Agriculture Development Division, organizes meetings, prepares agenda and minutes, distributes documents, and circulates announcement of meetings and minutes of the ADS meetings to concerned officials and institutions. The MoALD is strengthening capacity of ADSCC through trainings, visits and logistics supports. Announcement of meetings are sent to concerned institutions and officials and the minutes of the meetings are circulated among such institutions and officials. These are well documented. Sample minutes of NADSIC and PAD preparation meetings are given in Photo 4a and 4b respectively. A total of 33 ADS committee and sub-

committee meetings have been organized as of November 2022. In addition, task force team has been formed at MoALD to coordinate formulation of PADS.

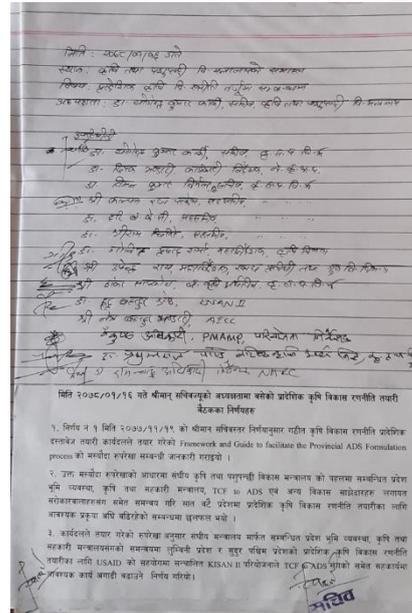
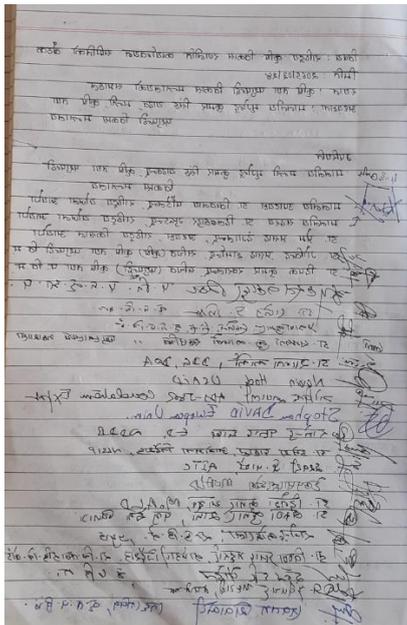


Photo 4a: Minutes of NADSIC meeting Photo 4b: Minutes of PADS preparation meeting

In the federal context, NADSIC which is similar to CADIC but NADSCC is chaired by the Hon’ble Minister for Agriculture. Capacity building of NADSIC has been done through workshop, meeting, training, visit & logistic supports. ADSCS is working as ADS Secretariate and organizing meetings, preparing agenda and minutes, distributing documents, and circulating announcement of meetings and minutes of the ADS to concerned officials and institutions.

The Secretary of Provincial Agriculture Ministry (PAM) is the deputed official of federation. Meetings similar to that of NADSIC are held at province, district and municipality levels. The ADSCS staffs in MoALD do follow up with the outcomes of provinces, districts and municipalities.

The MoALD is preparing annual sector report with the support from ADS JSR. Till now, three such reports have been published (Photo 5). In addition, MoALD is publishing about ADS in its annual report, in widely circulated and used Agriculture and Livestock Diary and in its website.

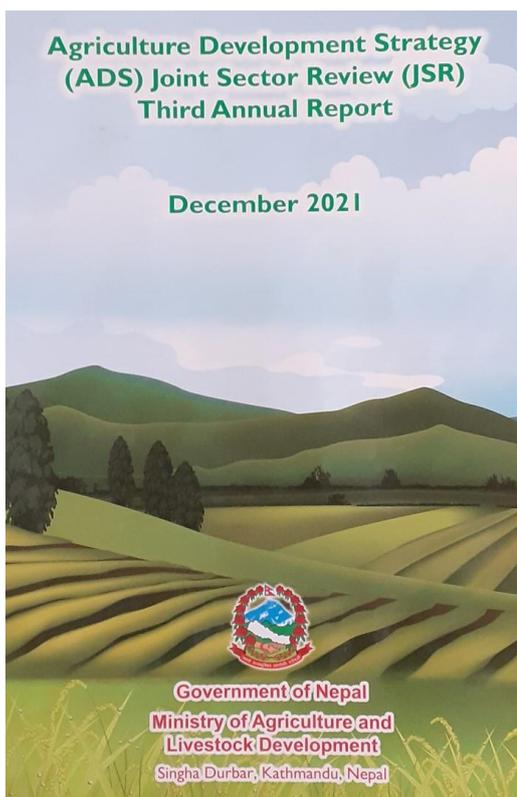


Photo 5: ADS JSR Third Annual Report

The ADS Implementation Guideline has been developed and approved by the GoN (Secretary level decision) in fiscal year 2015/16. The ADS Monitoring Plan has also been approved by GoN in fiscal year 2018/19. These documents have been widely disseminated through ADSCS among sectoral ministries, departments and other relevant institutions to facilitate ADS implementation and monitoring. All provinces have drafted PADS and the cabinet of Sudurpaschim Province has already passed PADS and others are in the process of finalization and approval. The DPs have supported formulation of PADS - Swiss Agency for Development and Cooperation (SDC) for Province 1, EUTCF for Madesh, Bagmati, Gandaki and Karnali Provinces, and USAID for Limbini and Sudurpaschim Provinces.

c. Integrated Planning

In the federal context, NPC has been restructured as per National Planning Commission Executive (Formation and Operation) Order (first amendment) of 12 March 2018 of GoN (cabinet level decision). Similarly, PPC has also been established in all seven provinces.

The NPC is the specialized and apex advisory body of the GoN for formulating a national vision, development policy, periodic plans and sectoral policies for overall development of the nation. It assesses resource needs, identifies sources for funding, and allocates budget for socio-economic development. It serves as a central agency for coordinating, facilitating, monitoring and evaluating development policies, plans and programs at federal, provincial and local levels. It also serves as an intellectual

hub for the exchange of new development ideas and proposals from scholars, private sector, civil society, and development partners.

The roles and responsibilities of NPC defined by GoN as per NPC Executive Order 2074 are: (a) formulate basic development policies and prepare periodic development plans accordingly within the framework of a long-term development perspective; (b) explore internal and external resources along as well as indigenous and foreign technology and to recommend suggestions to GoN to accelerate the pace of development; (c) explore innovative approaches for sustainable development based on the economic situation of the country; (d) formulate annual programmes and assist GoN in their implementation; (e) advice GoN for the institutional development of monitoring & evaluation system, to monitor the implementation of programmes and projects according to plan target and outlay, and to carry out an impact evaluation of plans and projects; (f) provide guidelines, advice and suggestions to sectoral ministries, departments, other agencies and local bodies and assist them in the plans and projects formulation; and (g) provide guidelines to collect data and to carry out action-oriented research necessary for the evaluation of new policies and for the refinement of the planning process.

Similarly, the roles and responsibilities of NPC defined in the Financial Administration Regulation 1999 are: (a) provide guidelines on policy targets and priorities regarding formulation of budget for the coming fiscal year to the Ministry of Finance (MoF) and all other line ministries before the issuance of circular on budget formulation; (b) formulate a policy framework for approval of the district level projects by the secretaries of the ministries; (c) approve central level projects (d) set policy targets on development programmes for the coming year within the month of December; and (e) provide advice to GoN offices for accepting any kind of aid in kind or cash or reaching an agreement for foreign aid. The GoN, on the recommendation of NPC, may specify multi-year projects and allocate budget.

A National Natural Resources and Fiscal Commission (NRFC) has been established at Kathmandu as per NRFC Act 2074 (2017 AD) which was endorsed by the parliament in September 2016. The NRFC is a constitutional body with an authority to advise the government on revenue distribution to province and local level public entities. The recommendation of Commission, particularly on distribution of two grants viz. fiscal equalization and conditional grants, is essential for the government to table the budget in the parliament for the next fiscal year. The commission also distributes the value added tax and excise duty among the three layers of the government, and work out the parameters on the distribution of the royalties earned from the use of natural resources amongst the local levels and provinces. It also advises the government on settling disputes between the local levels and provinces on the use of natural resources. Central government gets 50 percent of the royalty from the natural resources and the rest is allotted to the local levels and provinces.

Integration of long-term plans with annual work plans and budget is done through Medium-term Expenditure Framework (MTEF). It is an annual but rolling three year-expenditure planning. It sets out the medium-term expenditure priorities and hard budget constraints against which sector plans is developed and refined. It provides the basis for annual budget planning. It is an important tool for overcoming the limitations of the annual budget cycle by adopting a medium-term perspective for

achieving government fiscal objectives. The GoN started preparing MTEF in 2003 in the Tenth Plan but was dropped without any clear reason after 2006 and was restarted from the fiscal year 2012/13. Now, it is a mandatory document of the federal, provincial and local governments in Nepal to be prepared every year with annual budget. Bottom-up estimation of the current and medium-term cost is done in MTEF. Periodic and annual plans including priority program like 5-year ADS is synchronized by NPC through MTEF.

Monitoring of policies is done by the Office of the Prime Minister and the Council of Ministers, the NPC and concerned ministries during policy implementation but its evaluation is done by an independent third party. Regular monitoring of periodic plans is done by NPC during entire plan period and evaluation by an independent third party. Monitoring of Priority One programs and projects is done jointly by Office of the Prime Minister and Council of Ministers, NPC, MoF, and concerned ministries as and when needed and evaluation by an independent third party.

The National Development Action Committee (NDAC) is the highest-level M&E committee. It is chaired by the prime minister and is composed of ministers, representatives from the NPC, and the chief secretary. It reviews program and project implementation by the various ministries, discusses problems that are not dealt with at the Ministerial Development Action Committee (MDAC) level, and addresses inter-ministerial coordination issues, including policy and legal matters. The MDAC is chaired by a minister and is composed of representatives from the finance and general administration ministries, concerned sectoral divisions, department heads, and other offices. The committee reviews the implementation status of programs and projects, discusses and resolves problems that cannot be sorted out at the project level, and reports to the NDAC any issues that need inter-ministerial coordination. The meetings of NDAC and MDAC (Photo 6) is held in every trimester and outcomes are communicated to all concerned.



Photo 6: MoALD MDAC sub-committee trimester meeting chaired by Secretary (Agriculture) Dr. Govinda Prasad Sharma and co-chaired by Secretary (Livestock) Dr. Deepak Kumar Kharal on 16 November 2022

After federalization, the agriculture sector too is facing challenges in progress monitoring and reporting among three tiers of governments. The ADS JSR is supporting establishment of national database and IT-based progress monitoring system. Finding monitoring ways and means is still on-going. In addition, PADS prepared by PAMs with the support from DPs are adopting JSR mechanism. The JSR mechanism is expected to be institutionalized in the GoN system.

The TCF revised and updated the existing M&E system for all three tiers of government in close consultation with MoALD to strengthen M&E system. The revised version highlights on a more participatory system, uses updated formats, and creates a web-based digital platform to ease data access for users. The revised version can be used as the basis for designing a web-based digital M&E system. The revised version highlights on the indicators for different levels, roles and responsibilities, data/information flow mechanisms, data management, format design, and reporting processes and arrangements.

d. Effective Implementation Support

The EU is a very strong development partner of Nepal. It has provided a total sum of Euro 40 million to CARD in Nepal. This is one of the major significant contributions of EU for the promotion of agricultural development in Nepal by rolling out the ADS. The EU TCF support has been instrumental to develop the necessary software systems and tools and it has also provided trainings to the officials at the federal and provincial level which is now under implementation throughout the country in full swing after its launching by the Rt. Hon Prime Minister of Nepal. Furthermore, the training program to roll out the farmer registration processes at all 753 municipalities have been completed. This will facilitate government at each level to identify the farmers and target government support far more efficiently as well as ease monitoring of output and outcome of public investment. The technical support has also been quite effective to connect the ADS through provincial and municipality level agriculture development planning.

The MoALD endorsed the concept of the ADS JSR mechanism in November 2017 for building mutual ownership and accountability for implementation and achievement of intended results of ADS that was prepared by the Government of Nepal (GoN) in August 2015 with technical assistance from development partners (DPs). The ADS JSR is a platform for analyzing the sector wide performance of agriculture and supporting the successful implementation of the ADS. It regularly brings together MoALD and DPs to discuss their activities and issues and helps to identify the strengths and limitations of the agriculture sector, and make recommendations for increased effectiveness and efficiency. ADS JSR supports enhancing mutual accountability and harmonizing resources in ADS implementation. It has been established jointly by GoN represented by MoLAD and DPs supporting Nepal's agriculture sector. It is operational since October 2018. The ADS JSR meeting is held once a year and it is supported by two committees viz. JSR IC and JSR TC. The ADS JSR meeting is held annually to review agriculture sector performance and the

meeting is chaired by the agriculture minister. The JSR IC is chaired by the Secretary of MoALD and the committee members include Joint Secretaries, Director Generals and institution chiefs under MoALD, Joint Secretaries from relevant sector ministries, and representatives from DPs. The JSR IC meet biannually to identify operational and policy issues based on agreed-upon methods and information sources. The JSR TC is chaired by the Joint Secretary of PDCCD/MoALD and co-chaired in rotation by DPs and members include Under Secretaries from concerned sections of MoALD and representatives from DPs. The JSR TC meets every two months to discuss on issues related to enabling environment (policies and institutions) for ADS implementation, areas of improvement to attain intended performance and results, critical operational issues and effectiveness of coordination mechanisms, and the current status of implementation. The issues endorsed by the JSR committees serve as the agenda for the annual ADS JSR meeting for further discussion, higher-level approval, and development of an implementation strategy.

The EUTCF provided important supports to help align ADS in PAM and municipality level annual planning. Such supports included planning workshops to prepare provincial annual agricultural plans with ADS alignment, preparation of agricultural program planning guidelines, development of a local level agricultural planning methodology, and training on agriculture development planning for local government staff. To further enhance capacity of municipal officials in agricultural development planning and related issues, the EUTCF organized a three-day cluster level training on agricultural development planning, database management, and farmers' registration software. The training was conducted for all 77 districts covering all 753 municipalities. A total of 1,474 persons attended the training, of which 16 percent were female. Table 4 presents summary of agriculture development planning training.

Table 4: Three-day cluster level agriculture development planning training

Province	No. of Districts Covered	No. of Municipalities Covered	Participants		
			Female	Male	Total
Province 1	14	137	57	219	276
Madhesh	8	136	23	239	262
Bagmati	13	119	58	162	220
Gandaki	11	85	32	129	161
Lumbini	12	109	27	188	215
Karnali	10	79	19	144	163
Sudurpaschim	9	88	20	157	177
Total	77	753	236	1,238	1,474
Percent	100	100	16.01	83.9	100

Source: Progress Report of EUTCF, 2021 *In*: ADS JSR Third Annual Report, MoALD, Kathmandu, Nepal.

DPs also provided supports for PADS formulation, monitoring and farmer registration. On MoALD's request, TCF prepared a framework to formulate PADSs consistent with ADS by incorporating provincial priorities in the federalized structure. The DPs supported PAMs to prepare PADSs - Swiss Agency for Development and Cooperation (SDC) for Province 1, EUTCF for Madesh, Bagmati, Gandaki and Karnali Provinces, and USAID for Limbini and Sudurpaschim Provinces. Sudurpaschim province has already approved PADS and other provinces are in the process of approval. Considering the formulation and implementation time lag, the 2010 ADS baseline data was updated in 2015 with the technical support from FAO.

In response to federal and province level requests on strengthening capacity of MoALD, PAMs, and municipalities, TCF provided supports in carrying out various studies and evidence-based advice. The TCF provided support to MoALD's subnational consultations to revise National Agriculture Policy, 2004 as an umbrella framework and guide all other agriculture-related sectoral/sub-sectoral policies. It is under revision process. Per PAMs' requests, the TCF provided technical support to prepare policy and thematic papers, ensuring that provincial and municipal issues are addressed in the documents. For example, as an input to contribute to policy formulation, the TCF provided technical and financial supports to organize the National Agriculture Conference to identify ways and means to solve emerging issues and challenges of the sector.

As per the request of MoALD and PAMs for policy/program implementation support, the TCF supported preparation of many policy-related documents such as institutional mapping; guidelines for ADS coordination at provincial level; post-COVID recovery concept note; concept note on absorption of returnee migrants; study on importation of rice; synthesis report of publications of urea application for rice; and seed sector development. The TCF also prepared a sectoral review and analysis for Lumbini Province; review of international standards for organic and bio-fertilizers; organic agriculture policy for Karnali Province; report on agricultural advisory services; status report on agricultural marketing for Madhesh Province; social and environment safeguards assessment for REED project; and a buy-back guarantee scheme for rice and vegetables. In addition, the TCF prepared an animal health bill for Sudurpaschim Province; agri-business policy for Karnali Province; and agriculture extension policy review, including some pertinent policy briefs. Around the agriculture extension strategy, which is planned to undergo extensive consultations, some background papers were prepared, which include agriculture extension in Nepal under the federal system; revitalizing agricultural advisory services; community-based agricultural extension support; mechanization hire services; rethinking agricultural input subsidies; price support instruments; seed governance; public-private partnership in market infrastructure; and enabling environment for agribusiness development, including organic fertilizer management. About 39 such documents have been prepared with the support from EUTCF (Table 5) to facilitate the implementation of the ADS through technical assistance, advisory services and capacity building, to improve coordination, planning, and policy monitoring and evaluation of the ADS, and to facilitate harmonization of donors' programs with the implementation of the ADS.

Table 5: EUTCF supports for the preparation of policy documents, background papers and PADS

#	Preparation of documents	No.
1	Preparation of policy related documents	17
2	Background papers for agriculture extension strategy	10
3	Framework to prepare PADS	1
4	Planning workshops and training to align ADS in PAM and municipalities	4
5	Preparation of PADS	7
Total		39

The ADSCS is providing secretarial services for the NADSCC, NADSIC and other committees and subcommittees to bridge the coordination gap among different agencies as well as policy and implementation. In a federalized context a legal and effective coordination mechanism has been felt necessary to formalize and make stakeholder institutions accountable. Currently, ADS JSR annual meeting is held at federation to review ADS implementation and build coordination among stakeholders. The meeting is participated by selected municipalities and agriculture ministers and secretaries from all provinces.

e. Mechanisms Established for Gender Equality and Social and Geographic Inclusion

In the federalized context, Human Resource, Gender and Inclusive Section has been established under PDCCD of MoALD for gender mainstreaming in policies, plans, programs and standard formulation as well as making budget gender responsive. The Section has one under-secretary and a gazette class III level full time professional staffs undertaking a number of capacity building activities (training, study tour, workshops) to allow them to contribute to the implementation of ADS from a GESI perspective. A 17 member Gender Mainstreaming Coordination Committee chaired by Joint Secretary of PDCCD and the Chief of Human Resource, Gender Development and Inclusive Section as Member Secretary has been reconstituted as per GoN (Secretary level) decision made on 4 July 2021. The MoALD with the support from UN Women developed a GESI Strategy (Photo 7a) to guide program and activities implementation envisioned in ADS. The Strategy was approved by GoN decision (Secretary level) made on 20 June 2017. In addition, UN Women is publishing ADS GESI related information in its bulletins in both English and Nepali languages (Photos 7b to 7e). The GoN has extended the period of income tax exemption for micro-enterprises run by women entrepreneurs from three years to 10 years and the value added tax on micro insurance has been removed (MoF, 2021).

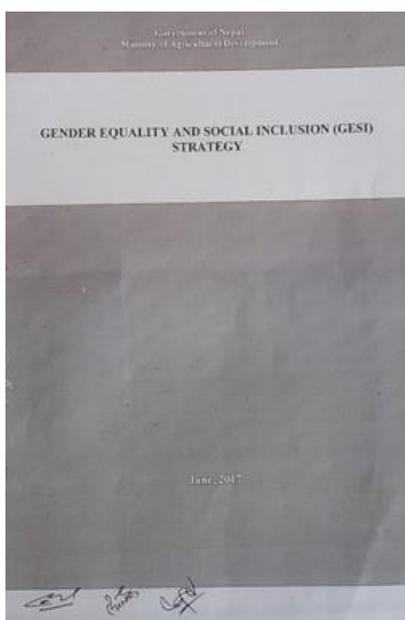


Photo 6a: GoN approved GESI strategy

Photo 6b: GESI in UN Women Bulletin (English)



Photo 6c: GESI in UN Women Bulletin (English) (Nepali)

Photo 6d: GESI in UN Women Bulletin (English)



Photo 6e: GESI in UN Women Bulletin (Nepali)

The MoALD has Statistics and Analysis Section under PDCCD. The Section is collecting, updating, analyzing, estimating, monitoring and publishing agriculture related data and data of national importance half yearly and annually. The Section is publishing bimonthly report on agriculture market and crop and livestock situation as well as an annual publication - Statistical Information on Nepalese Agriculture. The hard copies of these publications are distributed to the relevant institutions and general public and also available on-line (<https://moald.gov.np/publication->

types/agriculture-statistics/). The periodic reports highlight on key trends and issues emerging from data analysis which contribute to the formulation of policies and plans. The MoALD is collecting and maintaining GESI- and geographic inclusion-based statistics like gender code, budget, expenditure, and male and female farmer beneficiaries by programs, activities and projects.

The Human Resource, Gender and Inclusive Section has been established in MoALD for effective planning, budgeting, implementation, monitoring and evaluation/auditing of agricultural programs from GESI perspective at the national level. There are designated staffs in the departments (DoA, DLS and DFTQC), province and municipality offices with GESI responsibility. The GoN programs and projects, province and local governments, DPs, and NGOs are organizing various capacity building trainings and workshops on GESI analysis tools as well as GESI responsive program planning, budgeting, implementation, and monitoring. Classification of public budget based on gender in Nepal began from the fiscal year 2064/65. The MoF has established a Gender Responsive Budget Committee coordinated by the Joint Secretary of Budget and Program Division to look into the gender responsive program and budget formulation together with capacity building of GESI staffs in GoN institutions. The entire budget is classified as direct responsive, indirect responsive and neutral to GESI². The glimpse of gender responsive budget of MoALD during the fiscal years 2017/18 to 2021/22 has been presented in Table 6. The direct GESI responsive budget varied from 16 percent in 2019/20 to 68 percent in 2021/22. This indicates very good orientation of GESI staffs in formulating GESI responsive programs and budget.

Table 6: Glimpse of gender responsive budget of MoALD during fiscal years 2017/18 to 2021/22

Fiscal year	Total budget, NPR million	Direct GESI responsive budget, NPR million		Indirect GESI responsive budget, NPR million		GESI neutral budget, NPR million	
		Budget, NPR	Percent	Budget, NPR	Percent	Budget, NPR	Percent
2017/18	29266.6	6570.7	22.45	18637.5	63.68	4058.3	13.86
2018/19	40140.4	11765.5	29.31	22688.6	56.52	5686.4	14.17
2019/20	34800.5	5422.6	15.58	27822.4	79.95	1555.5	4.47
2020/21	37402.0	6832.2	18.27	27826.8	74.40	2743.0	7.33
2021/22	41098.9	27846.5	67.75	10095.7	24.56	3156.7	7.68

Source: MoALD. 2021. Gender Equity and Social Inclusion Annual Report (Fiscal Year 2076/77). Human Resource, Gender Development and Inclusive Section, MoALD, Kathmandu, Nepal.

Participation of men and women farmers and social group is enhanced in various agricultural development programs implemented at federation, province, and local. An example of PMAMP progress report by types of beneficiary men, women and socially excluded groups is presented in Table 7. This implies that both the design and implementation of agricultural program benefits accrue to women and socially excluded groups. The concerned GESI staffs are alerted for any deviations occurred for the inclusion principle in planning or implementation of ADS programs. The MoALD has adopted the policy of 33 percent women participation in all program activities.

²Activities whose benefit to women is more than 50% is classified as "Direct Benefit", less than 50% benefit is classified as "Indirect Benefit" and less than 20% benefit is "Neutral".

Table 7: PMAMP program beneficiaries in fiscal year 2077/78

Beneficiary	No.	Percent
Women	128611	46
Men	151297	54
Total	280015	100
Dalit	25419	9
Janajati	88664	32
Others	165932	59
Total	280015	100

Source: MoALD. 2022. Annual Progress Report of MoALD (2077/78). Monitoring and Evaluation Section, MoALD, Kathmandu, Nepal.

Nepal adopted federal system since 28 May 2008 (15 Jestha 2065 BS). Federalized Nepal has been divided into 7 provinces, 77 districts and 753 municipalities. As per Schedule 4 of new constitution, provinces have been constituted by grouping 77 districts. The districts do not have any other jurisdictional authorities as per new constitution. The Constitution of Nepal mentions districts for two purposes, first to outline the roles and responsibilities of the District Assembly and the second District Coordination Committee meant only for coordinating mechanisms. Consistent with the provisions outlined in the constitution, several functions of district level offices were dissolved with federal restructuring. Powers were transferred to local and provincial governments. Activities and authorities of offices like the District Agriculture Development Office (DADO), District Livestock Service Office (DLSO) etc. are now under the jurisdiction of provinces. The municipalities have few agriculture and livestock officers and non-officer level staffs in their agriculture and livestock unit/section. A total of 66 Agriculture Knowledge Centers (AKCs), 66 Veterinary Hospital and Livestock Service Expert Centers (VHLSECs), 59 agriculture and 25 livestock related offices have been established with similar responsibilities of DADO and DLSO, directorates, training centers, laboratories, farms and centers (Table 8). There have been public concerns on establishment of such offices to look after multiple districts.

Table 8: Agriculture and livestock related offices and AKC and VHLSEC under province

Province	AKC, No.	VHLSEC, No.	Agri. offices	Livestock offices	Total
Province 1	11	14	10	4	39
Madhesh	8	8	6	4	26
Bagmati	7	8	15	5	35
Gandaki	11	11	9	3	34
Lumbini	11	6	7	4	28
Karnali	9	10	5	2	26
Sudurpaschim	9	9	7	3	28
Total	66	66	59	25	216

Note: Agriculture and livestock related offices include directorates, training centers, laboratories, farms and centers.

Source: Agriculture and Livestock Diary 2079. 2021. Agriculture Information and Training Center, MoALD, Lalitpur, Nepal.

GESI focal staffs at sub-national agriculture and livestock offices ensure gender consideration during planning, implementation and monitoring of extension programs. Although the general policy is to ensure at least 33 percent participation of women in all program activities but the achievement is about 50 percent. The concerned offices

support cost involved of GESI focal staffs for visits to project and program sites to monitor GESI-responsiveness of extension activities. For example, PMAMP is supporting regular visit of GESI focal persons in project and program sites.

Improvement in farmers' access from all gender and socio-economic groups in all geographical regions to means of agriculture production (land, credit, inputs such as seeds, fertilizer, improved technology, irrigation, and market) requires a well-functioning market, extension system, infrastructure, and input delivery systems. The GESI-perspective is to ensure that access of farmers to means or production includes different social groups, particularly disadvantaged ones. Brief about these is presented below.

Land:

The total cultivated agriculture land of Nepal is 3,091,000 ha (21% of total area) and agriculture land per capita of farming population is 0.16 ha which are generally scattered in small pieces in wide area (Table 8). It indicates the need for land consolidation and selection of appropriate mechanization in the context of declining farm and animal power, small landholding size, scattered land parcels, and mostly hilly terrain of Nepal.

The Constitution of Nepal guarantees the right of women. Article 38 of the Constitution clearly mentions that every woman shall have equal right to lineage without any gender discriminations and both the spouses shall have equal rights in property and family affairs.

Credit:

Nepal Rstra Bank (NRB) is the central bank of Nepal. NRB has issued several circulars to banks and financing institutions to improve farmers' access to agriculture credit. NRB Circular issued on 27 July 2020 requires commercial banks invest at least 15 percent of their total credit in agriculture sector by mid-July 2023 to ensure food security and generate employment while becoming self-reliant on agriculture production. As of mid-July 2021, commercial banks have disbursed 13.2 percent of their total credit in the agriculture sector (Table 9). NRB does on-site and off-site supervisions to monitor and evaluate implementation of circulars. Agricultural Development Bank Limited (ADBL) has been promoted as the Lead Bank to facilitate credit in agriculture sector. This bank has been allowed to issue agricultural bond to ensure availability of long-term financing in agriculture sector (NRB circular issued on 27 July 2020). ADBL has been permitted to issue agriculture bond amounting Rs. 18 billion at a 4 percent interest rate on three stages and only Rs. 12 billion agriculture bonds have been issued till 2021 (NRB, 2021). A provision of issuing Kisan (Farmer) Credit Card by ADBL has also been introduced to ensure farmers' access to financial resources and agriculture information to farmers Farmer Credit Card. Now, ADBL and other commercial banks are issuing Farmer Credit Card (NRB, 2021).

Table 9: Farmers' access to means of production

#	Means of production	Figure
1	Land:	
	a. Cultivated agricultural land, ha	3,091,000 (21%)
	b. Cultivated agricultural land, ha/capita*	0.16
	b. Uncultivated agricultural land, ha	1,030,000 (7%)
2	Agriculture credit supply by banks, % of total credit	13.2
3	Seed (2020/21):	
	a. Improved seed (paddy 13580.05, maize 1024.30, wheat 17522.00, lentil 455.00, rapeseed 330.04), mt	32,911.35
	b. Certified seed (paddy 175.73, maize 11.30, wheat 600.90, lentil 1.45, rapeseed 2.42), mt	1,691.80
4	Chemical fertilizers (2020/21):	
	a. Total (urea 225180, DAP 140982, Potash 12990), mt	379,152
	b. Use, kg/ha	123
5	Irrigated area, ha	1,509,427
6	Improved technology:	
	a. Released and registered varieties, no. (paddy 140, maize 94, wheat 42, millet 6, barley 6, buckwheat 3, pulses 43, oilseed 21, industrial crops 20, potato 16, vegetables 304, forage crops 17, fruits 7, sweet potato 2, <i>chino</i> 1, <i>kaguno</i> 1)	723
	b. Status of mechanization, %	23
	c. Tractors, units (19 units/100 km ² in 1989 and 131 units/100 km ² in 2008)	131
7	Market:	
	a. Haat Bazar	1,038
	b. Collection Center	553
	c. Wholesale Market	27

* Based on 66% farming population of total population 29.67 million.

Sources: Land, Seed and Chemical Fertilizers: MoALD (Ministry of Agriculture and Livestock Development). 2021c. Statistical Information on Nepalese Agriculture 2021/22 (2077/78 BS). Statistics Analysis Section, MoALD, MoALD, Kathmandu, Nepal.

Agriculture credit: NRB (Nepal Rstra Bank). 2021. Monetary Policy for 2021/22. NRB, Kathmandu, Nepal.

Credit: NRB (Nepal Rstra Bank). 2021. Monetary Policy for 2021/22. NRB, Kathmandu, Nepal.

Irrigation: MoF. 2021. Economic Survey 2020/21. MoF, Kathmandu, Nepal.

Released and registered varieties: AITC (Agriculture Information and Training Center). 2021. Agriculture and Livestock Diary 2079. AITC, Lalitpur Nepal.

Status of mechanization: Shrestha, S. Undated. Status of Agricultural Mechanization in Nepal. www.unapcaem.org accessed on 27 December 2022.

Tractors: knoema. 2022. World Data Atlas - Nepal Agriculture. <https://knoema.com/atlas/Nepal/Number-of-tractors> accessed on 27 December 2022.

Market: ABPMDD (Agribusiness Promotion and Market Development Directorate). 2016. Agriculture Market Profile. ABPMDD, Department of Agriculture, Lalitpur, Nepal.

In addition, NRB has introduced a total of 10 types of subsidized loans via Integrated Procedure for Subsidized Loan 2075 (3rd amendment 2077) to increase farmers access to institutional loan and to promote commercialization in agriculture. Except subsidized loan nos. 7 and 8, the rest relate with agriculture (Table 10).

Table 10: Maximum limit of interest subsidized concessional loan to each loanee

#	Subsidized Loan	Maximum Limit, NPR
1	Commercial agriculture and livestock loan	50,000,000
2	Educated youth self-employment loan	700,000
3	Foreign returnee youth project loan	1,000,000
4	Women entrepreneurship loan	1,500,000
5	Higher and technical and vocational education loan	500,000
6	Dalit community enterprise development loan	1,000,000
7	Personal house reconstruction of earthquake victim loan	300,000
8	Textile industry loan	50,000,000
9	Loan for training organized by Council for Technical Education and Vocational Training	200,000
10	Youth self-employment loan	500,000

Source: NRB. 2021a. Integrated Procedure for Subsidized Loan 2075 (3rd amendment 2077). NRB, Kathmandu, Nepal.

Seed:

Use of good quality certified and improved seeds is necessary to increase crop production and productivity. Generally, breeder and foundation seeds are the source seeds to produce certified and improved seeds. Several steps and processes are involved in the seed production system before the they are used by the farmers. Production of certified and improved seed is very low i.e. 1,691.80 mt and 32,911.35 mt respectively in 2020/21. Thus, seed replacement rate (SRR) is very low and that of rice is around 20% (JICA, 2021). Hence, most Nepalese farmers use their own decades old degenerated seeds which is one of the constraining factors for increasing crop production and productivity. As per ADS, GoN has adopted strategy to raise the SRR. However, it needs a concrete and holistic approach and support in the entire seed production system. Figure 2 indicates need for such approach and support. Such critical need is evidenced by declining trend ($y = -2042.8x + 9283$) in source seed production.

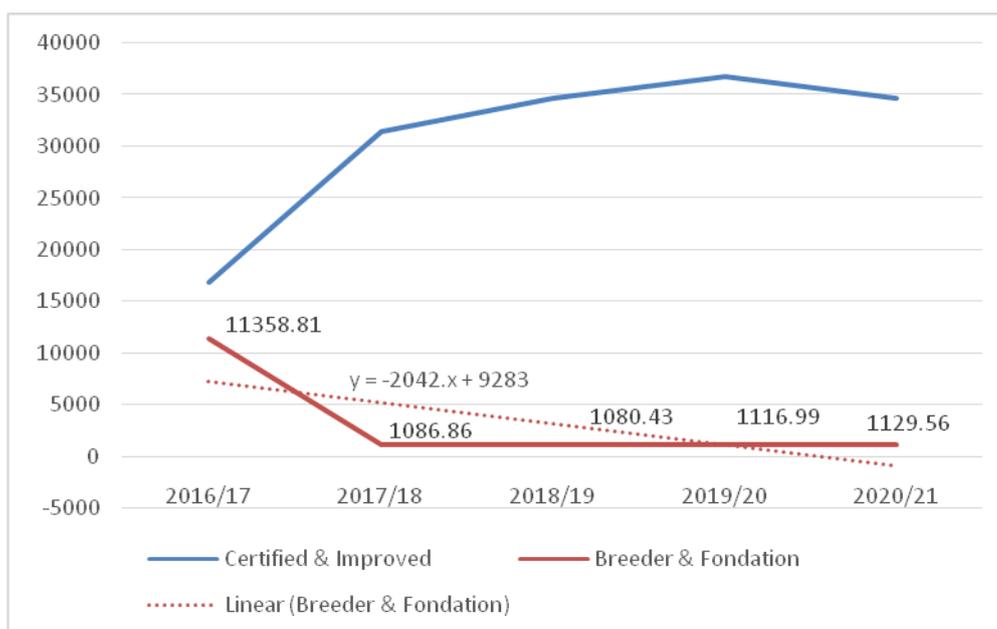


Figure 2: Seed production trend in Nepal.

Chemical Fertilizer:

Chemical fertilizer is an important production input to increase crop productivity. It is purely an imported item (mainly from Turkey, China, Egypt and India by global tender and through government-to-government negotiation especially from India) and distributed at subsidized price. Average subsidy is about 44%. The financial resource for subsidy has been one of the constraining factors to increase use of chemical fertilizer by poor smallholder farmers. Current use of chemical fertilizer (urea, DAP and potash) is only 123 kg/ha (Table 8) which is very low compared to India (209.4 kg/ha) and China (383.3 kg/ha) (World Bank, undated). Therefore, GoN has brought out Subsidized Fertilizer Distribution Management Directive 2077 approved by the cabinet on 17 August 2020 for effective distribution and rationalization of subsidized chemical fertilizer. There are committees at federal, provincial and local level for such purpose. At federation, there is Fertilizer Supply and Distribution Management Committee chaired by Secretary, MoALD to decide on type and quantity of fertilizer to be imported and to ascertain quota for provinces. In addition, there is a technical committee chaired by Joint Secretary responsible for the management of agriculture input to prepare and update type and quantity of fertilizer required in the country. Similarly, Province Fertilizer Distribution Management Committee chaired by Secretary, PAM estimates and manages fertilizers required at local level. The local committee chaired by Vice-mayor or Vice-chairperson of municipalities submits chemical fertilizer demand of the municipality. Although, demand increasing, subsidy on distribution is also constraining to increase import of chemical fertilizer in the country.

Irrigation:

At present, about 49 percent (1,509,427 ha) of cultivated area (30.91 million ha) has irrigation facility (Table 8) but only 17% of cultivated area has year-round irrigation (IWMI Nepal 2021a). Hence, rain water determines crop production and productivity leading to low level of commercializing and farming being least attractive to rural youths. Increasing migration of youth from rural areas in search of better employment has resulted into increasing fallow land. Considerable increment in year-round irrigated area, strengthening of existing systems, and improvement in management and governance of irrigation systems is required to enhance production, productivity and commercialization to attract rural youths in agriculture. Development of irrigation in Nepal from fiscal year 2015/16 to 2021/22 has been presented in Table 11.

Table 11: Irrigation development in Nepal 2015/16 to 2078/79

Fiscal Year	Irrigated Area, ha
2072/73 (2015/16)	1,392,177
2073/74 (2016/17)	1,433,357
2074/75 (2017/18)	1,473,000
2075/76 (2018/19)	NA
2076/77 (2019/20)	1,479,000
2077/78 (2020/21)	1,503,367
2078/79 (2021/22)*	1,509,427

* Progress for 8 months.

Source: MoF. Economic Survey of various years.

In Nepal, most agricultural activities are done by women. They use traditional equipment like land preparation by spade (*Kodalo*) and plowing by bullock; back breaking rice transplanting by hand; interculture operation by mini spade (*Kuto*); threshing grains in slant stone by hand; winnowing and drying grains manually; corn grain shredding by finger; grain cleaning by winnow (*Nanglo*) made of bamboo, and de-husking cereals by pestle and mortar in *Okhal* and *Dhiki* and the like. Out-migration of rural youths has excessively increased work load on women. These are labor intensive, time-consuming and hazardous to health. Agriculture mechanization is only 23.2 percent (Table 12).

Table 12: Types of farm power use in Nepal

#	Type of Farm Power	Percentage
1	Human power	36.3
2	Animal power	40.5
3	Mechanical power	23.2

Source: Shrestha, S. Undated. Status of Agricultural Mechanization in Nepal. www.unapcaem.org accessed on 27 December

About 98% of the total female labor force were engaged in agriculture in 2010 (FAO, 2011) while the UN Environment Program noted that women performed six times as much agriculture work as men (The Guardian, 2012). Women empowerment through education, training, exposure, social networking, access to information and women responsive technological innovation are very much crucial for agriculture development in Nepal. Hence, widespread need for gender-responsive agricultural research, technology development and dissemination has been felt in Nepal. A gender focus benefits not only the women but also the community and the entire country. It requires tracking gender responsiveness throughout the research, technology development and dissemination cycle. In Nepal, NARC is mandated and has been working on development of GESI responsive agricultural research and technology. Some agriculture machinery, equipment and tools which enhance work efficiency and reduce production cost and drudgery for women have been developed and recommended. Some of these include seeder, rice transplanter, zero tillage technology and equipment, mini tillers, puddling wheels, weeder, serrated sickle, harvesters, pedal thresher, corn sheller, dryers, storage structures etc.

Despite these, agricultural mechanization in Nepal is only about 23 percent (Shrestha, undated) which indicates a lot to be done to develop technologies which enhance work efficiency, reduce production cost and drudgery for women, increase net income, and create opportunities for women, young people and marginalized groups. Such innovation may start inventing women friendly small equipment and machines that would mechanize farming from sowing to harvesting and post-harvest processing. In general, agricultural research, technology development and dissemination are not sufficiently gender-responsive. Thus, PMAMP is exclusively promoting such technology in the field. It is promoting establishment of custom hiring center to avail and promote women friendly, drudgery reducing and efficient machinery, tools and equipment throughout the country (Photos 8a to 8d). Such tools and equipment also include Solar Tunnel Dryer, Porso Millet Dehusker etc.



Photo 8a: Establishment of Custom Hiring Hiring Center in Dang



Photo 8b: Hiring combine harvest from Custom Hiring Center, Chitwan



Photo 8c: Clockwise from top left use of maize weeder, maize jab seeder, combine harvester and seed drill machines in Dang



Photo 8d: Rice transplanter use in Chitwan

Photo 8a to 8d courtesy: PMAMP webpage <https://pmamp.gov.np/photo-gallery?page=1>

The Agricultural Engineering Unit was established on August 23, 1953 under then Ministry of Agriculture with the purpose of developing infrastructures such as farm building, farm road and irrigation facilities in various farms/stations and agricultural development offices established in Nepal. Later this unit was upgraded to section then to division. After the establishment of NARC in 1991, the Agricultural Engineering Division (AED) was mandated to develop appropriate agricultural engineering technology for various agroecological zones of the country. In 1994, the Division under NARC was designated as National Institute (NI) and focal point of Regional Network for Agricultural Machinery, later Asian and Pacific Centre for Agricultural Engineering and Machinery and now Center for Sustainable Agricultural Mechanization. In 2016, the AED was designated focal point of Asian and Pacific Network for Testing of Agricultural Machinery.

As per GoN decision (Secretary level) made on 20 June 2017, MoALD has already developed GESI Strategy (Annex 3) to ensure GESI perspective in planning, implementation, and monitoring of ADS activities. UN Women has supported and provided specialized technical assistance input for the development of GESI Strategy.

f. Timely and Effective Monitoring and Evaluation

Capacity building is a regular phenomenon in GoN. The staffs are sent for training within and outside the country. At the federal level Agriculture Information and Training Center has been established under MoALD whereas Agribusiness Promotion Support and Training Centers have been established under all seven provinces for

organizing trainings and workshops for capacity building of staffs, agro-entrepreneurs and farmers. The EUTCF has been supporting capacity building of key staff at federation, province and municipalities to facilitate them ADS implementation. Details on capacity building of relevant staffs has been presented in Table 2.

At the initial stage, MoALD has done a lot of exercise in identifying and analyzing the ADS activities and institutions responsible for implementation together with their indicators. However, there is still lag in effective and functional linkages among federation, province and local level after federalization. Realizing this, GoN has enacted Federation, Province and Local Level (Coordination and Inter-relation) Act, 2020 on 28 July 2020. This Act has not spelt out the M&E and reporting mechanism. Therefore, relevant institutions like academic institutions, farmer associations, farmer commission, private sector representative, DP representatives etc. have been included in various ADS committees to carry out systematic ADS monitoring and evaluation. Similarly, ADS JSR mechanism has also been devised for this purpose. The mechanism includes representatives of DPs and GoN, chief and deputy chiefs of selected municipalities, private sector (industry, trade and commerce) together with entities mentioned above. Status performance, overall effectiveness of implementation of major policies and plans are discussed in such forums. Issues raised by above committees/mechanism are discussed in MDAC, NDASCC and NADSIC for way forward.

Inclusive committees and ADS JSR mechanism have been devised to monitor status of ADS implementation, performance of institutions and overall effectiveness of implementation of major policies and plans. In addition, development of monitoring plan, reporting, documentation and dissemination mechanism is needed to inform and such information to general public both in Nepali and English.

MoALD regularly publishes annual monitoring in Nepali language (Photo 3b) together with publication of ADS JSR annual report in English (Photo 5a and 5b) with the support from USAID. In addition, status of ADS implementation is published in Annual Progress Report of MoALD (Photo Online and hard copies of these publications are available to general public.

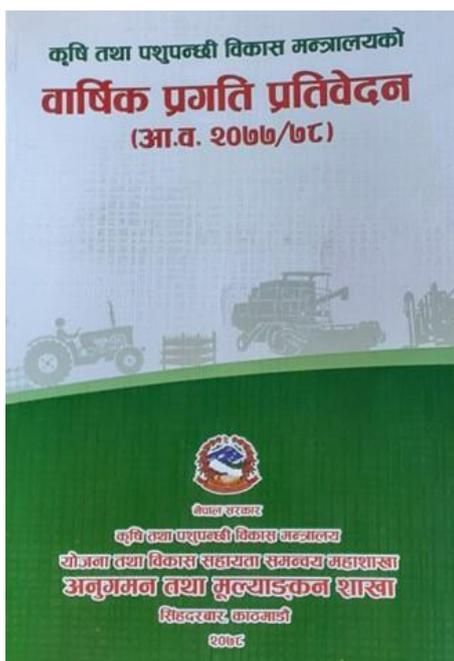


Photo 9a: Annual Progress Report of MoALD

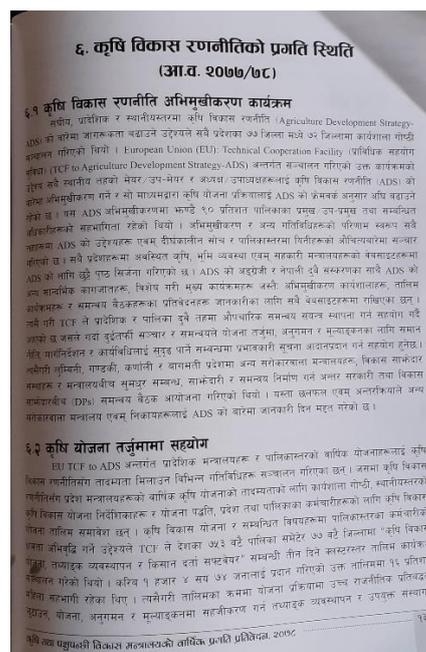


Photo 9b: Status of ADS implementation in MoALD Progress Report

Initially, Nepal Food Security Monitoring System (NeKSAP) was established by the World Food Program to collect, analyze and present information on household food security, emerging crises, markets and nutrition from across Nepal. Since it was the comprehensive food security monitoring and analysis system in Nepal, currently it is being institutionalized by GoN in collaboration with MoALD and NPC. Now, a separate Food and Nutrition Security Section has been created under Food Security and Food Technology Division of MoALD to institutionalize NeKSAP system. The ToR of the Section are: (a) formulation, standard setting and regulation on national food security program; (b) promotion of vanishing local indigenous crops and root crops; (c) analysis, monitoring and estimation of food security; (d) formulation and regulation of laws and standards to maintain food security; and (e) management and coordination of surplus food storage. MoALD and WFP have also created a Food Cluster Group to discuss on issues related to food and nutrition. This Group includes representatives from DPs too.

The Agribusiness Promotion and Statistics Division has been reorganized. Accordingly, a separate Agriculture and Livestock Business Promotion Division has been created and Statistics and Analysis Section has been created and put under PDCCD of MoALD. Nepal has been conducting agriculture census (or a large-scale sample census) in every 10 years since 1961. The seventh census was conducted in 2021 in coordination with several institutions including MoALD. MoALD published Statistical Information on Nepalese Agriculture annually (Photo 10).

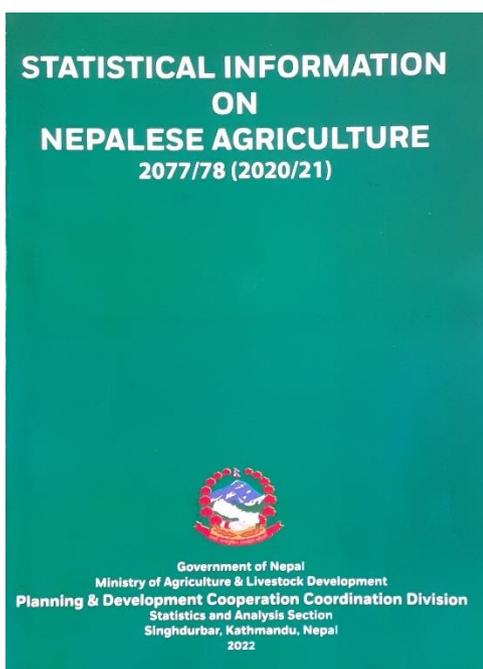


Photo 10: Statistical Information on Nepalese Agriculture

The NADSIC chaired by Hon. Minister for Agriculture with Vice Chairman of NPC as co-chair has been established to ensure ADS implementation, resource mobilization, provide guidance, act as project steering committee, organize periodic assessment, adjust of ADS programs. The DP representatives, independent professionals, NGOs and academia are given observer status in this committee. Similarly, NADSCC chaired by Vice Chairman of NPC at federal level has also been established to coordinate ADS at federal level institutions through periodic meetings. In addition, ADS JSR Committees have also been formed to promote joint M&E missions/activities. The committee includes Joint Secretary of NPC, Secretaries of PAM, Chair/Deputy Chair of Municipal Association of Nepal. Multi-sector nature issues are discussed in this committee.

There is a District Assembly in all 77 districts. It coordinates and carries out essential management among the village municipalities and municipalities within the district. The head of every village executive and mayor of every municipal executive within the district are the members in the District Assembly. The Assembly elects a District Coordination Committee (DDC) with a maximum of nine members including a Head, a Deputy Head, at least three women and at least one person from the Dalit or minority community. The DDC shall execute all tasks to be carried out on behalf of the District Assembly. Article 220 of constitution has mandated DCC to monitor district level public institutions and their programs. Such mechanisms exist at province level including PPC.

g. Mechanisms Established for Participation of Civil Society

Information about ADS has been put on MoALD webpage (www.moald.gov.np) to facilitate access of civil society to information pertaining to the ADS. The PAMs have also established such WebPages including a separate dedicated section for ADS (Photo 3c).

Information about ADS and ADS documents have been put in webpages of departments (www.dls.gov.np › uploads › files › ADS Final), UN agencies like FAO Nepal (www.fao.org › details › LEX-FAOC171433) and NGOs like CEPREAD (www.ceapred.org.np › content › adapting-the-ag...) and Nepal in Data portal (<https://nepalindata.com/resource/AGRICULTURE-DEVELOPMENT-STRATEGY--ADS-2015-TO-2035/>).

Since 2015, a separate permanent ADSCS has been established under Agriculture Development Division of MoALD with the following ToR:

- make publications and reports on ADS available to the public (formulation reports, planning documents, monitoring reports, events, policy formulation, investment plans, projects and programs);
- respond to general queries about ADS;
- redirect specific queries to relevant units of MOAD or other agencies; and
- facilitate networking of ADS with the ADS stakeholders (farmer organizations, cooperatives, agribusiness enterprises, agricultural professional associations, government officials at the central and local level, development partners).

In addition, ADS desks have been established in all provinces and some municipalities have already designated focal person for ADS.

The establishment and maintenance of this information desk will require capacity building of staff **(271)**: Orientation sessions, meetings and trainings on communication, appropriate hardware and software, and documentation and printing budget have been organized for the staffs working on ADS.

After federalization, Agricultural Information and Communication Center has been reorganized as Agriculture Information and Training Center. The center covers information about ADS in its webpage (<https://aitc.gov.np>) sections like Notice Board (Notice and News, Program and Press Release), Media Center (Photo Gallery, Movies and Audio Gallery), and Publications.

With the support from EU TCF and U.S. Agency for International Development (USAID), periodic presentation of ADS has been done by ADS Secretariat, MoALD at federal, provincial and selected municipalities levels annually to gather feedback.

h. Enhanced Capacity of Key Institutions Involved in ADS Coordination and Implementation

A study on ‘Capacity Needs Assessment of the Municipalities and Provincial Agricultural Institutions’ was conducted on 2021 with the financial support from EU TCF to ADS project to assess challenges and opportunities in implementing ADS. The report was submitted on May 2022. The study report has been presented in Annex 4.

The study has presented a common framework for capacity development plan into five core areas: (a) institutional development; (b) planning, monitoring and

evaluation; (c) budgeting; (d) human resources development; and (e) physical and logistical facilities. The core work of this study had two parts. The first was to examine and identify the gap between the needs and the capacity of provincial and local governments to manage their service responsibilities to develop the agriculture sector under the federal system. The second was to examine and assess the capacity of the federal and provincial government to regulate and manage the way the federalism transition has been rolled out along the three tiers of government and their capacity to manage the system. The assessment of needs and capacities of the provinces and municipalities included the planning and policy making processes, service delivery and implementation, coordination mechanisms and collaboration, management of human resources, budgeting, logistics and facilities (equipment, office and meeting space, physical facilities,) and the planning, monitoring and evaluation systems.

The issues and challenges related to human resource development (HRD) pointed out by the study included: (a) ineffective implementation of agricultural activities and service delivery due to inadequate and less experienced human resources; (b) lack of HRD Plan in most municipalities; and (c) very limited capacity of agriculture and livestock staffs in terms of their knowledge, skills, tools and exposure to deal with various problems across wide areas and subjects.

The study has made recommendations and activities to address these problems and issues. The recommendations to address these issues and challenges included: (i) fulfilment of vacant positions; (ii) preparation of capacity development plan; and (iii) conduct specific activities for capacity development of agricultural staff. The recommended activities included: (1) conduct O&M survey and identify required number and level of agriculture staff; (2) deploy staff at the municipality and ward level for effective delivery of services; (3) clearly define the ToR and performance plan for the agriculture staff; (4) conduct performance evaluation of the employees as per the ToR; (5) prepare the code of conduct for the employees to make them responsible to their assigned responsibility; (6) prepare and regularly update the roster of experts/institutions for outsourcing of expert services and specific agricultural service delivery; and (7) ensure that agricultural staffs are posted for technical tasks only; (8) prepare comprehensive human resources and capacity development plan with short, medium and long term with adequate budget and resources; (9) effective implementation of the capacity development plan and make periodic review to revise; (10) agriculture development planning, monitoring and evaluation and data management; (11) annual plan and budget preparation and management; (12) project cycle management; (13) orientation on policy, acts, rules, regulations and operational procedures; (14) training of trainers; (15) business plan preparation (agriculture and livestock) and value chain identification; (16) good agricultural practices, standards and marketing; (17) GESI, environment and climate change related; (18) proposal writing and report preparation; (19) cooperative management; (20) techniques and tools of effective service delivery, public hearing, public and social auditing; (21) exposure visits and knowledge sharing and attendance in professional group meetings; (22) computer training (word, excel, power point, GIS for senior/planning level staff, database management), (24) any other technical training (initial or refresher) on relevant subject matters, agriculture commodities, cultivation, harvest and processing; (25) orientation and training on periodic/annual program preparation, project cycle management, implementation, coordination, M&E system; (26) agriculture development planning and data base management; (27) GESI related training; (28)

user's committee and farmers group formation and mobilization; (29) plan and program follow-up and report preparation; (30) roles and responsibilities of the municipality officials in overseeing the service delivery and development; (31) leadership development; and (32) orientation and understanding development about good governance.

Capacity building is a continuous process involving multiple actors and systems. It needs an overall capacity building plan to guide future direction and constant reassessment of changing situations. There is no long-term capacity building plan and it is generally done to address the immediate issues and challenges through training, workshops, interaction meetings and observation tours. Most such programs are regular build in the annual program of training institutions. A capacity building plan should be formulated with the provision of regular reassessment and updating of the plan in order to address emerging issues and challenges in agriculture development.

There is no long-term capacity building plan. Monitoring of regular capacity building program is also lacking. Monitoring of impact of capacity building activities should be done annually and bi-annually. Specific capacity building activities should be organized for key government agencies, National Peasants' Coalition, National Cooperative Federation, and private sector organizations.

The organizational reform of MoALD and departments was done in 2018 (2075 BS). It involved reform in organizational structure, ToR of the institutions, name of institutions including divisions, centers, sections, and number and type of human resources etc.

After federalization, there was a fundamental organizational reform in Nepal including public agriculture institutions. The Policy and International Cooperation Coordination Division established at MoAD during ADS formulation stage was reformed as PDCCD of MoALD and a separate Policy Section has been instituted under this division. Capacity building of staffs is done through regular training programs including for those related to ADS. A Human Resource, Gender Development and Inclusive Section has also been established under PDCCD to look into standard for human resource development as well as policy, standard and management of study, training and tour abroad.

i. Improved Food and Nutrition Security of Most Disadvantaged Groups

Activities related to food and nutrition security have been organized under one national flagship program to be referred to as FANUSEP. The program consists of three subprograms. The first sub-program is Food and Nutrition Security Enhancement Project (FANSEP) currently implemented with the funding from Global Agriculture and Food Security Program (GAFSP). FANSEP is the successor of successfully completed Agriculture and Food Security Project (AFSP). The agreement for GAFSP funded grant project FANSEP was signed by GoN and International Development Association on 14 November 2018. The project is implemented by MoALD, supervised by World Bank and technical assistance is provided by Food and Agriculture Organizations of the United Nations (FAO). This project is implemented in 16 village municipalities of eight districts (Gorkha, Dhading, Sindhupalchowk, Dolakha, Dhanusha, Mahottari, Siraha and Saptari) for the duration of five years.

FANSEP compliments the FANUSEP of ADS and international commitments like Sustainable Development Goals (SDGs). The second sub-program is Food and Nutrition Security Plan of Action (FNSP) (2013-2023) prepared with the assistance of FAO. The third sub-program is a new targeted national food and nutrition security project. FANSEP has submitted an application to GAFSP for a three-year targeted national food and nutrition project to complement FANSEP, Multi-sector Nutritional Plan (MSNP) and FNSP.

FANSEP has already designed a three-year targeted national food and nutrition project and it has been submitted to GAFSP.

AFSP was implemented to enhance the food and nutritional security of targeted communities through a holistic set of interventions. The project was implemented in 19 districts of Darchula, Baitadi, Dadeldhuda, Humla, Jumla, Mugu, Dolpa, Kalikot, Bajhang, Bajura, Jajarkot, Achham, Doti, Dailekh, Surkhet, Rukum, Salyan, Rolpa, and Piuthan of mid- and far-western development regions covering three agro-climatic zones (hills, low mountains and high mountains). AFSP exceeded all of its performance targets reaching 656,245 poor people (target of 560,000) (92% women), releasing 30 technologies (target of 29), conducting 6,580 field trials (target of 4,000), and producing 583 mt of source seeds (target of 540 mt) (GAFSP, undated). Increase in yield was more than 100 percent for all crops, with paddy at 180 percent, wheat at 124 percent, maize at 122 percent, potato at 112 percent, goat meat at 105 percent, eggs at 251 percent, and milk (cow and buffalo) at 111 percent. Dietary intake was improved among women and children, with 89 percent of pregnant/nursing women meeting the minimum required animal protein intake against a baseline of 56 percent, 78 percent of pregnant/nursing women meeting the required fruit and vegetable intake against a baseline of 57 percent, and 80 percent of children ages 6–24 months meeting the infant and young child feeding indicators against a baseline of 42 percent.

Food and Nutrition Security Plan of Action (FNSP) is a national cross-sectoral document covering the period of 2013-2023 prepared by GoN and FAO. The main objective of FNSP is to reduce hunger, malnutrition and poverty among the poorest households by improving sustainable agricultural-based livelihoods. It focuses on 1 million hard core poor households (as defined in the Poverty Alleviation Fund program) and involves a number of technology and nutrition interventions on field crops, fisheries, forestry, horticultural products, and livestock. The Poverty Alleviation Fund modality of implementation and financial management have been adopted for its implementation. It is in implementation through local government in coordination with different line ministries and stakeholders. MoALD supports monitoring of FNSP based on specific monitoring indicators developed for each FNSP component.

All flagship programs are implemented in coordination with other projects such as Feed the Future funded by United States Agency for International Development (USAID), programs supported by World Food Programme (WFP), and programs funded by GoN and DPs within the umbrella of the Multi-sector Nutritional Plan (MSNP) to ensure that the most food insecure rural households and farmers are reached by various programs.

Past program on food and nutrition security have already been reviewed. Based on review of past experiences including those of AFSP and FANSEP a three-year targeted national food and nutrition project has been designed and submitted to GAFSP. MNSP II (2018-2022) is in its final year of implementation and MNSP III (2023-2027) is in the process of formulation.

To strengthen the capacity of food security coordination mechanisms committees have been formed at different levels. At federal level two committees have been formed. The first one is High Level Nutrition and Food Security Steering Committee chaired by Hon'ble Vice Chairman of NPC and the second one is National Nutrition and Food Security Coordination Committee chaired by Hon'ble Member of NPC who is responsible for health and nutrition sector of NPC. At province level, Provincial Nutrition and Food Security Steering Committee chaired by chief of body responsible for provincial level planning. Similarly, at local level two committees have been formed. The first one is Local Government Nutrition and Food Security Steering Committee chaired by chief of local government authority and the second one is Ward Level Nutrition and Food Security Steering Committee chaired by Ward Chair.

The rights to food and food sovereignty principles are established in the Constitution of Nepal. The Article 36 of the Constitution has provisioned the notion of Food Sovereignty as right to food or perhaps right to food sufficiency. The ADS is consistent with these principles provided they are not intended to preclude international trade in food and will monitor the implementation of the principles during the course of the ADS. The Right to Food and Food Sovereignty Act, 2075 has already been formulated and is in implementation since it was approved/authenticated on 18 September 2018.

j. Performance-based Management System Established

As per Good Governance (Management and Operation) Act, 2064 and Good Governance (Management and Operation) Regulation, 2064, it is the duty of concerned staff to define his/her task with target and timeline as a performance contract with the institution and the Supervisor. After it is submitted to the Supervisor, it is the responsibility of Supervisor to monitor, supervise and evaluate the performance of his subordinate staffs. The evaluation of performance forms one of the bases for promotion as well as nomination for study, training and visit abroad for the permanent staffs. It forms the strong bases for further contracting of staffs who are working on contract. It is an established guideline and standard operating procedure for performance-based management for all permanent and contracted staffs working in all government institutions.

3.5.2 Component 2: Enhanced Productivity

There are 13 outputs and 112 activities under this outcome. Brief about these is presented below.

a. Establish Community Agricultural Extension Service Centers

In 2018, DoA conducted study on 'Operation of Community Agriculture Extension Service Center and its Management' (Annex 5). The report presents experiences of

CAESC established in Sindhuli and Rauthat districts together with operation management of CAESC. The important points highlighted on operation management are - structure, working areas, operation committees and guidelines, ToR of CAESC, financial capital development etc. The study has indicated possibility of implementing extension activities like farmer field school, different kinds of demonstrations, input distribution, PMAMP programs etc. through CAESC.

Agriculture Service Centers (378 no.) as well as Livestock Service Centers and Sub-centers (999 no.) have been abolished after federalization. Hence, concept of CAESC has been introduced to provide technical services to wider population locally. Several meetings, awareness campaigns and capacity building activities have been initiated by the provinces for agriculture and livestock units of village municipalities and municipalities for agriculture and livestock sections/units of village municipalities and municipalities to promote establishment of CAESC in communities. The ADS has facilitated establishment of CAESC. The CAESC have been established by local communities as per CAESC Establishment Guideline mentioned in the study report. FAO has supported construction of two CAESC buildings in Sindhuli and Bara districts. A total of 22 CAESCs have been established Karnali Province with the support from ASDP. AT least one CAESC was established in each of eight districts of the province. These CAESCs covered a total of 21 municipalities and a total of 28 wards of these municipalities. The province has made its own CAESC Operation Management Guideline. Details of status of CAESC establishment in Karnali Province as of November 2022 is given below.

#	District	Municipality	Ward No	Location	Current Progress
1	Surkhet	Lekbeshi	4	Dasharathpur	<ul style="list-style-type: none"> • 2nd year running • Fund disbursed of 1st year • Palika has also released their committed contribution
2	Surkhet	Lekbeshi	9	Chaurase	<ul style="list-style-type: none"> • 2nd year running • Fund disbursed of 1st year • Palika has also released their committed contribution
3	Surkhet	Bheriganga	11	Ramghat	<ul style="list-style-type: none"> • 1st year running • First Installment of Y1 released • Palika has also released their committed contribution
4	Surkhet	Bheriganga	8	Maintada	<ul style="list-style-type: none"> • 1st year running • First Installment of Y1 released • Palika has also released their agreed contribution
5	Surkhet	Barahatal	5	Chepang	<ul style="list-style-type: none"> • 1st year running • First Installment of Y1 released • Palika has also released their agreed contribution
6	Surkhet	Barahatal	7	Lamakhali	<ul style="list-style-type: none"> • 1st year running

					<ul style="list-style-type: none"> • First Installment of Y1 released • Palika has also released their agreed contribution
7	Surkhet	Simta	5,7,8,9	Jumlya Amrai	<ul style="list-style-type: none"> • In the process of orientation and Agreement
8	Surkhet	Chaukune	6	Betan	<ul style="list-style-type: none"> • In the process of ward selection • Palika has assured their contribution
9	Dailekh	Chamunda	2, 3	Chalnechautara	<ul style="list-style-type: none"> • In the process of orientation and Agreement
10	Dailekh	Bhairabi	6	Khambagade	<ul style="list-style-type: none"> • In the process of orientation and Agreement
11	Dailekh	Bhagawatimai	3	Meheltoli	<ul style="list-style-type: none"> • 2nd year running • First Installment of Y1 released
12	Dailekh	Bhagawatimai	1	Pagnath	<ul style="list-style-type: none"> • 2nd year running • First Installment of Y1 released
13	Salyan	Sharada	9	Dobhan	<ul style="list-style-type: none"> • Agreement done
14	Salyan	Sharada	9	Malneta	<ul style="list-style-type: none"> • Agreement done
15	Salyan	Siddhakumakh	3	Bajkateri	<ul style="list-style-type: none"> • Agreement done
16	Jajarkot	Shiwalaya	1	Syapi	<ul style="list-style-type: none"> • In the process of orientation • Yet to conform fund commitment from Palika
17	Jajarkot	Nalgad	3	Kaina	<ul style="list-style-type: none"> • Agreement done • Not submitted Y1 expenses by CAESC committee
18	Jajarkot	Chhedagad	11	Thalaha	<ul style="list-style-type: none"> • Under discussion • Yet to conform fund commitment from Palika
19	Mugu	Chhayanath Rara	8	Dhatu	<ul style="list-style-type: none"> • In the process of orientation and Agreement
20	Jumla	Patarasi	1, 2, 3	Talfi	<ul style="list-style-type: none"> • In the process of orientation • Palika has committed for their contribution
21	Rukum	Musikot	13	Chautara	<ul style="list-style-type: none"> • Agreement done • First installment released from Palika
22	Kalikot	Khandachakra	3	Tadi	<ul style="list-style-type: none"> • Agreement done

Source: ASDP, Surkhet.

b. Strengthen Capacity of Agriculture and Livestock Service Centers and Sub-centers

There were 378 Agriculture Service Centers and 999 Livestock Service Centers and Sub-centers. These centers have been abolished after federalization. The concept of CAESC has been introduced to provide technical services to wider population locally.

c. Establish Voucher System for Extension and Advisory Services

A guideline (Agriculture Extension Service Delivery Guideline through Voucher System, 2076) to deliver agriculture extension service has already been prepared (Annex 6). However, it is yet to be implemented. It is in the process of piloting.

d. Introduce Farmer Marketing School

The GAFSP funded AFSP has pioneered introduction of farmer marketing school (FMS) concept during the project implementation from 2013 to 2018. The main objective of initiating FMS is to support development of commercial agriculture and value chains in those areas where prioritized value chain development activities are planned through national programs. The idea of FMS is to ensure sustainable and commercial linkages between farmers and consumers. Extension agents work not only with farmer groups but also with others such as farmers, traders, and agroenterprises (input suppliers, processors, logistics companies) to ensure higher value addition at each stage of value chain. The FMS approach was adopted as an extension tool in FANSEP with further elaboration and refinement and implemented while implementing FANSEP. This fiscal year 2022/23 is the last year of project implementation.

e. Promote ICT in Agricultural Extension

The CAESCs are still in the process of establishment. However, Information Communication Technologies (ICTs) have been used widely by agriculture institutions at all levels of governance. For example, NARC is providing services to its clients through NARC webpage (www.narc.gov.np), NARC online library (http://opac.narc.gov.np/opac_css), E-library (<http://kms.narc.gov.np/>), YouTube (NACR Nepal), Facebook (narckrishiprabidhi), Mobile Apps (NARC Krishi Mobile Apps), Toll Free Phone Sewa every Monday from 2 to 4 pm (Toll Free No. 1135), Krishi Mausam Sallah Sewa Bulletin in Nepali, radio program from evening 6:40 to 6:55 and television program from evening 6:40 to 6:57 in all days of the week. Similarly, academic institutions like Agriculture and Forestry University, Rampur, Chitwan is providing such services through its webpage (www.afu.edu.np) and Himalayan College of Agricultural Science and Technology, Kirtipur, Kathmandu (www.hicast.edu.np). Agriculture and line ministries, departments, centers, PAMs, directorates, AKCs, and village municipalities and municipalities have also created webpage to provide services to their clients.

f. Train Field Personnel to be Sensitized to GESI and Nutrition

Several activities related to GESI and nutrition have been organized at federation, provinces, municipalities and farmer organizations. The important programs included: awareness campaigns; orientation and interaction programs; farmer organization, municipality, district, province and federal level capacity building trainings etc. About 1,309 participants have benefited from such programs with 69 percent participants being women (Table 13). Glimpse of gender responsive budget of MoALD during fiscal years 2017/18 to 2021/22 has been presented in previous table.

Table 13: Field level GESI and nutrition related activities

#	Field level activities	Beneficiaries, no.		
		Female	Male	Total
1	Orientation program for municipality level farmer organizations/associations	94	22	116
2	Orientation program for village municipality level farmer organizations/associations	39	26	65
3	Orientation program for village municipality and municipality level farmer organizations/associations	71	20	91
4	Orientation program for the officials of village municipality and municipality level farmer organizations/associations and coordination and collaboration with municipality officials	43	17	60
5	Orientation and awareness programs for district level farmer organizations/associations/institutions	67	19	86
6	Orientation program for district level farmer organizations/associations/institutions	302	183	485
7	Meetings and interaction programs for farmers, farmer organizations, professional organization and other stakeholders	23	6	29
8	Capacity enhancement and empowerment training for women and farmers and entrepreneurs	24	69	93
9	Discussion and interaction program to identify problems of agriculture cooperatives	39	9	48
10	Discussion and interaction program with experts listed in the rostrum	36	12	48
11	Province level orientation program for farmer organizations/association and networks	66	5	71
12	Capacity enhancement program for central level farmer organizations/associations	96	21	117
Total		900	409	1309

Source: MoALD. 2021b. Gender Equity and Social Inclusion Annual Report (Fiscal Year 2076/77). Human Resource, Gender Development and Inclusive Section, MoALD, Kathmandu, Nepal.

Similarly, the PMAMP has also organized various programs. Number of beneficiaries by gender and social group has been presented in Table 14. As many as 47 percent women participants have been benefited through PMAMP project.

Table 14: Beneficiaries by gender and social group in PMAMP

Fiscal year	Beneficiaries, no.					
	Total	Female	Male	Dalit	Janajati	Others
2074/75	67,757	27,154	40,603	6,249	27,773	33,735
2075/76	94,531	49,321	45,210	10,783	36,401	47,347
2076/77	256,241	119,827	136,414	20,583	115,706	119,952
Total	418,529	196,302	222,227	37,615	179,880	201,034

Source: MoALD. 2021b. Gender Equity and Social Inclusion Annual Report (Fiscal Year 2076/77). Human Resource, Gender Development and Inclusive Section, MoALD, Kathmandu, Nepal.

The ASDP has targeted as many as 66 percent women participation in its program activities. The project has published GESI Guideline and Training Manual and GESI Implementation Action Plan too. Number of beneficiaries by gender and social group has been presented in Table 15. As many as 58 percent women participants have been benefited through value chain subsidy and community and public market infrastructure development activities of ASDP project. The women participation in Rani Jamara Kulariya Irrigation Project has been 42 percent. Similarly, women participation in DFTQC programs has been 38 percent.

Table 15: Farmer beneficiaries by gender and social group through various projects and programs

#	Programs	Farmer beneficiaries from farmer groups and cooperatives, no.					
		Total	Female	Male	Dalit	Janajati	Others
1	ASDP:						
	Value chain subsidy and community and public market infrastructure development	4,494	3,203	1,291	917	583	2,993
	Multistakeholder workshop, producer farmer and trader linkage development workshop, orientation of municipality level committees	5,370	2,507	2,863	939	717	3,714
	Sub-total	9,864	5,710	4,154	1,856	1,300	6,707
2	Rani Jamara Kulariya Irrigation Project	4,975	2,079	2,896	3,460	298	1,217
3	DFTQC food processing, food and nutrition and food safety and SPS training	12,354	4,649	7,705	-	-	-
	Total	27,193	12,438	14,755	5,316	1,598	7,924

Source: MoALD. 2021b. Gender Equity and Social Inclusion Annual Report (Fiscal Year 2076/77). Human Resource, Gender Development and Inclusive Section, MoALD, Kathmandu, Nepal.

g. Restructure NARC as Apex of NARS with NRI and RARS

NARC was established in 1991 as an autonomous organization under “Nepal Agricultural Research Council Act - 1991” to conduct agricultural research in the country to uplift the economic level of the people. The objectives of NARC are: conduct qualitative studies and researches on different aspects of agriculture; identify the existing problems in agriculture and find out the solution; and assist government in formulation of agricultural policies and strategies. Its functions and responsibilities are: conduct qualitative agricultural research required for national agricultural policies; prioritize studies and researches to be conducted; provide research and consultancy services to the clients; coordinate, monitor and evaluate the agricultural research activities in Nepal; and document the research activities. The financial resources of NARC to perform tasks mentioned are grants from GoN, grants from national and international donor agencies and governments, and funds obtained from research or consultancy services.

Nepal’s agricultural research is largely dominated by public sector institutions especially NARC and its 32 institutional networks at federation and 30 institutional networks at province level. Some organizational reforms have been made after federalization. Dynamic agriculture research system is needed for bringing transformation in agriculture. The institutional capacity in terms of manpower, infrastructure, fund and other resources is inadequate to meet technological and service demands for diverse ecological belts, clients, entrepreneurs and industries. Thus, GoN is promoting private sector participation in research but not much has been achieved due to weak coordination and linkage mechanisms to foster public–private partnership in research. Reforms to strengthen research system as well as promotion

of linkages among actors, service providers and key stakeholders in Nepal's federal system is critical for bringing the anticipated outcomes.

h. Strengthened Agricultural Education System

A close and functional linkage between research-education-extension is needed for policy coordination, technology generation, technology verification, technology development and dissemination of innovation. Research, extension and education (R-E-E) linkages have been very weak and formal in the past and today. These have been limited to formal correspondence, meetings, exchange of documents, internship program for agriculture students (Table 16). GoN needs to devise legalized functional linkage between five areas mentioned above. MoALD is supporting linkage development between extension and educational institutions.

Table 16: Mobilization of agriculture interns and agriculture graduates

#	Academic institute	Intern students/graduate, no.	Intern graduates, no.	Total, no.
1	Agriculture and Forestry University	350		
2	Girija Prasad Koirala College of Agriculture and Research Center	44		
3	Mahendra Ratna Multiple Campus			
Total		442		

The GoN has launched internship program to develop R-E-E linkages as well as meet demand for technical staff at federal, province and local level agriculture institutions. Academic institutions also need improved laboratories and audiovisual and ICT equipment for effective teaching-learning processes.

Works are on process for structural reforms in Agriculture and Forestry University (AFU). These include, establishment of Agribusiness Department, Technology Dissemination Department, revision of curriculum, introduction of some new courses like agro-ecology etc.

There has been demand for implementing joint educational, research and extension programs since many years in the past to establish R-E-E functional linkage as well as develop practically skilled manpower. A strong initiative is needed for this.

A lot has yet to be done for establishing agricultural university partner operations with private sector. This may involve innovative ways such as: renting/leasing facilities, training to private/community organizations, and contract research under intellectual property right.

Several agricultural and veterinary science colleges have been established in Nepal after restoration of democracy in Nepal since 1990. The list has been presented in Table 17.

Table 17: List of agriculture and veterinary science colleges in Nepal

#	Name of agriculture academic institution	Location
1	Agriculture and Forestry University (AFU)	Rampur, Chitwan
AFU affiliated colleges:		

#	Name of agriculture academic institution	Location
2	Natural Resource Management College	Kapilakot, Sindhuli
3	Natural Resource Management College	Pakhribas, Dhankuta
4	Natural Resource Management College	Puranchaur, Kaski
5	Natural Resource Management College	Kisan Nagar, Mahottari
6	Natural Resource Management College	Tikapur, Kailali
7	Natural Resource Management College	Khajura, Banke
8	Natural Resource Management College	Madichaur, Rolpa
9	Institute of Agriculture and Animal Science	Kirtipur, Kathmandu
10	Institute of Agriculture and Animal Science	Sundar Bazar, Lamjung
11	Institute of Agriculture and Animal Science	Paklihawa, Rupandehi
12	Institute of Agriculture and Animal Science	Gaurdhar, Jhapa
13	Institute of Agriculture and Animal Science	Khairahani, Chitwan
14	Institute of Agriculture and Animal Science	Gokuleswor, Baitadi
15	College of Life Science	Tulsipur, Dang
16	Prithu Technical College	Lamahi, Dang
17	Mahendra Ratna Multiple Campus	Ilam
Eastern University affiliated colleges:		
18	Girija Prasad Koirala College of Agriculture and Research Center	Biratnagar, Morang
19	Himalayan College of Agricultural Sciences and Technology	Salyanthan Road, Kathmandu
20	Nepal Polytechnic Institute	Bharatpur, Chitwan
Colleges under Far-western University:		
21	Tikapur Multiple Campus	Tikapur, Kailali
22	Campus under Council for Technical Education and Vocational Training	Sanothimi, Bhaktapur

The Council for Technical Education and Vocational Training (CTEVT) was established in 1989 (2045 BS) as a national autonomous apex body for technical and vocational education and training. It mainly involved in policy formulation, quality control, preparation of competency-based curriculum, developing skill standards of various occupations and testing the skills of the people, conduct various research studies and training needs assessment etc.

CTEVT provides different 3 years duration technical education courses related to engineering and agriculture, health and medicine for certificate/diploma level. Entry requirement for these is SLC pass in second division. For 15months course student should pass SLC but for those who have not passed SLC, the course duration is of 29 months. Technical education in agriculture includes I. Sc. Ag. (Plant Science), I. Sc. Ag. (Animal Science) and Diploma in Food and Dairy Technology. One can be eligible for bachelor level after passing this course.

In addition, CTEVT has Technical School Leaving Certificate education program. The duration for SLC pass candidate is 15 and 18 months whereas for under SLC it is 29 months. There are courses for JTA (Animal Science) and JTA (Plant Science). Students who have passed above course by getting at least 68.66 percent are eligible to sit in entrance examination of I. Sc. Ag.

CTEVT organizes training on eight subject such as agriculture, engineering, health, tourism/hospitality, secretarial management, education/pedagogy, handicrafts and miscellaneous areas. The training could be vocational training, short-term training and

teacher training. Vocational training course is designed mainly for those people who are unable to get higher education or are very keen in getting professional/vocational training and skills. The duration of this program ranges from 39 hours to 1500 hours. The courses and curriculum are updated regularly to bring practically skilled manpower.

DPs are supporting to build capacity of CTEVT. KOICA is supporting GoN to construct a polytechnic institute in Bardibas of Mahottari to operate under CTEVT. Total cost of the project is USD 8.6 million. The main objective of the project is to produce competent workforces ready to meet the domestic and global needs of the 21st century by aligning with the technical and vocational education and training policy and the 15th Plan (Onlinekhabar 15 June 2021).

Nepal and the European Union (EU) are also closely working together to upgrade the technical and vocational training system in the country. As an important part of this collaboration the EU and CTEVT signed an agreement for 'Sakchyamta' (i.e. Competency) project on 8 December 2017. It is a grant project with a grant of Euro 5.5 million (NPR 667.9 million) and CTEVT will be contributing Euro 61,111 as co-financing for the project. CTEVT is the implementing agency for the project. The Sakchyamta project is part of the larger EUR 20 million 'EU-Nepal Practical Partnership for Technical Vocational Education and Training reform' where EU has also joined hands with the private sector and the British Council. The project will work in the areas of capacity building of CTEVT staff, engage with the private sector in the development of a demand driven technical vocational education and training system, ensure employers' involvement in developing curricula and learning materials, improving quality standards, assurance and monitoring in the technical vocational education and training sector and the project will also strengthen effective coordination and collaboration with national provincial and local technical vocational education and training stakeholders.

i. Adequately Sized Farms that Use Land Efficiently and Sustainably

In Nepal, the shape of farmland is mostly irregular, size varies widely and the parcels are scattered in different locations. However, for efficient and sustainable use of land the farm size should be adequate in terms of use of technology including use of modern tools, equipment and machinery and suitable for social, economic and environmental conditions of the area. In some areas, physical characteristics (parcel size, shape, slope, distance to the farm center and waterways, soil type and logistic advantages) and productivity of land parcels are considered to judge adequacy of land size. Similarly, in some highly mechanized areas large farm size is considered adequate for energy use efficiency. In Nepal's context, consideration should be focused on fragile geology, socio-economic condition of farmers, easy to use cheap energy efficient handy tools, equipment and machinery, soil type, economies of scale to production etc. This needs review of existing policies and laws, defining land categories, awareness raising, land use and development planning and the like.

Some important policies and laws drafted and enforced by GoN recently to promote efficient and productive use of land and enhance commercialization of agricultural production. These are listed below:

- Land Use Act, 2076;

- Land Act (8th amendment), 2076;
- Land Regulation, 2079; and
- Land Use Policy, 2072.

Different offices established in different locations of the districts under Ministry of Land Management, Cooperative and Poverty Alleviation (MoLMCPA) looks after activities related to land. There are three departments (Department of Land Management and Archive, Survey Department, and Department of Cooperatives). To facilitate implementation of new policies and laws, GoN has following offices in different districts of the country (MoLMCPA. 2022):

- Survey Office (for land and cadastral survey) – 131;
- Land Revenue Office – 110
- Land Reform and Land Revenue Office - 21

GoN is planning to add four additional offices of Survey and Land Revenue totaling 135 for both survey and land revenue to provide both revenue and survey services simultaneously. Consolidated Land Reform and Land Revenue Offices have been established in the districts where tenancy issues are yet to be resolved. Hence, cases of tenancy and dual ownership is looked by Land Reform and Land Revenue Offices. Registration of land is done only by Land Revenue Office.

Both cadastral and land survey are looked by Survey Office. Land survey is the survey of overall land and cadastral survey is the survey of individual land property or land parcel of an individual.

Trust land is dealt by Guthi (Trust) Sansthan. It has head office at Tripureswor, Kathmandu and Branch Offices at Bhadrakali, Kathmandu, Pashupati, Kavreplancjowk, Lalitpur, Janakpur, Mahottari, Birgunj and Bhaktapur.

GoN has amended Land Act, 2020 [Land Act (8th amendment), 2076] to fix land ceiling for economies of scale of production, to promote commercialization. According to the Land (8th amendment) Act, 2020, the land ceiling for a person is as follows:

- Terai region: 10 Bigha land³;
- Kathmandu Valley: 25 Ropani³; and
- Hilly areas: 70 Ropani.

Introduction of financial and tax incentives such as fallow land tax, plot tax, soft loans, and protection of seller from acquisition of tenancy during the years that the tiller pays for the land to the absentee-heir are still consideration to encourage absentee (non-farmer) heirs to sell their inherited plot to the heir that tills the land.

³ 1 Bigha = 0.25 ha and 1 Ropani = 0.051 ha

Mixed and pure share cropping arrangements have been very much popular in Nepal since long time back. It is still an ultimate livelihoods option for the landless and poor marginalized peasants.

A lot needs to be done in share cropping for reducing absentee landlord phenomena and promoting land productivity.

Land leasing corporation has not yet been begun. National Agriculture Policy, 2004 has provisions to promote land leasing through the introduction of concept of Land Bank. Hence, GoN has been promoting leasing of land through Land Bank concept introduced in 2020. Some, big business houses are using Contract Act, 2056 (2000 AD) for long term leasing of land for agribusiness. Piloting has not yet been done but foreign returnee youths have been using this model for commercial and plastic tunnel farming. A foreign returnee youth from Jhapa has been leasing 17 ha land for maize production and experimenting different cropping patterns (2-3 crops maize-maize and maize-maize-mustard annually), different varieties, different products like green maize, grain maize, and silage, cost benefit analysis, contractual arrangements with livestock farms and cooperatives etc. (Photo 11). PMAMP is supporting for this.



Photo 11: Land leasing by a foreign returnee youth in Maize Zone in Chakramali, Kankai Municipality-5, Jhapa

Recently GoN has formulated and enforced Public Land Registration, Use and Lease Working Policy, 2079 effective from 7 July 2022. The purposes of this Working Policy are for registration of public lands yet to be registered in the name of government, permission to use public land by public institutions, and leasing public lands to other public institutions (Nepal Gazette, 2022).

Some of the projects like PPMP is also promoting land consolidation to demonstrate advantages of consolidated land over fragmented land, to promote commercialization and mechanization to address acute human and animal labor in the farm, to reduce production cost, enhance income and employment, and reduce workload and drudgery among women farmers by using modern agriculture tools, equipment and machinery. PMAMP alone has implemented land consolidation program in 2,500 ha. Some

provinces like Gandaki and municipalities of Kavreplanchowk district are already initiated land consolidation schemes. Some youths and business houses have also initiated agro-enterprises in Jhapa, Chitwan, Dang etc.

GoN has already drafted Agribusiness and Commercialization Act, 2078 and it is in the process of approval. Concepts like contract farming, land leasing, land consolidation are included in this Act to promote agribusiness operation, discourage selling land and fragmentation, and encourage leasing out fallow land.

National Agriculture Policy 2004 (revised version in the process of approval) has made provision for land zoning to discourage land plotting for residence and other purposes. The Clause 4(1) of Land Use Policy, 2075 and Land Use Act, 2076 enforced to implement the Act has classified land into 10 categories as (1) agriculture zone, (2) residence zone, (3) commercial zone, (4) industrial zone, (5) mine and mineral zone, (6) forest zone, (7) river, stream, lake and swamp zone, (8) public use zone, (9) cultural and archeological importance zone, and (10) zones designated by GoN as necessary. According to the Act, lands that are classified as agricultural lands cannot be converted to other purposes without the consent of GoN. Several municipalities have started working on land zoning. For example, recently, Kathmandu Metropolitan City submitted a report to the MoLMCPA pointing out that there is no arable land within the city (My Republica, 2022).

Credible data is not available for degraded land in recent year, although record show restoration of 15,460 ha and 20,882 ha degraded land in fiscal year 2017/18 and 2018/2019 respectively. The GoN is implementing different programs and projects to rehabilitate degraded lands such as river beds/flood damaged areas, eroded hill and mountain land, and degraded forest. The project “Building a Resilient Churia Region in Nepal” funded by Green Climate Fund with joint agreement between FAO and GoN on 3 May 2020. The project is in implementation in collaboration with Ministry of Forest and Environment and FAO for building a resilient Churia Region in the Eastern part of Nepal. The objective of the project is to enhance the climate resilience of ecosystems and vulnerable communities in Nepal’s Churia region through integrated sustainable natural resource management approaches. The project has verified previously identified degraded lands, designing and implementing various programs for rehabilitating degraded land through integration of farm, forestry, fishery, livestock, and soil conservation measures. Similarly, President Chure-Terai Madhesh Conservation Area Program, one of the National Pride Projects initiated by GoN is also working towards this direction to conserve the natural resources of Chure region, which occupies 12.78% of Nepal, by sustainable management and promotion of ecological services. The program was launched after the first Nepalese Constituent Assembly in fiscal year 2067/68.

Government, non-government and international agencies have been raising awareness on women’s rights to land at different levels through various interventions such as meetings, workshops, studies, training, and media (print, FM, radio, TV, internet). Holding land is a form of wealth, and until women have land certificates in their name, they will not be empowered financially because land is the primary source of livelihoods for many rural households with nearly 75 percent of women having agriculture as primary occupation. Land ownership has its relation to gender equality too. Some studies have found that women with land feel confident in the social and

economic sphere of society and Brahmin community more aware of government policies encouraging female land ownership than the Janajati community.

The GoN has been introducing several proactive measures to promote women's access, ownership, and control over land and property. These measures, depending on the geographical location, include a 25 percent to 50 percent tax exemption on registration when land is owned by a woman; a 35 percent tax exemption for single women (Financial Bill 2072, MoF); and joint registration of land in the names of husbands and wives with a fee of NPR 100 (or less than \$1). Till 2020/21 there were 1,594,482 Likhats (deeds) of such registration and GoN has foregone a huge amount of NPR 12,205,434,000 as concession on registration fee (Table 18).

Table 18: Rebate on land registration for women

Fiscal Year	No. of <i>Likhat</i> (deed)	Rebate, NPR '000
2014/15	200957	1112711
2015/16	187639	1230890
2016/17	223359	1742805
2018/19	151877	1017171
2019/20	335814	2294492
2020/21	216431	2049783
2020/21	278405	2757582
Total	1594482	12205434

Source: MoLMCPA. 2022. Annual Progress Report of MoLMCPA. Planning, Monitoring and Evaluation Section, MoLMCPA, Kathmandu, Nepal.

All these efforts have resulted into women land ownership at 19.7 percent in Nepal (infographic: <http://bit.ly/292xCdy>).

j. Expanded and Improved Irrigation

The Ministry of Energy, Water Resource and Irrigation is emphasizing on completing already commenced surface schemes, repair damaged surface systems and tubewells, construct new schemes, and promote and develop non-conventional irrigation systems. For this GoN has formulated Irrigation Master Plan 2019 (DoI, 2019).

Sikta is the largest irrigation project in Nepal. The project aims to irrigate about 43,000 hectares of land in Banke district. The construction of 45 km western main canal of the project has been completed while construction of 53 km eastern canal is underway. By the end of the fiscal year 2021/22, the project has spent NPR 19.34 billion (out of NPR 25 billion) and about 72 percent of the construction work of the project has been completed.

Babai Irrigation Project in western Nepal which aim to irrigate 36,000 ha of land by using water of Babai River. The project has been listed as the National Pride Projects of Nepal and is implemented by the Ministry of Energy, Water Resources and Irrigation. The project aims to irrigate about 21,000 ha and 15,000 ha in the eastern and western side of the river respectively. The project cost is estimated to be about NPR 17,340,000,000. The feasibility study of the project was done way back in 1967 but the project was started only in 1987. The estimated cost of the project initially was

just NPR 2 billion and has grown to Rs 12.5 billion over time. The GoN has already spent NPR 8 billion separately for land acquisition. The project is on-going.

The Nepal-India Integrated Treaty on Mahakali River was signed on February 12, 1996. As per the agreement, Nepal is entitled to get 1,000 cusecs water from Tanakpur for Mahakali Irrigation Project. The project has the target of irrigating 33,000 hectares of land up to Malakheti of Kailali district. The project is still on-going.

Sunsari Morang Irrigation Scheme (SMIS) is one of the candidate schemes selected for management transfer under Integrated Water Resources Management Project.

The Bagmati Irrigation Project was conceived about four decades ago with the aim of providing irrigation facility in central Tarai as well as generating 140 megawatt electricity, has not completed even first phase of work. A barrage to divert water through eastern and western canals was built in 1953. The project was initially started as Sunkoshi Tarai Project to produce 140 MW of electricity by diverting waters of Sunkoshi River. It was expected to irrigate thousands of hectares of land in Bara, Rautahat, Mahottari and Dhanusha districts. The project has managed to provide irrigation facility to only 45,600 hectares in Sarlahi and Rautahat districts.

Total irrigated area is about 1,509,427 ha which is 57.2 percent of total cultivated area of 2,641,000 ha (Table 19). About 33 percent irrigated area has year-round irrigation facility which has great potential for commercialization.

Table 19: Irrigation development from 2015/16 to 2021/22

Fiscal Year	Irrigated Area, ha
2072/73 (2015/16)	1392177
2073/74 (2016/17)	1433357
2074/75 (2017/18)	1473000
2075/76 (2018/19)	
2076/77 (2019/20)	1479000
2077/78 (2020/21)	1503367
2078/79 (2021/22)	1509427

Note: 2078/79 for 8 months progress

Source: Economic Survey. MoF, Nepal.

Sunkoshi Marin Diversion Project is one of the national pride projects developed by Ministry of Energy, Water Resources and Irrigation. The project got status of National Pride Projects in 20 January 2020. The project is an inter-basin transfer project to transfer water from Sunkoshi River to the Marin Khola, a tributary of Bagmati River. The flow will be discharged to the Bagmati Irrigation System to irrigate additional 122,000 ha of land in Rautahat, Dhanusha, Mahottari, Sarlahi and Bara dsitriacts. The design flow of the project is 77 m³/s. The intake has a 12 m high diversion dam in Sunkoshi River. The flow is transferred via 13 km long tunnel. The project also has a power station to generate 28.62 MW of electricity. The powerhouse is located in Kamalamai municipality. The project cost is NPR 37.2 billion for irrigation and NPR 46.19 billion for hydro-electricity.

The water from Bheri river is diverted and discharged to Babai river in Bheri Babai Diversion Multipurpose Project. This project was started in 2015 and will be closed in 2023. It is still under construction.

Bheri Babai Diversion Multipurpose Project is a multi-basin irrigation cum hydropower project rlying in Surkhet district of Karnali Province. The water is diverted from the Bheri River and discharged to Babai river. The project aims to irrigate 51,000 ha of land in Banke and Bardiya district throughout the year. The elevation difference between the intake and irrigation area provided an opportunity to install 46.8 MW firm electricity. The project has a tunnel 12,208 meters long that was constructed using a tunnel boring machine for the first time in Nepal. The project is owned by the Ministry of Energy, Water Resources and Irrigation. Construction of the project commenced in 2015 and is expected to complete in 2023. The project is estimated to cost NPR 30,00,00,00,000.

Irrigation and water resource management approach has been adopted by government agencies and DPs while implementing in several irrigation programs and projects. Concerned agencies of GoN is organizing interaction meetings, workshops, visits and trainings to empower women farmers as well as water user associations for the best utilization of water for agricultural production.

k. Access to Agricultural Inputs

The GoN has formulated 34 policies, 19 acts, 12 regulations, and 6 orders to facilitate implementation of agricultural development plans, programs and projects. Based on these, periodic plans are formulated. As of now, 15 periodic plans (10 five year and 5 three year) have already been formulated and the current one is the Fifteenth Plan. The ADS has been the bases for formulating agriculture policies in the Fourteenth and the Fifteenth Plan. Provinces and municipalities have taken the reference of periodic plans in formulating agricultural programs. Some new policies and laws have been formulated to support implementation of ADS. In addition, the ministries, provinces and municipalities have formulated guidelines, standard operating procedures to facilitate program implementation. The GoN has formulated and implemented 36 agriculture development related policies and strategies, 19 acts, 12 regulations, and 6 orders (Table 20).

Table 20: Agriculture related policies, acts, regulations and orders (existing and new)

#	Description
Policies and Strategies	
1	Seed Policy, 2056
2	National Tea Policy, 2057
3	National Fertilizer Policy, 2058
4	National Agriculture Policy, 2061
5	Science and Technology Policy, 2061
6	Agribusiness Promotion Policy, 2063
7	National Agricultural Extension Strategy, 2063
18	Irrigation Policy, 2070
19	Agriculture Mechanization Promotion Policy, 2071
20	Forest Policy, 2070
21	Development Cooperation Policy, 2071
22	Food and Nutrition Security Plan of Action, 2015
23	Agriculture Development Strategy
24	National Land Use Policy, 2072

8	Agrobiodiversity Policy, 2063 (amended 2071)	25	Public Private Partnership Policy, 2072
9	Biotechnology Policy, 2063	26	Commerce Policy, 2072
10	Climate Change Policy, 2063	27	Honeybee Promotion Policy, 2074
11	Industrial Policy, 2067	28	National Food Safety Policy, 2075
12	Poultry Policy, 2068	29	National Agroforestry Policy, 2076
13	Rangeland Policy, 2068	30	One Health Strategy, 2076
14	Floriculture Promotion Policy, 2069	31	National Dairy Development Policy, 2078
15	National Cooperative Policy, 2069	32	National Livestock and Poultry Breeding Policy, 2078
16	Supply Policy, 2069	33	National Animal Health Policy, 2078
17	National Simsar Policy, 2069	34	National Fishery Policy, 2079
Acts			
1	Aquatic Animal Protection Act, 2017 (1960 AD)	11	Iodized Salt (Production, Sale and Distribution) Act, 2055 (1998 AD)
2	Patent Design and Trade Mark Act, 2012	12	Animal Health and Livestock Service Act, 2055
3	Food Act, 2023	13	Animal Slaughterhouse and Meat Inspection Act, 2055
4	Feed Act, 2063	14	Nepal Veterinary Council Act, 2055
5	Seed Act, 2045	15	Plant Protection Act, 2064
6	Nepal Agriculture Research Council Act, 2048	16	Cooperative Act, 2074
7	National Dairy Development Board Act, 2048	17	Food Right and Food Sovereignty Act, 2075
8	Mother's Milk Substitutes (Control of Sale and Distribution) Act, 2049	18	Pesticide Management Act, 2076
9	National Tea and Coffee Development Board Act, 2049	19	Land Use Act, 2076
10	National Cooperative Development Board, 2049		
Regulation			
1	Food Regulation, 2027	7	Animal Slaughterhouse and Meat Inspection Regulation 2057
2	Feed Regulation, 2041	8	Seed Regulation, 2069
3	Pesticide Regulation, 2050	9	Cooperative Regulation, 2075
4	Forest Rules, 2051 (1995 AD)	10	Nepal Veterinary Council Regulation, 2075
5	Irrigation Regulation, 2056	11	Bird Flu Control Regulation, 2078
6	Animal Health and Livestock Service Regulation, 2056	12	Land Use Regulation, 2078
Orders/Directives			
1	Cotton Development Committee (Formation) Order, 2037	4	Kalimati Fruit and Vegetable Market Development Committee (Formation) (3 rd Amendment) Order, 2063
2	Animal Feed Production Development Committee (Formation) Order, 2041	5	Birdflu Disease Control Order, 2064
3	Chemical Fertilizer Control Order, 2055	6	Agriculture and Livestock Insurance Directive, 2077

Meetings have been held to discuss strategies for piloting balanced fertilizers and voucher system for distribution in Nepal. Such discussions were participated mainly

by senior officials of MoALD, NARC, Agriculture Inputs Company Limited, Salt Trading Corporation Limited, PAM, USAID KISAN 2 Project, International Fertilizer Development Center, and Nepal Seed and Fertilizer Project. A lot has yet to be done for establishing voucher system for inputs. Information about farmers access to inputs has been presented in previous Table 9.

I. Implementation of Seed Policies

New crop varieties and quality seeds are the most viable means to improve agricultural production. In 2013, GoN formulated and implemented National Seed Vision 2013-2025 with the main objectives to increase crop productivity, raise income, generate employment opportunities through self-sufficiency and generate import substitution and export promotion of quality seeds. It envisages doubling the number of location specific high yielding competitive varieties to be released by 2025. The vision projected that the country would need 190,353 mt of seed to address its annual seed replacement rate (SRR) target by 2025 of 25% of self-pollinated crops, 33% of cross-pollinated crops and 100% of hybrid crops (SQCC, 2013). Through its implementation in perfect harmony with the Agriculture Development Strategy (ADS), this vision will contribute to produce wide range of crop seeds. Implementation seed program as per vision and ADS will contribute ensuring food security to poor, women and disadvantaged groups and will also have an impact on adapting adverse impact of climate change. The GoN programs, project and activities are in line with National Seed Vision 2013-2025, Agriculture Biodiversity Policy 2005 and Seed Regulation 2069.

Capacity enhancement of NARC and research stations are on-going. It has good institutional set-up for breeder and foundation seed production. Limited human & budget resources have been rationalized for this. The GoN is promoting private companies including farmer groups, agriculture cooperatives, Seed Entrepreneurs Association of Nepal (SEAN), NGOs like Center for Environmental and Agricultural Policy Research, Extension and Development (CEAPRED) etc. IN addition, Agriculture Inputs Company Ltd. is producing and distributing seeds in all over the country through its own offices. Table 21 presents the seed production scenario from 2073/73 to 2077/78.

Table 21: Seed production scenario in Nepal from 2073/74 to 2077/78

Crops	2073/74		2074/75		2075/76		2076/77		2077/78	
	Certified	Improved	Certified	Improved	Certified	Improved	Certified	Improved	Certified	Improved
Paddy	258.11	2989.00	265.00	13533.17	255.00	14594.32	813.12	14199.25	1075.73	13580.05
Maize	9.00	12683.00	7.00	3682.56	5.00	2542.97	0.00	1882.94	11.30	1024.30
Wheat	347.06	398.00	351.00	12910.41	396.00	16068.00	2102.84	17039.00	600.90	17522.00
Lentil	0.00	183.00	2.00	388.22	3.00	449.00	3.00	345.00	1.45	455.00
Rapeseed	0.00	0.00	3.00	273.89	0.00	344.00	4.00	337.00	2.42	330.00
Total	614.17	16253.00	628.00	30788.25	659.00	33998.29	2922.96	33803.19	1691.80	32911.35

Source: MoALD. 2022. Statistical Information on Nepalese Agriculture 2020/21. Statistics and Analysis Section, MoALD, Kathmandu, Nepal.

The GoN has enacted Seed Act and 2045, Seed Regulation, 2069 to legally enforce seed quality assurance system. Seed certification system is a legal system for quality control of seed during seed multiplication and production. It is scientific and systematic. There are institutions like Nepal Seed Board, Seed Quality Control Center (SQCC), and one federal and seven provincial seed laboratories to implement and support seed quality assurance system.

The SQCC is a leading organization for the seed quality control, seed certification and also vital institution to support seed production or multiplication. The seed testing laboratories also work on their certification procedures. SQCC has been conducted obtaining accreditation from international community of seed certification. Currently, seed systems in Nepal are going digital.

Since long time in the past, Nepal has been a net importer of hybrid seeds mainly of rice, maize and high-value vegetables worth millions of dollars a year to meet farmers' demand. It is rising continuously. Although hybrid varieties have been released in the country, organized local seed production and marketing were not in place to deliver quality seeds to farmers. This has resulted in poor adoption of hybrid seeds. The International Maize and Wheat Improvement Center (CIMMYT) have stepped in to unlock the untapped potential of domestic maize production and increase on-farm productivity, which is currently around 2.8 metric tons per hectare. Aligning with the goals of the National Seed Vision (NSV 2013-2025), the USAID-funded Nepal Seed and Fertilizer (NSAF) project, implemented by CIMMYT, fosters private sector involvement in the evaluation, production and marketing of quality hybrid seeds to meet the growing domestic demand for grain production. In 2020, Nepal spent nearly \$130 million to import maize grain for the poultry industry (CIMMYT, 2021).

In August 2021, NARC and the International Rice Research Institute (IRRI) signed an agreement for Hybrid Rice Technology Transfer Project. IRRI will hand over to NARC the science, technology, skills, and capacity required for the project. The GoN will provide the financial assistance and overall technology of hybrid rice led by the NARC scientists will be developed within the country itself. The project will add a new dimension to the rice research sector as this five-year project envisages attaining self-sufficiency in rice by developing hybrid varieties through the identification and use of the indigenous and wild varieties of rice in Nepal.

The project will also develop Nepali agricultural scientists capable of employing high technology and innovative thinking. The project will introduce new technology of rice breeding as 'three-line hybrid' and 'two-line hybrid' in the country. Molecular Assisted Breeding, Genomic Selection, Gene Discovery, and Gene Mining techniques will also be employed in the project. It will make the rice breeding research process prompt, efficient, effective, and reliable through the use of high-end technology for the development of hybrid varieties.

The project aims at the commercialization of hybrid rice which is more productive and climate-resilient. It is also expected to expand the area of hybrid rice cultivation and thereby contribute to attaining self-sufficiency by means of import substitution. It has been believed that Nepal would be developed as the proper center of South Asia in view of the use of technology on the basis of the result received after the

implementation of the project. It has been expected that the project would be a milestone to reduce increasing food grain import in Nepal since productivity will be increased substantially after project intervention.

Some of maize hybrid varieties developed by NARC are – Gaurav Hybrid Maize, Rampur Hybrid-2, Rampur Hybrid-4, Rampur Hybrid-6, Rampur Hybrid-8F1, and Rampur Hybrid-10F1. Similarly, some rice hybrid varieties developed by NARC are - Hardinath Hybrid-1F1 and Hardinath Hybrid-3F1.

SQCC collects demand for breeder, foundation, certified and improved seed of municipalities through province level AKCs/Agriculture Development Office/Integrated Agriculture and Livestock Development Offices. At the same time, SQCC also collects information on supply of different types of seeds. Based on demand and supply, SQCC prepares balance sheet for seeds. The balance sheet includes information on demand, supply and allocation for provincial research stations and cooperatives located in municipalities by crops and varieties. All these activities are done based on Seed Production, Supply and Management Directive 2078. Pilot of voucher system for seeds has not tested yet but SQCC has started placing demand and supply through software.

Agrobiodiversity has six components viz. crops, forages, livestock, aquatic, insects and microorganisms and four sub-components - domesticated, semi-domesticated, wild relatives and wild edible in Nepal. Agrobiodiversity on each component exists at agroecosystem, species, variety/breed/biotype/race/strain, genotype and allele levels, within an altitude range from 60 to 5,000 masl. Four strategies namely ex-situ, on-farm, in-situ and breeding have been adopted for their conservation and sustainable utilization.

Nepal ranks the 49th in the world for biodiversity. Among 24,300 total species in the country, 28% are agricultural genetic resources termed as agrobiodiversity (Joshi, et.al, 2020). In Nepal, conservation of genetic resources dates back to ancient Hindu ritual practices but history of scientific plant exploration, collection and evaluation of indigenous plants began in the late 1930s and agrobiodiversity conservation was initiated by creating storage for medium-term conditions only in 1986.

In 2010, National Agriculture Genetic Resources Center (NAGRC) was established under NARC to conserve and use genetic resources relevant to national economic growth and food security. It has long-, medium- and short-term conservation facilities. NAGRC's collections include six components of agrobiodiversity like crops, aquatic genetic resources, livestock, forages, insects, and microorganisms, as well as wild relatives and wild edible agricultural genetic resources. The ex-situ accessions of orthodox seeds for food and agriculture are stored as (i) Original collections in long-term storage are stored at -18°C for 50-100 years, and (ii) Active collections in medium-term storage for seeds of self-pollinated crops and cross-pollinated crops are stored between 5° to 10°C for 5-15 years. The Agrobiodiversity Policy, 2063 (amended 2071) is in implementation to facilitate conservation of agriculture genetic resources. Import, production and use of genetically modified organism (seed, crops and livestock) except for research to avoid negative impact on bio-diversity, genetic resources, and human health are restricted.

m. Improved Fertilizer Supply Distribution System

The requirement of chemical fertilizer is estimated at 0.7 million metric ton (mt) as per recommended dosages otherwise it is 0.52 million mt if used at low level of dosages. About 65 percent chemical fertilizer is used during April/May to August/September and the rest 44 percent is used during September/October to March/April. About 60 percent chemical fertilizer is used in the form of urea, 35 percent in the form of DAP (Diammonium Phosphate) and 5 percent in the form of other commercial fertilizers including Muriate of Potash or simply Potash. The per kilogram price at the Nepal-India boarder is NPR 14 for urea, 43 for DAP and 31 for Potash. The supply of chemical fertilizer through import is presented in Table 21 which indicates a negative supply trend ($y = -978.11x + 319300$) (Figure 4.).

Table 21: Supply of chemical fertilizer through import

Fiscal Year	Urea, mt	DAP, mt	Potash, mt	Total, mt
2078/79 (2021/22)	105062.6	64843.0	7601.1	177506.6
2077/78 (2020/21)	252329.8	132505.0	15374.0	400208.7
2076/77 (2019/20)	214823.6	170886.5	10194.7	395904.8
2075/76 (2018/19)	207967.3	112036.4	7484.3	327488.0
2074/75 (2017/18)	218854.0	119745.3	0.0	338599.2
2073/74 (2016/17)	188051.3	109723.1	9996.9	307771.3
2072/73 (2015/16)	180669.7	105478.5	7480.1	293628.2
2071/72 (2014/15)	186229.7	81931.9	9920.8	278082.4

Source: MoALD. 2021c. Statistical Information on Nepalese Agriculture 2021/22 (2077/78 BS). Statistics Analysis Section, MoALD, MoALD, Kathmandu, Nepal.

Use of chemical fertilizer has been essential to increase crop productivity. It is purely an imported item and distributed at subsidized price. The financial resource for subsidy has been one of the constraining factors to increase use of chemical fertilizer by poor smallholder farmers. Various institutions, DPs and experts have been conducting studies on production, supply, supply chain, distribution, use, impact of use, supplementation and complementation of chemical and biofertilizers. Some of the studies are as follows:

- The first feasibility study on Establishment of Urea Fertilizer Plant in Kingdom of Nepal was conducted by Japan International Cooperation Agency (JICA) in 1984. It focused on using water electrolysis technology for the production of urea.
- Establishing a Fertilizer Plant in Nepal: A Comparative Study and Analysis of Natural Gas vs Water Electrolysis Technology conducted by MoALD and Investment Board of Nepal in 2018/19.
- A study panel of experts from Kathmandu University pointed out the feasibility of establishing a chemical fertilizer factory with a production capacity of 200,000 mt annually and the estimated cost of establishment of factory NPR 615 million. Based on the feasibility study report of Kathmandu University submitted to the Minister for Energy, Water Resources and Irrigation, the GoN on 5 July 2022

formed the panel to study the feasibility of installing chemical fertilizer factory in Nepal. The study team was led by Mr. Chiranjibi Chataut, Joint Secretary of the Ministry of Energy, Water Resources and Irrigation (MoEWRI). The panel members include Dr. Biraj Singh Thapa, team leader of Green Hydrogen, KU and a technical expert, Dr. Bishnu Prasad Gautam, a policy expert, Mr. Kiran Gautam, a Senior Divisional Engineer at the Water and Energy Commission Secretariat and Mr. Babu Raj Adhikari, a Senior Divisional Engineer of the MoEWRI. The panel has sought the need for devising short-term, medium-term and long-term plans to manufacture urea in the country. It also recommended the government develop necessary policies to carry out studies on international practices and emerging technologies in producing green hydrogen and chemical fertilizer.

- Chemical Fertilizer Supply in Nepal: Possibility and Challenges - a report prepared by Dr. Hari Bahadur KC, Dr. Ganga Dutta Acharya, Mr. Sirish Pun, Mr. Diwas Bista & Mr. Arun GC on August 2021.

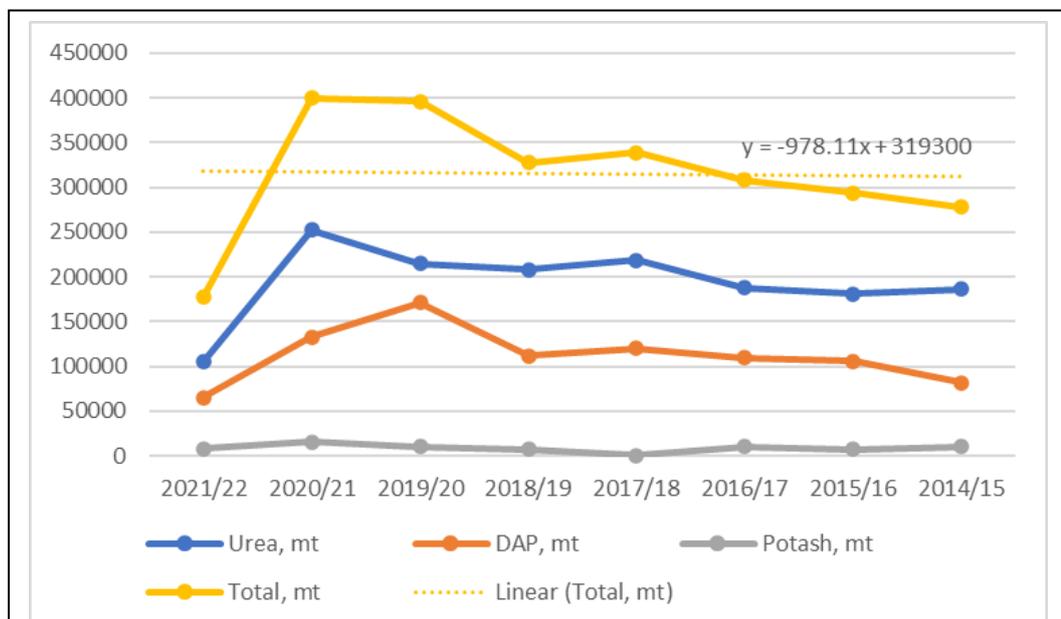


Figure 4: Trend in supply of chemical fertilizer through import in Nepal

An exclusive study needs to be conducted to review impact of fertilizer subsidy to improve distribution system and make best use of limited subsidy.

A bilateral agreement for government-to-government (G to G) supply of chemical fertilizer (Urea and DAP) was signed with India on 28 February 2022 to supply about 0.15 to 0.21 million mt chemical fertilizer every year for the period of five years. Need to explore source countries and similar agreements with third countries too. The MoALD has already drafted Fertilizer Import and Distribution Improvement Procedure and it is in the process of approval.

Buffer stock of chemical fertilizer is maintained at Agriculture Inputs Company Limited (AICL) and Salt Trading Corporation Ltd. (STC). Mobilization of buffer stock is done as per Subsidized Fertilizer Distribution Management Directive, 2077.

Agriculture Information and Training Center (AITC) organizes basic and refresher training regularly for Fertilizer Inspectors who are license holder agriculture officers of GoN. Independent Surveyors are recognized as per Chemical Fertilizer Control Order, 2055 (second amendment 2078). Such Surveyors conduct survey and test chemical fertilizers in designated laboratory. There is no mechanism recording import of chemical fertilizer formally and informally through open Nepal-India border. There is mechanism in MoALD to keep data of formal imports. Distribution of chemical fertilizer is done through local cooperative which is equivalent to voucher system.

The GoN has been adopting complementary measures to improve productivity and fertilizer use efficiency. These included - awareness campaigns, meetings, workshops, training, method and result demonstrations such as basal dose, top dressing, foliar application etc. to impart knowledge and skill on efficient use, cost and benefit of efficient use of chemical fertilizer. Such activities are conducted through AKC, PMAMP, municipalities, DPs and NGOs. Other relevant demonstrations such as improved composting method, vermicompost, green manuring, animal shed improvement etc. are also conducted. To promote production and use of organic fertilizer and also to supplement and complement chemical fertilizer use, MoALD published "Nepalese Standards of Organic Agriculture 2065 Directive" in 2008.

n. Improved Animal Breed

The GoN has formulated and implementing livestock development, breeding, and animal health related policies and laws to increase production and productivity of livestock. Such policies and laws include - Poultry Policy, 2068; Rangeland Policy, 2068; National Dairy Development Policy, 2078; National Livestock and Poultry Breeding Policy, 2078; National Animal Health Policy, 2078; National Fishery Policy, 2079; Aquatic Animal Protection Act, 2017 (1960 AD); Animal Health and Livestock Service Act, 2055; Animal Slaughterhouse and Meat Inspection Act, 2055; Animal Slaughterhouse and Meat Inspection Regulation 2057; Bird Flu Control Regulation, 2078; Animal Health and Livestock Service Regulation, 2056; Animal Feed Production Development Committee (Formation) Order, 2041; and Birdflu Disease Control Order, 2064. In addition, some laws related to livestock related institutions have also been formulated and implemented. Such laws include Nepal Veterinary Council Regulation, 2075 and National Dairy Development Board Act, 2048.

Provincial Livestock Training Centers, VHLSC, FANSEP and Nepal Livestock Sector Innovation Project (NLSIP) are organizing capacity building activities related to livestock for the staffs working at federation, province and municipalities. Last year, NLSIP imported two pure Jersey breed and four pure Holstein Frisian breed bulls from USA for breed improvement of local cows. These pure breeds of cattle have been kept in National Animal Breeding Office, Pokhara. In addition, Heifer International also imported semen and 120 Jersey heifers from Korea. FANSEP project imported Boer goat breed from Australia to support production of pure breed in farms or resource centers. Improved live male breeds are given to communities to improve local breeds through natural insemination.

The GoN has imported pure Jersey and Holstein bulls from USA with the support from NLSIP to implement animal breed improvement program in the country. These

pure breed bulls have been sent to National Animal Breeding Office in Pokhara. The VHLSC is implementing artificial insemination program in wider scale to improve local breeds in the country. In addition, conservation of 18 indigenous live breeds of cattle (4 nos.), buffalo (3 nos.), goat (3 nos.), sheep (3 nos.), poultry (3 nos.), and pig (2 nos.) is on-going.

The government focus on breed improvement through natural, artificial insemination, embryo transplant, fodder and pasture management, good veterinary practices etc. have supported increasing stock of improved breeds and milk production. Total milk production in fiscal year 2077/78 in the country was estimated at 2.48 million metric ton which was an increment of 7.8 percent of the previous fiscal year 2076/77 (Table 22). The value of this milk production is estimated at NPR 13.9 billion (based on price information obtained from DLS at the rate of NPR 64.05 per liter milk).

Table 22: Cattle and buffalo population and milk production in Nepal

#	Fiscal Year	Population, no.		Milk production, mt		Total
		Cattle	Buffalo	Cattle	Buffalo	
1	2015/16	7,302,808	5,168,809	643,806	1,210,441	1,854,247
2	2016/17	7,347,487	5,177,998	665,285	1,245,954	1,911,239
3	2017/18	7,376,306	5,277,819	754,126	1,338,277	2,092,403
4	2018/19	7,385,035	5,308,664	795,530	1,372,905	2,168,434
5	2019/20	7,458,885	5,257,591	920,400	1,380,600	2,301,000
6	2020/21	7,466,841	5,159,931	1,060,487	1,419,412	2,479,899

Source: MoALD. 2021c. Statistical Information on Nepalese Agriculture 2021/22 (2077/78 BS). Statistics Analysis Section, MoALD, MoALD, Kathmandu, Nepal.

The livestock insurance is guided by “Agriculture and Livestock Insurance Directive, 2077”. Voucher system for animal breeds, veterinary services, and livestock insurance has not yet been initiated. However, farmers obtain such services and inputs from public institutions and agrovets. Livestock insurance (animal, poultry and fish) is in implementation. All livestock insurance policies are based on cost. Only Nepal Insurance Authority can issue insurance policy. Insurance companies have to get approval of Nepal Insurance Authority to issue policies. About 20 insurance companies are working for crop and livestock insurance. The GoN provides 80 percent subsidy on premium fee. The premium fee out of insured amount for livestock is given below.

- Livestock animals: 5%
- Broiler: 1.25%
- Layers, parent and duck: 5%
- Ostrich: 2%
- Fish 2%

Liquid nitrogen is needed for artificial insemination program. It is used to preserve sperm during storage and transportation. Out of three public liquid nitrogen production units only National Livestock Breeding Office, Pokhara and National Livestock Breeding Office, Lahan are producing and distributing liquid nitrogen in

the country and liquid nitrogen unit in National Livestock Breeding Office, Banke is not in operation. In addition, there are seven private units which produce liquid nitrogen. These private units mainly produce oxygen to be supplied to hospitals and nitrogen gas obtained while producing oxygen is liquified and sold as liquid nitrogen. Establishment of liquid nitrogen plant on public private partnership model would be best options for reliable, efficient and continuous supply of liquid nitrogen for AI program at reasonable price. Since the past two decades, price of liquid nitrogen ranged from NPR 35 to currently at NPR 160 per liter.

o. Mechanization Options Accessible

Farm mechanization enhances productivity beside reducing human drudgery and cost of cultivation. It also helps to improve use efficiency of other inputs, safety and comfort of the agricultural worker, improvement in the quality and value addition of the produce.

In Nepal, animate power is the main source of farm power. Human and animal power occupy 36.3 and 40.5 percent respectively of the total farm power available in the country but available mechanical power in the country is only 23 percent (Table 12). Based on such power sources being in use in Nepal, three levels of mechanization can be differentiated - human power-based mechanization, animal power-based mechanization, and mechanical power-based mechanization. In other words, building on existing base would make farm mechanization easy, fast and sustainable. Out-migration of rural youths has made farm mechanization imperative.

In addition, consideration should be made on physiography, small land size, irregularly shaped land, scattered parcel, poor socioeconomic status of farmers, womanized farming system, and low level of literacy and skill of farmers. Realizing these, GoN has formulated and implemented Agriculture Mechanization Promotion Policy, 2071. The GoN and private mechanisms like PMAMP, Agriculture Infrastructure and Agriculture Mechanization Promotion Center are, PAMs, AKCs, VHLSECs, municipality agriculture units as well as dealers, NGOs and DPs are pro-actively working towards promotion of agriculture mechanization in the country. The important proactive activities include - orientation programs, trainings, demonstrations, establishment of custom hiring centers, soft credit, subsidy on purchase of machineries, etc. However, an exclusive strategic plan should be devised for the following areas:

- a. Awareness creation, demand stimulation, concessionary financing arrangement, technical capacity building of the dealer network, particularly for the 2-wheel power tillers and mini-tiller dealers;
- b. Information dissemination;
- c. Improved customer access to finance;
- d. Capacity building of service and maintenance providers;
- e. Leasing agricultural equipment;
- f. Revision of regulation and taxes to support mechanization; and
- g. Piloting a voucher scheme.

p. Improved Resilience of Farmers

Agriculture is extremely vulnerable to climate change. Drying of water sources, erosion, and landslides in hills and mountain regions of Nepal while flooding of cultivated lands in low-lying areas of hills and Terai regions are the direct impacts of climate change in Nepalese agriculture. The effects of climate change on agriculture can result in lower crop yields and food quality due to drought, heat waves, flooding, encouraging weed and pest infestation etc. and disrupt food availability and reduce access to food. Hence, climate resilient technology and practices have been developed and disseminated by NARC and other agencies in the world and some of these are presented in Table 23.

Table 23: Some climate resilient farming technologies

Climate change related problems or risks	Climate resilient technology and farming practices
Drought	<ul style="list-style-type: none"> • Drought tolerant paddy varieties like Hardinath-2, Tarahara-1, Sukha Dhan-1, Sukha Dhan-2, Sukha Dhan-3, Sukha Dhan-4, Sukha Dhan-5 and Sukha Dhan-6, • Direct seeded rice, • System of rice intensification (SRI), • Rain water harvesting, • Plastic ponds, • Development of year round irrigation system, • Insurance etc.
Extreme heat	<ul style="list-style-type: none"> • Heat tolerant varieties like Rampur Hybrid-8 and 10, Ganesh-1 and 2, Gulmi-2, and Manakamana-1, 3, 4, 5, and 6 • Heat tolerant crops like pearl millet, sorghum etc., • Compost/green manuring, • Climate smart shed, • Carbon smart technology (agro-forestry, orchard development, feeding concentrate to livestock, fodder management, integrated pest management, biogas management), • Residue retention for soil carbon and organic matter, • Insurance etc.
Wildfire	<ul style="list-style-type: none"> • Create firebreaks like roadways, • Select flame/fire resistant/retardant shrubs/plants like hedging roses, bush honeysuckles, currant, cotoneaster, sumac and shrub apples • Plant hardwood, maple, poplar and cherry trees that are less flammable than pine, fir and other conifers), • Insurance etc.
Water scarcity	<ul style="list-style-type: none"> • Cover crops, • Mulching • Shade, • Irrigation system development strengthening • Insurance etc. • Rain water harvesting in ponds, • Non-conventional irrigation such as drip irrigation, sprinkler

Climate change related problems or risks	Climate resilient technology and farming practices
	irrigation, solar pump <ul style="list-style-type: none"> • Water absorbent polymers, • Conservation agriculture (mulching, minimum tillage, contour cultivation, conservation furrows, live bunds, field bunds, ploughing across the slope, cultivation of crops across the slope etc.), • Good agricultural practices (improved soil carbon sequestration), • Use of compost, animal manure and biosolids, • Residues as soil cover/mulch, • Reduced tillage, • Crop rotation, • Green manuring, legume crops, • Diversified cropping, • Crops/varieties with higher root mass, • Avoid fallowing, • Integrated nutrient management, • Recommended dose of nutrients, biochar etc.), • Insurance etc.
Flood and submergence	<ul style="list-style-type: none"> • Flood/submergence tolerant varieties like Samba Mansuli Sub-1, Swarna Sub-1, Bahuguni-1 and Bahuguni-2, • Drainage, • Raised bed planting, • Planting in furrows • Insurance etc.
Soil erosion	<ul style="list-style-type: none"> • Agroforestry, • Orchard development, • Herbs farming, • Vetiver cultivation, • Fodder crop cultivation, • Cover crop, • Mulching, • Efficient counter, • Drainage, • Sloping agricultural land technology (SALT) etc.
Diseases	<ul style="list-style-type: none"> • Rust disease (Ug99) resistant wheat varieties like Vijaya, Tilottama, Banganga, Gaura, Dhaulagiri, Danphe, Sworgadwari, Munal and Chyakhura etc.
Reduced fodder availability	<ul style="list-style-type: none"> • Agro-forestry, • Fodder/grass nursery, • Fodder/grass cultivation in community land, • Silage making (with Poshilo Makai variety and Napier as raw materials), • Molasses blocks, • Improved shed, • Improved feeding methods, • Stress-tolerant breeds through artificial insemination etc.
Cold, frost and hail	<ul style="list-style-type: none"> • Early warning to alert and advice farmers use their knowledge and skill to prevent frost damage,

Climate change related problems or risks

Climate resilient technology and farming practices

- Use hail protection nets
- Green/glass/plastic house,
- Protective irrigation,
- Insurance etc.

Source: AITC. 2021. Agriculture and Livestock Diary 2079. AITC, Lalitpur Nepal.
 Alvar-Beltrán et.al. 2021. Climate Resilient Practices: Typology and Guiding Material for Climate Risk Screening. FAO, Rome.
 Bhusal et. al.. 2020. Climate Smart Agriculture: Training Manual. Local Initiatives for Biodiversity, Research and Development (LI-BIRD) and Ministry of Land Management, Agriculture and Cooperative (MoLMAC), Pokhara, Nepal.
 NARC reports; and internet.

The Pilot Program for Climate Resilience (PPCR) project created Agriculture Management Information System (AMIS) at MoALD. The project supported training to staff of selected agencies in weather data analysis including and advanced degrees sub-national and community levels in the use of AMIS Portal tools and in awareness of climate resilience. The support was also on building partnerships with farmers to raise awareness and capacity including provision of basic thermometers and rain gauges to selected farmers and organization of agroclimate workshops at the regional and district levels. It also produced information products (agricultural and spatial data digitizing and archiving; development of agriculture monitoring products and decision support tools such as mapping of climate vulnerable farming communities and establishment of a crop monitoring system; and exploratory research to develop financial risk transfer instruments for the agriculture sector, such as agricultural insurance) and information dissemination including development of mobile applications based on data from AMIS, production and dissemination of advertisements for mass media (FM radio, TV channels), production and dissemination of publications; and feasibility studies for AMIS Portal product dissemination. An example of PPCR publication on Agriculture Weather Advisory Service Bulletin 2075 has been presented in Photo 12. Now, AITC is doing these activities after the completion of PPCR.

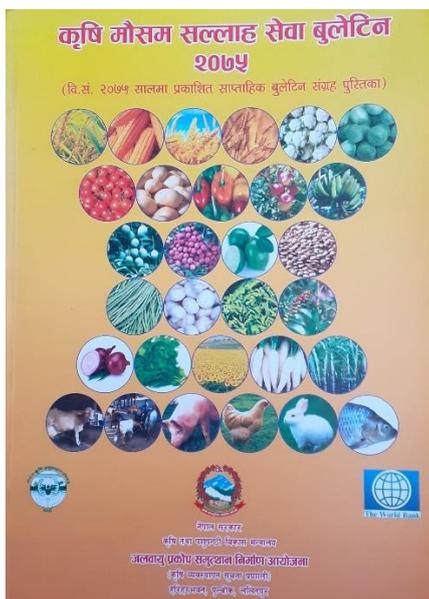


Photo 12: Agriculture weather advisory service bulleting 2075

As per decision of Insurance Committee decision made on 15 Mangshir 2077, previous ‘Crop and Livestock Insurance Direction, 2069’ has been replaced by “Agriculture and Livestock Insurance Directive, 2077. Agriculture and livestock insurance cover 14 types of risks. Insurance fee ranges 1 to 8 percent. Initially, only cost-based insurance was implemented. Now, both cost- and production-based insurance are in implementation. There has been continuous growth in no. of insurance and insurance amount since fiscal year 2071/72 and farmers began claim only after 2076/77 (Table 24).

Table 24: Agriculture and livestock insurance

Year	Commodity	No. of Insurance	Insurance amount	Insurance fee, NPR	Subsidy on premium, NPR	Payment of claims, NPR	No. of claims
2071/72	Agriculture	1829	438721000	21633998	16225498	9739898	
	Livestock	9181	14222743	855315			
2072/73	Agriculture	1829	438721000	21633998	16225498	9739898	
	Livestock	25728	5599691224	25711082			
2073/74	Agriculture	1537	1339625696	49142736	36857052	29577758	
	Livestock	73751	7905436118	376781968			
2074/75	Agriculture	1935	2054308739	52652712	39489534	37698227	
	Livestock	63973	11168280285	521446124			
2075/76	Agriculture	4278	3003261308	101042872	75782154	86801498	
	Livestock	112580	19091614806	903720476			
2076/77	Agriculture	3811	1607034006	82923532	62192649	59996775	563
	Livestock	125190	24773185591	1098776255			
2077/78	Agriculture	5206	2911847226	153852065	115389049	104047174	1923
	Livestock	188550	40391151423	1786012820			

Source: Insurance Committee. 2022. Agriculture and Livestock Insurance Report, 2078. Insurance, Committee, Kathmandu, Nepal.

Different types of insurance policies have been piloted in Nepal including weather indexation systems, insurance without subsidy etc. Currently, only NLG, Shikhar and Sagarmatha Insurance Company Ltd. are involved in weather-based insurance. A few examples of weather index insurance are presented in Table 25.

Table 25: Piloting weather-based insurance in Nepal

#	Insurance	District	Insurance Company	Remarks
1	Weather index-based insurance for paddy and maize seed production	Banke, Bardiya and Nawalparasi (Susta)	NLG Insurance Company Ltd.	No subsidy. Financial and technical supports from CIMMYT
2	Weather based insurance in paddy (piloting)	Kailali	Sagarmatha Insurance Company Ltd.	No subsidy
3	Flood damage insurance for rice in Karnali river basin	Kailali and Bardiya	Shikhar Insurance Company Ltd.	No subsidy. It was started in 2078/79 and insurance company has paid

				NPR 2.4 million
4	Weather index based (rainfall and hail stone) insurance for apple in Jumla since 2072	Jumala	Shikhar Insurance Company Ltd.	-

Nepal introduced minimum support price (MSP) in the Seventh Plan (1985-1990) for paddy and wheat. Now, GoN declares MSP for paddy, wheat, maize and sugarcane. Some municipalities have extended MSP list to wider agriculture commodities. Food Management & Trading Company Ltd. procures and store's reserve food and sale to targeted households at fair price.

In addition, food is also reserved in SAARC Food Bank. As of mid-March of fiscal year 2020/21, a total of 31,932 metric tons of food grain is in stock in National Food Security Warehouse and SAARC Food Bank (Economic Survey 2020/21).

Breeder and foundation seeds are produced mainly by NARC whereas improved/commercial seeds are multiplied by government farms such Chandra Dangi Seed Farm, Sundarpur Farm and several farms under provinces and NARC farms and these seeds distributed by AICL. Fodder seeds are produced and distributed by DLS farms.

Capacity building of extension staffs and farmers in climate smart agricultural practices are done by FANSEP, ASDP, AKC, PMAMP etc. through training, FFS, and demonstrations etc. Farmers Welfare Fund has yet to been piloted.

National Disaster Risk Reduction and Management Authority has been established as per Section 10 of the Disaster Risk Reduction and Management Act, 2074 BS. This authority has the right to act as the central resource body for disaster risk reduction and management. The National Council for Disaster Risk Reduction and Management is chaired by the Rt. Hon'ble Prime Minister and the Disaster Risk Reduction and Management Executive Committee is chaired by the Hon'ble Home Minister. The Act has made provision for the executive head of this authority to be the member-secretary of the council and committee. There are committees, disaster management and fund mobilization procedures at federation, provinces and local level. For example, Bharatpur Metropolitan City has formulated and enacted Disaster Management Fund Mobilization Procedure, 2078.

q. Sustainable Farming, GAP and GVAHP

Several activities have been implemented for sustainable farming, Good Agricultural Practices (GAP) and Good Veterinary and Husbandry Practices (GVAHP) and farmers are already adopting them. The Nepal GAP standard has been adapted in relation to food safety, quality, environmental management and workers health, safety and welfare modules which can be implemented individually or in various combinations. It was developed by the Government of Nepal as a country-specific GAP under the SAARCGAP scheme developed by FAO. Nepal GAP for fruits and vegetables with logo has been prepared and implemented through DFTQC. Similarly, several veterinary and animal husbandry practices have been brought in use.

Several extension activities such as method demonstrations, result demonstrations, farmers field school, visits, workshops and trainings are regularly conducted through

department, province and local agriculture and livestock institutions apart from NGOs and DPs. Such activities include - integrated soil fertility management, integrated plant nutrients management, integrated pest management (IPM), renewable energies based on biogas and biomass utilization, organic farming, farm sanitation and hygiene good practices, practices to prevent use of hazardous chemicals in crops and regulations of the use of antibiotics in livestock production process.

r. Forestry Development

The GoN has formulated and implemented some policies, strategies and bylaws to strengthen enabling policy environment for developing, managing, and sustaining forest products and services in a more commercial and sustainable way. The ultimate goal to transform subsistence production based forestry into competitive, agriculture friendly and inclusive forest management practice, with a holistic and community based landscape approach to natural resource management and livelihoods improvement. The new policies and laws formulated to support ADS implementation. List of such newly formulated policies and laws are as follows:

- National Agroforestry Policy 2019 (2076 BS)
- Forestry Sector Strategy, 2016-2025
- National Forest Policy, 2075
- Forests Act, 2019 (2076 BS)
- Forest Bylaw, 2079

Forest Council Bill has been drafted and it is in the process of finalization and approval.

Forestry Sector Strategy, 2016-2025 is already in place and draft plan has been prepared to identify and prioritize the most socially and economically competitive forest products for each of the management regimes across the various landscapes and physiographic regions. National forest map and provincial forest map has been drafted and it is the process of finalization.

Value chain of 42 socially and economically competitive forest products have been developed and action plan of six forestry products has been prepared. A study report on Forest-based Value Chains in Nepal presents value chain case study of Chiuri, Utis, Allo Fiber, and Bamboo (MSFP, 2016). About 111 forest nurseries have been established to promote afforestation and reforestation in community and other forests, and embankment has been done in 42,000 km.

The GoN is promoting forestry enterprises and marketing development. Some private sectors are working on production and marketing of briquette, improved cook stoves, juice making (seabuckthorn juice, Bel juice etc).

The GoN and the Green Climate Fund (GCF) supported Building a Resilient Churia Region in Nepal (BRCRN) are promoting GESI in forestry sector.

Ministry of Forest and Environment, Building a Resilient Churia Region in Nepal (BRCRN) Project, President Churiya Conservation Program and International Centre

for Integrated Mountain Development (ICIMOD) are actively involved in scaling up the interventions on soil conservation and watershed management including measures to promote adoption of Sloping Agriculture Land Technology (SALT), and crop management practices (crop rotation, tillage etc.).

There are two forest management regimes in Nepal at present: government managed forests and community managed forests. Community based forest management has been mainstreamed in Nepal's forest management after the endorsement of Master Plan for Forestry Sector in 1988 (2035 BS). There are five categories of national forest: community forest, leasehold forest, government- managed forest, religious forest and protected forest.

3.5.3 Component 3: Profitable Commercialization

We need to implement 42 activities to achieve profitable commercialization. The implementation status of these activities during the last five years is presented below.

a. Improved Investment Climate

The Commercial Agriculture Development Project is one of the key projects implemented by the GoN with the assistance of the World Bank for accelerating agricultural commercialization in Nepal. The Project initiated establishment of Commercial Agriculture Alliance (CAA) in the eastern Nepal in terms of broad coverage of actors such as farmer cooperatives, traders, input supplies, and agro-industry for improving investment climate in agriculture. Agro Enterprise Center (AEC), the agricultural wing of the Federation of Nepalese Chambers of Commerce and industry (FNCCI), Seed Entrepreneurs Association of Nepal and commodity associations of tea, coffee, honeybee, fish, poultry, pig etc. are the potential supporting agriculture organizations that could monitor and dialogue with government on improved investment climate for agricultural commercialization. The FANSEP has formulated Productive Alliance Formation and Operation Working Procedure, 2077 to facilitate agriculture inputs as well as technical and financial services and supports to the business and enterprises of small producer farmers. In addition, this alliance also supports to establish linkage and facilitates contractual arrangements between producer farmers and traders.

There are representatives of farmer's organizations, agribusiness, cooperatives, and industry organizations in NADSCC, NADSIC, ADSJRS committee, ADS-JSRIC, ADS JSRTC. It has been done to steer ADS implementation towards reality starting from program planning to implementation, monitoring and evaluation.

Cooperative Act, 2074 and Cooperative Regulation, 2075 are the umbrella legal arrangements for all cooperatives in the country. The GoN has enacted these laws to amend and consolidate laws concerning cooperatives. In line with ADS, some municipalities have formulated their own cooperative laws incorporating the concept of contract and lease farming. Gandaki Province has formulated and enacted Gandaki Pradesh Cooperatives Act 2075. Accordingly, the cooperatives of 11 districts of Gandaki Pradesh have started focusing on production as the cooperatives have made a new and effective act in Nepal to invest 30 percent of their investment in the field of production.

Legally, there is no discrimination on importing chemical fertilizer by public and private enterprises but in practice urea, DAP and muriate of potash are imported by state owned AICL & STC and rest of the micronutrients & agrochemicals are imported by private sectors.

b. Contract Arrangement for Commercial Agriculture

The GoN has enacted Land Use Act 2076 and Land Use Regulation 2078 to implement National Land Use Policy 2072. The municipalities are working on classifying land based on land categories mentioned in policy and law. For example, Kathmandu Metropolitan City has submitted a report to the MoLMCPA pointing out that there is no arable land within the city (My Republica, 2022). The PMAMP is supporting implementation of policy and laws through the implementation of super zone, zone, block and pocket program concepts to promote commercialization of agriculture by meeting economies of scale in production.

Different projects like FANSEP, ASDP, NLSIP etc. have developed and disseminated manuals which assist commercial agricultural decisions (gross margin, cash flow analyses, market information, trade and technical related information) of an entrepreneur. In addition, orientations, trainings and farmer field schools have been organized to reinforce this through the support from DPs, NGOs etc.

The proposed Agribusiness Promotion Act is covering aspects such as contractual mechanisms, secured transactions, land-leasing, and leasing operations. Currently, these concepts are promoted through various program interventions based on Agribusiness Promotion Policy, 2063.

Capacity building exclusively for commercial agriculture was initiated by Commercial Agriculture Development Project. Following this, Project for Agriculture Commercialization and Trade was also implemented. Now, all department (DoA, DLS and DFTQC), agriculture and livestock training centers, AKCs, municipality agriculture units, NGOs are organizing orientation programs, workshops and trainings to support promotion of commercial agriculture through improved contractual arrangements, value chain development, and market intelligence. Such activities are done involving farmers and their organizations (groups and cooperatives), agro-enterprises and their organizations, and service providers (government, professional).

c. Agricultural Finance and Insurance

The central bank of Nepal - NRB has made mandatory provision of lending in agriculture and productive sector to support economy. The NRB implements this through the announcement of its monetary policy every year. The Monetary Policy 2021/2022 announced by NRB mentions that the existing provision for the commercial banks to extend at least 15 percent of their total loan to the agriculture, energy, micro, cottage, and medium scale industries with a loan limit not exceeding Rs.10 million has been continued. A provision will be made for the commercial banks to establish focal desks in their branches operating the government transactions of rural municipalities and municipalities. This provision aims to promote additional

resources for agriculture, micro and cottage industries. Consolidation/merging of financing institution is on-going.

A lot has yet to be done to develop an efficient commercial agriculture sector through subsidies and targeted tax incentives. Currently, GoN provides following incentives:

- Export subsidy on tea and coffee;
- Subsidy on insurance premium;
- Subsidy on credit;
- Subsidy on chemical fertilizer;
- Custom tax rebate on agriculture tools, machineries and equipment;
- Relaxation on land ceiling for commercial tea and coffee farming;
- Land registration etc.

Various lending provisions have been defined in Soft Loan Interest Subsidy Integrated Procedure, 2075. Banks and financing institutions are using this procedure for lending. Some examples are given below:

- Commercial agriculture and livestock credit is upto NPR 50 million;
- Educated youth credit is upto NPR 0.5 million;
- Foreign migrant returnee project credit is upto NPR 1 million;
- Women entrepreneurs credit is upto NPR 1.5 million;
- Disadvantaged community development credit is upto NPR 1 million;
- Higher technical and commercial education credit is upto NPR 0.5 million;
- Training credit in CTEVET accredited institutions is upto NPR 0.2 million; and
- Youth self-employment credit is upto NPR 0.5 million.

The Small Farmers Development Bank (SFDB) was operating nearly for two and half decades as a wholesale financial institution for cooperatives mainly small farmer cooperatives. It heavily relied on direct or indirect subsidies of the government. Since there were issues related to growth and operation of small farmer cooperatives, stringent lending portfolio of SFDB restricted its expansion. Lack of qualified small farmer cooperatives was another challenge for SFDB. Hence, Small Farmer Cooperative Limited (SFCL) has been established since 2055 BS. It is a farmers owned, managed and controlled cooperative. SFCL is believed to be a sustainable framework for enhancing SFCL's access to microcredit and related services in rural areas.

The MoALD, departments, PAMs, AKCs, training centers and agriculture sections/units in village municipalities and municipalities, and projects are implementing awareness campaigns, meetings, trainings and workshops to link farmer groups and farmer cooperatives with banks and financing institutions to increase their access to credit specifically to group lending. However, planned and concrete efforts are needed to build capacity of farmer groups and farmer cooperatives on basic accounting and business plan preparation, organizing quarterly or semi-annual

workshops between farmer groups, farmer cooperatives and banks and financing institutions to establish linkages.

The Nepal Agriculture Cooperative Central Federation Ltd. (NACCFL) is an umbrella organization of Small Farmers' Agricultural Cooperatives Limited (SFACLs) and similar other agricultural cooperatives. It was established in 2008 with the objectives to provide non-financial services to its member organization. With the collaboration of cooperatives all over Nepal, NACCFL and Sana Kisan Laghuitta Bittiya Sanstha Limited (SKBBL)(Small Farmers Development Bank) are established to provide non-financial and financial services to its members respectively.

ASDP has made the agreement with NACCFL for capacity development and subsequent wholesale lending to cooperatives. The main propose of the agreement is to provide the capacity development package to 100 cooperative and subsequent wholesale lending in Karnali Province. In this regard, NACCFL has conducted the scoping study in 47 cooperatives in 1st batch but considering the Mission recommendation 20 cooperatives are excluded due to the already linked with SKBBL and other apex financial institutions are excluded. Therefore, NACCFL is rigorously providing to capacity development package to 1st batch's 25 cooperatives. Similarly, the scoping of 2nd cooperatives is ongoing to select 2nd bath cooperative and the second batch cooperative will be selected by the second half of December 2022. NACCFL has been able to conduct 3 events of ToT on Cooperatives Management, Account and Book Keeping and Business Plan development to its newly recruited staffs. Likewise, the capacity development package on cooperative management has been completed in 38 cooperatives in the field and book keeping and business plan development package in ongoing in 25 cooperatives.

Federal, provincial and local institutions, projects, DPs and NGOs are organizing training in financial management for farmers, cooperatives, agri-entrepreneurs, rural women and rural youth, to enhance agricultural enterprise creditworthiness.

The agriculture insurance program was started to be self-sufficient, commercialization, increase income and employment. The GoN is promoting development of agricultural insurance so that farmers have access to viable crop, livestock and fishery insurance products. Since agriculture livestock insurance is growing fast, Crop and Livestock Insurance Fund Management Committee has also been formed. Types of risks to be covered have also been defined. The insurer gets 90 percent of insured amount due to loss resulting from 14 types of risks mentioned below:

- 1) Fire and thunderstorm;
- 2) Storm;
- 3) Hurricane;
- 4) Excess and unseasonal rain;
- 5) Hailstone and snow;
- 6) Flood or submergence
- 7) Drought;
- 8) Frost and cold wave;

- 9) Earthquake;
- 10) Landslide;
- 11) Lightening;
- 12) Loss due to accident and external factors (attack by wild animals);
- 13) Insect diseases; and
- 14) Insect pest.

Different types of insurance policies have been piloted in Nepal including weather indexation systems, insurance without subsidy etc. Brief about weather-based insurance has already been presented in Table 24. The insurance fee ranges 1 to 8 percent of insurance amount. The subsidy in premium ranged from 50 to 80 percent in different period as listed below:

2070	50%;
2071;	75%+exemption on VAT;
20778/79	50%; and
Since 7/6/2078	80%.

d. Competitive Agricultural Value Chains

During the initial phase of ADS implementation, MoALD had designated managers for all prioritized flagship programs viz. FANUSEP, Decentralized Science, Technology, and Education Program (DSTEP), Value Chain Development Program (VADEP), and INAGEP. However, as envisaged in ADS, funding mechanism for flagship programs through the Agriculture Trust Fund (ATF) could not be materialized due to failure to establish ATF. Hence, the Value Chain Program Steering Committee could not be formed and priority commodity value chain programs could not be implemented. These aspects should be reviewed during the forthcoming review and revision of ADS.

In spite of these, various projects have already been implemented and are in implementation which support value chain development. Such projects include: ADB funded Support for Value Chain Development under ADS (completed on September 2020); High Value Agriculture Project in Hill and Mountain Areas (HVAP) (completed); Value Chain Development of Fruit and Vegetables Project (VCDP) supported by Korea International Cooperation Agency (KOICA) and UNDP (on-going since 2018); IFAD funded Agriculture Sector Development Programme (ASDP) (on-going); the World Bank funded NLSIP (on-going) etc. In addition, NTIS 2016 recognizes potentials for agro- and forest-products such as cardamom, ginger, tea, and medicinal and aromatic plants. As mentioned earlier, Department of Forests and Soil Conservation has already developed value chain for 42 forest products and action plan has been developed for six of them. All these projects and programs are supporting value chain development through trainings, manual development, exposure visits, orientation programs etc.

MoALD through projects and programs has initiated implementation of prioritized value chains of maize, dairy, vegetables, lentils, and tea as envisaged in ADS. During the field visit in Province 1 the farmers were found very much encouraged and area or scale expanding rapidly leading towards strong value chain development and commercialization of agriculture and livestock (Photos 12a to 12f). The NLSIP is supporting dairy value chain in 28 districts and PMAMP is supporting vegetable, maize, rice, seed and other value chains in almost 77 districts in pockets, blocks, zones and super zones.



Photo 13a: Vegetable value chain in Vegetable Zone (PPMP), Jahada Village Municipality, Morang



Photo 13b: Maize seed value chain (PPMP) in Benubaja, Kankai Municipality, Jhapa



Photo 13c: Dairy value chain (NLSIP) in Damak, Jhapa

Historically, agriculture has been the roots of industrial growth worldwide. Nepal having an agro-based economy, improvement in agricultural productivity will definitely provide initial spur to industrialization. Therefore, Agriculture Perspective Plan as well as ADS have viewed agriculture as an engine of growth for triggering commercialization, promoting competitiveness and develop industries in the country. The development of agro-industries in Nepal has been very slow during the past few decades (Table 26) but it has taken a higher momentum in terms of number and types (Figure 4) after the implementation of ADS. Poultry stands number one among agro-industries. There was one shot development in compost manuring industry in 2070/71 but it ceased afterwards. It should be analyzed further in order to improve soil organic content and supplement use of purely imported chemical fertilizers.

Table 26: Development of agro-industries in Nepal

#	Types of Industry	2051/52-066/67	2067/68	2068/69	2069/70	2070/71	2071/72	2072/73	2073/74	2074/75	2075/76	Total
1	Agriculture Firm	0	0	0	0	0	740	741	960	1156		3597
2	Integrated Agriculture	0	0	0	0	0	280	64	83	100		527
3	Nursery	519	30	35	93	226	227	194	251	303		1878
4	Mushroom Farming	0	0	0	0	0	0	13	17	20		50
5	Agriculture and Livestock (including Tea Cultivation)	1594	109	259	560	1798	244	271	351	423		5609
6	Poultry Farming	789	193	377	373	468	1142	920	1192	1436		6890
7	Beekeeping	419	4	25	14	353	39	52	67	81		1054
8	Fruit and Vegetable Farming	0	0	0	0		163	219	284	342		1008
9	Banana Farming	0	0	0	0		0	40	52	62		154
10	Tea Cultivation	216	3	5	52	70	7	1	1	2		357
11	Dairy Industry	21	59	68	40	325	105	68	88	106		880
12	Aquaculture	9	36	63	52	102	272	336	435	524		1829
13	Pig Farming	0	0	0	0		187	54	70	84		395
14	Goat Farming	0	0	0	0		105	122	158	190		575
15	Buffalo Farming	0	0	0	0		118	66	86	103		373
16	Calf Fattening	0	0	0	0		26	1	1	2		30
17	Dairy Cow Farming	0	0	0	0		249	166	215	259		889
18	Fodder Production	0	0	0	0		0	8	10	12		30
19	Herbal Processing	0	4	6	37	225	5	1	1	2		281
20	Compost Manure	0	0	0	0	55	0	0	0	0		55
21	Livestock & Poultry	0	0	0	0		0	118	153	184		455
22	Livestock	0	0	0	0	128	288	594	770	927		2707
23	Furniture	0	0	0	0		27	39	51	61		178
24	Saw Mill	0	0	0	0		26	17	22	27		92
25	Fresh House	0	0	0	0		13	11	14	17		55
26	Pater (<i>Typha angustifolia</i>) Industry	0	0	0	0		0	2	3	3		8
27	Ostrich Farming	0	0	0	0		0	1	1	2		4
28	Others	1247	417	726	243	50	17	64	83	100		2947
Total		4814	855	1564	1464	3800	4280	4183	5419	6528	9752	42659

Source: Department of Industry. Micro, Cottage and Small Industry Statistics, 2078/79. Department of Industry, Kathmandu, Nepal.

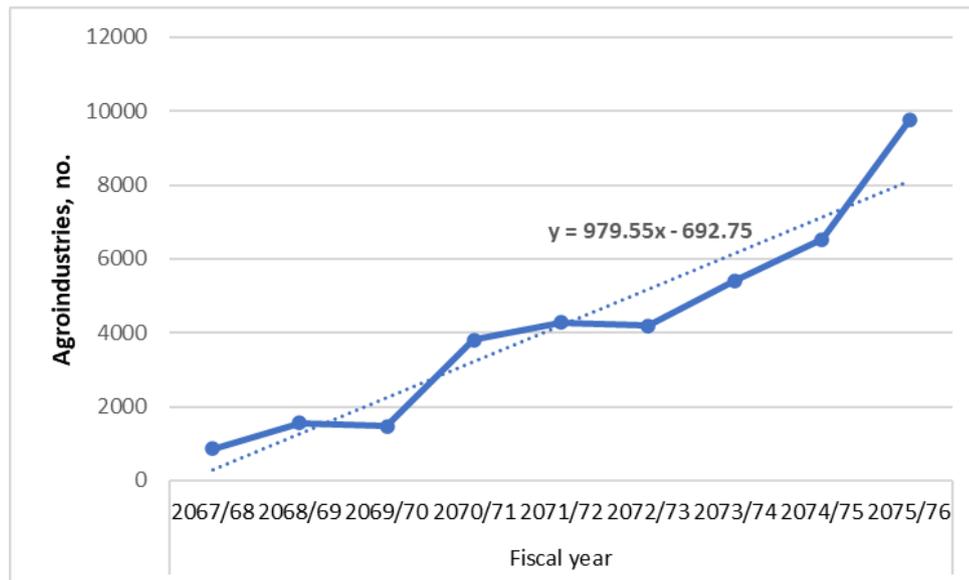


Figure 4: Agro-industrial development in Nepal

e. Rural Roads Network Expanded

The ADS has envisaged explicitly targeting the agricultural roads which link production sites with the market centers. Since District Technical Office has been removed after federalization, we need to find alternatives to establish a new section for agricultural roads in the changed contest. The provincial and local governments or municipalities have made heavy investment on rural and agriculture roads after federalization by using budget allocated for agriculture development. It was mainly due to liberal option given to sub-national government to allocated budget as per their priorities. In addition, there were ambiguities in implementing agriculture development programs in provinces and municipalities. Previously, development of rural and agriculture road was done by Department of Local Infrastructure Development and Agricultural Roads. This department too has been reorganized as Department of Local Infrastructure after federalization. Now, provinces and municipalities are allocating budget for maintenance of such roads.

f. Agricultural Market Information

Market information of Kalimati Fruit and Vegetable Committee is providing vital information on market, traders, notice, pesticide residue report, publications etc. in its webpage (<https://kalimatimarket.gov.np/price>) which is easily accessible to smallholder farmers, traders, and entrepreneurs. The vital information and analysis include - daily price, daily supply or arrival of agricultural commodities, supply trend, comparative price, and comparative supply. In addition, the market committee has uploaded publications on time series data on price and volume of trade by month and source in Microsoft Excel Sheet so that not only the producer farmers but also traders, academia, researchers and policy makers can make use of such time series data. Market information of Kalimati wholesale market is broadcasted daily through Radio Nepal, Nepal TV, Krishi TV etc. Some private trading companies have also developed mobile apps to procure agriculture commodities.

g. Rural Electrification and Renewable Energies

On 3 November 1996, GoN established Alternative Energy Promotion Centre (AEPC) under the Ministry of Science and Technology with the objective of developing and promoting renewable/alternative energy (water, solar, wind, biomass, biogas) technologies in Nepal. Currently, it is under the Ministry of Education, Science and Technology. It functions independently and has an eleven members board with representatives from the government sector, industry sector and non-government organizations. The Centre is implementing programs based on Renewable Energy Grant Policy and 2078 and Renewable Energy Grant Mobilization Guideline, 2079 along with other relevant policies and directives. Other arrangements to make use in agriculture sector as envisioned in ADS are yet to be materialized.

Large amount of cow dung cake is burnt as fuel in Terai of Nepal (Photo 12d). Such livestock and farm wastes can produce biogas or flammable methane gas. Biogas production has several advantages over cow dung cake burning - it reduces greenhouse gas emissions which is climate friendly, produces biogas which substitutes imported LPG, produces well decomposed compost to improve soil, supplement plant nutrients, thus, reducing chemical fertilizer imports, and no smoke while cooking which reduces health hazards. Timely availability of adequate and quality chemical fertilizers have been reported important problems everywhere in Nepal. Integrating such innovations in value chain will support upscaling, cost reduction, commercialization and sustainability of ADS initiatives.



Photo 13d: Cow dung logs prepared as fuel for cooking in Vegetable Value Chain Zone in Jahada Village Municipality, Morang

Collaboration with and technical support from AEPC will be highly useful in integrating biogas and other renewable energy in ADS value chains. Currently, GoN through AEPC subsidy (AEPC, 2016) for domestic biogas plant is as follows:

- 2 cubic meters biogas plant: NPR 16,000;
- 4 cubic meters biogas plant: NPR 20,000; and
- 6 cubic meters biogas plant: NPR 24,000.

3.5.4 Component 4: Increased Competitiveness

This Component/Outcome is achieved through 4 outputs and 24 activities.

a. Market Infrastructure Developed and Managed

The MoALD is promoting market development in public private partnership (PPP) mode wherein community or local government provides land and GoN develops infrastructure. The market is managed by the market management committee with representatives of producer farmers and traders. In addition, GoN supports with basic supports to establish office with internet and other amenities and capacity building through training, orientation, visits, internet, preparation of guidelines etc.

Basics of market development such as collection center, grading, packaging, processing, small storage, transportation and contractual arrangements between farmers and traders is built-in package in almost all value chains of projects like PMAMP, NLSIP, VCDP, REED, ASDP, FANSEP, VCDP, Nuts and Fruits in Hilly Areas Project etc. In addition, provincial and local governments, DPs and NGOs are also supporting for market development. The private sector is also coming-up to establish market centers, medium and large cold storage etc.

NLSIP is supporting several sub-projects in matching grant mode. The projects like PMAMP and NLSIP are supporting farmer groups/cooperatives market infrastructure development. However, there is a need to strengthen the capacity of farmer groups/cooperatives on organizing meetings, record keeping, accounting, contractual agreements with traders, market information etc.

The market infrastructure development is implemented in PPP mode. The community or local government provide land whereas GoN develops infrastructure. In the past, there were several failure cases mainly due to selection of market sites in non-strategic locations. Orientation should be done to the communities to identify strategic locations for market development and undertake feasibility studies.

MoALD has issued Partnership Agriculture Market Infrastructure Development Directive, 2068 and Agriculture Market Development Directive, 2073 for improved market management. Establishment and management of agriculture markets are done based on these directives.

b. Growth of Small and Medium Agro-enterprises

The GoN provides tax incentives or tax exemptions in the following areas:

- Farm income except registered farm business or companies related to organized farming;
- Agro-based co-operatives, saving and credit organization located in rural areas.
- Dividends distributed by savings and credit organizations

The WB funded Project for Agriculture Commercialization and Trade (PACT) piloted establishment of agribusiness incubators (e.g. Nepal Agribusiness Incubation Center)

for nurturing the growth of small and medium agro-enterprises. Later, Nepal Agribusiness Incubation Center was removed.

Although project like NLSIP has established matching grants to promote agro-enterprises innovations but not much has been done on this.

c. Growth of Food and Agricultural Products Exports

The GoN has brought following measures to promote exports backed by the ability to apply and comply with SPS, to counter import of subsidized or dumped products that harm the Nepali producers.

- Foreign Investment Technology Transfer Act 2075,
- Safeguards, Antidumping and Counter Valuing Act 2076,
- Industrial Business Act 2076,
- Special Economic Zone Act 2073, and
- Nepal Trade Integration Strategy 2016.

In Nepal, foreign direct investment (FDI) is governed by Foreign Investment Technology Transfer Act 2075. FDI is more important in developing economies because it allows transfer of technology, skills and access to global markets and financial resources. On January 1, 2021, MoICS applied a provision in the Foreign Investment and Technology Transfer Act 2075 to allow foreign direct investment (FDI) in primary agriculture activities such as grains, poultry, dairy and horticulture. The amendment allows FDI in primary agriculture if 75 percent of the products are exported. On January 20, the Supreme Court of Nepal issued an interim order, which is currently in effect, directing the government not to implement the agricultural FDI decision. Meanwhile, on February 23, 2021, the Confederation of Nepali Industries announced a “Make in Nepal” campaign to support “self-reliant” manufacturing and increase global demand for Nepali goods, including food and beverages.⁴

d. Enhanced Food Quality and Safety

In Nepal, food safety and quality management remain under the jurisdiction of MoALD. The DFTQC, one of three departments under MoALD, is an apex organization of GoN responsible for the enforcement of food laws. Generally, Nepal follows internationally recognized standards than ISO 9000 series. Nepal Bureau of Standards and Metrology (NBSM) and the Department of Drug Administration have been authorized for establishing standards. Food product standards are generally set under the Food Act 2073, Food Regulation 2077 and Nepal Standard (Certification Mark) Act 2077. NBSM is the only agency authorized to develop technical standards for different products. Standards for testing the quality of food and the processes for testing food products are governed under the Food Act and Nepal Standard (Certification Mark) Act, which requires the importer to have a sample tested by DFTQC.

⁴ <https://www.fas.usda.gov/data/nepal-nepal-attempts-increase-foreign-investment-opportunities-agriculture-it-pushes-self>

GoN has drafted new Food Safety and Standard Bill 2077 which includes concept of modern food law. On 12 July 2020 (28/3/2077) the bill was sent to upper house of the Federal Parliament of Nepal (the House of Representatives) which is known as the National Assembly. The bill has been discussed in different forums including parliamentary committee and it is in the process of approval.

The DFTQC is one of the three departments under MoALD. Since its establishment in 1961, the department has been playing a pioneer role for food quality control, research and development in food science, technology and nutrition. The GoN has mandated the department as an apex organization for the enforcement of food and feed laws. The main aim is to ensure and enhance the quality and safety of food and feed products as well as augment appropriate food processing and post-harvest techniques to promote agribusinesses, and implement various food and nutrition programs to reduce various forms and types of malnutrition in the country. The department has been entrusted as CODEX Contact Point for Nepal for about four decades. The department is the Secretariat for both National CODEX and INFOSAN (International Food Safety Authorities Network). The department is a competent central authority for food and feed. National Food Safety Policy 2019 has envisioned gradual transformation of department into an independent food authority.

The DFTQC is the National Sanitary and Phytosanitary (SPS) Enquiry Point since 2004. The SPS standard includes food safety, plant quarantine and animal quarantine. The National SPS Coordination Committee is in MoALD and it is chaired by the Secretary. As per Food law, there is provision for food standardization committee, chaired by the Secretary of MoALD and Director General of the department is the Member Secretary. The food standard approved by the committee is notified as SPS Notification to World Trade Organization (WTO) member countries by SPS National Notification Authority at MoALD. If no comments obtained within 60 days, the standard is endorsed to the cabinet for publication in Nepal Gazette and it is enforced from the date it is published.

Nepal Bureau of Standards and Metrology under Ministry of Industry, Commerce and Supplies (MoICS) is mandated to standardize private laboratories as per scheme of NEPLAS. The DFTQC is implementing different activities to promote inter-laboratory competency of private sector such as DFTQC led proficiency testing, training on measurement of uncertainty validation, interlaboratory comparison, etc.

Based on existing law, different directives and guidelines have been issued to meet Food Safety and Quality (FSQ) standards. The directives and guidelines included Directives on Production, Processing and Distribution of Meat Products, 2074, Working Guideline on Categorization of Hotel/Restaurants including food business based on Food Safety Standards, 2074, Directives on Regulation of Food Export/Import, 2074, Working Guideline for Fair Festivals, 2074, Directives on Export-Import Inspection and Quality Certification System in Nepal, 2063 etc. Annual targets are set for the proclamation of standards. Till now, 136 product standards have been declared and around 20% of them have been harmonized since Nepal became the WTO member. In addition, the department is promoting Good Manufacturing Practice (GMP) and Hazard Analysis Critical Control Point (HACCP) to address food hazards from production, processing, and handling of raw materials to the manufacturing, distribution, and consumption of the finished product

by analysis and control. GMP is the first step to food safety, as a series of principles to be fulfilled to ensure that products meet legal prerequisites for safety and quality. It can be one of the components of HACCP, which is a systematic approach to production that is designed to prevent hazards from occurring.

The GoN has enacted Accreditation Bill 2078 after it was approved by the House of Representatives on 16 August 2022. The NBSM is the executing agency of the bill. National Food and Feed Reference Laboratory of DFTQC has been accredited since 2012 by National Accreditation Board for Testing and Calibration Laboratories (NABL) of India with current certification number ISO/IEC 17025: 2017. In November 2022, DFTQC laboratory and Food Technology and Quality Control Office Laboratory, Biratnagar have been audited by NABL. Validation for such certification is for two years.

Aspects related to establishment of Nepali Accreditation Body has been included in the Accreditation Bill 2078 which was passed by House of Representatives on 16 August 2022.

Nepal will join International Laboratory Accreditation Cooperation (ILAC) after the establishment of Nepali Accreditation Body as per Accreditation Bill 2078.

Efforts for standardization and upgradation of national and province-based Food Quality Control Laboratories under DFTQC, National and province-based Veterinary Diagnostic Laboratories, National Veterinary Quality and Medicine Management Office Laboratory, Feed Analysis Laboratory, National Avian Disease Diagnostic Laboratory under DLS, and National and province-based Plant Protection Laboratories, Soil/fertilizer Analysis Laboratories and Seed Quality Control Laboratories under DoA are on-going.

Capacity building of DFTQC staff through trainings, interaction programs, awareness campaigns, Food Safety Days are built in the annual program budget.

There is no confusion on roles and functions of agencies as per existing laws.

After federalization, the country has been divided into seven provinces. All provinces have food quality control laboratory with the exception of two in Lumbini province. Location of such laboratories is in Morang, Dhanusha, Makwanpur, Rupandehi, Banke, Pokhara, Surkhet and Kailali.

The GoN has established Food Technology and Quality Control Division Offices in 22 locations to cover all 77 districts. The locations included Jhapa, Sunsari, Dhankuta, Udayapur, Saptari, Mahottari, Sarlahi, Parsa, Chitwan, Sindhuli, Kavreplanchowk, Kathmandu, Nuwakot, Tanahun, Baglung, Kapilvastu, Palpa, Dang, Jumla, Baitadi, Doti and Dadeldhura. In addition, the GoN has also established 12 Food Import and Export Quality Certification Offices in Kakarbhitta (Jhapa), Rani (Morang), Jaleswor (Mahottari), Birgunj (Parsa), Tatopani (Sindhupalchowk), Timure (Rasuwa), Belhiya (Rupandehi), Krishnanagar (Kapilvastu), Nepalgunj (Banke), Dhangadhi (Kailali), Mahendranagar (Kanchanpur), and Tribhuvan International Airport (Kathmandu).

Agriculture and Livestock Business Promotion Division has been established in MoALD. The Agribusiness and Market Promotion Section under this division is looking after agribusiness and trade related aspects.

3.6 Status of Flagship Programs

The ADS has envisaged some prioritized programs which are referred to as “ADS Flagship Programs”. Different activities are implemented to achieve flagship programs. Four flagship programs have been defined in ADS and these include: (a) Food and Nutrition Security Program (FANUSEP); (b) Decentralized Science, Technology, and Education Program (DSTEP); (c) Value Chain Development Program (VADEP); and (d) Innovation and Agro-entrepreneurship Program (INAGEP). The roles and responsibilities of Flagship Program Manager is very much crucial in coordinating implementation of ADS programs, overall monitoring and evaluation, and documentation of reports of ADS implementation. Therefore, Program Managers for all flagship programs should be deputed together with establishment and operationalization of ATF or similar mechanism. Brief status of flagship programs is presented below.

a. Food and Nutrition Security Program

This flagship program aims at improving food and nutrition security of the most vulnerable groups. Currently, two subprograms viz FANSEP and Food and Nutrition Security Plan of Action (FNSP) are in implementation. FANSEP is in implementation in 16 Village Municipalities of eight districts (Gorkha, Dhading, Sindhupalchowk, Dolakha, Dhanusha, Mahottari, Siraha and Saptari). The project aims to reach 65,000 direct beneficiaries for the duration of five years. Since FANSEP is in its final year of implementation, GoN has submitted application to GAFSP for a new three-year project on food and nutrition security.

In addition, DPs funded projects are also supporting implementation of this flagship program. These include USAID funded Feed the Future Nepal Seed and Fertilizer (NSAF) project, WFP funded programs, and GoN and other DPs funded programs within the umbrella of Multi-sector Nutrition Plan II (2018-2022) (MNSP) to ensure that the most food insecure rural households and farmers are reached. Formulation of MNSP III (2023-2027) is in the final stage. The NSAF project is facilitating sustainable increases in Nepal’s national crop productivity, income and household-level food and nutrition security, across 20 districts, including five earthquake-affected districts. NSAF is promoting the use of improved seeds and integrated soil fertility management technologies along with effective and efficient extension including the use of digital and information and communications technologies.

b. Value Chain Development Program

This flagship program aims to develop competitive and inclusive value chains of national importance. Initially, focus has been on five value chains viz. maize, dairy, vegetables, lentils, and tea. The modality of VCDP implementation has been - PPP mode, holistic approach (to include from arrangement for seeds, production, processing, marketing including infrastructure development, access to roads and connectivity, postharvest technology to quality assurance and exports), linkage development (with farmers associations, traders, processors, input providers, value chain stakeholders) to strengthen relations and ensure effective investment, and wider dissemination of successful technologies in all areas and among stakeholders.

The VCDP is in implementation along the three major corridors of BP highway, Prithvi highway and Hetauda-Dumkibas segment of East-West Highway in Bagmati and Gandaki Provinces. The project aims to increase the income of 10,000 smallholder farmers through increased production, reduced postharvest losses, and better market linkage for selected fruit and vegetables. The project targets to benefit 10,000 smallholder farmer households growing fruits and vegetables in target areas and establish 20 collection centers. The project includes ADS priority vegetable value chains which include tomato, cauliflower, cabbage, capsicum, cucumber, radish, potato, onion, garlic, and carrot. The project also targets fruits such as banana, citrus-mandarin, sweet orange and lime, papaya, pineapple, and watermelon.

NSAF is focusing on increasing availability of technologies and improving productivity in cauliflower, lentils, maize, onions, rice and tomatoes. It will also build competitive seed and fertilizer systems that significantly expand seed production, marketing and distribution by enhancing the capacity of public and private sectors in seed and fertilizer value chains. Among them, lentil and maize are the ADS priority value chains.

The WB funded REED project is in implementation to stimulate the development of rural enterprises by strengthening market linkages among smallholder producers and players in the agricultural commodity value chain and strengthen enabling environment for the development of enterprises in five key economic corridors covering six provinces (Provinces 1, Madhesh, Bagmati, Gandaki, Lumbini and Sudurpashchim) of the country. The project is also supporting value chain related infrastructures and semi-public infrastructures and facilities at local level.

The PMAMP is the largest on-going project of GoN under the MoALD. The project was formulated by the internal vision, internal investment and internal institutional manpower. The project duration is of 10 years starting from FY 2073 to 2082 and the estimated cost of the project is NPR 130 billion. The project has four components viz. (a) small commercial agriculture production center (pocket) development program, (b) commercial agriculture production center (block) development program, (c) commercial agriculture production and processing center (zone) development program, and (d) large commercial agriculture production and industrial center (super zone) development. Currently the project has 7,706 pockets, 1,605 blocks, 177 zones and 16 super zones throughout the country. The pocket and block development programs are being implemented by PAMs through its satellite offices and AKCs. However, the zones and super zone development programs are being implemented by 75 Project Implementation Unit across the country. The PMAMP is implementing all ADS priority value chains in these areas.

The Value Chain Development Fund (VCDF) and Value Chain Development Alliances (VCDA) and are yet to be established together with deputation of VCDP Program Manager. Lessons can be drawn from the WB funded Commercial Agriculture Development Project initiated Commercial Agriculture Alliance, ADB funded Nepal: Support for Value Chain Development under ADS, GIZ supported Lessons Learnt from the Medicinal and Aromatic Plants Sub-sectors, Nepal project, and CRS Nepal and AFU Nepal study on Inclusive value chain study for Lentil Sub-sector in Nepal to establish VCDA. The VCDA are societies owned by farmers and their associations, entrepreneurs, input providers, logistics operators, warehouse managers, cooperatives, and other value chain actors. The commonality of all these VCDA actors is that they are all engaged commercially on a specific value chain and are interested in promoting its commercial development.

c. Decentralized Science, Technology and Education Program

This flagship program aims at decentralizing the extension and research system while fostering coordination between research, extension, and education in order to enhance responsiveness to farmers' and agro-enterprises' needs.

In 2018, DoA conducted study on 'Operation of Community Agriculture Extension Service Center and its Management' (Annex 5). The important points highlighted on operation management are - structure, working areas, operation committees and guidelines, ToR of CAESC, financial capital development etc. The concept of CAESC has been piloted in some provinces like Karnali, Bagmati, Madhes etc. with the construction of CAESC buildings in Sindhuli and Bara districts with FAO support.

A guideline on "Agriculture Extension Service Delivery Guideline through Voucher System, 2076" has already been prepared (Annex 6). However, it is yet to be implemented. It is in the process of piloting.

Nepal's agricultural research is largely dominated by public sector institutions especially NARC and its 32 institutional networks at federation and 30 institutional networks at province level. Some organizational reforms have been made after federalization. Dynamic agriculture research system is needed for bringing transformation in agriculture. The institutional capacity in terms of manpower, infrastructure, fund and other resources is inadequate to meet technological and service demands for diverse ecological belts, clients, entrepreneurs and industries. Thus, GoN is promoting private sector participation in research but not much has been achieved due to weak coordination and linkage mechanisms to foster public-private partnership in research. Reforms to strengthen research system as well as promotion of linkages among actors, service providers and key stakeholders in Nepal's federal system is critical for bringing the anticipated outcomes.

The GoN has launched internship program to develop R-E-E linkages as well as meet demand for technical staff at federal, province and local level agriculture institutions. A lot has yet to be done for establishing agricultural university partner operations with private sector. This may involve innovative ways such as: renting/leasing facilities, training to private/community organizations, and contract research under intellectual property right.

Deputation of a program manager and establishment of DSTEF are yet to be done. Therefore, DSTEF program manager should be deputed together with establishment and operationalization of DSTEF to facilitate coordination for formulating, implementing, monitoring and documenting DSTEF activities.

d. Innovation and Agri-entrepreneurship Program

This flagship program aims to foster agricultural innovation and agro-entrepreneurship through the combination of tax incentives, agribusiness incubators, and matching grants.

Deputation of a program manager and establishment of Innovation and Agri-entrepreneurship Fund (INAGEF) are yet to be done. Therefore, INAGEP program manager should be deputed together with establishment and operationalization of INAGEF to facilitate coordination for formulating, implementing, monitoring and documenting INAGEP activities.

3.7 Status of Vision Indicators

The ADS has seven vision components viz self-reliance, sustainability, competitiveness, inclusion, agriculture growth, livelihoods, and food and nutrition security. These vision components have 19 indicators. The targets for these indicators have been set for short term (5 years), medium term (10 years) and long term (20 years). As of now, ADS implementation has already completed six fiscal years from 2015/16 to 2021/22. Out of 16 indicators, 12 indicators have shown positive trend and the rest four related to food grain self-sufficiency, year-round irrigated area, agriculture trade balance, and average agriculture GDP growth were lagging (Table 27).

The monitoring task was extremely difficult in gathering relevant information on ADS implementation. It was mainly due to failure to implement some critical tasks such as: adopting ADS in province and local levels; developing linkage mechanism for program formulation implementation, monitoring and reporting mechanisms; preparation of monitoring, reporting and documentation formats; establishment of ATF; deputation of flagship program managers; establishment of flagship program fund etc. In addition, problem of ownership on ADS as well as ignorance and ambiguities about ADS was observed among several implementing institutions and stakeholders. Several stakeholders have not seen ADS documents. These all indicate need for a rigorous exercise on these critical areas together with wider awareness campaigns and advocacy, intensive capacity building activities, and a formally linked program formulation, implementation, monitoring, reporting and documentation mechanism.

Despite these, several ADS flagship program activities were implemented through programs and projects of federal, provincial and local government institutions and DPs. The information was gathered through secondary sources, internet, KIIs, FGDs, consultation meetings and workshops. These are presented in Table 25.

Table 27: Status of ADS vision indications

#	Vision Component	Indicator	Baseline (FY2015/16)	Targets (FY2020/21)	Intermediary Achievement/Trend (FY2018/19 or latest)	Sources of Information
1	Self-Reliance	Food grains self-sufficiency	16% food grains trade deficit	Reduced to zero deficit	Food grains trade deficit decreased slightly to 14.59% till mid-July of FY2021/22. ⁵ During that period, food items worth NRs79.59 billion was imported and NPR 5.4 million was exported.	Department of Customs https://www.customs.gov.np/page/fts-fy-2077/78 Statistical Information on Nepalese Agriculture, 2019/2020. MOALD, 2021
2	Sustainability	Year-round irrigated area (ha)	25.2% of cultivated land	35% cultivated land irrigated or 52,050 ha irrigated are increased/year on average	Of 1,509,427ha total irrigated area, about 40% is estimated year-round irrigated. Of ADS annual target of 57,000 ha for FY2019/20, about 15,508 ha has been added through federal projects/programs. Data is not available on irrigation developed by provincial and local projects/programs.	Economic Survey of FY2020/21 (page 121, para. 8.48). Fifteenth Plan (FY2076/77 - 2080/81), Table 3.1 (S. No. 4.4.3), Page 39.
		Organic Matter content in soil (%)	1.96	3	Organic Matter content varies across different agroecological zones. Most Terai and lower valleys have medium level (1.0-2.5%) while mid-hills have high level (2.5-5.0%).	Nepal Digital Soil Map https://soil.narc.gov.np/soilmap/
		Degraded land (m ha)	3.72	2.88	Credible data was not available for degraded land in recent years, although records show restoration of 15,460 ha and 20,882 ha degraded land in FY2017/18 and 2018/19, respectively.	Ministry of Forest and Environment Records, 2019 (unpublished) Govt. of Nepal, Second Nationally Determined Contributions, submitted to UNFCCC, 2020.
		Forest coverage (%)	44.7	44.7	In FY2020/21, 5.9 million ha is covered by forest and 0.6 million ha by bushes and shrubs, which constitutes 44.8% of the total land area.	Economic Survey FY2020/21 (page 128, para. 8.72)

⁵ The JSR team estimated based on proportion of cereals trade deficit (total production plus imports less exports in quantity) i. e. cereal trade deficit in FY2020/21 in kg/total cereal requirement in kg.

#	Vision Component	Indicator	Baseline (FY2015/16)	Targets (FY2020/21)	Intermediary Achievement/Trend (FY2018/19 or latest)	Sources of Information
		Land productivity (AGDP/ha) (\$)	3,278	4,184	Land productivity in terms of AGDP/ha is projected at \$3,510.21. ⁶	Economic Survey, FY2020/21 (Annex 1.2, page 2). Statistical Information on Nepalese Agriculture, FY2019/20, MOALD, 2021.
		Agribusiness GDP contribution to overall GDP (%)	8	9	Agribusiness GDP is perceived to have increased by 9.78% ⁷ in FY2020/21, given govt.'s high priority in agribusiness development, although there is no mechanism to annually monitor progress.	JSR team's estimates based on selected indicators.
3	Competitiveness	Agriculture trade balance (\$ m)	1,123	1,073	Agriculture trade deficit in FY2020/21 reached \$2,011.03million, which was \$1,659.25 million in FY2019/20.	Economic Survey, FY2020/21 (Page 127, Para 8.66).
		Agricultural exports (\$ m)	225	456	Agriculture export in FY2020/21 was estimated at \$705.5 million against \$463.2 million in FY2019/20.	Dept. of Customs, 2019.
4	Inclusiveness	Women or jointly owned agricultural land (%)	16	20	Women owned 19.5% of land in FY2018/19.	Central Bureau of Statistics, FY2020/21.
		Farmers' access to agricultural programs (%)	18.2	22	Had reached about 20% in FY2017/18. No estimation found for FY2020/21.	MOALD Progress Report, FY2017/18
5	Agricultural growth	Average agri. GDP growth (%)	2.23	4	AGDP is estimated to have grown by 2.64% in FY2020/21, which was estimated to have grown by 2.23% in FY2019/20.	Economic Survey, FY2020/21 (Annex 1.1, page 1)
6	Livelihood	Agri. GDP/labor (\$)	835	1,029	AGDP/labor is estimated to have increased to \$931 in FY2020/21.	Economic Survey, FY2020/21 (Annex 1.2, page 2 and 110, para. 8.5).
		Rural poverty (%)	24.3	19	Rural poverty estimated to have decreased to 18.7% by FY2019/20. However, based on NPC's multidimensional poverty index 2021, it is still 28%.	Economic Survey, FY2019/20 (page 59, para. 7.1) Multidimensional Poverty Index, 2021 (Page 11, Table 3.2).

⁶Authors' calculation based on AGDP at current price as NRs1,279,440 million (includes forestry) and land under cultivation as 3.1 million ha (from Economic Survey 2020/21 and Selected Indicators of Nepalese Agriculture FY2019/20). 1 US\$=NRs117.92.

⁷JSR team's estimates based on the AGDP share of tea, vegetables, milk, poultry, meat, and eggs.

#	Vision Component	Indicator	Baseline (FY2015/16)	Targets (FY2020/21)	Intermediary Achievement/Trend (FY2018/19 or latest)	Sources of Information
7	Food and Nutrition Security	Food-based poverty (%)	27.6	19	Food-based poverty was estimated at 23.1% in 2011. About 10% of the households were severely food insecure and additional 22% households were moderately food insecure in 2016.	Detailed Household Survey, 2016 (page 18, Table 2.2).
		Nutrition: • Stunting -below 5-year child (%)	37.4	29	25	Nepal Demographic and Health Survey 2022.
		• Underweight below 5-year child (%)	30.1	20	19	Nepal Demographic and Health Survey 2022.
		• Wasting - below 5-year child (%)	11.3	5	8	Nepal Demographic and Health Survey 2022.
		• BMI – women having 18.5% or less	18.1	15	Decreased to 16in FY2017/18	Nepal Multiple Indicator Cluster Survey, 2019 (page 44-45).

Source: Adapted from Agriculture Development Strategy Joint Sector Review – Third Annual Report, December 2021.

4. CONCLUSION

The GoN has formulated and revised several policies and laws, established and reformed organizational or institutional set-up, allocated program and budget to facilitate ADS implementation. Initiation of critical activities to support implementation of ADS has enabled to attain positive results and put most indicators on track. However, some vital or decisive actions need to be implemented to put ADS implementation on right track in the rest of the years. These mainly include: establishment and operationalization of ADS Trust Fund or similar mechanism; deputation of program managers for all flagship programs; establishment of ADS flagship program fund; fulfillment of critical human resource needs in municipalities through contract; strengthening ADSCS of MoALD with the addition of at least four each of gazetted third class and non-gazetted first-class level staffs; development of legal framework and mechanism for monitoring, supervision, record keeping, reporting and documentation for ADS implementation; development of ICT software to enter and update data or information on ADS program planning, budgeting, implementation, monitoring, reporting and documentation; development of a well-defined legal framework and mechanism and accountability system for monitoring; development and dissemination of ADS implementation guideline; formats for planning and budgeting, monitoring, reporting and documentation of ADS implementation to be kept in webpage; upgrading Agriculture and Livestock Development Sections at local governments to Agriculture/Livestock Development Division with sufficient staff capacity.

Some Issues and Challenges

Linkage and coordination: Lack of inter-ministerial, inter-institutional and inter-government (federal, province and local) linkage and legal or formalized coordination mechanism for ADS program planning, budgeting, implementation, monitoring, supervision, reporting and documentation has been observed. This has severely hindered not only monitoring but also implementation of ADS in the country.

Reporting system: After federalization, three tier governance structure was established with their clear roles and responsibilities for agriculture development as per Schedules 5, 6, 7, 8 and 9 of new constitution of Nepal⁸. Local provincial level governments independently implement different agricultural development interventions. Very weak progress reporting mechanism from local to provincial and from provincial to federal level against different targets has created challenges for periodic monitoring of ADS indicators at federal level. To address this weakness MoALD has established Agriculture Management Information System (AMIS) software for data collection and reporting to federal level which need capacity building of local level agriculture technicians together with development and implementation of legal framework and accountability mechanism.

Human resource capacity: Inadequate human resource in number and quality existed at local level institutions. Low level of technical knowledge and skill were noted and reported among municipal agriculture and livestock technicians on addressing current and emerging issues in agriculture, livestock, food security and nutrition, and climate change was noted. Farmers' access to agriculture advisory services has been low. After federalization overall,

⁸ Schedule 5 lists exclusive power of Federation, Schedule 6 lists exclusive power of State/Province, Schedule 7 lists of concurrent powers of Federation and State, Schedule 8 lists exclusive power of Local Level, and Schedule lists concurrent powers of Federation, State and Local Level.

agriculture human resources were divided among three tiers of governance. A large number opted to join federal and provincial institutions and a very few opted local level institutions (metropolitan, sub-metropolitan, municipality and village municipality) where largest pie of agriculture development functions remained as per new constitution of Nepal. Maximum number of agriculture technicians who joined local level institutions had low level of academic degree and they required rigorous capacity building to handle agriculture development interventions at their domain. As an immediate measure to address human resource need at local level, MoALD provided budget to more 400 Palikas/municipalities to recruit veterinary doctors and agriculture officers under conditional grant. These newly recruited officers need rigorous trainings and orientations to enable them to implement agriculture development interventions prioritized under ADS.

Quality assurance of inputs: The quality monitoring and standard enforcement for agricultural inputs is under the domain of federal ministry but federal ministry has no offices at provincial or cluster level. This has created quality assurance challenge of agricultural inputs, the demand for which increasing with commercialization. Although MoALD has already established digital systems for seed quality assurance and quarantine approval system but a strong quality assurance mechanism for agricultural inputs like seed, sapling, breed and agro-chemicals need to be established.

5. RECOMMENDATION

The GoN has been implementing various core and flagship program activities with adequate budget through public institutions, projects and private and non-government entities. Several reforms have been made on policies, programs, institutional or organizational set-up, legal provisions etc. after federalization and implementation of ADS. Awareness campaigns, orientation activities, workshops, capacity building trainings, visits etc. were organized at federal, province and local levels.

The resultant effects are some visible achievement on: initiation of farmer registration; promotion of good agriculture, veterinary and livestock practices; commercialized crop farming and livestock husbandry including priority crops and commodities; expansion of breed improvement program; commencement of land consolidation and land leasing initiatives; promotion of land registration in the name of women and joint ownership; farm mechanization; increase in production and productivity; institution building at grassroot level (group formation, cooperatives and CAESCs); improvement in child nutrition; initiation of export of ginger and turmeric to Europe and other countries from Karnali Province; establishment of powder milk plant in Biratnagar; forest conservation; attraction of foreign returnee youths on commercialized quail, Kalij, cattle, buffalo, pig, poultry, goat, mushroom, Kiwi, dragon fruit, citrus, vegetable and flower cultivation in plastic house, modern orchard development, land leasing, custom hiring services center establishment; agriculture insurance etc. More importantly, PADSs have been formulated in all provinces and the Far-west cabinet has already approved PADS, and Lumbini Province is at the process of approval. It will be done in other provinces too.

The ADSCS of MoALD which has been mandated to coordinate with diverse and several institutions at federal, provincial and local levels has limited human resources and supports. At province and local levels, implementation of fundamental gender equity and social inclusion procedures-such as gender-responsive planning and budgeting-has become staff responsibility without adequate formal training, gender sensitization, and follow-up. The

roles and responsibilities of Flagship Program Manager are very much crucial for coordinating, implementing, monitoring, evaluation, and documentation of reports of ADS implementation. But flagship program managers and subsequent activities and mechanisms could not be established due to failure to establish and operationalize ATF or similar mechanism. Similarly, the flagship program fund too could not be established. Despite excellent initiation and facilitation of EUTCF, advocacy and capacity building are still inadequate in terms of coverage together with availing ADS documents to all relevant institutions and stakeholders at Province Level and Local Level. Since, the Provincial ADS has been formed, but the capacity of provincial government to implement the PADS is still poor. Transformation of PADSs in Palikas (municipalities) is a big task in the days to come. Therefore, a dedicated national project with Technical Assistance (TA) for supporting ADS (including PADS in all 7 provinces) implementation is needed urgently in Nepal. As in the previous Agriculture Perspective Plan, the ownership issue is still prevalent in ADS too. There is no formal or legal mechanism or system for interlinked ADS program formulation, implementation, monitoring, supervision, reporting and documentation at all three levels of governance.

Based on above analysis, following recommendations have been made to improve ADS implementation in future.

- 1) Establish and operationalize ADS Trust Fund or similar mechanism to address budget resources problem for ADS implementation.
- 2) The role of Flagship Program Manager is very much crucial in coordinating implementation of ADS programs, overall monitoring and evaluation and documentation of reports of ADS implementation. Therefore, Program Managers for all flagship programs should be deputed.
- 3) Establish ADS flagship program fund to institutionalize flagship program implementation.
- 4) A dedicated national project with TA for supporting ADS (including PADS in all 7 provinces) implementation is to be designed urgently in Nepal.
- 5) Build capacity development plan for municipal agriculture technicians to make them capable of addressing current and emerging issues in agriculture, food security and nutrition, and climate change.
- 6) Fulfill critical human resource needs in municipalities through contract to increase farmers' access to agriculture advisory services.
- 7) The ADSCS of MoALD should be strengthened with the addition of at least four each of gazetted third class and non-gazetted first-class level staffs to support effective coordination and monitoring of ADS implementation through diverse institutions at federal, provincial and local level. The institutions for each of such staff level should be defined to coordinate with relevant together with their clearly defined responsibilities related to ADS.

- 8) Develop legal framework and mechanism for monitoring, supervision, record keeping, reporting and documentation for ADS implementation by public and financial institutions at all levels of governance.
- 9) Develop Information and Communication Technology (ICT) software to enter and update data or information on ADS program planning, budgeting, implementation, monitoring, reporting and documentation.
- 10) Develop a well-defined legal framework and mechanism and accountability system for monitoring.
- 11) Make MTEF mandatory in all institutions at all levels of governance.
- 12) The implementation guideline should be developed and disseminated among the relevant stakeholders.
- 13) Formats for planning and budgeting, monitoring, reporting and documentation of ADS implementation should be kept in webpage for ADS stakeholders to utilize.
- 14) At province and local levels, implementation of fundamental gender equity and social inclusion procedures-such as gender-responsive planning, budgeting, monitoring and supervision should be built in the planning, implementation and reporting system of federal, provincial and local level institutions with dedicated staff together with regular formal training, gender sensitization, and follow-up and adequate budget.
- 15) Strategic plan should be devised for farm mechanization.
- 16) The farmers/farmer groups/cooperatives are not encouraged to purchase farm machinery and equipment in subsidized price (50% subsidy) because of VAT. The farmers can obtain such machinery and equipment at lower price without paying VAT in the open market. Hence, 50 percent subsidy given to purchase machinery and equipment should be increased at least to 75 to 80 percent to encourage farmers/farmer groups/cooperatives to purchase with subsidy.
- 17) Considering Nepal's difficult terrain and domination of smallholder farmers, small instead of large machinery and equipment should be promoted.
- 18) For efficient and effective human/financial resource management and to align the functional responsibility, the current Zone and Super Zone level activities under PMAMP can be transferred to AKCs or provinces with increased capacities of province-level institutions.
- 19) The very thin institutional arrangement of local governments is much concerning. Therefore, the current Agriculture and Livestock Development Sections at local governments need to be upgraded to Agriculture/Livestock Development Division with sufficient staff capacity.

6. ANNEX

6.1 Status of Performance Indicators used for Disbursement of the Variable Tranches

a. Indicator No 1: Increase in the total value of processed dairy products

The government focus on breed improvement through natural, artificial insemination, embryo transplant, fodder and pasture management, good veterinary practices etc. have supported increasing stock of improved breeds and milk production. Total milk production in fiscal year 2077/78 in the country was estimated at 2.48 million metric ton which was an increment of 7.8 percent of the previous fiscal year 2076/77. The value of this milk production is estimated at NPR 13.9 billion.

b. Indicator No 2: Increase in the national coverage of functional irrigated command areas

At present, about 49 percent (1,509,427 ha) of cultivated area (30.91 million ha) has irrigation facility but only 17% of cultivated area has year-round irrigation (IWMI Nepal 2021a). Hence, rain water determines crop production and productivity leading to low level of commercialization and farming being least attractive to rural youths. Increasing migration of youth from rural areas in search of better employment has resulted into increasing fallow land. Considerable increment in year-round irrigated area, strengthening of existing systems, and improvement in management and governance of irrigation systems is required to enhance production, productivity and commercialization to attract rural youths in agriculture.

c. Indicator No 3: Deployment of Agriculture Technicians at local level, as a first step towards the establishment of Community Agriculture Extension Centers (CAESC)

The MoALD expedited the restructuring of public agriculture institutions immediately after endorsement of new constitution. It was initiated with the concept of at least one agriculture technician per local bodies. Now, agriculture technical manpower of different level posts has been deputed in federation, province and local bodies. In provinces, such technical manpower has been fielded in PAMs, directorates, AKCs, VHLESCs, government farms and PMAMP offices. In addition, agriculture graduate interns have also been fielded in PMAMP zones and super zones. In local bodies permanent agriculture technical manpower have been deputed together with fielding of 753 agriculture graduate interns to cover all local bodies with the provision of salary and other needed budget.

During the field visit, it was observed that agricultural service delivery is quick through local governments but the capacity of local staff needs to be strengthened and institutional mechanisms participatory the planning, implementation, monitoring, reporting and documentation processes and

financial resource allocation mechanisms for agriculture programs need to be developed and established.

The CAESC has been visualized as a service hub to enhance local farmers access to agriculture and livestock related information and extension services. A draft Operational Guideline for CAESC has already been developed. The operational guideline contains the elements of the CAESC such as objectives; working areas; economic resources; formation of working committee; transparency; and the roles, duties and responsibilities of rural women. The document serves as a basis to further institutionalization of CAESC. In Sindhuli and Rautahat, CAESCs were constructed within the premises of local government bodies with the agreement of previous village development committees. The CAESCs have been established in all eight districts of Karnali Province. A total of 22 CAESCs have been established in Karnali Province with the support from ASDP. At least one CAESC was established in each of eight districts of the province. These CAESCs covered a total of 21 municipalities and a total of 28 wards of these municipalities. The province has made its own CAESC Operation Management Guideline. Details of CAESCs in Karnali Province has been presented in Sub-section 3.5.2.

#	District	No. of CAESCs	Location of CAESC	Coverage	
				Municipalities	No. of wards
1	Surkhet	8	Dasharathpur, Chaurase, Ramghat, Maintada, Chepang, Lamakhali, Jumlya Amrai, and Betan	Lekbeshi, Lekbeshi, Bheriganga, Bheriganga, Barahatal, Barahatal, Simta, and Chaukune	11
2	Dailekh	4	Chalneathara, Khambagade, Meheltoli, and Pagnath	Chamunda, Bhairabi, Bhagawatimai, and Bhagawatimai	5
3	Salyan	3	Dobhan, Malneta, and Bajkateri	Sharada and Siddhakumakh	3
4	Jajarkot	3	Syapi, Kaina and Thalaha	Shiwalaya, Nalgad, and Chhedagad	3
5	Mugu	1	Dhatu	Chhayanath Rara	1
6	Jumla	1	Talfi	Patarasi	3
7	Rukum	1	Chautara	Musikot	1
8	Kalikot	1	Tadi	Khandachakra	1
Total		22	-	21	28

Source: ASDP, Surkhet.

d. Indicator No 4: Stunting

The anthropometric indices height-for-age (stunting), weight-for-height (wasting), and weight-for-age (underweight) are used to measure nutritional status in young children.

Stunting is a measure of growth faltering. Children whose height-for-age z-score is below minus two standard deviations (-2 SD) from the median of the reference population are considered short for their age (stunted). Children who are below minus three standard deviations (-3 SD) are considered severely stunted.

The prevalence of stunting has declined from 37.4% in ADS base year 2015/16 to 25% in 2022.

- e. Indicator No 5: Reform in the areas of Land Management and Agribusiness**
After federalization and implementation of ADS, several reforms in land management have been made in Nepal. These include, reform in name, organizational/institutional set-up, policy, program, and legal provisions.

The land management related works come under the MoLMCPA. There are three departments under the ministry. The GoN has established 131 Survey Offices (for land and cadastral survey), 110 Land Revenue Offices, and 21 Land Reform and Land Revenue Office in different districts of the country to facilitate implementation of new policies and laws. GoN is planning to add four additional offices of Survey and Land Revenue totaling 135 for both survey and land revenue to provide both revenue and survey services simultaneously. Consolidated Land Reform and Land Revenue Offices have been established in the districts where tenancy issues are yet to be resolved. Hence, cases of tenancy and dual ownership is looked by Land Reform and Land Revenue Offices. Registration of land is done only by Land Revenue Office. Both cadastral and land survey are looked by Survey Office. Land survey is the survey of overall land and cadastral survey is the survey of individual land property or land parcel of an individual.

Activities related to trust land is dealt by Guthi (Trust) Sansthan. It has head office at Tripureswor, Kathmandu and Branch Offices at Bhadrakali, Kathmandu, Pashupati, Kavreplancjowk, Lalitpur, Janakpur, Mahottari, Birgunj and Bhaktapur.

GoN has amended Land Act, 2020 [Land Act (8th amendment), 2076] to fix land ceiling for economies of scale of production, to promote commercialization. According to this Act, the land ceiling for a person is 10 Bigha in Terai region, 25 Ropani in Kathmandu Valley, and 7- Ropani in hilly areas.

Introduction of financial and tax incentives such as fallow land tax, plot tax, soft loans, and protection of seller from acquisition of tenancy during the years that the tiller pays for the land to the absentee-heir are still consideration to encourage absentee (non-farmer) heirs to sell their inherited plot to the heir that tills the land.

Land leasing corporation has not yet been begun. National Agriculture Policy, 2004 has provisions to promote land leasing through the introduction of concept of Land Bank. Hence, GoN has been promoting leasing of land through Land Bank concept introduced in 2020. Some, big business houses are using Contract Act, 2056 (2000 AD) for long term leasing of land for agribusiness. Piloting has not yet been done but foreign returnee youths have been using this model for

commercial and plastic tunnel farming. A foreign returnee youth from Jhapa has been leasing 17 ha land for maize production and experimenting different cropping patterns (2-3 crops maize-maize and maize-maize-mustard annually), different varieties, different products like green maize, grain maize, and silage, cost benefit analysis, contractual arrangements with livestock farms and cooperatives etc. PMAMP is supporting for this.

Recently GoN has formulated and enforced Public Land Registration, Use and Lease Working Policy, 2079 effective from 7 July 2022. The purposes of this Working Policy are for registration of public lands yet to be registered in the name of government, permission to use public land by public institutions, and leasing public lands to other public institutions (Nepal Gazette, 2022).

Some of the projects like PPMP is also promoting land consolidation to demonstrate advantages of consolidated land over fragmented land, to promote commercialization and mechanization to address acute human and animal labor in the farm, to reduce production cost, enhance income and employment, and reduce workload and drudgery among women farmers by using modern agriculture tools, equipment and machinery. PMAMP alone is implementing land consolidation program in 2,500 ha. Some provinces like Gandaki and municipalities of Kavreplanchowk district are already initiated land consolidation schemes. Some youths and business houses have also initiated agro-enterprises in Jhapa, Chitwan, Dang etc.

GoN has already drafted Agribusiness and Commercialization Act, 2078 and it is in the process of approval. Concepts like contract farming, land leasing, land consolidation are included in this Act to promote agribusiness operation, discourage selling land and fragmentation, and encourage leasing out fallow land.

National Agriculture Policy 2004 (revised version in the process of approval) has made provision for land zoning to discourage land plotting for residence and other purposes. The Clause 4(1) of Land Use Policy, 2075 and Land Use Act, 2076 enforced to implement the Act has classified land into 10 categories as (1) agriculture zone, (2) residence zone, (3) commercial zone, (4) industrial zone, (5) mine and mineral zone, (6) forest zone, (7) river, stream, lake and swamp zone, (8) public use zone, (9) cultural and archeological importance zone, and (10) zones designated by GoN as necessary. According to the Act, lands that are classified as agricultural lands cannot be converted to other purposes without the consent of GoN. Several municipalities have started working on land zoning. For example, recently, Kathmandu Metropolitan City submitted a report to the MoLMCPA pointing out that there is no arable land within the city (My Republica, 2022).

f. Indicator No 6: Increase in the percentage of land owned by women individually or jointly

Government, non-government and international agencies have been raising awareness on women's rights to land at different levels through various interventions such as meetings, workshops, studies, training, and media (print,

FM, radio, TV, internet). Holding land is a form of wealth, and until women have land certificates in their name, they will not be empowered financially because land is the primary source of livelihoods for many rural households with nearly 75 percent of women having agriculture as primary occupation. Land ownership has its relation to gender equality too. Some studies have found that women with land feel confident in the social and economic sphere of society and Brahmin community more aware of government policies encouraging female land ownership than the Janajati community.

The GoN has been introducing several proactive measures to promote women's access, ownership, and control over land and property. These measures, depending on the geographical location, include a 25 percent to 50 percent tax exemption on registration when land is owned by a woman; a 35 percent tax exemption for single women (Financial Bill 2072, MoF); and joint registration of land in the names of husbands and wives with a fee of NPR 100 (or less than \$1). Till 2020/21 there were 1,594,482 Likhats (deeds) of such registration and GoN has foregone a huge amount of NPR 12,205,434,000 as concession on registration fee. All these efforts have resulted into women land ownership at 19.7 percent in Nepal (infographic: <http://bit.ly/292xCdy>).

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Appendix 1: List of participants in key informant interview, FGD and workshops

(a) List of participants in key informant interview with federal, province and local government officials

#	Name	Designation	Organization	Date
1	Mr. Indrahari Poudel	Chief ADS Coordination Section	Agriculture Development Division, MoALD	2-5/12/2022,
2	Dr. Rajendra Prasad Mishra	Joint Secretary	Agriculture Development Division, MoALD	5/12/2022
3	Mr. Sujan Dhungel	Under Secretary,	MoALD	7/12/2022, 8/1/2023
4	Mr. Pramod Koirala	Senior Food Research Officer	MoALD	7/12/2022
5	Mr. Mohan Krishna Maharjan	Food Technology and Quality Control Officer	DFTQC	9/12/2022
6	Dr. Prahymna Raj Pandey	Chief - Human Resource, Gender Development and Inclusive Section	Planning and Development Cooperation Coordination Division, MoALD	12/12/2022
7	Mr. Janak Raj Joshi	Joint Secretary	Ministry of Land Management, Cooperative and Poverty Alleviation	27/12/2022
8	Mr. Damodar Wagle	Under Secretary	Ministry of Land Management, Cooperative and Poverty Alleviation	29/12/2022
9	Mr. Kaji Bahadur Bist	Under Secretary		
10	Mr. Bibek Nepal	Survey Officer		
11	Dr. Deepak Kumar Kharal	Secretary (Livestock)	MoALD	27/12/2022
12	Mr. Dev Mani Tripathi	Director General	Department of Forests and Soil Conservation (DFSC)	29/12/2022
13	Mr. Navaraj Pudasaini	Deputy Director General	Department of Forests and Soil Conservation (DFSC)	29/12/2022
14	Mr. Mahesh Kharel	Under Secretary	National Planning Commission	29/12/2022
15	Mr. Shankar Sapkota	Senior Agriculture Economist	Planning and Development Cooperation	1/1/2023

#	Name	Designation	Organization	Date
			Coordination Division, MoALD	
16	Mr. Shiva Sundar Ghimire	Senior Agriculture Officer	Department of Agriculture	4/1/2023
17	Er. Jagannath Tiwari	Project Director	Food and Nutrition Security Enhancement Project	9/1/2023
18	Dr. Kumar Singh Khatri	Chief (Level 8 Veterinary Doctor)	Veterinary Hospital and Livestock Service Expert Center, Inaruwa, Sunsari	18/1/2023
19	Ms. Samuna Koirala	Level 8 JTA	Agriculture Section, Inaruwa Municipality, Sunsari	18/1/2023
20	Ms. Bimala Chaudhary	Level 8 JTA	Agriculture Knowledge Center, Inaruwa, Sunsari	18/1/2023
21	Mr. Kishor Bhattarai	Level 8 JTA		18/1/2023
22	Mr. Neel Kumar Singh	Senior Agriculture Development Officer (Under Secretary)		18/1/2023
23	Ms. Pabitra Bardewa	Level 7 Officer (Plant Protection)	Shree Pathibhara Multi Agro Farm, Jhapa Village Municipality, Jhapa	18/1/2023
24	Ms. Asma Tamang	Level 4 (Plant Protection)		18/1/2023
25	Mr. Khagendra Silwal	Farm Manager (foreign returnee youth)		19/1/2023
26	Dr. Amar Shah	Team Leader	NLSIP, Harihar Bhawan, Lalitpur	19/1/2023
27	Dr. Krishna Kumar Yadav	Chief (Veterinary Doctor)	NLSIP, Biratnager	19/1/2023

(b) List of participants in FGD/interactive meetings with leader farmer, farmer groups, cooperatives, private companies and foreign returnee youths

#	Name of program/farmer group/cooperative/firm	No. of participants	Supporting institution	Date
1	Vegetable Zone, Jahada Village Municipality, Morang	14	PMAMP	19/1/2023
2	Mr. Anarjeet Sing, Custom Hiring Center, Jahada-4, Shanti Tole, Morang	1	PMAMP	19/1/2023
3	Improved Cattle Farming for Safe Milk Production (managed by Shuvakamana Agriculture Cooperative Ltd., Damak, Jhapa	5	NLSIP	19/1/2023

#	Name of program/farmer group/cooperative/firm	No. of participants	Supporting institution	Date
4	Maize Super Zone (Shree Benubaja Agriculture Cooperative Ltd., Benubaja, Kankai Municipality, Jhapa	15	PMAMP	19/1/2023
5	Mr. Hari Silwal – Coordinator of Adarsh Agro Pvt. Ltd. (Paddy Super Zone - Spring Paddy Dryer Machine Grant Program, Chakramali, Kankai Municipality-5, Jhapa	6	PMAMP	19/1/2023
6	Mr. Khagendra Silwal – Foreign returnee youth cultivating maize in leased land in Chakramali, Kankai Municipality-5, Jhapa	1	PMAMP	19/1/2023
Total		44	-	-

(c) List of participants in consultation workshop organized on 20 January 2023 in Hotel Asiatic, Biratnagar, Province 1

SN	Name of Participants	Designation	Organization
1	Mr. Meghnath Timsina	Secretary	Ministry of Agriculture (State 1)
2	Dr. Rajendra Prasad Mishra	Asst. Secretary	Agriculture and Livestock
3	Dr. Umesh Dahal	Project Director	
4	Mr. Jay Kumar Ghimire	Secretary	Pradesh Planning Commission
5	Mr. Hikmat Shrestha		
6	Mr. Nil Kamal Singh	Chief	Sunsari
7	Mr. Mukesh Kumar Yadav	Asst. Chief	
8	Mr. Naresh Kumar Pandit	Asst. Chief	
9	Dr. Sudhir Kumar Singh	Chief	DLSU – Biratnagar
10	Dr. Shiddi Ganesh Shrestha	Consultant	Ministry of Agriculture and Livestock Development
11	Mr. Amar Bahadur Sah	TL	NLSIP – TA
12	Mr. Indra Hari Poudel	Sub-Secretary	Ministry of Agriculture and Livestock Development
13	Dr. Parshuram Bhusal	Consultant	DLSU – Biratnagar
14	Mr. Rudra Prasad Poudel	Consultant	NLSIP – Harihar Bhawan
15	Mr. Yogendra Prasad Sharma		DLSU – Biratnagar
16	Mr. Manoj Kumar Yadav	Member	Bachan Agriko, Biratnagar
17	Mr. Sarthak Ghimire		Ministry of Agriculture, Biratnagar
18	Mr. Prajesh Adhikari	OM	NLSIP – TA
19	Mr. Chandra Prasad Adhikari	Chairperson	Sana Kisan
20	Mr. Digambar Yadav		

SN	Name of Participants	Designation	Organization
21	Mr. Binod Koirala		
22	Mr. Hari Prasad Bhattarai	Proprietor	Dipika Krishi Kendra
23	Mr. Shakti Prasad Dahal	Senior Officer	
24	Ms. Bimala Pokhrel		
25	Mr. Mahendra Sitaula		
26	Mr. Radheshyam Chaudhary		
27	Ms. Richa Humagain		
28	Mr. Gopal Adhikari	SME	
29	Mr. Rudra Khadka Basnet	Proprietor	Yasika Krishi Farm
30	Mr. Ramdev Singh		Morang
31	Mr. Dipak Babu Singh	Officer	
32	Mr. Rudra Prasad Phayal		
33	Mr. Rakesh Dahal	Secretary	District Cooperative Association, Morang
34	Mr. Ganesh Dhakal	Manager	Birat Agriculture Cooperative Association
35	Mr. Hikmat Kumar Shrestha		PMAMP, Khumaltar
36	Mr. Naresh Sapkota		
37	Mr. Pashupati Dhungana		
38	Mr. Bam Lal Khawas	Secretary	
39	Dr. Ganga Ram Yadav		State 1
40	Mr. Dharendra Kumar Yadav	Proprietor	Puja Krishi Farm
41	Mr. Nelsan Pokhrel		
42	Ms. Rakshya Poudel		
43	Mr. Nagendra Prasad Ghimire		
44	Mr. Laxman Bhattarai		
45	Mr. Dharma		Katahari Krishi
46	Dr. Indra Narayan Shah		
47	Mr. Rishi Bachan		
48	Mr. Ramjan Khanal	Director	
49	Mr. Kumar Singh Khatri		
50	Mr. Pradip Kumar Rayamajhi		
51	Dr. Dev Kumar Darlami		
52	Mr. Mukesh Nepal		
53	Dr. Khila Bogati		
54	Mr. Manoj Kumar Yadav		
55	Mr. Rup Narayan Mandal		
56	Mr. Bibek Chaudhary		
57	Mr. Baburam Khatri		

SN	Name of Participants	Designation	Organization
58	Dr. Deepa		
59	Mr. Devi Prasad Khatiwada		
60	Mr. Sanjib Poudyal		
61	Dr. Sherbaj Ali		
62	Mr. Prakash Kumar Dangi	Chief	

(d) List of participants in workshop organized in MoALD, Kathmandu on 23 January 2023

#	Name	Description	Organization
1	Dr. Govinda Prasad Sharma	Secretary (Agriculture)	Ministry of Agriculture and Livestock Development (MoALD), Singha Durbar
2	Dr. Dipak Kumar Kharal	Secretary (Livestock)	MoALD, Singha Durbar
3	Mr. Kali Prasad Parajuli	Joint Secretary	MoALD, Singha Durbar
4	Mr. Prakash Kumar Sanjel	Joint Secretary	MoALD, Singha Durbar
5	Mr. Sanjiv Kumar Karna	Joint Secretary	MoALD, Singha Durbar
6	Dr. Narahari Prasad Ghimire	Chief	Central Agriculture Laboratory
7	Dr. Rajendra Prasad Mishra	Joint Secretary	MoALD, Singha Durbar
8	Dr. Shiddi Ganesh Shrestha	Consultant	MoALD, Singha Durbar
9	Mr. Jagannath Tiwari	Project Director –	FANSEP, Harihar Bhawan
10	Mr. Shyam Prasad Shrestha	Under Secretary	MoALD, Singha Durbar
11	Mr. Bishnu Hari Upadhyaya	Under Secretary	MoALD, Singha Durbar
12	Ms. Sushila Adhikari	Under Secretary	MoALD, Singha Durbar
13	Mr. Akabar Pradhan	Section Officer	MoALD, Singha Durbar
14	Mr. Tikaram Sharma	Acting Chief	Agriculture Infrastructure Development and Agriculture Mechanization Promotion Center, Harihar Bhawan
15	Mr. Benu Prasad Prasai	Chief	SQCC, Harihar Bhawan
16	Mr. Ishwori Prasad Pandey	Chief	AITC, Harihar Bhawan
17	Mr. Rajendra Koirala	Chief	NCFO, Kirtipur
18	Dr. Ramkrishna Shrestha	Chief	Crop Development and Agrobiodiversity Conservation Center, Shremahal, Pulchowk
19	Mr. Basudev Kafle	Chief	National Potato, Vegetable and Spices Crop Development Center, Khumaltar
20	Ms. Matina Joshi Vaidya	Director General	Department of Food Technology and Quality Control, Babar Mahal
21	Ms. Januka Pandit	Deputy Director General	Department of Agriculture, Harihar Bhawan
22	Dr. Deepak Bhandari		
23	Ms. Suma Karki	Senior Crop Development Officer	MoALD, Singha Durbar
24	Mr. Hikmat Kumar Shrestha	Senior Agriculture Officer	Prime Minister Agriculture Modernization Project, Khumaltar
25	Mr. Tilak Raj Chaulagain	Senior Planning Officer	Rural Enterprise and Economic Development Project, Harihar Bhawan
26	Mr. Yadav Padhyoti	Senior Agriculture Economist	Agriculture Information and Training Center, Harihar Bhawan
27	Mr. Lal Kumar Shrestha	Senior Agriculture Economist	MoALD, Singha Durbar

28	Mr. Shankar Sapkota	Senior Agriculture Economist	MoALD, Singha Durbar
29	Dr. Samjhana Kumari Kafle	Director General	Department of Livestock Services, Harihar Bhawan
30	Mr. Indrahari Poudel	Senior Plant Protection Officer	MoALD, Singha Durbar
31	Mr. Chandar Bikram Kunwar	Livestock Development Officer	MoALD, Singha Durbar
32	Ms. Mina Kandel	Agriculture Economist	MoALD, Singha Durbar
33	Ms. Sushma Sapkota	Agriculture Economist	MoALD, Singha Durbar
34	Ms. Mahima Bajracharya	Horticulture Development Officer	MoALD, Singha Durbar
35	Mr. Devraj Bhusal	Section Officer	Ministry of Finance, Singha Durbar
36	Ms. Sulekha Sharma	Veterinary Doctor	MoALD, Singha Durbar
37	Mr. Ramkrishna Regmi	Senior Statistician	MoALD, Singha Durbar
38	Mr. Pratik Joshi	FRO	MoALD, Singha Durbar
39	Mr. Mahesh Kharel	Program Director	NPC, Singha Durbar
40	Ms. Sabitri Baral	Chief	Plant Quarantine and Pesticide Management Center, Harihar Bhawan
41	Dr. Ram Nandan Tiwari	Joint Secretary	MoALD, Singha Durbar
42	Mr. Lakshya Bahadur Chaudhary	Plant Protection Officer	MoALD, Singha Durbar
43	Mr. Ashish Shrestha	Agriculture Economist	MoALD, Singha Durbar

Appendix 2a: Outcomes and outputs of ADS

Outcome	Output	
1. Improved Governance	1.1	Credibility of policy commitment
	1.2	Improved coordination among institutions involved in the ADS implementation
	1.3	Integrated planning
	1.4	Effective implementation support
	1.5	Mechanisms established for gender equality and social and geographic inclusion in the ADS
	1.6	Timely and effective monitoring and evaluation of the ADS
	1.7	Mechanisms established for participation of civil society in the planning, implementation, and monitoring of the ADS (e.g. Farmers' Commission)
	1.8	Enhanced capacity of key institutions involved in ADS coordination and implementation
	1.9	Improved food and nutrition security of most disadvantaged groups and rights to food
	1.10	Performance-based management system with rewards to the performers established
2. Higher Productivity	2.1	A decentralized extension system responsive to farmers and agroenterprises' needs
	2.2	A decentralized research system responsive to farmers and agroenterprises' needs
	2.3	A strengthened agricultural education system
	2.4	A farming sector composed of adequately sized farms that use land efficiently and sustainably
	2.5	Irrigated area expanded equitably and viably, and improved irrigation efficiency and management.
	2.6	Timely access to quality agricultural inputs at affordable price.
	2.7	Effective implementation of existing seed policies including Seed Vision 2013-2025 through sufficient investment in resources and capacity building.
	2.8	A pragmatic solution to fertilizer supply that is acceptable in the short-term, clearly indicates a strategy for the medium and long term, and aims at improving productivity.
	2.9	A variety of improved animal breeds appropriate for the Nepal farming systems conditions are available to farmers.
	2.10	A range of mechanization options accessible to farmers through the private sector.
	2.11	Improved resilience of farmers to climate change, disasters, price volatility and other shocks.
	2.12	Sustainable farming, good agricultural practices (GAP), good veterinary animal husbandry practice (GVAHP) are established and adopted.

Outcome	Output	
	2.13	Subsistence production based forestry is developed into competitive, agriculture friendly and inclusive forest management practice, with a holistic and community based landscape approach to natural resource management and livelihoods improvement.
3. Profitable Commercialization	3.1	Improved investment climate for agricultural commercialization
	3.2	Contractual arrangements for commercial agriculture
	3.3	Tax policy that supports an efficient commercial agriculture sector
	3.4	A variety of competitive and demand-driven financial and agricultural insurance products.
	3.5	Competitive agricultural value chains that increase value added and benefits to smallholder farmers and agroenterprises
	3.6	Rural roads network expanded.
	3.7	Agricultural market information and ICT products for market intelligence.
	3.8	Expanded rural electrification and renewable energies.
4. Increased Competitiveness	4.1	Market infrastructure developed
	4.2	Growth of innovative small and medium agribusiness enterprises
	4.3	Growth of food and agricultural products exports
	4.4	Enhanced food safety and quality

Annex 2b: Activities related to outcomes and outputs

(a) Outcome 1: Improved Governance

Output	Activity	Sub-activity	Description of Activity
1.1			Credibility of policy commitment
	1.1.1		Conduct awareness campaigns on ADS
	1.1.2		Ensure ADS monitoring covers issues of policy consistency and program continuity
	1.1.3		Formulate and enact regulations to facilitate longer tenure for key ADS positions
	1.1.4		ADS 5-yearly review
	1.1.5		Promote policy and legislation changes to ensure implementation of the ADS
	1.1.6		Establish Farmers' Commission to develop mechanisms that promote farmers' rights
1.2			Improved coordination in ADS implementation
	1.2.1		Formulate amendments of the regulations for the establishment of NADSCC and CADIC
	1.2.2		Strengthen the capacity of NADSCC
	1.2.3		Establish subcommittees of NADSCC and ensure they meet regularly
	1.2.4		Strengthen the capacity of Central Agricultural Development Implementation Committee (CADIC)
	1.2.5		Promote similar meetings of the RADC and DADC
	1.2.6		Prepare Annual Sector Report
	1.2.7		Develop ADS Implementation Guidelines and Monitoring System
1.3			Integrated planning
	1.3.1		Ensure integration of multi-ministry plans
	1.3.2		Ensure integration of long-term plans with annual workplans and budget
	1.3.3		Ensure regular monitoring of plans
1.4			Effective implementation support
	1.4.1		ADS Implementation Support TA under MOAD to facilitate implementation
1.5			Mechanisms established for gender equality and social and geographic inclusion
	1.5.1		Strengthening of the Food Security and Environmental Division (FSED)
	1.5.2		Generation and maintenance of national level GESI-based and geographic inclusion-based statistics
	1.5.3		Establishment and strengthening of GESI staff at central department and at district level agencies

Output	Activity	Sub-activity	Description of Activity
	1.5.4		Enhancement of qualitative and quantitative aspects of participation of men and women farmers
	1.5.5		Making the agricultural extension service GESI responsive in all districts
	1.5.6		Improvement in access of farmers
	1.5.7		Promotion of GESI responsiveness in agricultural research
	1.5.8		Develop a GESI strategy
1.6			Timely and effective monitoring and evaluation
	1.6.1		Strengthen the capacity of Monitoring and Evaluation units of central and district level
	1.6.2		Establish an appropriate methodology and system to carry out systematic ADS monitoring and evaluation
	1.6.3		Monitoring and Evaluation of Food and Nutrition Security (institutionalization of NEKSAP)
	1.6.4		Conduct Agricultural and Livestock Census
	1.6.5		Conduct joint M&E missions including GON and development partners
1.7			Mechanisms established for participation of civil society
	1.7.1		Establish and maintain an ADS website both in Nepali and English
	1.7.2		Establish an ADS Information Desk under the Policy and International Cooperation Coordination Division
	1.7.3		Establish similar ADS information desks at regions and districts
	1.7.4		Periodic presentation of ADS Monitoring and Evaluation Report to Agriculture and Water Resource Committee of Legislature Parliament, civil society
1.8			Enhanced capacity of key institutions involved in ADS coordination and implementation
	1.8.1		Capacity needs assessment
	1.8.2		Formulate a plan of capacity building of key institutions
	1.8.3		Implementation and monitoring of capacity building
		1.8.3.1	Conduct capacity building for GON institutions (MoAD, PICCD, ADSISU, DoA, DoLS, DFTQC and NARC)
		1.8.3.2	Conduct capacity building for National Peasants' Coalition
		1.8.3.3	Conduct capacity building for National Cooperative Federation
		1.8.3.4	Conduct capacity building for Professional Organizations/Associations, Private Sector Organizations, Producer's Organizations and Consumer Organizations
	1.8.4		Evaluate organizational reform of MoAD and related departments
	1.8.5		Establish Policy and International Cooperation Coordination Division (PICCD) at MoAD

Output	Activity	Sub-activity	Description of Activity
1.9			Improved food and nutrition security of most disadvantaged groups
	1.9.1		Design targeted food and nutrition security program
	1.9.2		Implement targeted national food and nutrition security program
	1.9.3		Implement NAFSP
	1.9.4		Implement FNSP
	1.9.5		Coordinate with ongoing food and nutrition security projects (eg Feed the Future) and multisector initiatives on nutrition and poverty alleviation
	1.9.6		Review of NAFSP, FNSP, and other food and nutrition security projects
	1.9.7		Strengthen the capacity of the central and district food security coordination mechanisms
	1.9.8		Promote formulation of Rights to Food and Food Sovereignty Legislation and monitor their implementation
1.10			Performance-based Management System Established
	1.10.1		Establish guidelines and standard operating procedures
	1.10.2		Conduct a pilot program on performance-based management system
	1.10.3		Evaluate the pilot and make recommendations

(b) Outcome 2: Higher/Enhanced Productivity

Output	Activity	Sub-activity	Description of Activity
2.1			Decentralized agricultural extension services
	2.1.1		Establish Community Agricultural Extension Service Centers
		2.1.1.1	Formulate general guidelines for CAESC
		2.1.1.2	Awareness campaign about the initiative
		2.1.1.3	Capacity building to support establishment of the CAESC
		2.1.1.4	Seed money for establishment of CAESC
		2.1.1.5	Training of CAESC extension technician
		2.1.1.6	Technical backstopping of CAESC
		2.1.1.7	External monitoring of CAESC
	2.1.2		Strengthen capacity of agriculture and livestock service centers and sub-centers
		2.1.2.1	Training, workshops, study tours for technicians
		2.1.2.2	Resources for farm demonstrations and farmer training
		2.1.2.3	Improve infrastructure and equipment of the agriculture and livestock service centers and sub-centers

Output	Activity	Sub-activity	Description of Activity
	2.1.3		Establish voucher system for extension and advisory services
		2.1.3.1	Design, implement and evaluate a pilot voucher scheme
		2.1.3.2	Provide budget for 50,000 vouchers in the pilot scheme
	2.1.4		Introduce farmer marketing schools
		2.1.4.1	Establish program capacity and training of trainers
		2.1.4.2	Implement FMS in those VDC prioritized for value chain development
	2.1.5		Promote ICT in agricultural extension
		2.1.5.1	Provide PCs or tablet with internet for each CAESC and agriculture and livestock service centers and sub-centers
		2.1.5.2	Mobile-based applications
	2.1.6		Link farmer groups and organizations to banks and finance institutions
	2.1.7		Train field personnel to be sensitized to GESI and nutrition
		2.1.7.1	Training in GESI and nutrition
		2.1.7.2	Increase the representation of women in JTAs
2.2			Decentralized agricultural research system
	2.2.1		Restructure NARC as apex of NARS, with NRI and RARS implementing research, training under NARC
		2.2.1.1	Establish NARF, merge with NARDEF, integrate with NARC
		2.2.1.2	Finalize NARC Vision 2011-30 consistent with ADS
		2.2.1.3	Establish NRI for Horticulture, Animal Health, and Aquaculture and Fisheries
		2.2.1.4	Establish RARS in high hills, mid hills, terai of FWDR
		2.2.1.5	Establish Agricultural Mechanization Centers in terai (2), mid hills (1), and high hills (1) within existing research centers
		2.2.1.6	Consolidate and restructure RARS and programs to avoid duplication
	2.2.2		Strengthen linkages within the research-educational-extension triangle
2.3			Strengthened agricultural education system
	2.3.1		Improve facilities and capacity of Agricultural University
	2.3.2		Establish new Departments in Agriculture and Forestry University
		2.3.2.1	Establish Agribusiness Department
		2.3.2.2	Establish Technology Dissemination Department
	2.3.3		Support for joint educational and research programs
	2.3.4		Establish Agricultural University partner operations with private sector

Output	Activity	Sub-activity	Description of Activity
	2.3.5		Establish new agricultural/veterinary science colleges in other regions
	2.3.6		Strengthen capacity of CTEVT
	2.3.7		Strengthen capacity of professional staff from government, educational system, and private sector through overseas higher education degrees and trainings.
	2.3.8		Mainstream food and nutrition security into existing agricultural education system
2.4			Adequately sized farms that use land efficiently and sustainably
	2.4.1		Decide and adopt a policy statement to review or implement existing legislation and policies pertaining to land reform
	2.4.2		Issue a Government Order under the Lands Act to consolidate functions under a Land Management Office
	2.4.3		Establish land tribunals to settle tenancy and dual ownership cases
	2.4.4		Set and enforce targets for reduction of land holdings to the permitted ceiling
	2.4.5		Introduce regulation, incentives and disincentives to promote owner-operated farms, farming cooperatives and agribusiness farms.
	2.4.6		Pilot a "National land Leasing Corporation" scheme
	2.4.7		Reduce land fragmentation
		2.4.4.1	Legal measures
		2.4.4.2	Financial and tax incentives
	2.4.8		Enact contract farming act to promote agri-business operations
	2.4.9		Enact a Land Lease Act (could be part of Contract Farming Act) allowing long-term leasing at fair terms without acquisition of tenancy rights
	2.4.10		Implement land zoning policy
	2.4.11		Identify degraded land for rehabilitation
	2.4.12		Raise awareness of women's rights to land
2.5			Expanded and improved irrigation
	2.5.1		Expand irrigation area by most feasible means
		2.5.1.1	Complete already commenced surface schemes
		2.5.1.2	Pilot construction of medium pond/ recharge basins
		2.5.1.3	Repair damaged surface schemes
		2.5.1.4	Repair damaged tubewells
		2.5.1.5	Construct new tubewells
		2.5.1.6	Develop non-conventional irrigation
	2.5.2		Increase effective area of existing schemes
	2.5.3		Increase irrigation intensity

Output	Activity	Sub-activity	Description of Activity
		2.5.3.1	Improve catchment management
		2.5.3.2	Construct inter-basin transfers
	2.5.4		Improve irrigation system and on-farm water management
		2.5.4.1	Reform and strengthen Irrigation Management Division to become the Department of Irrigation Development
		2.5.4.2	Provide adequate budget from government or ISF collection
		2.5.4.3	Build capacity of WUA and farmers
	2.5.5		Implement irrigation management system transfer
	2.5.6		Establish funding for O&M, strengthen ISF
	2.5.7		Implement integrated water resource management
	2.5.8		Build capacity of women farmers
2.6			Access to agricultural inputs
	2.6.1		Formulate consistent policy
	2.6.2		Establish a voucher system for inputs
2.7			Implementation of seed policies
	2.7.1		Enhance capacity of seed research stations
	2.7.2		Promote private, cooperative, community based seed production
	2.7.3		Enforce quality assurance systems
	2.7.4		Promote production of hybrids
	2.7.5		Establish an information system on seed demand and supply
	2.7.6		Implement Biodiversity Policy
	2.7.7		Pilot voucher system for seeds
	2.7.8		Promote open pollinated, improved and local seed production system to address seed sovereignty
2.8			Improved fertilizer supply distribution system
	2.8.1		Improvement in fertilizer distribution system with appropriate level of subsidy
	2.8.2		Complimentary measures for efficient fertilizer use
		2.8.2.1	Demonstration and awareness campaign
		2.8.2.2	Promote organic and bio-fertilizer
		2.8.2.3	Conduct feasibility studies on fertilizer production and procurement
		2.8.2.4	Establish a fertilizer buffer stock
		2.8.2.5	Establish a database and monitoring system on fertilizer
		2.8.2.6	Voucher system for fertilizer
		2.8.2.7	Enforce quality assurance systems
2.9			Improved animal breeds
	2.9.1		Develop livestock policy including development of breeding and animal health
	2.9.2		Capacity building for improved breeds production
	2.9.3		Establish a voucher system for animal breeds

Output	Activity	Sub-activity	Description of Activity
	2.9.4		PPP program for availability of liquid nitrogen
2.10			Mechanization options accessible
	2.10.1		Information dissemination
	2.10.2		Improve customer access to finance
	2.10.3		Capacity building for service and maintenance providers
	2.10.4		Enable the business environment for leasing agricultural equipment
	2.10.5		Revise regulation and taxes to support mechanization
	2.10.6		Pilot a voucher scheme
2.11			Improved resilience of farmers
	2.11.1		Research on stress tolerant varieties and breeds
	2.11.2		Early warning system
	2.11.3		Climate information and weather indexation systems
	2.11.4		Pilot a Farmers Welfare Fund
	2.11.5		Promote agricultural insurance
	2.11.6		Strengthen food reserve system
	2.11.7		Strengthen the seed and feed/fodder reserve system
	2.11.8		Improve capacity of extension staff and farmers in climate smart agricultural practices
	2.11.9		Establish a fund for preparedness and response
2.12			Sustainable farming, GAP, and GVAHP adopted
	2.12.1		Formulate standards
	2.12.2		Extension programs with private sector
2.13			Forestry development
	2.13.1		Strengthen enabling policy environment
	2.13.2		Develop and integrate land use models with forestry
	2.13.3		Forestry enterprises and marketing development
	2.13.4		Enhance forestry GESI
	2.13.5		Biodiversity conservation and climate change adaptation
	2.13.6		Develop institutional and human resources
	2.13.7		Research and extension for sustainable forestry
	2.13.8		Develop a forestry investment strategy and plan
	2.13.9		Develop a joint platform for policy

(c) Outcome 3: Profitable Commercialization

Output	Activity	Sub-activity	Description of Activity
3.1			Improved investment climate
	3.1.1		Promote formation of broad-based commercial agriculture organizations
	3.1.2		Increase participation of agribusiness, cooperatives and industry bodies
	3.1.3		Promulgate appropriate regulations

Output	Activity	Sub-activity	Description of Activity
	3.1.4		Level the competitive environment between private sector and state enterprises
	3.1.5		Reform land use policy to stimulate commercial agriculture
	3.1.6		Provide information to assist commercial farming decisions
3.2			Contract arrangements for commercial agriculture
	3.2.1		Strengthen contractual arrangement mechanisms
	3.2.2		Capacity building in commercial agriculture
3.3			Tax policy to support commercial agriculture
3.4			Agricultural finance and insurance
	3.4.1		Promote development of agricultural finance and insurance providers
		3.4.1.1	Provide long-term finance through leasing
		3.4.1.2	Promote financial institution viability
		3.4.1.3	Facilitate development of a range of financial products for agriculture
		3.4.1.4	Provide incentives for agricultural finance
		3.4.1.5	Provide training in financial management for farmers
	3.4.2		Promote development of agricultural insurance
		3.4.2.1	Support the insurance industry in implementing the Agricultural Insurance Directive
		3.4.2.2	Promotion campaign to farmers
		3.4.2.3	Pilot a local-level weather indexing scheme
		3.4.2.4	Strengthen technical capacity of MOAD for regional and local level crop forecasting
		3.4.2.5	Pilot scheme for 50% premium subsidy
3.5			Competitive agricultural value chains
	3.5.1		Establish prioritized National Value Chain Programs
	3.5.2		Support to better expedite value chain development
	3.5.3	3.5.3.1	Enhance the development of the DAIRY value chain
		3.5.3.2	Value chain development fund
	3.5.4	3.5.4.1	Enhance development of the LENTIL value chain
		3.5.4.2	Value chain development fund
	3.5.5	3.5.5.1	Enhance development of the MAIZE value chain
		3.5.5.1	Value chain development fund
	3.5.6	3.5.6.1	Enhance development of the TEA value chain
		3.5.6.2	Value chain development fund
	3.5.7	3.5.7.1	Enhance development of the VEGETABLES value chain
		3.5.7.2	Value chain development fund
3.6			Rural roads network expanded
	3.6.1		Update policy for rural roads to explicitly target agricultural roads.
	3.6.2		Establish a new section for agricultural roads in District Technical Office

Output	Activity	Sub-activity	Description of Activity
	3.6.3		Provide separate funding for development and maintenance of agricultural roads.
3.7			Agricultural market information
	3.7.1		Promote development of a suite of products for market information and market intelligence
3.8			Rural electrification and renewable energies
	3.8.1		Establish a separate liaison section especially for power development in MOAD
	3.8.2		Establish a fund to support PPP for power development with farming community

(d) Outcome 4: Increased competitiveness

Output	Activity	Sub-activity	Description of Activity
4.1			Market infrastructure developed and managed
	4.1.1		Promote development of market infrastructure
	4.1.2		Implement PPP financing support mechanisms
	4.1.3		Capacity building programs for market infrastructure management
	4.1.4		Identify strategic locations for market development and undertake feasibility studies.
	4.1.5		Develop rules and regulations and SOP for improved market management.
4.2			Growth of small and medium agro-enterprises
	4.2.1		Adopt tax incentives to stimulate investment in agro-based enterprises
	4.2.2		Promote establishment of Agribusiness Incubators
	4.2.3		Establish matching grants to promote agro-enterprise innovation
		4.2.3.1	Innovation Fund for Agro-enterprises and Coops
		4.2.3.2	Agro-Entrepreneurship Programs for youth, women, disadvantaged groups and regions
4.3			Growth of food and agricultural products exports
	4.3.1		Strengthen capacity to promote exports and negotiate more favorable trade agreements
		4.3.1.1	Legislative Measures
		4.3.1.2	Promote foreign direct investment in infrastructure and post production activities
		4.3.1.3	Institutional Measures
		4.3.1.4	International Measures
4.4			Enhanced food quality and safety
	4.4.1		Adopt and implement internationally compatible food quality and safety standards
		4.4.1.1	Legislative Measures for a modern Food Act

Output	Activity	Sub-activity	Description of Activity
		4.4.1.2	Formulation and promulgation of food safety and quality standards
		4.4.1.3	Adopt legislation on accreditation of standards certification bodies
		4.4.1.4	Adopt legislation on accreditation of national laboratories for FSQ certification
		4.4.1.5	Strengthen and upgrade laboratories to international accreditation
		4.4.1.6	Institutional Capacity building (Physical and Human resource) of SPS and quarantine (Plant, food and animal) system.
		4.4.1.7	Establish regional laboratories and district offices for DFTQC
		4.4.1.8	Form Food Agency with authority under Food Act (medium term)
		4.4.1.9	Establish capacity for pest risk assessment, SPS management and surveillance
		4.4.1.10	Adopt One Health Approach and strengthen animal health surveillance, diagnostic, and response capacity
		4.4.1.11	Coordination and reporting to subcommittee on FNS and Food Safety of the NADSCC

Government of Nepal
Ministry of Agricultural Development

**GENDER EQUALITY AND SOCIAL INCLUSION (GESI)
STRATEGY**

June, 2017

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ABBREVIATIONS

ADB	Asian Development Bank
ADS	Agriculture Development Strategy
AFU	Agriculture and Forestry University
BPfA	Beijing Platform for Action
CAESCs	Community-based Agriculture Extension Service Centers
CBS	Central Bureau of Statistics
CEDAW	Convention on Elimination of all kinds of Discriminations Against Women
CGIAR	Consultative Group for International Agricultural Research
CSOs	Civil Society Organizations
CYMMIT	International Maize and Wheat Improvement Center
DADO	District Agriculture Development Office
DFID	Department for International Development
FBS	Farm Business School
FSN	Food Security and Nutrition
FWF	Farmers' Welfare Fund
GAP	Good Agricultural Practices
GDP	Gross Domestic Product
GESI	Gender Equality and Social Inclusion
GoN	Government of Nepal
HH	House Hold
HICAST	Himalayan College of Agricultural Science and Technology
IAAS	Institute of Agriculture and Animal Science
ICT	Information Communication Technology
ILO	International Labor Organization

MDGs	Millennium Development Goals
MoAC	Ministry of Agriculture and Cooperatives
MoAD	Ministry of Agricultural Development
MoFALD	Ministry of Federal Affairs and Local Development
MoFSC	Ministry of Forest & Social Conservation
MoI	Ministry of Irrigation
MoLR	Ministry of Land Reform
MoWCSW	Ministry of Women, Children & Social Welfare
NAPA	National Adaption Plan for Action
NARC	Nepal Agricultural Research Council
NAST	Nepal Academy of Science and Technology
NPC	National Planning Commission
PACT	Project for Agriculture Commercialization and Trade
RISMFP	Raising Income of Small and Medium Farmers Project
SDGs	Sustainable Development Goals
UN Women	United Nations Entity for Gender Equality and the Empowerment of Women
WB	World Bank
WBCIS	Weather Based Crop Insurance Scheme
RWEE	Rural Women's Economic Empowerment
WWF	World Wildlife Fund

1. INTRODUCTION

This document outlines a Gender Equality and Social Inclusion Strategy (GESI Strategy) for the Agriculture Development Strategy (ADS) of the Ministry of Agricultural Development (MoAD), Nepal. Effective mainstreaming of gender equality and social inclusion is essential to achieve the objective of the ADS, hence GESI is an important cross-cutting issue of agriculture development in Nepal.

The proposed GESI Strategy for the ADS is meant to be coordinated by the MoAD as the nodal Ministry and thus the major concerns are reflected in terms of the MoAD's role throughout the document. Since the ADS is a main vehicle for contributing to the national economic growth, the roles of other relevant ministries, development partners, civil society organizations, farmers rights based associations, private sector, academic institutions and financial institutions will be instrumental in achieving not only the goals of the ADS, but also to operationalize the GESI strategy. United Nations Entity for Gender Equality and the Empowerment of Women (UN Women) has taken the initiative of facilitating development of this strategy as a part of the joint program with FAO, WFP and IFAD, Rural Women's Economic Empowerment Programme (RWEE JP), guiding this strategy to reverberate the fundamental concerns on women's economic empowerment according to the international conventions on Convention on Elimination of all Kinds of Discriminations Against Women (CEDAW) and Beijing Platform for Action (BPfA). The spirit of article 169 of the International Labor Organization (ILO) to ensure inclusion of the excluded, the indigenous people and the marginalized also guides the strategy. Nevertheless, the strategy is strategically based on the issues and concerns identified by the ADS on GESI issues.

The MoAD recognized the importance of developing a specific GESI strategy to guide the programmes and activities envisioned in the ADS. This strategy document provides a background of the women and smallholders' contribution in agriculture development of Nepal and the rationale for the strategy. The document then states vision, goals and objectives of the strategy, reviews the existing GESI work and approaches of the MoAD and identifies the opportunities, gaps and challenges for GESI in agriculture. The document then lays out the GESI strategies and approaches, including provisions for assessing and monitoring progress.

1.1 Background

Over the years, there is a gradual realization of the key role of women and smallholder farmers in the area of agriculture sector. The world community today sincerely recognized the role of women, indigenous, marginal and smallholder farmers in agriculture and the constraints that they face in earning a decent and sustainable livelihood. Rural women form the most important productive work force in the economy of majority of the developing nations and Nepal is not an exception. Agriculture, the single largest production endeavor in Nepal, contributing about one third of the GDP, is increasingly becoming a female activity. The agriculture sector employs about 73 per cent of all economically active women in the country contributing about 55-82 per cent of the labor force required for production (MoAC, 2009). Beyond the conventional market-oriented narrower definition of productive workers, almost all women in rural Nepal today can be considered as farmers in some sense, working as agricultural labor, unpaid workers in the family farm enterprise, or combination of the both. Moreover, several farm activities traditionally carried out by men are also being undertaken by women due to male out-migration from rural areas. "Thus, rural Nepal is

witnessing a process of feminization in Agriculture which has a deep and wide-ranging impact on agricultural productivity (Kelker, 2009). In contrast, about 80 percent of women do not own land or a house (CBS, 2011) making it difficult for them to be considered as independent farmers. Feminization of agriculture has two aspects: increased women's participation in agricultural work and are empowered in decision making aspect. Previous studies suggest that there has been an increase in women's participation in agriculture (World Bank, 2006), however, it is not clear that such participation has resulted into economic empowerment and enhanced decision making capacity (Tamang et. al, 2014). At the same time, one crucial dimension on agricultural planning is about integration of the issues faced by constantly increasing number of female headed households. Households reporting ownership of land or house, or both in the name of their females comprise of about 26 per cent, which was only about 15 per cent in 2001 (CBS, 2011). Socio-cultural and economic barriers faced in agricultural participation by female household heads are crucial to be assessed and analyzed to design special programmes for these groups.

Furthermore, the agriculture sector faces a critical challenge by the marginalization of the smallholders from accessing the essential productive resources to increase production and productivity. The existing power discrimination between tenant and landlord creates challenges for the poor tenants to access the important production resources, for example, ground water irrigation systems. "In particular, landlord-tenant relations undermine the capacity of tenants to invest in a well or pump set. At the same time, the marginal status of tenants makes renting equipment and wells prohibitively expensive, particularly when rich farmers to enhance their own economic status use pump rental. Collective ownership of wells offers some opportunities, yet the inability for landless tenants to register groups, elite land capture in the control of a stratified society and limited knowledge of programmes limit the success of initiatives" (Sugden, 2014).

Nepal's GDP growth rate in the last ten years remained 4.1 per cent while agriculture sector average growth rate was 2.9 per cent (GoN/MoF, 2015). There is growing evidence suggesting that gender, ethnic and caste related disparities as well as geographically disadvantaged situation have adverse effect on growth and development of agriculture. In the context where women represent the majority of agricultural labor force and about 52 per cent farm households are smallholders owing less than 0.5 ha of land (CBS, 2013), there is a pressing need to make concerted efforts to address gender inequality and social exclusion issues and provide support for social, technological and economic empowerment of women, the poor, ethnic minorities and geographically underprivileged groups. Although, there have been promising and innovative attempts to increase the participation of women in agriculture and to address the constraints faced by them, inclusion of the poor and the excluded in accessing agricultural resources, technologies and the opportunities is vital in making the agriculture sector more competitive and accelerating growth. Sustainability of the growth depends on women and excluded group gaining the power and capacity to control decisions about use of resources. In this context, the MoAD has been implementing a long term strategy in agriculture, the ADS and envisioned GESI strategy and action plan as a guide for the development of responsive, inclusive, and livelihood improvement strategy.

1.2 Rationale

Integrating and mainstreaming a GESI approach into sectoral policies is vital as it is a cross-cutting issue in the societal development worldwide. Poverty; social, political and geographic exclusion; inequality between men and women; and massive youth out migration have strong

influence on various dimensions of development including development of the agriculture sector. National development priorities and interventions need to be well aligned with the needs and interests of women and socially excluded groups across geographical regions to achieve the goal of the holistic development. The ADS of the MoAD emphasizes on reducing gender, ethnic and caste related disparities in agriculture sector through social and gender inclusion; this is in line with the Government of Nepal's (GoN) overall policies and strategic framework. Development of the GESI strategy is focused to attain the major impact indicators envisioned in the ADS of the MoAD. These indicators include (i) food and nutrition security, (ii) poverty reduction (iii) competitiveness (iv) higher and more equitable income of rural households and (v) strengthened farmers' rights. All of the four components of the ADS such as: improved governance, higher productivity, profitable commercialization and increased competitiveness are framed to provide impacts on the above mentioned indicators of the agriculture development. Integration of a GESI perspective in implementation of major activities under all components of the ADS is suggested for inclusive and sustainable development of the agricultural sector.

Along with the targeted outcomes of the ADS, the MoAD is responsible to contribute to national commitments to the Sustainable Development Goals (SDGs). One of the most central goals of the SDGs is to "Leave no one behind." (Source: GESI Working Group DP, 2014). Like the GESI approach, the SDGs demand to go after the most difficult to reach groups who often face multiple levels of deprivation including not only poverty but remote location, female gender identity, physical or mental disability, membership in a low status social group, being of a sexual or gender minority group, being a child or a senior citizen, inability to speak the mainstream language and so on. This has been recognized in the National Planning Commission's (NPC) report on the SDGs (NPC, 2015) which notes that,

Nepal is marred by gender, social and geographical exclusion and inequality in MDGs and human development outcomes and so needs to better target the delivery of development to the hardest to reach segments of society, those who have been excluded from development and those who have been overlooked."

GESI are means to reduce discriminatory and exclusionary relationships and institutions, and entail a three-pronged development intervention by the GoN and international community: (a) improved access to livelihood assets and services; (b) augmented ability to exercise voice, influence and agency; and (c) a more equitable opportunity structure with "rules of the game" that allow all citizens to participate on the same terms in the life of the state and larger society as well as in their access to livelihood opportunities and political influence (World Bank and DFID, 2006). The process applies an approach to empowerment of the right holders by developing their individual and collective agency to overcome the structural barriers and influence decision making both at public and household levels.

Figure 1: Process of Empowerment and Inclusion

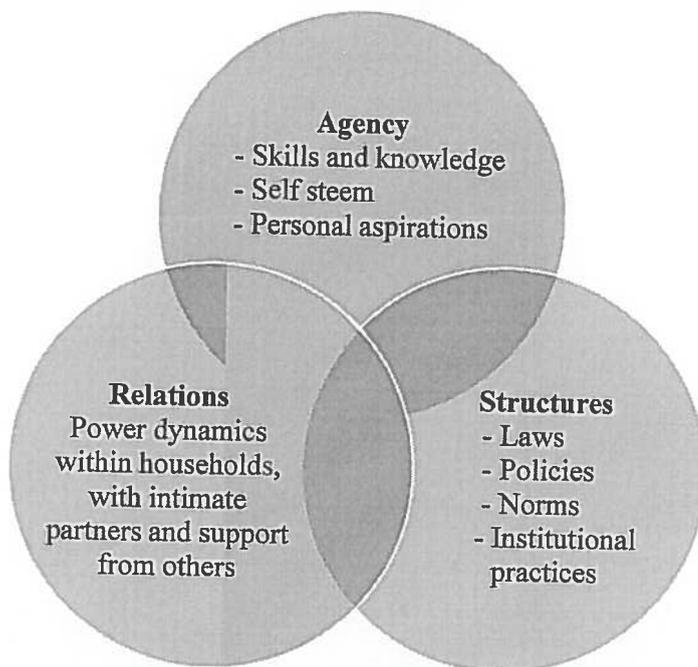
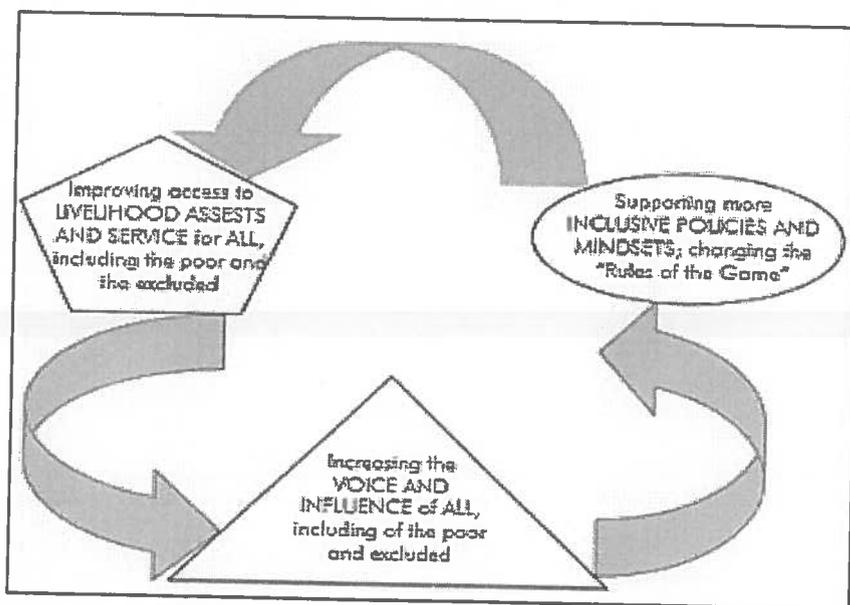


Figure 2: Domains of Change



(Source: World Bank and DFID, 2006))

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1.3 Vision

Enhance inclusive agriculture system through accelerating active participation of socially, economically and geographically disadvantaged groups in all areas of agricultural development

1.4 Goals and Objectives

The goal of the GESI strategy is: to support the implementation of the ADS by institutionalizing GESI sensitive approaches in formulation implementation and monitoring of agricultural programmes at all levels. This strategy will create a positive environment to empower women and excluded people in equitable access to resources, technologies and the opportunities through meaningful participation. Objectives of the GESI strategy are to:

- i. Establish a broad based mechanism for GESI through institutional development, capacity enhancement, improvement on research and extension services, monitoring systems and mechanisms, and meaningful participation.
- ii. Integrate a GESI perspective in multiple dimensions of production activities that contribute to higher productivity such as: availability and access to improved production inputs, capitals, markets and communication; and resiliency enhancement of farmers.
- iii. Incorporate a GESI approach in commercialization of agriculture through improved investment climate, tax incentives, improved agricultural value chains and market information.
- iv. Enhance the competitiveness of small and medium sized agro-enterprises operated by women and other excluded farmers.

2. STRENGTHS, OPPORTUNITIES, GAPS AND CHALLENGES

This section highlights existing policies and provisions of the MoAD to integrate GESI issues as strengths and opportunities and identifies gaps and challenges to be addressed in line with the objective of the ADS.

2.1 Strengths

2.1.1 MoAD's Policy guidance on GESI

The MoAD has been developing strong GESI policy commitments periodically to act on GESI promotional agendas, such as:

- i. National Agriculture Policy, 2061 B.S (2004 A.D) committed to achieve **50 per cent women** participation in agricultural production and productivity; provide mobile agricultural training to reach close to villages and homestead; ensure flow of communication on the data and information about women's participation in agricultural development programmes; and identify and classify the resource poor smallholders having below four hectares of land and provide the allocated facilities to these farmers,
- ii. Agribusiness Promotion Policy, 2063 B.S (2006 A.D.) committed to organize special programmes for the poor, women and Dalits for establishment and development of agro-enterprise,
- iii. Agriculture Biodiversity Policy, 2063 B.S (2006 A.D.) (revised 2071 B.S.-2014 A.D) committed to explore, promote and utilize indigenous knowledge in agriculture by including women, indigenous people and the poor; implement sustainable agro-biodiversity promotional income generation programmes,
- iv. Gender Mainstreaming Strategy , 2063 B.S (2006 A.D.) committed to achieve 50/50 women-men participation in all administrative mechanisms including the MoAD's Divisions, programmes, committees, boards, and companies; to produce results in increase in women's skills in commercial agriculture and women's economic empowerment and institutionalization of gender issues at all levels focusing on women's participation in commercialized agriculture,
- v. Promotion of Mechanization of Agriculture Policy, 2071 B.S. (2014 A.D.) committed to identify and promote adoption of women and environmental friendly technologies and machines to reduce drudgery of women; aim is to attract the youths and women to mechanized agriculture and increase their productivity,
- vi. National Seed Vision, 2070- 2082 B.S. (2013-2025 A.D) supports equal rights and access to information, skills, and services on seed use irrespective of gender, caste and ethnicity across geographical regions.
- vii. Agriculture Development Strategy (ADS), 2072 B.S. (2014 A.D.) recognizes and establishes women farmers' as **independent farmer** and ensures the adequate budget provision, women's access to productive resources, women's leadership and so on. The ADS conceives sustainable social /community development programmes to **address the issues of marginalization of the indigenous groups** from natural resource management and patronage. It recommends **equal wage rate for man and woman** at agriculture work; guides to manage and update national data on gender, social and geographic inclusion; strengthens **accountability of the right holders on GESI as well as the central and district level accountability systems**; encourages quantitative and qualitative **participation of women and men farmers** in agriculture development

programmes; makes all local level agriculture extension programmes GESI friendly; allows access of all the groups under marginalization due to gender, social, economic, and geographical reasons on the resources essential for agriculture development, such as, land, capital, and all other inputs; and expands GESI friendly agriculture research, processes, approaches and development in all geographical regions. The ADS finally suggests developing a **GESI strategy** to implement the GESI vision of the ADS.

2.1.2 Structural mechanisms on GESI

The MoAD has established the Gender Equity and Social Inclusion Section in 2013, under Food Security, Agribusiness Promotion and Environment Division. GESI have been integrated within this Division to act as a focal point for GESI related activities. The GESI focal point is expected to institutionalize the implementation of GESI principles by all the units and programmes of the MoAD and conduct auditing, periodic update and documentation of data and information on GESI in agriculture development, and upscale access of the marginalized and deprived groups. Besides vertical coordination within the MoAD, the GESI focal point coordinates horizontally with other line ministries and various development agencies. The MoAD has also established a Gender Mainstreaming Coordination Committee to coordinate with Federal, Provincial and Local Government to implement GESI policies, plans and programmes¹.

2.1.3 MoAD program approaches

The MoAD has been guiding on specific programmes approaches for the youth, and women since 2070 BS (2013 AD), such as:

- i. Youth focused program approach, 2070 B.S. (2013 A.D.)
- ii. Women farmers targeted program approach, 2071 B.S. (2014 A.D.)
- iii. Approach for grants for farmers doing commercial agriculture on leased land, 2071 B.S. (2014 A.D.)
- iv. Approach on women managed integrated agriculture firm, 2072 B.S. (2015 A.D.)

2.1.4 Project lessons

The MoAD has lessons learned on GESI in agriculture from various projects. Such as:

- i. Raising income of Small and Medium farmers Project (RISMFP)
- ii. Project for Agribusiness Commercialization and Trade, (PACT)
- iii. Mountain Agribusiness and Livelihood Improvement Project, (HIMALI Project)
- iv. High Value Agriculture Product (HVAP)

The MoAD has internally developed a GESI annual progress report establishing the baseline (2071/2072 B.S-2014/2015 A.D.) on the status of women and socially excluded groups' participation and benefits sharing in agriculture development.

The MoAD has been implementing various programmes for encouraging women, indigenous and smallholders such as: contract farming, cultivation in leased land, group farming, off seasonal (vegetables and crops) production, value chain management, export marketing through agricultural cooperatives, improved seed production and so on.

¹ The GESI strategy will be implemented in line with the federal structure of the Government of Nepal

2.2 Opportunities

The current context of the SDGs appealing for leaving no one behind from the development provides immense opportunity for the MoAD to pilot the GESI strategy to reach to the maximum number of marginalized farmers' groups with all means. Development partners in Nepal are preparing towards building ways on how to reach the unreached. The MoAD remains as a focal ministry for their programmes and partnership for achieving GESI in all aspects.

There is a promising scope of mobilizing the private sectors' strategic participation in improving the systems regarding agricultural services, special loan provisions for farmers, insurance services, including facilitating appropriate technology enterprises around women farmer's interests. Besides, challenges faced by farmers in accessing a promising market for their produces can also be an opportunity to explore an innovative way to promote an alternative market system for agriculture products produced by farmers. The private sector's participation is essential in value chain processes, which can be regulated through the MoAD in close coordination with the Ministry of Commerce and Industry for a creative solution of the sustained farm market for agricultural producers.

Most importantly, the government policies for the agriculture sector have been pro-poor and inclusive. A focus has shifted from women-targeted activities to an emphasis on mainstreaming and empowerment.

Many ministries in Nepal have adopted GESI approaches and some of them already have GESI strategy (MoFSC, MoWCSW, MoFALD, MoI), some are on the way of developing a strategy. The MoAD can benefit from the inter-ministries coordination for addressing GESI issues through collaborative efforts.

Local level social infrastructures and the ADS plans:

- i. Farmers' cooperatives, in particular those promoted around women, indigenous and smallholders are strong vehicles for strengthening GESI issues at the local level. The MoAD can mobilize the existing Civil Society Organizations (CSOs), national federations of farmers to enhance local cooperatives to be active on right based initiatives, to be accountable in their own governance and influence on service sector governance.
- ii. Under strategic framework, the ADS provides institutional mechanisms to ensure farmers' rights to participate in planning, decision making, implementation, and monitoring of the strategy, including ensuring in all leading coordination mechanisms of the ADS at the federal, provincial and local level.
- iii. Besides the formulation of legislations related to food rights and food sovereignty, the ADS also ensures the establishment of a high level fully authorized and permanent type of Farmers' Commission to help advance farmers' right and strengthen the Community-based Agriculture Extension Service Centers (CAESCs) and the market for the poor approach.
- iv. The ADS envisions to produce impact on three specific groups of farmers (commercial, subsistence and landless), while the direct effect of the ADS measures is seen related to gender, social, and geographical inclusion; land (e.g. addressing the issues of tenancy, land leasing, cooperative farming, reversing the trend towards degraded land); access to quality and timely inputs (e.g. vouchers targeted to subsistence farmers, improved resilience); and access to microfinance and agricultural insurance. The landless or nearly

landless will benefit from the ADS measures related to food and nutrition programmes; gender, social, and geographic inclusion; access to forestry products; and growth of small and medium enterprises.”

2.3 Gaps and Challenges

- i. A comprehensive database on gender and excluded groups' contribution to agriculture development and food security is not available.
- ii. Capacity of the MoAD to enforce the GESI policies, strategies and principles is limited primarily due to (i) inadequate proficiency and motivation of field level extension personnel to implement agriculture development programmes from GESI perspectives and (ii) small number of female extension personnel providing services to disproportionately large number of women farmers.
- iii. Researches and extension on women friendly or drudgery reducing technologies applicable to small-scale producers is not sufficient. Time and labor saving technologies for women and smallholders do not reach the needy farmers, but are mainly concentrated to wealthy farmers wide-scale implementation of women friendly technologies is crucial, however, such technologies are neither identified nor appropriately budgeted for investment.
- iv. Access of women, the poor and excluded groups to means of agriculture production (land, credit, inputs, technology and market) is limited. The Constitution of Nepal, 2015 has provided equal property rights to son and daughters, but in absence of supporting legislation and prevalence of traditional practices, women are not able to enjoy the rights provided by the Constitution. In general, women, the poor and the excluded groups lack assets that can serve as collaterals to acquire credits for agriculture or business.
- v. Gender issues have often been overlooked in the value chain development. Women contribute significantly to production activities, however, they remain primarily invisible in the work they do in the agricultural value chain. In general, female family members do much of the work, yet receive little of the income from crop sales, and have little say about how that income is spent.
- vi. An emphasis has been given on quantitative indicators while taking account of women's participation, which however, do not ensure quality participation and decision making power. Traditional beliefs about men and women as economic actors accentuates that husbands or family male members are the decision makers. Women own and manage several farm businesses, but perceptions of women having secondary roles in their family impede their access to a range of opportunities to build the social capital and meet potential clients. These result in women farmers to have low self-esteem and confidence and affect their interactions with financial institutions, government officials, potential customers, and peers.
- vii. Technical training to women and smallholder producers on farm business and value chain management has not been offered in the sufficient numbers.
- viii. Inadequate infrastructures including road network, cold storage, processing facilities and market centers has disproportionately affected woman and smallholder farmers.
- ix. Regulations for contract farming schemes have not been effectively implemented, especially with focus on women, smallholders, remotely located, the poor and the excluded.
- x. Absence of appropriate insurance policies and subsidies for remotely located smallholders and women farmers has discouraged the adoption of new technology or expansion of production scale.

- xi. Insignificant efforts to upscale agricultural cooperatives by linking to the national trades and export systems has lowered the competitiveness and prevented the commercialization of agriculture.
- xii. Inadequate coordination and networking among development partners, government line agencies and donors has caused duplication in work on one hand while on the other hand it has reduced effective participation of women and men in development activities.

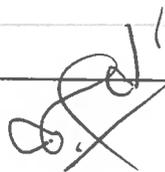
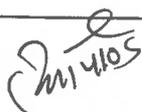
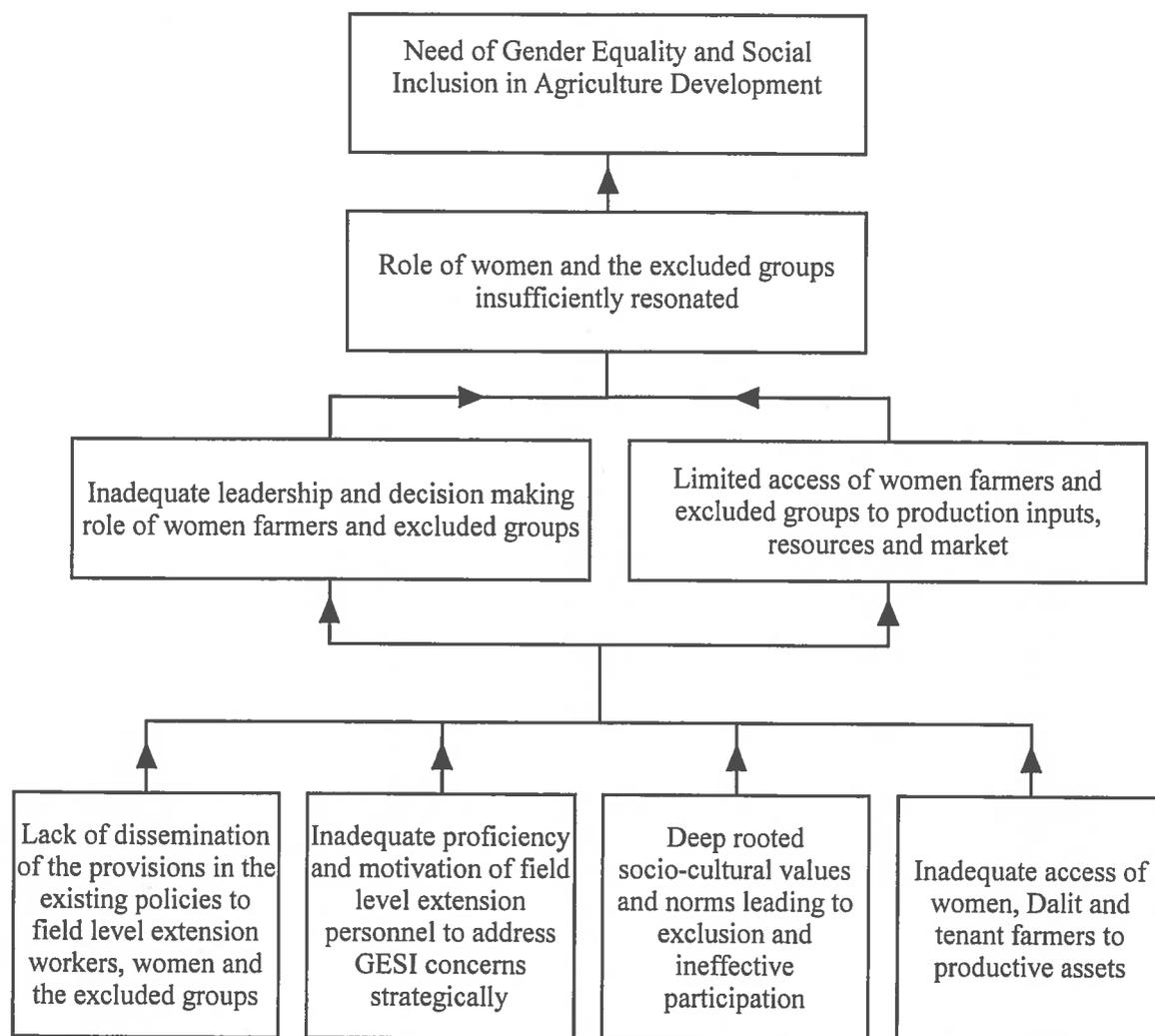
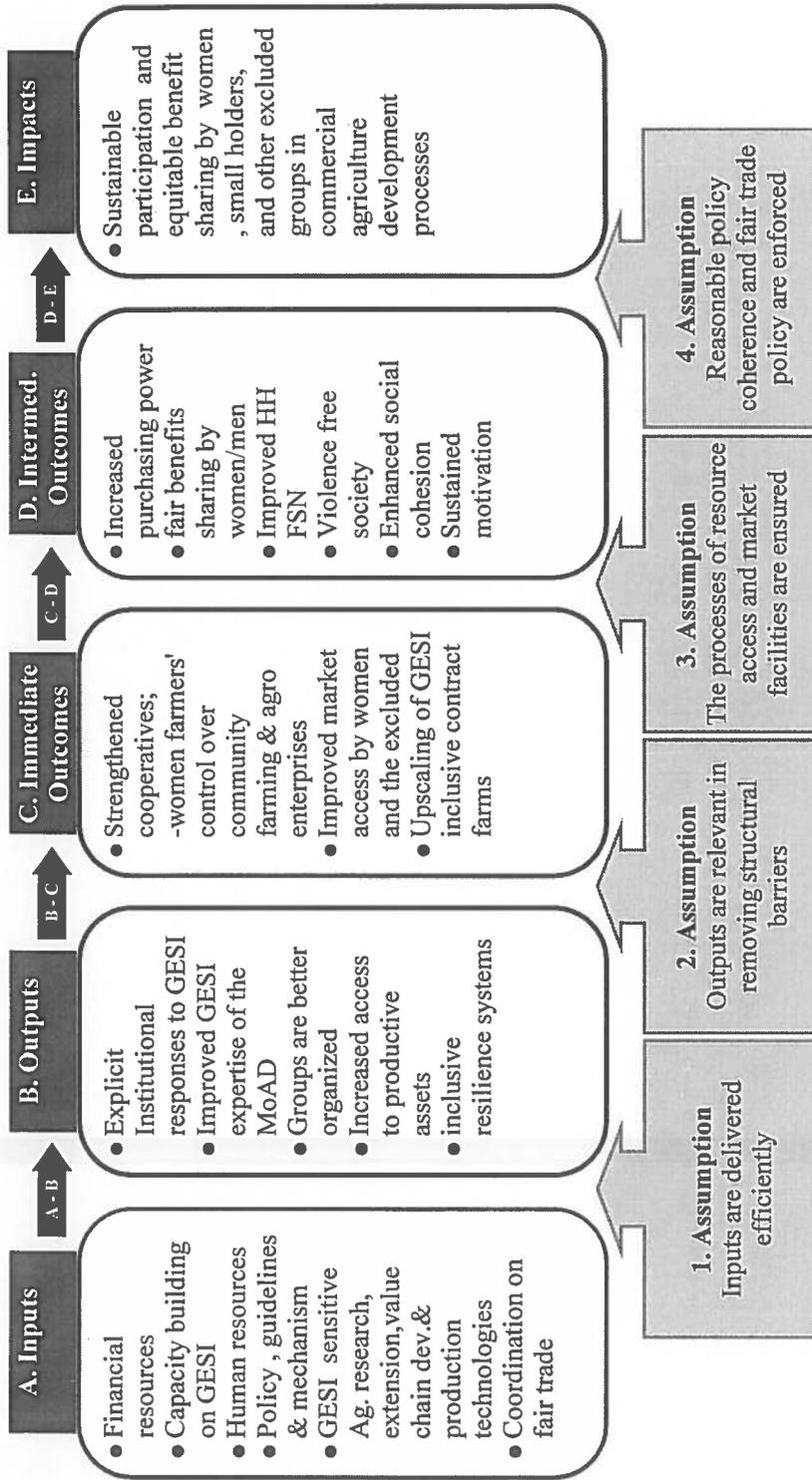


Figure 3: Problem Tree showing gender and social exclusion in agriculture



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Figure 4: Theory of Change on GESI in Agriculture



5. External factors

Coherence and complementarity of the MoAD with the relevant national and regional/district policies, programs and lessons learned
 Challenges: changing political situations, resistance against GESI approach, differing national priorities, negative driving forces with regard to sustainability, disasters, security.
 Opportunities: national policies promoting GESI in all sectoral development, SDG commitments of the NPC on GESI issues, the ADS promoting enhanced GESI responses, farmers' rights based approaches, existence of farmers cooperatives at the local level and scope to coordinate with other line agencies and development partners, especially with RWEE programme led by UNWomen to act on GESI promotional agenda and women's economic empowerment.

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3. GESI STRATEGY AND APPROACH

The GESI strategy is expected to support the ADS to achieve its objectives by building an enabling environment for ensuring meaningful participation and equitable benefit sharing by women, the smallholder farmers and the excluded people in agriculture. This can be accomplished by concentrating mainly on the following aspects:

- i. **Allowing access and control** of smallholder farmers and the excluded groups focusing on women to production inputs, resources and services (such as: land, capital, seeds, fertilizer, irrigation, appropriate technology, storage, collection centers, market, transportation, insurance, subsidy and information) which will ensure their sustained motivation to participate in agricultural development processes.
- ii. **Building leadership and technical capacity** of smallholder farmers and the excluded groups focusing on women in order to include them in decision making process. Relevant trainings and participation in national and international conferences with the purpose for contributing in policy debates and influencing agriculture development policy decision would be beneficial.
- iii. **Encouraging the involvement** of smallholder farmers and the excluded groups focusing on women in the agricultural value chain management.
- iv. **Mainstreaming GESI awareness, commitments, capacity and accountability** within the MoAD and relevant stakeholders at all levels (Federal, Provincial and Local) to ensure effective delivery of responses to remove the structural barriers that prevent women, the indigenous and the smallholders to participate and benefit sharing from agricultural development programmes.

A framework for the GESI strategy is prepared (Table 1), based on the four objectives of the strategy. It outlines the approaches for each objective, along with activities and indicators/targets. The GESI strategy will be the main framework in operationalizing the GESI related activities in agriculture. The GESI strategy promotes capacity building of the target groups for their meaningful participation in decision making processes. The strategy also promotes the removal of the institutional and structural barriers to GESI in the agriculture development. It guides the implementation of the ADS and ensures the institutionalization of GESI sensitive approach in all components of the ADS.

The GESI specific interventions will be periodically monitored by a GESI focal point and the MoAD monitoring team, assessing and analyzing qualitative and quantitative GESI impacts in the agriculture development and to document and share for policy reform. The GESI strategy should not be considered as a static document but as an evolving tool to guide and support the MoAD in a continuous learning process about improving GESI approaches. Results and best practices will be shared within the MoAD, line ministries, stakeholders, development partners and other relevant partners as well

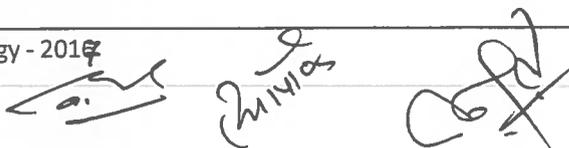
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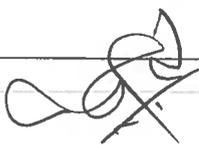
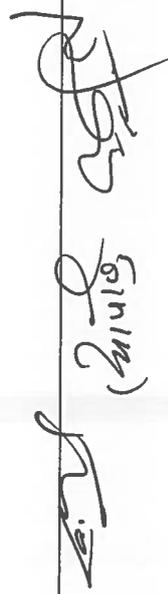
TABLE 1: GESI Strategy Framework for the ADS

Objectives	Approach	Actions/measures	Target/indicators
<p>1. Establish a broad based mechanisms for GESI through institutional development, capacity enhancement, and improvement on research and extension services monitoring systems and mechanisms, and meaningful participation.</p>	<p>1.1 Promote a favorable institutional environment at the policy, planning, and implementation levels to delegate gender equality, social and geographical inclusion responsibilities.</p>	<p>i. Recruit two full time GESI professional/staff to support federal level GESI focal point in Food Security, Agribusiness Promotion and Environment Division in the MoAD.</p> <p>ii. Make arrangement for a GESI technical assistance for five years to support the Gender Equity and Social Inclusion Section in the MoAD to implement the GESI strategy.</p> <p>iii. Establish GESI Unit or focal points with clearly defined role and responsibilities in ToRs at Federal, Provincial and Local levels</p> <p>iv. Ensure that at least 33 per cent women technician are recruited in the “One Rural Municipality, One Agriculture Technician” program.</p> <p>v. Develop tools (policy provisions, manual, guidelines or resource kit) to operationalize GESI sensitivity in</p>	<ul style="list-style-type: none"> ▪ Number of GESI professional recruited on permanent basis. ▪ Provision of short term GESI technical assistance in place. ▪ GESI unit and focal points established in all Federal, Provincial and Local levels ToR for GESI focal points developed and assigned. ▪ Number of women technician recruited at service Urban/Rural Municipality level. ▪ Policy provisions, manual, guidelines or resource kit are in place.

	<p>1.2 Develop technical expertise of the MoAD officials on GESI at Federal, Provincial and Local Levels</p> <p><u>ADS Flagship Programme: Decentralized Science, Technology, and Education Program (DSTEP)</u></p>	<p>planning and implementation of program and projects.</p> <p>vi. Ensure systematic dissemination of GESI policies and guidelines to all MoAD staff at Federal, Provincial and Local Levels</p> <p>vii. Develop a database of GESI-based and geographic inclusion-based statistics.</p> <p>viii. Ensure that all planning processes, including annual work plans and budget plans of Provincial and Local Levels offices are guided by MoAD's GESI five year Action Plan.</p> <p>i. Strengthen capacity of all GESI focal points to function as institutional change agents on GESI operational issues.</p> <p>ii. Organize training and workshop on GESI concepts and their relation with agriculture development program, analytical frameworks and</p>	<ul style="list-style-type: none"> ▪ Number of orientation programmes on GESI policies and guidelines organized at Federal, Provincial and Local Levels ▪ Number of officials participated in the orientation program. ▪ Segregated data system exist to reflect GESI-based statistics. ▪ GESI Action Plan developed and GESI issues explicitly included in annual work plan and budget. ▪ Number of training and workshops organized. ▪ Number of GESI focal points participated in training, workshops and exposure visits. ▪ Number of training and workshops on GESI concepts organized for field level extension professionals.
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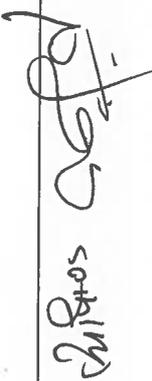
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		<p>implementing skills for extension professionals.</p> <p>iii. Organize study tour and exposure visit to successful programmes for cross learning for the ministry, departmental Provincial and Local level GESI focal points or extension professionals.</p> <p>iv. Include at least one mandatory GESI course in agriculture science undergraduate program (B.Sc. Ag.) and promote inclusion of GESI courses in graduate program of agriculture colleges and universities.</p> <p>v. Make provision of special budget for providing scholarship to produce women agriculture technicians at provincial and local level.</p> <p>vi. Make provision of special budget for enabling responsible officials to attend international courses (CYMMIT, CGIAR etc.) on GESI in agriculture.</p>	<ul style="list-style-type: none"> ▪ Number of field level extension professionals participated in the training and workshops. ▪ Number of study tours and exposure visits organized. ▪ Number of officials participated in tours and visit programmes. ▪ GESI in agriculture course developed and introduced in agriculture universities colleges and vocational training institutes. ▪ At least two women trained in each local government every year for five years. ▪ At least two officials from the MoAD participated international courses on GESI in agriculture every year.
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	<p>1.3 Promote GESI responsiveness in agricultural research; technology development; extension program formulation and dissemination; and monitoring and evaluation.</p>	<p>i. Ensure that NARC mandatorily includes research on GESI issues under regular program to guide agriculture development policies and programmes.</p> <p>ii. Promote research and development of time and labor saving technology applicable to women and the smallholders of different agro ecological belts.</p> <p>iii. Promote coordination of NARC and various government and private academic institutions such as IAAS, AFU, HICAST, NAST and so on for women and smallholder friendly technology development and piloting of proven technology.</p>	<ul style="list-style-type: none"> ▪ Number of research conducted on GESI in Agriculture. ▪ Number of research reports and proceedings. ▪ Types and numbers of women and smallholders friendly and drudgery reducing technology developed for various agro ecological belts ▪ Number of coordination meetings organized among NARC, IAAS, AFU, HICAST, NAST and the MoAD. ▪ Academic institutions involved in smallholder friendly technology development. ▪ Number of smallholder friendly technology generated and piloted.
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		<p>iv. Ensure that agriculture extension programmes are GESI responsive during formulation and implementation period.</p>	<ul style="list-style-type: none"> ▪ GESI issues explicitly included in agriculture extension programmes. ▪ Per cent age of the participants represented by (gender, social inclusion) from smallholders and the excluded farmers in extension programmes of various disciplines.
		<p>v. Ensure regular visits to project and program sites (e.g. once per month in each Local Unit) by GESI staff to monitor GESI-responsiveness of extension activities.</p>	<ul style="list-style-type: none"> ▪ Number of Local Unit Visit by GESI staff. ▪ Number of monitoring reports on GESI in agriculture programmes.
		<p>vi. Revise the monitoring, evaluation and reporting system to incorporate feedbacks based on practical and strategic GESI impacts.</p>	<ul style="list-style-type: none"> ▪ Monitoring and evaluation plans and formats reflecting both practical and strategic GESI impact developed and distributed to Federal, Provincial and Local Levels

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	<p>1.4 Promote meaningful gender participation of smallholders and other excluded people in agriculture development program.</p>	<p>i. Provide leadership development training to smallholders and the excluded farmers (focusing on gender) in order to enhance their decision making skills.</p>	<ul style="list-style-type: none"> ▪ Number of leadership training program for smallholders and the excluded farmers focusing on gender developed and implemented. ▪ Number of , smallholders and the excluded farmers focusing on gender participated in the training.
		<p>ii. Promote the leader farmers to be organized into association and strengthen the role of women farmers in executive committee.</p>	<ul style="list-style-type: none"> ▪ Number of leader farmers association formed. ▪ Per cent age of committee members represented by women farmers. ▪ Bylaws of the association developed by incorporating GESI approach.
		<p>iii. Ensure gender participation of smallholders and the excluded farmers in local, national and international workshops to contribute to policy debates and echo their voice in agriculture development planning and policy decision.</p>	<ul style="list-style-type: none"> ▪ Number of , smallholders and the excluded farmers focusing on gender participated in program planning and policy debates at Federal, Provincial and Local Levels

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		<p>iv. Ensure representation of women, smallholders and the excluded farmers in Farmer's Commission.</p>	<ul style="list-style-type: none"> ▪ Per cent age of commission governing board members represented by women, smallholders and the excluded farmers.
		<p>v. Strengthen coordination with MoLR and MoFALD to allow land ownership to women.</p>	<ul style="list-style-type: none"> ▪ Number of Coordination meetings and workshops. ▪ Increased per cent age of women land owners.
<p>1.5 Support food and nutrition security of the most disadvantaged groups. <u>ADS Flagship Programme:</u> Food and Nutrition Security Program (FANUSEP)</p>		<p>i. Design and implement food and nutrition security program for the most food insecure rural households, particularly, disabled, pro-poor or landless people from geographically remote regions.</p>	<ul style="list-style-type: none"> ▪ Improved food and nutrition security status of the most disadvantaged groups. ▪ Number of most disadvantaged households benefitted by the program. ▪ Reduction in per cent age of the disadvantaged people affected by stunting, underweight, wasting and low Body Mass Index (BMI)

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<p>2. Integrate GESI perspective in multiple dimensions of production activities that contribute to higher productivity such as: availability and access to improved production inputs, capitals, markets and communication; and resiliency enhancement of farmers.</p>	<p>2.1 Promote access and control of women and the poor farmers to the means of production, primarily land.</p>	<p>i. Coordinate with relevant agencies to enforce existing legislation and policies on critical land issues such as land rights and tenancy rights applicable to women and the poor.</p>	<ul style="list-style-type: none"> ▪ Number of coordination meeting and consultation with MoLR and MoFALD. ▪ Number of decisions made in favor of alternate land allocation provisions to enable women and the poor farmers access to land. ▪ Number of women farmers and the poor farmers receiving users rights certificates on available public land to use for agricultural production.
<p>ii. Raise awareness of women's rights to land.</p>			<ul style="list-style-type: none"> ▪ Number of dialogues and negotiations made by women farmers with the MoAD, MoLR and MoFALD to access land and other productive assets.
<p>iii. Promote group farming practice targeting women, smallholders and landless farmers in community land.</p>			<ul style="list-style-type: none"> ▪ Number of community farms managed by women, smallholders and landless farmers.


 CHAIRMAN

	<p>2.2 Promote access and control of women, smallholders and the poor farmers to agricultural inputs.</p>	<p>i. Continue and expand the coverage of seed subsidy program for smallholders, the poor and women farmers across the agro ecological belts</p> <p>ii. Continue and expand the coverage of transport subsidy on fertilizer for smallholders, the poor and women farmers across the agro ecological belts</p> <p>iii. Promote micro-irrigation technologies applicable to smallholders, the poor and women farmers across the agro ecological belts and make provision of subsidy on irrigation technology.</p> <p>iv. Make provision in the budget to provide time and labor saving technologies for smallholders, the poor and women farmers across the agro ecological belts.</p>	<ul style="list-style-type: none"> ▪ Per cent age of recipient of subsidy on seed represented by women, smallholders and the poor farmers across the agro ecological belts. ▪ Per cent age of recipient of subsidy on fertilizer transport represented by women, smallholders and the poor farmers across the agro ecological belts ▪ Micro-irrigation technologies are in place. ▪ Number of smallholders, the poor and women farmers benefited from the subsidized micro-irrigation program across agro ecological belts ▪ Per cent age of budget allocated to provide time and labor saving technologies for smallholders, the poor and women farmers across the agro ecological belts.
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	<p>2.3 Promote access of women, smallholders and the poor farmers to agricultural communication and information.</p>	<p>v. Promote and strengthen cooperatives including women farmers' cooperatives for ensuring access to soft loan as well as social cohesion.</p> <p>i. Ensure development and dissemination of ICT materials on production technology, inputs, markets and loans in different languages suitable for both literate and illiterate farmers to serve as many women farmers as possible from all caste, ethnicity and agro ecological belts</p> <p>ii. Promote dissemination of the MoAD GESI policies, provisions and strategy through agriculture communication program.</p> <p>iii. Ensure broadcasting of agricultural related audio/video programmes at the convenient time for women farmers, particularly evening or morning.</p>	<ul style="list-style-type: none"> ▪ Number of women cooperatives. ▪ Number of women farmers served by the cooperatives for soft loan. ▪ Number and types of ICT materials developed with GESI perspectives. ▪ Per cent age of recipients that are women, smallholders and the excluded farmers. ▪ Volume and frequency of communication programmes covering the MoAD GESI policies, provisions and strategy. ▪ Per cent age of farmers reached that are women, smallholders and the excluded farmers. ▪ Survey results on favorable time of women farmers for broadcasting agriculture related audio/video program across agro ecological belts. ▪ Per cent age of audience of the program that are
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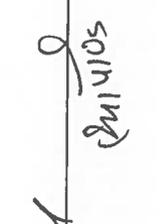

		<p>iv. Ensure that feedbacks from smallholders, the poor and women farmers across the agro ecological belts are included in agriculture communication program.</p> <p>v. Promote use of mobile applications on various agriculture production technologies.</p> <p>i. Ensure the access of women, smallholders and the poor farmers to climate smart agricultural practices.</p>	<p>women farmers.</p> <ul style="list-style-type: none"> ▪ Monitoring and feedback report on effectiveness of agriculture communication program in terms of GESI issues. ▪ Number of agriculture communication program reflecting the GESI related feedbacks. ▪ Types of mobile applications disseminated and adopted. ▪ Per cent age of users that are smallholders, the poor and women farmers. ▪ Per cent age of farmers having access to stress tolerant varieties that are women, smallholders and the poor farmers. ▪ Per cent age of farmers participated in conservation agriculture that are women, smallholders and the poor farmers. ▪ Per cent age of farmers
<p>2.4 Improve resilience of women, smallholders and the poor farmers to climate change and disasters.</p>			



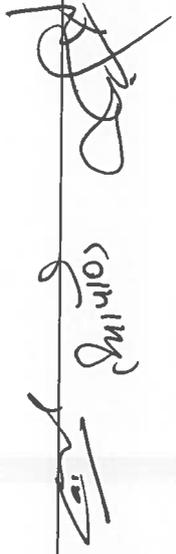

<p>through improved investment climate, tax incentives, improved agricultural value chains and market information.</p>		<p>ii. Promote community farming practice targeting women, smallholders and the poor farmers for commercial agriculture.</p> <p>iii. Adopt Farm Business School (FBS) and encourage participation of women and smallholder farmers to enhance their capacity in key concepts of agricultural commercialization.</p>	<p>farmers' cooperatives.</p> <ul style="list-style-type: none"> ▪ Number of community farms managed by women, smallholders and the poor farmers. ▪ Per cent age of participants of FBS represented by women and smallholder farmers.
<p>3.2 Make special provision to promote participation of women, smallholders and the poor farmers in contractual arrangements for commercial agriculture.</p>	<p>i. Establish a clear policy guidelines to safeguard contract farming to encourage participation of women, smallholders and the poor farmers.</p>	<ul style="list-style-type: none"> ▪ Policy guidelines on contract farming in place. ▪ Per cent age of farmers benefitting from contract farming practice that are women, smallholders and the poor. 	
<p>3.3 Ensure fair trade policy by providing tax incentives to women, smallholders and the poor farmers.</p>	<p>ii. Pilot a few model contract farms in participation of women farmers to learn lessons for wider adoption.</p> <p>i. Promote access of women, smallholders and the poor farmers to tax incentives to operate commercial farming and agribusiness.</p>	<ul style="list-style-type: none"> ▪ Number of model contract farms managed by women farmers or women farmers' cooperatives. ▪ Number of women, smallholders and the poor farmers received tax incentives. 	

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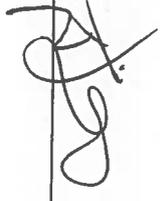
<p>3.4 Promote participation of women, smallholders and the poor farmers in agricultural insurance.</p>	<p>i. Expedite participation of women, smallholders and the poor farmers in Weather Based Crop Insurance Scheme (WBCIS).</p> <p>ii. Pilot a scheme for 50% premium subsidy for women, smallholders and the poor farmers.</p>	<ul style="list-style-type: none"> ▪ Per cent of farmers participated in WBCIS that are women, smallholders and the poor. ▪ Premium subsidy for crop insurance program is in place.
<p>3.5 Facilitate an enabling environment for maximum participation of women, smallholders and the poor farmers in agricultural value chain.</p> <p><u>ADS Flagship Programme: Value Chain Development Program (VADEP)</u></p>	<p>i. Ensure participation of women, smallholders and the poor farmers in Value Chain Programmes.</p> <p>ii. Make provision of training and capacity building programmes for women, smallholders and the poor farmers on agricultural value chain development and market information.</p> <p>iii. Encourage participation of women, smallholders and the poor farmers in improved post-harvest management and marketing of high value crops.</p>	<ul style="list-style-type: none"> ▪ Per cent of farmers participated in commodity wise Value Chain Programmes that are women, smallholders and the poor. ▪ Number of training and capacity building programmes on value chain development and market information implemented. ▪ Per cent of farmers participated in value chain development and market information trainings that are women, smallholders and the poor.
		<ul style="list-style-type: none"> ▪ Per cent of farmers participated in post-harvest handling and marketing training that are women, smallholders and the poor. ▪ Per cent of age of budget

<p>4. Enhance the competitiveness of small and medium sized agro-enterprises operated by women and the excluded farmers.</p>	<p>4.1 Provide long term business development support service to innovative small and medium agribusiness enterprises operated by women, smallholders and the excluded farmers.</p> <p><u>ADS Flagship Programme:</u> Innovation and Agro entrepreneurship Program (INAGEP)</p>	<p>i. Promote agro-entrepreneurship capacity building program for women, smallholders and the excluded farmers through training, market exposure and networking.</p> <p>ii. Provide competitive matching grant fund through which women entrepreneurs can get access to seed money for establishing agro-enterprises in rural areas.</p>	<p>allocated for post-harvest management subsidy program (cold storage, packing house, packaging materials, transportation and so on) for women, smallholders and the poor farmers.</p>
		<ul style="list-style-type: none"> ▪ Per cent age of participants of FBS represented by women and smallholder farmers (tie-up with approach 3.1, activity iii). ▪ Number of tours/market visit and networking (farmers and traders interaction) program organized for women, smallholders and the excluded farmers. 	
			<ul style="list-style-type: none"> ▪ Per cent age of budget allocated for matching grant fund. ▪ Number of women entrepreneurs participated in the matching grant fund program.



		<p>iii. Provide competitive innovation fund to scale up successful small and medium agribusiness operated by women, smallholders and the excluded farmers.</p>	<ul style="list-style-type: none"> ▪ Per cent age of budget allocated for competitive innovation fund targeting women, smallholders and the excluded farmers. ▪ Number of women entrepreneurs participated in competitive innovation fund program.
	<p>4.2 Encourage branding of products of women led agro-enterprises to promote sale in national and international markets.</p>	<p>i. Educate women entrepreneurs on importance of food safety and quality control measures and benefits of branding.</p> <p>ii. Promote Good Agricultural Practices (GAP) to improve market competitiveness of small and medium agro-enterprises operated by women, smallholders and the excluded farmers.</p>	<ul style="list-style-type: none"> ▪ Number of women entrepreneurs receiving training on food safety, quality control and branding. ▪ Per cent age of participants trained on GAP that are women, smallholders and the excluded farmers. ▪ Number of farms certified for the GAP that are managed by women, smallholders and the excluded farmers.

 (21/4/10) 

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5. GLOSSARY

Gender is a social construct that refers to relations between and among the sexes, based on their relative roles. It encompasses the economic, political, and socio-cultural attributes, constraints, and opportunities associated with being male or female. As a social construct, gender varies across cultures, is dynamic, and open to change over time. Because of the variation in gender across cultures and over time, gender roles should not be assumed but investigated. Note that “gender” is not interchangeable with “women” or “sex.” Sex is a biological construct that define males and females according to physical characteristics and reproductive capabilities. Gender and sex are not synonyms.

Gender mainstreaming is an approach to development that looks more comprehensively at the relationships between women and men in their access to and control over resources, decision making, benefits and rewards in society.

Empowerment is about men, women, and socially excluded groups gaining control over their lives by acquiring skills and abilities that enable them to make decisions, determine choices, and influence the economic, social and political orientations of their communities. The overall goal of empowerment should be a greater access to and control over public services, and to the benefits of economic growth. Empowerment is both a process and an outcome. (Source: Canadian International Development Agency-CIDA, 1994)

Gender Analysis Framework: The gender analysis framework is a tool for doing analysis of the information collected by the gender analysis conducted at the community level and at the level of implementing organization. The most popular gender analysis framework is that of Harvard gender analysis framework which consists of four analytical profiles, i.e., Development Context Profile, Gender Activity Profile, Gender Resource Profile and Gender Responsive Project Action Profile.

Gender analysis is a tool to collect data and information about the roles and relationship of women and men of all different age groups, religions, castes, culture, etc. in a given specific development context in regard to their involvement in activities, their differential access to and control over resources, services and related decision making. Gender analysis also includes assessment of the factors influencing or shaping the gender roles in a specific given community. “This is a systematic way to look at the different impacts of development on women and men. Gender analysis requires separating data by sex and understanding how labor is divided and valued. Gender analysis must be done at all stages of the development process; one must ask how a particular activity, decision or plan will affect men differently from women” (A. Rani Parker, 1993)

Gender analysis matrix: The Gender Analysis Matrix is a simple way to study different gender effects of projects on men and women. The matrix has four levels of analysis and four categories of analysis. The four levels: women, men, household (including children/family members living together), and the larger unit-community. The four categories of analysis are the potential changes in labor, time, resources and socio-economic-cultural factors, for each level of analysis.

Gender blind refers to a condition when one person does not recognize that gender is an essential determinant of the life choices to us in society.

Gender budget: A gender budget is a demonstration of its recognition of different needs, privileges, rights and obligations that women and men have in society. It recognizes the differential contribution of men and women in production of goods, services and human labor in mobilizing and distributing resources. It is a tool of analysis in which the government budget is disaggregated and the effect of expenditure and revenue policies, especially on poor women, is analyzed.

Gender dynamics refers to the relationships and interactions between and among boys, girls, women, and men. Gender dynamics are informed by socio-cultural ideas about gender and the power relationships that define them. Depending upon how they are manifested, gender dynamics can reinforce or challenge existing norms.

Gender equality means that all human beings are free to develop their personal abilities and make choices without the limitations set by strict gender roles. The different behaviours, aspirations, and needs of women and men are considered, valued and favored equally (DANIDA 2008).

Gender equity is defined as “the fair and just distribution of opportunities, rights, responsibilities and benefits between women and men in social, economic, cultural, legal and political domains. It relates to freedom of choice and equitable power-sharing between men and women” (SNV 2008).

Gender inclusion is the removal of institutional barriers and the enhancement of incentives to increase the access of diverse individuals and groups focusing on women to development opportunities. It refers to changes from above at the system level and in the external institutional environment or opportunity structure.

Gender integration refers to the process of identifying and then addressing gender differences and inequalities during program and project design, implementation, monitoring, and evaluation.

Inclusive business is “an entrepreneurial initiative promoting poverty alleviation by including

low income communities into the value chain of a company, creating a win-win situation for both company and low income communities". (SNV, Inclusive Business Guide)

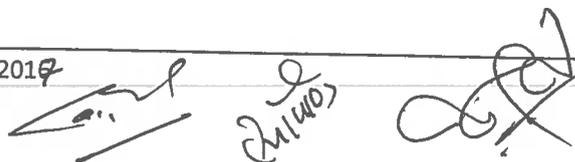
Mainstreaming gender and social inclusion is a way of ensuring that the economic and social rights of women and socially excluded groups are systematically taken into account and upheld in all spheres of development activity (policy making, programming, planning, implementing, monitoring/evaluation), and at all levels (federal, provincial and local). It also aims to ensure that appropriate financial and human resources are earmarked for this purpose.

Sex disaggregated data Reveals the different roles and responsibilities of men and women. Having data differentiated by sex is extremely important to being able to design gender sensitive projects.

Social exclusion is an institutional barrier that prevents individuals or groups from accessing to and participating in decision-making, and in exercising their rights. Such exclusionary relationships are due to the power dynamics and historical contexts on which socio-cultural and political systems are based.

Social inclusion is defined as "the removal of institutional barriers and the enhancement of incentives to increase the access of diverse individuals and groups to development opportunities". Thus, empowerment, equal and meaningful participation in decision making, access to and control over resources, benefit sharing, work load sharing and balancing power-relations, are key areas of impact to be deliberated.

Value Chain Development- "A value chain is a supply chain – a series of activities to transform natural resources, raw materials and components into a finished product - where the actors actively seek to support each other so they can increase their efficiency and competitiveness. They invest time, effort and money, and build relationships with other actors to reach a common goal of satisfying consumer needs – so they can increase their profits" (SNV, Inclusive Business Guide).

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DT GLOBAL IDEV EUROPE S.L.



Capacity Needs Assessment of the Municipalities and provincial agricultural institutions

Technical Cooperation Facility (TCF) to the Agriculture Development Strategy (ADS)

May 2022

This Project is funded by
The European Union



Technical Cooperation Facility (TCF) to the Agriculture Development Strategy (ADS)



In consortium with



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List of Acronyms

ABPSTC	Agribusiness Promotion Service & Training Centre
ADS	Agriculture Development Strategy
AKC	Agriculture Knowledge Centre
CNA	Capacity Needs Assessment
DCC	District Coordination Committee
EU TCF to ADS	EU Technical Cooperation Facility to Agriculture Development Strategy
GAP	Good Agricultural Practice
LGOA	Local Government Operation Act
LDTA	Local Development Training Academy
MoFAGA	Ministry of Federal Affairs and General Administration
MoALD	Ministry of Agriculture and Livestock Development
MoF	Ministry of Finance
MoLMAC	Ministry of Land Management, Agriculture and Cooperatives
NPC	National Planning Commission
PLGSP	Province and Local Governance Support Project
PPPC	Provincial Policy and Planning Commission
UNDP	United Nations Development Program
VDC	Village Development Committees
VHLSEC	Veterinary Hospital and Livestock Services Expert Centre

Executive Summary

Introduction

Implementing the shift to federalism in Nepal is a mammoth task – one that only a few low-income countries around the world have attempted. It is especially challenging in Nepal where the administrative capacities of provincial and local governments to deliver and manage services are still in its formative stages and where the federal government has little experience with managing an intergovernmental system.

This study was carried out under the auspices of the TCF to ADS project to assess challenges and opportunities in implementing the 2015 Agricultural Development Strategy. The core work of this study (Capacity Needs Assessment, or CNA) has two parts. The first is to examine and identify the gap between the needs and the capacity of provincial and local governments to manage their service responsibilities to develop the agriculture sector under the federal system. The second is to examine and assess the capacity of the federal and provincial government to regulate and manage the way the federalism transition has been rolled out along the three tiers of government and their capacity to manage the system, thereafter. Both components use a broad definition of capacity, including organizational (physical and human) and institutional (laws and regulations) elements. The needs and capacities of the provinces and municipalities include the planning and policy making processes, service delivery and implementation, coordination mechanisms and collaboration, management of human resources, budgeting, logistics and facilities (equipment, office and meeting space, physical facilities,) and the planning, monitoring and evaluation systems. Checklists of questions were prepared around these topics and enumerators were used to conduct sample surveys of selected local municipalities (20 municipalities per province) reflecting the agro-ecological and socio-economic diversity of the seven provinces of the country. Interviews were conducted at local government level with municipality officials - Mayors/Chairmen, Vice Chairmen/Deputy Mayors, Chief Administrative officers, technical staff, and planning unit and accounts section staff. This analysis also addresses the administrative and budgetary issues facing individual provincial or local governments that impact on the agri-food sector. The results of this work and the purpose of this analysis should help accelerate the transition to the new federal system and help in identifying next steps in implementation. The analysis in this report covers the period to December 31st, 2021 and so important initiatives enacted and completed after that time are not included.

Implementation Issues

Much has been accomplished since 2015. Elected sub-national governments are functioning, gender diverse and inclusive local assemblies are doing business along the lines suggested by the Constitution of Nepal, 2015 (2072), and budgets have been approved and audited. At the federal level, several framework laws have been passed and the initial phase of staff adjustment at the provincial and local levels has been completed. But there is much still to be done. Implementation at the relatively nascent local level has also posed a challenge. There was a general push to move ahead with local self-governance even though elected provincial and local government officials, and many voters, were not yet familiar with their new powers and responsibilities. The transition to federalism has also been constrained as it went forward without the benefit of a comprehensive implementation plan or a timetable for sequencing the introduction of new policies.

The Legal Framework

For Nepali federalism to be implemented successfully, a significant amount of framework legislation is required. This includes laws to assign expenditure, revenue, and public management responsibilities among the three spheres of government and to enable the issuance of necessary laws relating to better intra-provincial and inter-tier coordination and civil service employment. Much has been accomplished, but the time it has taken to pass or amend some national framework and operations legislation has contributed to a lack of clarity in the division of responsibilities and powers of the different levels of government, uncertainties about operating procedures, and an inability of local and provincial governments to deliver on all of their new responsibilities. The Civil Servant Adjustment Act, passed in 2019 and the federal civil service law are aimed at empowering provincial public service commissions to recruit and hire employees has gone some way towards redressing the situation. Other key acts impacting at provincial and local level include the Local Government Operation Act (LGOA), 2074, the provincial Public Service Commission Act, 2075, the Employees Adjustment Act, 2075, and the FPLL Coordination and Inter-relation Act 2077. LOGA specifies local government functions and powers and provides a basic structure for the working of municipal assemblies. In many municipalities, however, preparation of Acts have been stalled owing to the lack of adequate capacity of the political representatives to deal with the legal matters and a lack of human resource possessing a legal background. The passage of provincial and local laws

is a challenge because the skills and capacity of professional and technical staff at the sub-national government level are limited.

Devolution of Responsibilities

The Constitution assigns important functional responsibilities to provincial and local governments and significant autonomy in deciding how services will be delivered. To date, the new system is characterized by a combination of devolution of some powers to sub-national government and retention of others by the federal government. A centrepiece of the Nepal strategy for implementing devolution would appear to be a shift of employees from the federal government service to those provincial and local governments where service responsibility is now assigned. The civil service adjustment program has not resulted in completely filling the capacity-needs gap of sub-federal governments in this initial level of employment devolution. Neither has it provided enough initial management capacity, with the right skills, to meet the needs of provincial and local governments for inclusive and sustainable agricultural development.

Institutional and Organizational Arrangements

The Constitution calls for the empowerment of three institutions that are particularly important to moving the implementation of federalism forward: i) the Provincial Public service commissions, to recruit civil service staff; ii) the Inter-Provincial Council (IPC) to settle disputes of a political nature between the federation and province and among provinces; and iii) the National Natural Resources and Fiscal Commission charged with recommending/determining the distribution of revenues to provincial and local governments.

The different tiers of government have authority over different aspects of agriculture, and this requires high levels of horizontal and vertical coordination. Some of the powers designated amongst the three tiers, overlap and continue to do so. A particular concern is the lack of coordination and linkages among agricultural programmes at sub-national units of government, resulting in duplication, overlap and mismatch of activities locally. The situation is, at least partly, a result also of constitutional provisions. While the Constitution broadly defines the agricultural functions of the three tiers, the formulation makes it difficult to clearly identify or demarcate their boundaries. For example, while “agricultural extension” is deemed the sole function of Municipalities, “agricultural development”, which also covers agricultural extension, is stated as a function of both provincial and federal governments. The situation is exacerbated by lack of clear mechanisms or channels for sharing of information on agricultural programmes and activities of the three tiers, on a regular and timely basis. Greater clarity is needed of the role of each of the tiers. There is, further, broad recognition of the need to foster effective linkages among and between the different tiers of government.

At municipality level better coordination mechanisms are needed between the municipality and the staff and activities of the ward level- the lowest unit within the federal structure in addressing demands and needs of the rural communities.

Lastly, as a result of federalisation the differentiation between research and extension and the crop and livestock sectors continues. No efforts are being made to realign the research and extension system at provincial and municipality level and this deficiency still looms high. The AKC and VHLSEC service centre models, developed at district level, work independently of each other, with little coordination and collaboration.

Capacity Building and Training

Provincial level

The expected staff level, including service delivery employees, in the seven provincial governments is about 21,000, and in the 753 local governments, around 66,000. There are about 37,000 newly elected local government officers, and 550 elected provincial government officials. Retooling employees and management in Nepal and educating lawmakers about their new duties is a tremendous job, and expensive.

To date, no plan has been developed to address the public sector training needs of the country. That is to say, there is not yet a plan that lays out the kind of training and capacity building that is necessary for government officials in the federal system. Nor is there an estimate of how much it might cost to put such a capacity development system or an institutional arrangement in place to accommodate this level of training. The CNA study gives a picture of the magnitude of the needs for capacity development at the provincial and local level and is a step towards producing a comprehensive plan.

Municipality level

A major challenge at municipality level is that the local authorities do not have adequate human and logistical resources to achieve their agriculture mandate. The new structure is for Local Agriculture Units to be established with a complement of 4 crop and 5 or more livestock extension technicians. Whilst this represents a normative structure for the number of extension workers required at local level, in the majority of municipalities the current complement of staff positions is well below this target. In most cases the agricultural staff consist of only one or two persons. A broad overview of the new structure suggests that, in terms of staff strength, the system is top-heavy and bottom-weak. The majority of the higher qualified class 2 and 3 officers have been placed at the central and provincial levels and tend to focus on the crop sector. Livestock is inadequately served. Moreover, the capacity and skills of those officers and technicians in place are exceptionally weak. The capacity of local staff to plan and implement their own agricultural activities, as well as to facilitate, monitor, evaluate, and regulate the agricultural development activities of other actors (e.g. farmer groups, cooperatives, and private sector entities) has a direct impact on the preparation and implementation of local plans.

Budgetary Management

Provincial and local governments in Nepal are heavily dependent on inter-governmental transfers to finance their budgets. The Constitution makes room for locally raised revenues, and even borrowing, but outside the larger urban areas, neither of these are likely to soon become major sources of revenue. National revenue mobilization has been buoyant and GDP has been rising, so the level of inter-governmental transfers within the federal system has risen to meet sub-national government needs. The costs of managing provincial and local governments and of delivering services will increase as the full complement of provincial and local government employees are recruited and placed, training and capacity building absorbs significant revenues, the demands rise for better services at the local level and infrastructure deficits are addressed.

Most local governments have an annual capital budget that lists projects by sector and ward. However, most municipalities and rural municipalities have not prepared local development plans. Most local governments have not received training on medium-term budgetary-expenditure frameworks (MTEF). However, under the TCF-ADS local mayors and their senior administrative staff, together with the technicians responsible for agriculture and livestock extension were trained in agricultural planning and M&E.

Public financial management practices are still developing in the 753 local governments. Most rural municipalities, however, use Excel to make budget estimates. Over 80 percent of the local governments have a functional procurement unit aligned to the Federal Procurement Act. However, nearly all local governments feel that they have the capacity to conduct all forms of procurement except international bidding, but only one half of municipalities and two thirds of rural municipalities say that they can assess vendor performance.

In general, since the promulgation of the new constitution and thereby a new political structure with greater autonomy, power and resources, the agriculture and livestock sector has received more resources which were not formerly available.

Planning, M&E

At local government level, there are designated planning units but trained human resources are sparse. According to the directives of the local level planning and budget formulation guidelines (2074), municipalities are required to prepare annual and long-term budgets, plans and programmes. Municipalities have been requested to follow the procedures laid out in the "7 step planning process," prepared by the NPC and MoFAGA to formulate the annual program and budget for each fiscal year. These planning steps engage participatory and consultative processes by involving all the relevant stakeholders e.g. farmers, farmers groups, cooperatives, NGOs. However, the steps are not always strictly followed in practice and too frequently, annual activities are selected largely with political discretion. As per the mandatory provisions of the local governance Act, over the years women's participation in overall policy making and planning processes has expanded and has provided a new dimension of gender mainstreaming in all developmental activities at local level. The priorities for development tend towards infrastructure (water, road and energy related), rather than farm household level food security concerns. This observation has been supported by a study carried out by The

Asia Foundation, that recognized infrastructure as the biggest problem in local areas and agriculture related activities were hardly mentioned¹.

A further weakness at both the provincial and municipality level is the disruption caused by the federal structure to the collection, compilation, and analysis of agricultural data necessary for planning, monitoring, and evaluation. Within the current system there is no clarity of the roles and information channels of different institutions of the various tiers of government for agricultural data generation.

Similar to the weaknesses of planning, there are no strong M&E units at municipality level. The monitoring, supervision, and evaluation of agricultural programme activities lies within the mandate and function of the municipal authorities but there is an absence of clear processes. At provincial level, the Agriculture Development Directorate (ADD) and Livestock and Fisheries Development Directorate (LFDD) have been given the mandate to monitor programmes implemented by the district-based offices under them but are not adequately equipped with staff and logistic facilities to carry out this function in a timely and effective manner. On the subject of reporting from one level to another (from local to provincial level, and from provincial to federal level), neither the municipal agencies nor the provincial agencies are clear on the communication lines for reports and whether reporting is to be a part of their mandate and responsibility. An optimistic sign, however, is that funds are beginning to be set aside annually in many local governments, to monitor program activities which are expected to be conducted towards the end of the fiscal year.

Capacity Needs Assessment for Provincial and Local Governments

The CNA carried out field work to better understand the current state of operations and finances and to get a general sense of the capacities of the sub-national governments to manage and deliver local public services. While there are differences between the levels and among the units of sub-national government, the study results identify a number of capacity gaps that appear to be widespread. As pointed out above, both provincial and local governments generally have the basic capacity to “keep the lights on.” This is commendable given that some of those government units were created from scratch over the past four years. However, when it comes to the quality of local management, a number of critical elements are missing in many, if not a majority, of jurisdictions. Six such areas emerged from the study: 1) periodic (medium-term) planning; 2) monitoring and evaluation; 3) farmer registration; 4) procurement; 5) governance, management performance of organizational units and individuals and coordination; and 6) GESI.

Physical infrastructure

More than one half of the municipalities rent at least some of their buildings. Most provincial governments are using rent-free buildings owned by other levels of government. Practically all provinces felt that their buildings cannot accommodate assembly meetings and many would have had difficulties accommodating a cabinet meeting. For provincial staff, their current office space seems adequate, but this advantage will dissipate as they become fully staffed.

There are also significant variations among local governments in terms of essential support services and office amenities. All urban and peri-urban cities and towns are connected to the national power grid and have significant generator backup, but scores of municipalities and rural municipalities, especially those in the mountainous ecological zone, are not connected to the national power grid. Local governments are largely connected to the internet and have computers and printers albeit in quantities inadequate for the present staff counts. Provincial governments have better access to office amenities, public utilities and the internet, though there is some variation across the provinces. Rural municipalities depend more heavily on cell phones, which are commonly reported as unreliable in the mountainous ecological zone. The situation in provincial governments is better, with all having internet connections and a sufficient number of computers. However, this will change as vacant positions become filled. No data management systems are available except those used for budget and accounting purposes.

¹ Respondents to the TAF survey identified local problems and challenges as follows: roads (49.2%), drinking water (26.6%), difficulty in finding work/making a living (16.3%), lack of electricity (12.5%), access to affordable healthcare (7.4%), and poor education access (6.3%) without mentioning problems of agriculture (TAF, 2018).

Human Resources Management

Seconded staff fill fewer than one half of the available positions in local government offices. More positions are filled with contractual staff and those carried over from the local government bodies that previously existed. However, the latter tend to be either general public administration or support staff. As a result, many high-skilled technical support positions for agriculture and livestock development are vacant. There is a particularly high vacancy rate for economists; almost one half nationwide and over two thirds in the sub-metropolitan towns. Surprisingly, vacancy rates increase with the level of urbanization.

Almost all local governments have written job descriptions available for all positions envisioned in their organizational structure, however periodic review is rarely assessed. Less than one third of local governments report having their own laws/policies for managing their staff, in terms of leave approval, performance appraisal, reporting rules, etc. Local governments follow staff performance review mechanisms mainly for the contractual staff.

While the organizational structures are more or less uniform across provincial administrations, there are differences in vacancy rates, ranging from one quarter of approved positions to one half. Across provinces, this adds up to about 1,000 vacant positions in public administration (excluding service centers such as veterinarian clinics). Most of the existing staff are contractual, used primarily for support roles such as office assistants and drivers, but a few are more skilled employees, such as computer operators.

Since all provincial administrations are currently staffed with civil servants seconded from the national government, policy/guidelines for managing their staff are yet to be prepared and instead tend to follow federal policies. However, some provinces have developed their own policies for managing contractual staff. Most provinces have descriptions of roles and responsibilities for various sections within the provincial ministries and many provinces are in the process of developing job descriptions for individual positions.

Transport and Logistics

Transport and logistics are used broadly to refer to the process of coordinating and moving resources – people, materials, inventory, and equipment – from one location to storage at the desired destination. According to the constitutional provisions, responsibility now lies with the local government to provide basic and essential services that are of direct concern to the people. In order to operate the services smoothly and effectively, an effective system of logistics and facilities such as roads, storage, transport facilities and materials handling, are prerequisites. The transport situation varies between the municipalities but all in all they are not major factors to impede on the performance of the sector. The most common finding is that the municipalities having connection with roads have procured motorbikes and scooters for the field level extension workers and are made available to them when needed, although not all the employees have equal access for use. Most of the municipalities have provisioned computers and internet connections for each section and staff with computer skills do have access to them. Reporting and communication are commonly done through email. Apart from the positive side of the logistics, frequent interruptions of power supply, lack of backup system, limited access to computers, irregular internet and lack of essential agriculture or livestock related equipment are the common challenges faced by staff. However, common gaps in logistics and facilities reported at municipality levels are a lack/shortage of physical infrastructure facilities, unavailability of transportation facilities for field staff in particular, a lack of office and meeting hall space, as a venue for training, and a lack of availability of required materials for animal health and livestock development as well as chemicals and equipment for laboratories and testing facilities.

Extension and Research

Agriculture and livestock at municipality level involves the provision of inputs and materials and technical advice for the adoption and dissemination of agricultural technologies. The Municipalities support farmers by providing the new technology and services, incentives on production inputs and machinery, improved animal breeds/seeds, marketing arrangements for agriculture/livestock products, trainings for capacity improvement and incentives for the transport of agricultural commodities. Information on new technologies are provided through mass media and in particular, local FM radio as well as personal contact with municipality crop and livestock technicians. Farmers expect support in the provision of inputs such as seed and fertilizer but the municipalities have difficulty providing inputs in a timely manner. For some years now, there have been severed linkages between municipalities and district centres. The frequency of contact and networking has also been

limited due to scarce human resources at the AKCs and VHLECs, the reduction in the number of AKCs in some districts, and disconnection of formal communication mechanism between the provincial and local governments. Almost all the municipalities have poor access to the research and extension system and municipalities do not conduct agricultural research by themselves. Also, there are no formal horizontal and vertical coordination mechanisms for technical dialogues to be held with research institutions, the extension service, and farmer's institutions at local level resulting in a communication barrier between front line technicians and subject matter experts (research, extension).

However, municipalities understand that the agriculture sector could be improved with the introduction of new technologies and resources and improving the technical capability of farmers through trainings in IPM, soil health management and animal health. Access to advisory services by farmers could also be improved by establishing Community Agriculture Extension Services Centres.

Accountability and Transparency

The results of the survey show that local governments tend to make their executive decisions public by using their websites and social media. Rural municipalities make heaviest use of notice boards. Most local governments, large and small, inform citizens about the availability of public services through their citizen's charter and through their website. Most local governments report engaging with public institutions and civil society when preparing their annual budgets.

Provincial governments use a variety of methods to make public their decisions, most commonly through websites and press releases. There are also designated information officers in each ministry. However, no province has prepared a Provincial Government Citizen Guide informing residents how to access provincial services. While expenditure statements are published on the provincial government websites at least quarterly. While most provinces have some mechanism for responding to citizen grievances, its utilization and response rates varies. Some feedback mechanisms have been set up at provincial and local level.

Development partner support to agriculture development

There is various donor funded agricultural projects and activities at provincial and local level either implemented by government agencies or through I/NGOs or combinations of both. Development partners have tended to adopt their own approaches for the implementation of activities and these have often been unsynchronized, coordinated and shared. A donor supported – Joint Sector Review – mechanism has been established at federal level to better coordinate agriculture related interventions funded by development partners with the strategies and programmes of government at all levels of the federal system. Coordination with other agriculture projects is pivotal to optimize resources and avoid duplication of efforts in the ADS roll-out process. This platform has the potential to maximize the outcomes and impact of this initiative.

Development partner assistance related to the implementation of federalism and the development of sub-national government has focused on capacity development, institutional development, and equity/social inclusion issues. There is good continuity in the work programs and there still is a significant pipeline of work. Counterparts in government have included several ministries, and more than 20 development partners have been involved.

Because the various development partners do things in such different ways and because they cover a wide range of issues, cooperation and coordination of their activities are important. The evidence reviewed in this report suggests that development partners are increasingly collaborating in productive ways, with a sharing of ideas and resources, joint field work, and co-funding of projects. An International Development Partners Group (IDPG) for Food Security meets regularly and is well attended, with a specific Technical Working Group focusing on coordination and knowledge sharing in this space.

Conclusions

This CNA study has led us to five general conclusions. First, the readjustment of the staff working in the agriculture and livestock sectors at all levels of government is recognized as not providing adequate management or service delivery capacity to address the needs and demands of the farming households in particular at municipality level. Whilst, only a large contingent of federal ministry employees were designated for transfer to provincial governments, there is still a disparity between the staffing at provincial and municipality level, with lower level, less skilled staff designated to municipality level. An improvement, however, has been

the authority given to the municipality to recruit additional technical staff. With respect to agricultural extension this reality further supports the need for a pluralistic approach to advisory services by complementing the cadre of public sector extension workers with private sector service providers.

Second, the provincial and local governments are not yet fully empowered to successfully implement federalism. Although the provincial public service commissions have been given full authority through legislation to take up their recruitment and hiring duties this process has in general been hampered by bureaucratic procedures.

Third, the results from this study show that while local governments are functioning, there is wide variation in the absorptive capacity between the different types of municipalities and their geographic locations and access. In many of the more remote hill and mountain-based municipalities staff is an issue as well as the capacity to service the community, effectively. Much of the staff is not well trained in their technical duties, important procedures are not yet in place, planning and M&E practices are not very advanced, the management of service delivery personnel is weak, and physical facilities are often inadequate.

Fourth, despite the significant deficits in the skill level of many provincial and local government staff, a new institutional arrangement for capacity building and training has not yet emerged. This is an important problem because many municipality staff members are new to their assigned jobs, and many have not been able to take advantage of skill and management training, although the TCF has made an important contribution through its training programme to improve their data collection, planning and M&E skills. This achievement, however, cannot be realized through a once off, 3 to 4 day course but rather as part of a more comprehensive capacity development programme together with a system of mentoring and provision of backstopping support.

Fifth, the coordination mechanism at district level linking AKCs/VHLSECs to the local municipalities is crucial to ensure coherence between research and extension as well as providing the subject matter support to front line agricultural and livestock technicians at municipality level. More support is needed to strengthen the coordination mechanism and provide a functional linkage between the province (district) and the municipalities. The institutionalization of this process will require subsequent budgetary allocations for implementation.

Recommendations

The next critical step for Nepal is to implement the Capacity Development Plan (roadmap), which features a sequenced federal and sub-national government action plan: an implementation calendar with a well-defined and realistic timeline. It is important that the relevant stakeholders within the three tiers of government in Nepal own and operate the implementation plan. Development partners can assist in developing required capacity and in laying out guidelines for making some of the most important decisions about the plan. The roadmap itself should be jointly determined and implemented by the three levels of government. The capacity development plan includes a timetable for implementation accompanied by administrative requirements. The implementation process should be transparent and amended on a regular basis.

Supporting activities that should form part of the capacity development plan for the sector are as follows:

1. A forum of governments (possibly the federal government, the provincial governments, and representatives of municipal-rural local governments) should come together to provide consensus for its implementation.
2. The legal framework that empowers provincial and local governments to adequately deliver and manage services should be assessed and gaps identified for further work to be undertaken.
3. Operationalization of the National and Provincial Coordination Frameworks for ADS and PADS should be established and implemented.
4. The national/provincial plan and the institutional arrangements for training and capacity-building should be adopted and begin functioning as soon as possible.
5. Assignment of expenditure responsibilities to provincial and local governments should be clarified in terms of which level of government should have responsibilities for which functions.
6. Efforts should be made to continue developing the technical database (data compendium) at both municipality and provincial level for better planning. M&E system should be implemented to monitor and evaluate the fiscal

and economic performance of sub-national governments. The overall framework for data collection and dissemination needs to be designed in order to support decision making at all three levels of government.

Sub-national governments can self-help the federalization process, even without actions by the federal government, by engaging in actions such as developing a planning and M&E unit, collecting and designing a database and disseminating information to other municipalities and the wider public, identifying staff training needs and implementing improved coordination mechanisms within provinces and municipalities. Sub-national governments should put in place a self-monitoring system to enable reporting their progress.

Chapter 1: Introduction

Under the Constitution of Nepal, 2015 provincial and local governments have been entrusted with significant responsibilities towards ensuring public service delivery. Its effectiveness, consequently, plays a crucial role in the success of the federal system. The constitution has guaranteed adequate autonomy by providing legislative, executive and judicial powers to all levels of the state structures based on the principles of co-operation, co-existence and co-ordination. The capacity need assessment was carried out to assess the existing capacity of the municipalities in terms of planning, implementation, human resources and their management, budgeting, monitoring and evaluation for agriculture development. The purpose of this assessment was to identify the existing capacity, weaknesses and opportunities prevailing at municipality level and the possible contribution of the project (TCF to ADS) to exploit this opportunity. This exercise is important because under the federal system of governance, the municipalities are mandated for agriculture development but newly established institutions do not have the required resources, technical capacity and coordination ability to drive the process forward and as a result require external stimulus and resources to move ahead. It is hoped that the findings of this assessment will identify the critical needs, opportunities, and approaches to address these existing constraints.

Furthermore, autonomy has been ensured that within the jurisdiction of the constitution of Nepal, local level government can exercise their state power with necessary organizational structures in place to function as a distinct government entity “on their own”. As according to Part 5 of the Constitution of Nepal, Restructuring of the State and the Distribution of State Power, Article 56, has defined the structure of the state, and under Parts 17, 18 and 19 has, respectively, provisioned for the local executive, local legislature and local financial procedures. In schedule 8 of the Constitution the list of Powers/Jurisdiction for local level government has been demarcated as covering: cooperatives, local statistics and record keeping, local development projects and programs, management of local markets, environment conservation and biological diversity, management of local records, distribution of land, building ownership certificates, farming and livestock, agriculture production management, livestock health, cooperative, management, operation and control of agriculture extension, drinking water, small electricity projects and alternative energy. Schedule 9 of the Constitution provides the list of concurrent powers/jurisdiction for federal, province and local Level, which include: cooperatives, education, health and newspapers/magazines, agriculture, and services - electricity, drinking water and irrigation.

Capacity development

Capacity development is defined as the process through which individuals, organizations and societies obtain, strengthen and maintain the capabilities to set and achieve their own development objectives over time. Capacity development is not a one-off intervention but an iterative process of design-application-learning-adjustment.²

UNDP (2008): Capacity Assessment Methodology User’s Guide

This study is the first step in this direction with the aim of gaining a better understanding about the current capacity, needs and recommending way forward actions for mitigating the gaps in the overall capacity development of the municipalities in the development of the agricultural sector. The Capacity Needs Assessment (CNA) can also provide a valuable baseline for creating a solid foundation for a systematic long-term planning, implementation and sustainable results.

Municipalities are at the proximity with the people, hence they are the backbone for the strengthened democracy of Nepal³. The Constitution has assigned important functional responsibilities to provincial and local governments and mandates that they have significant autonomy in deciding how services will be delivered. Municipalities, consequently, have the authority to formulate their Acts and regulations within the purview of the Constitution. With the introduction of the federalized governance system in the country, development planning has been a new opportunity for the municipalities as they are now fully authorized to identify their needs and prioritize their actions accordingly for the greater benefit of the people. However, at times, it has been a new challenge for effective planning, implementation, monitoring and the proper utilization of the scarce resources of the country given their prevailing capacity.

²UNDP (2008): Capacity Assessment Methodology User’s Guide.

³स्थानीय तहको क्षमता आवश्यकता पहिचान अध्ययन प्रतिवेदन (In English: Study Report on Local Level Capacity Needs Assessment and Identification, MoFAGA, 2078).

This study attempts to assess the extent to which the institutional, legal, political, and fiscal frameworks are in place and the critical issues that must be addressed in establishing these frameworks to enable local and provincial governments to discharge their development mandates. The study examines the key challenges that the local and provincial governments are currently facing in this early phase of the transition and draws out a set of actions based on the findings and insights thus obtained while interfacing various officials and stakeholders. In this regard, although despite the mobility constraints during the COVID to the municipalities, CNA has been conducted in around 20 municipalities in all provinces to assess their current financial, technical and human capacities and resources, coordination mechanisms and potentials for agricultural development.

Chapter 2 Objectives and methodology

2.1 Objective

The primary objective of the needs assessment is to understand better the institutional, organizational and systemic needs of provincial and local government given their new functional assignments, and those of the federal government related to its responsibilities for managing the intergovernmental system.

From the content of the report the immediate objectives are as follows:

- (1) To map and take stock of the institutions, infrastructure, resources and processes at provincial and municipality levels
- (2) To identify needs, gaps and opportunities to strengthen and support agricultural development efforts at sub-national level
- (3) To make recommendations and prepare a road map for capacity development at provincial and municipality level

The needs and capacities of the municipalities assessed here include the planning and policy making processes, service delivery and implementation, coordination mechanisms and collaboration, management of the human resources, support services, budgeting, logistics and facilities (equipment, office and meeting space, physical facilities, training, and the like) and the planning, monitoring and evaluation systems.

2.2 Methodology:

A Methodology for conducting capacity needs assessments was developed that is systematic, participatory and adaptable. The methodology provided a structure for administering the capacity assessment exercise and the capacity development agenda more generally. The methodology involved:

Preparation of a checklist: This consisted of the preparation of a rigorous, yet simple to follow, checklist in order to guide enumerators in eliciting the relevant information required. The checklist was translated into Nepali for distribution at Municipality level. Initially, it was planned that the ADS experts would visit selected municipalities to complete the CNA checklist talking one on one with the officials of municipalities but because of the fast spread of COVID -19 and imposition of lockdown, travelling became limited. It was ultimately decided to complete the CNA checklist with the help of local enumerators from each of the selected municipalities with regular support from the TCF team. Soft copies of the checklists were sent to the enumerators by mail with clearly defined instructions as how to administer. Regular follow ups were made by the ADS experts to ensure the quality and content of the information.

The CNA Checklist consists of key questions on the human resources, infrastructure, coordination mechanism, program planning, budget allocation, implementation modality, partnerships, potentialities and challenges of agriculture and livestock sector in the municipality.

Selection of Municipalities: Initially, it was decided to conduct the CNA in (purposively) selected 10 Municipalities in each province. Selection was largely carried out in close consultation with the respective municipalities and MoLMACs. A good balance of agro-ecological zones is maintained in the selection so that the findings from the study could be generalized to those municipalities having similar agro-ecological features. Furthermore, the selected municipalities reflect and represent the diversity of Nepal in terms of ecological zones, development regions, and provinces, rural and urban settings. Some 20 municipalities were selected from each of the 7 provinces. The list of the Municipalities is provided in the Annex 1.

Collection, compilation and analysis of data and information: Basically the information was collected by interviewing the municipality officials - : Mayors/Chairmen, Vice Chairmen/deputy mayors, chief administrative officers (CAO), technical staff, and the planning unit and accounts section. Municipality websites were also used to gather additional information.

Limitations:

This study covers some 20 selected municipalities of Nepal (in some provinces it is less than targeted), purposively selected whilst maintaining the geographic balance in the country. The municipality data should be treated as case study data and as such the results cannot be inferred more generally in a strict statistical sense. The finding and recommendations generated are mainly for the purpose of comparison across municipalities and provinces.

Chapter 3: Overview of Provincial Institutions and Municipalities

3.1 Constitutional provision:

The Constitution of Nepal has adopted a three tier-system of federalism in which the exclusive and concurrent functions and powers of the federal, provincial, and local levels are allocated in Annexes 5-9. The provinces of Nepal were formed according to Schedule 4 of the Constitution of Nepal. These functions were further unbundled by the Government of Nepal (GoN) through an executive decision. The Allocation of Business Rules of the federal and provincial governments details ministry-wise functions at their respective levels. The functions and powers of local governments are enacted through the Local Government Operation Act, 2074. The Constitution provides federal, provincial, and local levels 35, 21, and 22 exclusive powers, respectively. The federal and provincial levels share 25 concurrent powers, while the federal, provincial, and local levels share 15 concurrent powers.

There are seven provinces, namely Province 1, Madhesh Pradesh, Bagamati, Gandaki, Lumbini, Karnali and Sudur Paschim. The Constitution of Nepal, part 20 describe the interrelations between federal, province and local level governments. The article 231 states about the legislative interrelations between federal and states. Similarly Article 232 says that the relations between the federal, states and local level shall be based on the principles of cooperation, coexistence and coordination. The executive power of the provinces, pursuant to the constitution and laws, is vested in the council of ministers of the province. The administrative divisions of Nepal are sub-national administrative units of Nepal. The first level of country subdivision of Nepal are the provinces. Each province is further subdivided into districts, each district into municipalities and rural municipalities, and each of those municipalities into wards. Before 2015, instead of provinces, Nepal was divided into developmental regions and administrative zones. Provinces are further divided into 77 districts. Each districts is governed by a District Coordination Committee with much less power in relation to former district development committee (DDC). Except Madhesh Province with all its districts located in the southern plains of the country known as the terai, other provinces comprise diverse agro-ecological areas stretching north-south connecting hills, high mountains and terai (except Karmnali Province). Restructuring of the state into local, provincial and federal level has brought both challenges and opportunities for the development. Now all levels of government can devise their own policies and plans to deliver good governance, prosperity and development to the people.

3.2 The Ministry of Land Management, Agriculture and Cooperatives and its organizational structure:

In this section, it is aimed to briefly highlight the organizational structure of the MoLMAC- which has by and large the similar function and structure across all the provinces, albeit, these are always in a state of flux.

The Ministry of Land Management, Agriculture and Cooperatives (MoLMAC)⁴ is the key organization in the province to lead the agriculture sector. In each MoLMAC there are two directorates; 1) Directorate of Agriculture Development (DoAD); and, 2) Directorate of Livestock & Fishery Development (DoLFD). Under these two directorates there are Agribusiness Promotion Service & Training Centre (ABPSTC) and Livestock Service Training Centre (LSTC). In Karnali province agriculture and livestock training centres are combined. Furthermore, there are 52 Agriculture Knowledge Centre (AKC), and 48 Veterinary Hospital & Livestock Services Expert Centre (VHLSEC) at district levels. Likewise, there are various subject specific laboratories such as soil, seed, animal health; fishery development farm, vegetable germ plasm conservation and seed production farm working under the MoLMACs. At the Palika level, under the economic development section, agriculture and livestock units are established to carry out the agriculture and livestock development activities under the municipality level. However, there is no clear linkages of coordination and mechanism for collaboration except these occur on ad-hoc or personal terms.

Apart from provincial level and local level institutions there are few other agricultural institutions across the province, which are directly governed by federal level, for e.g. Prime Minister Agricultural Modernization Project (PMAMP) considered as a flagship program emanated from ADS. Under the PMAMP, there are Super Zones and Zones consisting of different potential commodities in each district of province. There are three more other government institutions under the federal level which are Livestock Disease Investigation Laboratory, National

⁴Some of the provincial ministries have recently changed their name.

Livestock Breeding Office and Fishery Development Centre in the Province. Details of these institutions, their roles, responsibilities and relation with different institutions are described in the sections that follow.

Regarding the coordination mechanism among plethora of institutions among three tiers of government, it rather seemed to be ambiguous, however, after the enactment of the FPLL Act 2077, these anomalies may disappear and there will be renewed coordination functions to connect each level of government as per their jurisdiction. Similarly, District Coordination Committee (DCC) has the role of coordination among the local level of each district, this is yet to be strengthened.

3.3 Agriculture related institutions in the Provinces

Province 1:

In the province, the Ministry of Land Management, Agriculture and Cooperative (MoLMAC) is the key organization. Major institutions under the ministry are already described in the section above. In this province there are 14 districts, however the numbers of AKC and VHLSEC are 11 and 8 respectively, indicating the fact that the coverage from these institutions are rather limited. Under the MoLMAC management, there are four laboratories, two horticulture centers, two silk processing centers and one cooperative academy operating.

Besides MoLMAC agencies, some other agencies on agriculture related sector include: Nepal Agricultural Services Development Programme (NASDP) funded by SDC/Helvetas. NASDP works with municipalities, building their capacities to respond to farmers, particularly women and other disadvantaged groups to ensure that they obtain the support they need. Likewise, Helvetas is implementing Prayas project to support the process of decentralization of the government extension and research system. Another notable project is Rural Enterprise and Remittance (RER)/SAMRIDDHI, which is an IFAD-funded project that aims at providing sustainable sources of income to poor households, migrant families and returnees by supporting the creation and expansion of family, micro, small and medium rural enterprises, both in the farming and off-farming sectors.

Madhesh Province:

Besides MoLMAC and related agencies, a total of 24 federal level institutions are operating in this province covering livestock and plant quarantine offices and check posts, laboratories, food technology and quality control, resource centers, livestock reproduction office, agriculture mechanization promotion center, horticulture development center and fisheries resource development and technology testing center. These federal institutions work on their own without any collaboration with the provincial government and/or institutions. Likewise, this province has strong presence of NARC including three national research programs (of rice, oil seed and sugarcane) and three research centers. Further, this province has eight branch offices of Agriculture Input Corporation and two offices of National Seed Company. The province also hosts one national level Nepal Sugarcane and Sugar Development Committee and Janakpur Milk Distribution Project.

The Prime Minister Agriculture Modernization Project (PMAMP) has two super zones and six zones operating within the province focusing a range of commodities. Food and Nutrition Security Enhancement Project (FANSEP) supported by the World Bank is implemented in four districts (Saptari, Siraha, Dhanusha and Mahottari) covering two rural municipalities in each project district. Likewise, Community Managed Irrigated Agriculture Sector Project is in operation throughout the Province. National Livestock Sector Innovation Project covers three districts, namely, Saptari, Dhanusha and Siraha.

Bagamati:

In this province, the following agriculture livestock development projects financed by development partners are working in collaboration with MoLMAC.

PMAMP has been established to support the ADS. This project aims to promote commercialization, mechanization and industrialization of the agriculture sector with the objective of specialized production. In this province it mainly works on Kiwi, vegetables, potato, maize, goat, junar, banana and bee keeping through zone and super zone approaches. KISAN II is funded by the USAID. The project activities include: increased adoption of profitable, productivity-enhancing, and climate smart technologies; strengthen lead firms and other SMEs to support selected market systems; enhance financial services markets and infrastructure that serve selected market systems; build capacity for GON policies and regulation to support market systems development; enhance literacy and business development skills. The project mainly works on the promotion of rice, maize, lentil, vegetables and goat in four districts of this province, namely: Sindhupalchok, Kavrepalanchok, Nuwakot and Makwanpur. Value Chain Development for Fruits and Vegetables Project supported by the Korea

International Cooperation Agency aims to increase incomes of farmers through support to enhanced production capacity, access to extension, postharvest loss management, and market linkage improvement. The project will support 10,000 smallholder farmers in 12 districts in province Bagamati and Gandaki.

FANSEP is supported by the Global Agriculture and Food Security Program (GAFSP) This project aims to improve the health and livelihoods of approximately 65000 direct beneficiaries, of which 65% will be the women. This programme is implemented in three districts (Dhading, Sindhupalchok and Dolakha) of Bagamati Province. Nepal Food Security Monitoring system (NeKSAP) supports MoLMAC to review indicator process and to pilot food security information centre establishment in all seven provinces and in selected Palikas in cooperation with Province and local government, National Planning Commission, Central Bureau of Statistics (CBS), Food and agriculture Organization (FAO), and other stakeholders. Similarly, Livestock Sector Innovation Project aims to increase productivity, enhance value addition, and improve resilience of smallholder farms and agro-processing enterprises in selected livestock value chains in Nepal. In this province, the project works in Makwanpur, Kavrepalanchowk and Kathmandu districts.

Gandaki:

Apart from provincial level and local level institutions there are some agricultural institutions directly governed by the federal ministry such as PMAMP. Under the PMAMP, there are two super zones and nine zones consisting of different potential commodities (orange, vegetable, citrus, cardamom, apple, maize, potato) across Gandaki province. There are three government institutions under the federal level are Livestock Disease Investigation Laboratory, National Livestock Breeding Office and Fishery Development Centre in the Province.

Lumbini:

There are some federal government and donor funded projects working in the province. PMAMP is one of the government projects and other 3 major donor funded projects namely, KISAN II, Local and Provincial Economic Development (LPED) and SUSAHARA are providing services to the agriculture sector within the framework of ADS. In this province there are 4 research centres which are: Regional Agriculture Research Center; National Wheat Research Program; Coffee Research Program; Grain Legume Research Program. There are five agriculture related academic institutions in Lumbini which are: Paklihawa Agriculture Campus; College of Life Sciences, Tulsipur, Dang; Prithu Technical College, Lamahi, Dang; Ramnagar Technical and Management College, Nawalparasi; Natural Resources Management College, Rolpa. Similarly, there are some agriculture related Board/ Corporation/Company/ Committee in the province.

Karnali:

In the province there are nine AKC and VHLSEC offices out of ten districts. Apart from government managed PMAMP, there are few other agricultural project supported by development partners. These are as follows: KISAN II focuses in 20 districts in the West, Mid-West and Far-West regions and four earthquake-affected districts in the Central region (Feed the Future Zone(s) of Influence I and II respectively). SUSAHARA II is a five-year (2016-2021), expanding health and nutrition services that target adolescents. Adaptation for Smallholders in Hilly Areas (ASHA) Project, is an undertaking of Ministry of Forests and Environment (MoFE) with the financial support of International Fund for Agricultural Development (IFAD). It has been implementing in seven districts (Kalikot, Dailekh, Salyan, Jajarkot, East Rukum, West Rukum and Rolpa. ASHA is a climate change adaptation project that supports in developing capacity to tackle consequences of climate change.

Similarly, ASDP through the IFAD finance is working in the province for the promotion of Multi-Stakeholder Platforms (MSP) for each commodity, designed to link key stakeholders along potential value chains. WFP has some specific programs in high mountain districts of the province which include Jumla, Kalikot and Mugu.

Sudurpaschim:

A number of federal institutions/programs are also engaged directly in implementing the agriculture development activities in the province. PMAMP has three super zones and eight zones working in the province focusing on different commodities. Other federal level institutions include two farms, one laboratory, one regional agriculture research station, three irrigation project/offices, two wholesale markets, eight animal and plant quarantine offices and four academic institutions.

3.4 Provincial institutions:

In the section below, we will discuss about the organizational structures, their mandates, rights and responsibilities of the provincial agriculture ministry and its subsidiary organizations including Agriculture Knowledge Centres (AKCs) and Veterinary Hospital and Livestock Services Expert Centre (VHLSECs).

3.4.1 The Ministry of Land Management, Agriculture and Cooperatives (MoLMAC):

The ministry of land management, agriculture and cooperatives, (MoLMAC)⁵ in general across all the provinces has the vision of poverty alleviation and improve food and nutritional security of the people in the province. The ministry is working with the objective of improving the agriculture sector through improving the production and productivity of agriculture/livestock/fisheries sectors through the adoption of modern technologies and to promote agricultural enterprises in the province, all of which will contribute towards increase income, self-employment and sustainable production of agriculture products in the province. The ministry aims to promote the cooperatives for production, processing (enterprise development) and marketing for sustainable and equitable socioeconomic development.

The Mandate:

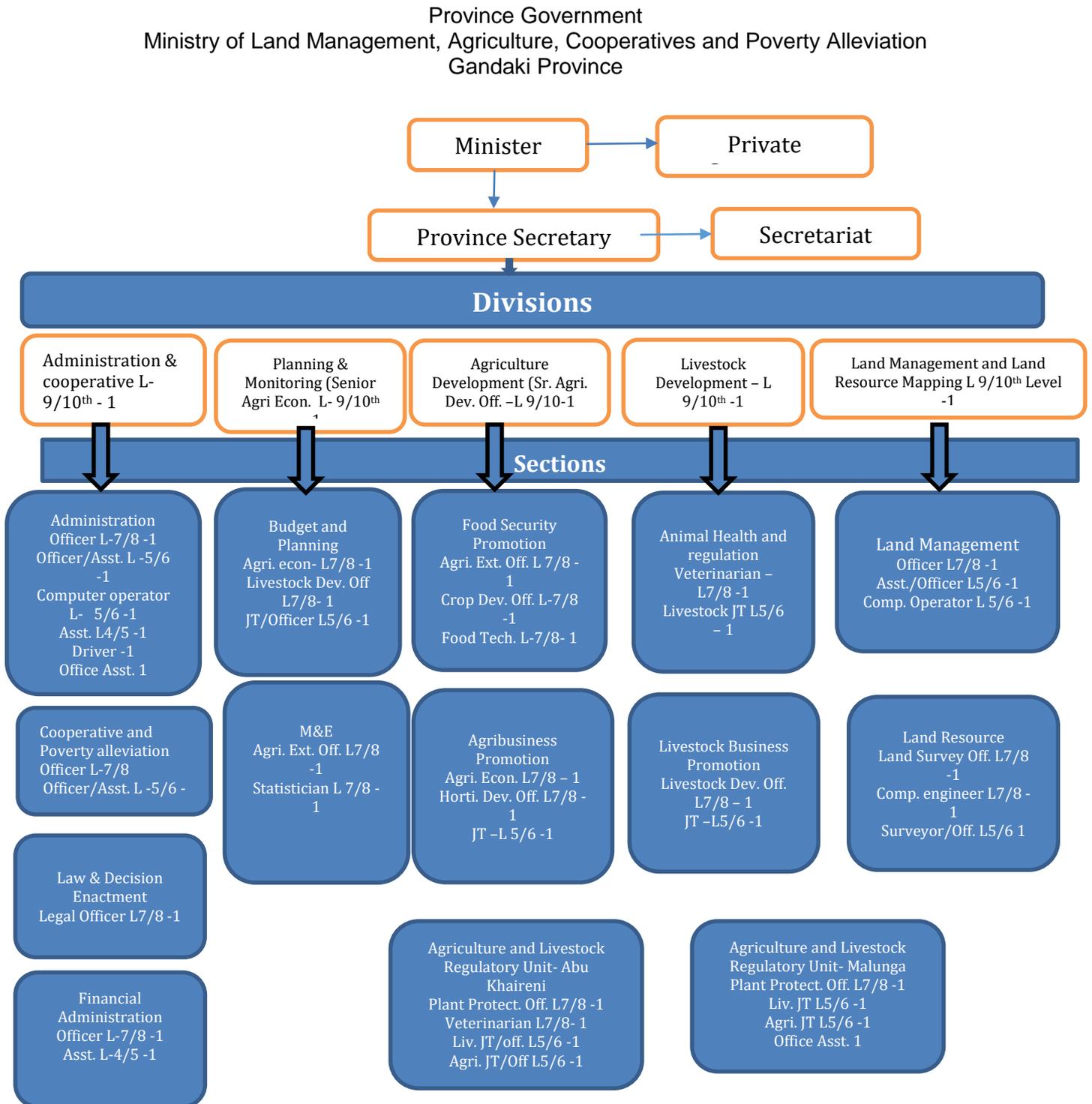
The mandate of the ministry is to formulate the policies, laws, bylaws and directives related to agriculture development and implement the program towards it. In addition, the province is involved to promote agriculture related infrastructures and capacity building of farmers and entrepreneurs on agriculture technologies, provide genetic materials, control of pests and diseases of crops and livestock/fish, promote research, education and development in the agriculture sector and facilitate agriculture insurance coverage in the province. All these activities in combination are directed towards improving food and nutritional security of the provincial population and ensure towards their food sovereignty.

⁵ Over the last couple years – there has been changes of the initially established names of the ministry responsible for agriculture.

The organization structure:

Generally, the organizational structure of MoLMAC is in a pyramid structure headed by the minister of Land management, Agriculture and cooperatives and/or supported by the state minister. The ministers are supported by a team of technical professionals led by the Secretary, supported by a number of officials present in his team. The organizational structure of the ministry is presented as figure 4.

Figure 1: Organizational Structure of MoLMAC.



Moreover, the agribusiness promotion has also been the mandated activity of Agribusiness Promotion, Training, and Support Centre (ABPTC), thus there is the duplication of responsibility between the ministry and the ABPTC.

Major responsibilities: The major responsibilities of the ministry are to plan, implement, coordinate, and monitor the development activities of agriculture sector in the province. The major responsibilities are discussed in detail as below:

Program Planning:

Article 59 (1) of the Constitution states, "The Federation, Province and Local levels shall make laws, make annual budget, decisions, formulate and implement policies and plans on any matters related to financial powers within their respective jurisdictions. So, with this constitutional right, MoLMAC and its agencies including district based AKCs and VHLSECs are responsible for developing annual plan and budget which meets the provincial needs and addresses the potentials. The plans and budget must have to be consistent with the budget ceilings and planning and other relevant guidelines of National Planning Commission, Provincial ministry for economic planning and PPPC. The planning processes follow the general pattern as directed by PPPC. One of the mottos of the provincial level planning is to make maximum use of the local resources while taking into account bio-diversity and environmental concerns. Annual plans of the provincial ministry does not, however, follow the planning cycle/change management philosophy. Although planning processes frequently refer to the periodic plan of the province, there is a lack of a format to monitor whether the annual activities of the provinces are clearly consistently aligned with the periodic plan and targets are met. Hence it makes difficult to monitor the results and impacts. In order to improve the planning processes and reflecting the goals and targets of the provincial periodic plan, a revised monitoring format should be developed with which annual progress could be evaluated. Lessons learned and concerns raised during the trimester review meetings, filed visits and observations, studies and reports from the ministry itself and various sources as relevant are taken as a basis for prioritization of activities for annual planning.

As an established process, for the preparation of annual program and budget, line ministries follow the provincial Ministry of Finance's guideline and frameworks which comes along the budget ceiling. Concerned ministry should enter their programmes into the Provincial Line Ministry Budget Information System within the given budget ceiling.

Based on the available budget resource obtained from the ministry of planning and economic development, the ministry develops the directives for agriculture sector development every year before the beginning of fiscal year, sends it to all institutions under it to develop programs based on it. The district offices and other institutions within the ministry develop their programs based on these directives and present it in the annual planning meeting of the ministry participated by all ministerial institutions and other related stakeholders, where the programs are reviewed, discussed and refined if necessary. Once finalized and approved, the program activities with budget are submitted to the provincial legislature for discussion and approval. Once approved, the program is implemented in the field through the institutions under it. The directives for program planning are based on guidance from the federal ministry, provincial government, ministerial priorities and need and priorities identified by the district offices and other institutions within the ministry. However, there is no coordination with the municipalities within the province, who are also involved in development and implementation of the program related to agriculture sector development. It is thus apparent that all activities are being run independently by the municipalities and the ministry without any coordination for planning and implementation. Moreover, as there is no master plan of agriculture development with agreed timeline, the agriculture development program/project and activities are developed on ad-hoc basis on individuals request or persuasion and no bottom up approach is adopted in the planning process.

Coordination:

The ministry has the responsibility of maintaining coordination and linkage with other concerned line ministries and related agencies, which is being carried out on as and when required basis as there is no defined division with this responsibility. Although, a temporary structure has been created within the ministry on ad-hoc basis for coordination between the institutions, it is, without any defined terms of reference (ToR). Hence, the ministry has not been very strong in its coordination role, which is very important in the context that, the agriculture development is also the mandated activity of all municipalities, however, there is no defined structure to coordinate the agriculture development strategy of the province. The most feasible approach for which would

be to give this responsibility to Planning and Monitoring division by changing it to Planning, monitoring and coordination division with additional human resource to the division.

Monitoring and evaluation:

Monitoring and evaluation is the mandated activity of the ministry to be undertaken by the Planning and Monitoring Division for which, there is a separate section created in the organization structure of the ministry, with three officers and one technical support hand. However, at present, this section is without any officials and monitoring and evaluation activities are not carried out in a systematic manner. These activities are carried out on an ad-hoc basis depending upon the availability of human resources. Monitoring of any activity is carried out on receiving any complain on misuse of funds or any other matter related to program implementation. A regular monitoring system with on the spot reporting and follow up would be of immense value to streamline the activities in the field. Moreover, the monitoring report should be made transparent to all concerned along with the follow up actions and improvements made. Thus, there is a need to strengthen the monitoring and evaluation component of the ministry to get the desired outputs from the implemented activities, for which, the directorates of agriculture and livestock could be made responsible rather than their current engagement on program implementation.

Logistics:

The logistics available with the ministry are the ministry buildings, vehicles and computers and other accessories. Although, the ministerial building has modest facilities for accommodating most of the ministerial officials at present, there is a shortage of required space to accommodate all officials. It will be further constrained with the employment of new officials in future. The vehicles available in the ministry are, though not enough, are adequate to manage the program activities in the field. Though, the number of computers available for regular work is sufficient for carrying out the routine activities, there is no specific computer hardware and software designed for database entry, analysis, report production; nor is there a system of data collection and its management. Moreover, there is no human resource unit so far designed for collection and dissemination of technical information to the farmers routinely or on demand. Hence, dissemination of technical knowledge and information has not been up to the standard or as required.

Institutional Linkage and coordination:

Across the provinces, MoLMACs have policies and programs to establish linkage with line ministries and other institutions of the province to share the plan, activities and extension services. Linkage and coordination are not only limited to governmental institutes but also with other relevant stakeholders such as banking and financing institutions, cooperative, private sectors, agro-industry, farmers and product associations. However, the major coordination gap has been observed at the inter-ministerial level for collaborative program planning and policy making through wider consultation. This can however, be improved by having a permanent mechanism for inter-ministerial dialogue to foster the coordination and planning. In this regard, TCF initiated to facilitate organizing inter-ministerial consultative and coordination meeting and was remarked as very useful by the MoLMAC authorities. However, its continuation requires commitment to incorporate the activity in annual plan and make it as a regular program of the ministry with formal mechanism and some budgetary provisions.

3.4.2 The Directorates:

The MoLMAC has two directorates, the Agriculture Development Directorate and the Livestock and Fisheries development directorate. Both of these directorates are generally based in the provincial headquarters. The major responsibility of these institutions is to oversee the implementation of agriculture and livestock/fisheries development programs by the district institutions throughout the province and guide and monitor their activities to achieve the expected outputs. Although, both of these institutions have similar mandates in their respective fields, yet for the sake of simplicity and clarity, both of these institutions are described separately in this document.

Agriculture Development Directorate:

The Mandate:

The mandate of Agriculture Development Directorate is to contribute to develop the agriculture sector (cereal crops, horticulture crops, cash crops, industrial crops, spices crops) for a profitable and competitive agriculture

production system and market access to the farmers produce, leading to import substitution, increased farmers income and improved livelihoods of farming communities.

The approach is to identify the potential agriculture crops for a particular agro ecology and promote its production through all possible extension strategies including mechanization. The strategy being the pocket package approach for the suitable crop and implemented through farmers group approach. The assistance of development partners, private sector and agri-businessman is promoted in the process especially for marketing and market promotion. In addition, the directorate is also responsible for updating the agri statistics of the province and coordination of agriculture programs from the federal ministries in the province.

Major responsibilities:

The major responsibilities of the directorate are as below:

- Develop required policies/program for agriculture development in the province and execute them in the field.
- Monitor the status of food security in the province and provide feedback to the provincial government.
- Organize and coordinate the agriculture program from the federal ministries.
- Collect and update the agriculture statistics of the province.
- Coordination with the agencies involved in agriculture sector in the province.
- Develop and execute the policies and program on agriculture market and other infrastructure and organize agriculture markets for agri produce of the province.
- Promote agriculture mechanization in the province.
- Formulate required policies, programs and regulation for post-harvest management and their execution.
- Monitor and contribute to regulate the supply of agriculture inputs like fertilizer, seeds and other inputs in the province.
- Promote the dissemination of agriculture information and technologies.
- Develop the policies and program for promotion of plant promotion and commercial insect development.
- Make necessary arrangement for promotion of apiculture, sericulture and mushroom production in the province.
- Develop policies and program for improvement in soil quality in the province and develop the soil fertility map of the province and develop the program for soil fertility improvement.
- Promote agri entrepreneurs in the province with the provision of various incentives and facilities.

Livestock and Fishery Development Directorate:

The Mandate:

The mandate of Livestock and Fisheries Development Directorate is to contribute for the development of livestock and fisheries sectors in the province for a profitable and competitive livestock and fish production system in the province and facilitate the market access of livestock products produced by the livestock farmers to local, provincial and national markets thus contributing to import substitution, increased farmers income and improved livelihoods of farming communities. The directorate is mandated to oversee and provide necessary directions to the district offices to implement the livestock development programs in the province and oversee its effective implementation in the field to the targeted farmers/communities.

Major responsibilities:

The major responsibilities of the directorate has been mentioned as below:

- Drafting of provincial policy, laws, acts, bylaws, rules, regulations, criteria, and *modus operandi* (procedure) for livestock and fisheries sector development.
- Drafting the program budget on livestock and fisheries sector development for the province.
- Contribute to develop and promote the value chains on livestock and fisheries sectors.
- Monitoring the program activities implemented in livestock and fisheries sectors in the province.
- Collection and management of data and information on livestock and fisheries sectors in the province.
- Provide relief and rescue operations for livestock and fisheries sectors during the natural calamities in the province and provide necessary support for veterinary medicines, vaccines and other necessary logistics.

- Develop the standards for the extension of livestock and fisheries sector activities in the province.
- Coordinate with different agencies related to livestock and fisheries sector development in the province.
- Develop and implement the programs on genetic improvement, feeds and feeding resources improvement, health management and market management for livestock and fisheries sector in the province.
- Develop and implement the programs on controlling the trans-boundary animal diseases and zoonotic diseases in the province.
- Regulate the quality of the products and biologicals used in livestock and fisheries sectors in the province within the framework of existing laws and regulations.
- Carry out studies and investigations required for the promotion of livestock and fisheries sectors in the province.

3.4.3 The Training Centres:

There are two training centres within the ministry (MoLMAC), the first one is for training on agriculture and the other is for training on livestock and fisheries sectors. The agriculture training centre has now been given additional responsibilities on agriculture business promotion and the centre has been renamed as Agriculture Business Promotion Service and Training Centre (ABPSTC)⁶. Similarly, Livestock Services Training Centre has also the similar role for livestock business promotion. Both training institutes will be analysed and discussed together in this report.

The Mandate:

The main activity of livestock training centre is to provide technical trainings to the farmers, technicians and other stakeholders on livestock and fisheries sector and the main mandate of Agribusiness Promotion Service and Training centre (ABPSTC) is to provide trainings on various aspects of agriculture and horticulture and to provide support (including trainings) for agribusiness promotion in the province. Moreover, another core function of ABPSTC is to organize training for the frontline agriculture extension workers and agri-entrepreneurs and to support agri-business promotion. Similarly, core function of Livestock Training Centre is to provide trainings on livestock and fisheries sector to farmers, entrepreneurs and technicians of the provinces and other areas on livestock related issues and problems. The course curriculum on livestock training was developed by Department of Livestock Training and Extension Services during 2013/2014, while that of ABPTC was developed by the expert consultant. The training programs are demand and need based, which are identified in consultation with the ministry, district offices, entrepreneurs and farmers on an annual basis. This is carried out prior to the annual plan preparation process.

Major tasks of the Agriculture Business Promotion Support and Training Centre across all the provinces have been found somewhat similar and the following provides the detail ToR of the Centre.

- To prepare and update the roster of agri-entrepreneurs and businessmen at the province level.
- To identify training needs for agri-entrepreneurs for operating a business
- To conduct capacity development related training to the officials, farmers and entrepreneurs.
- To assist agri-entrepreneurs in preparing their business plan.
- To establish links between relevant agencies for concerned with the agro-entrepreneurs and businessmen to get necessary services and advice.
- To provide basic information for running various agricultural enterprises
- To establish coordination among the agencies related to agri-enterprise and business promotion.
- To facilitate to start agribusiness and enterprise for the young farmers returned from abroad
- To arrange conduct trainings related to agri-enterprise and business operation and promotion on demand from other agencies with prescribed fee and to monitor the effectiveness of training.
- Conducted training needs assessment to impart necessary knowledge and skills to agri-entrepreneurs.
- To assist in preparing the training curriculum for agricultural development offices and Veterinary hospital and livestock service office.
- To prepare training materials as required
- To conduct relevant programs that will help in the promotion of agribusiness

⁶ In Karnali Province, both livestock and agriculture training centre is merged which is called – Agriculture and Livestock Business Promotion Serve and Training Centre.

In addition to the activities mentioned above, the training centres provide refresher training programs, pre-service training to the newly recruited agriculture technicians and reviews the training curriculum periodically as per the regulations of the MoLMACs.

Generally the number of staffing of ABPSTC have been found in the range of 14 - 16 including the administrative and support staff. Main technical staff are on the average of 7 including agri economist, agri-extension and JT/JTAs. Similarly, in the case of livestock training centres the number of staffing is on the average 10 across all provinces including general support staff. Technical staff of the livestock training centre includes the veterinarians, livestock officers, VJTAs, however, interestingly, these training centres have no position for the agri/livestock economists which aims to deal with the livestock enterprises and businesses.

In order to deal with wide ranging subjects of agriculture and livestock training, the internal human resource number and capacity of the training centres would be far low to meet the need. So, apart from own resources of the centres, they bring the additional subject matter specialists from various sources and as freelance specialists to deliver the training on the given specific subject and topics. These trainers are generally registered in the list of roster of the trainers. So far, there is no dearth of resource persons. However, it is not clear whether the invited subject matter specialists have the trainers skill or equally have the ability to transfer the knowledge to the trainees. This is one of the areas where training centres in future must oversee the overall quality of the training delivery from the outsourced resources.

The trainings of both training centres are provided free of cost. The staff of the training centers are provided with 25% top up on their salaries with additional incentive for NPR 1600 per class as trainer allowance, while the resource persons from outside the training centres are provided with the training allowance of NPR 3400 per class (including the handouts). During the incidence of COVID-19 various trainings were dropped and most of the training centres were used as internal quarantine.

The duration of the training has been found varying from three days to two weeks depending on the target beneficiaries/population. Training needs are assessed annually from the district based AKCs and VHLSECs for their respective training centres. So, it is less clear whether these trainings reflect the actual need of the farmers and entrepreneurs because these are less grounded with the realities of the farmers. Also, selection of the farmers for training is rarely based on objective criteria and there are occasional reports that chances of repetition and participation of same farmer at various events is very high. With the growing awareness about the importance of agribusiness and value chain development in recent years, so national as well as provincial policy and strategy are also developed accordingly. However, the trained human resource for agribusiness development is scarce. For example; in Sudur Paschim province neither the ABPSTC, nor the livestock training centre have been able to organize trainings on agribusiness promotion.

3.4.4 Agriculture Knowledge Centers and Veterinary Hospitals and Livestock Service Centres (VHLSECs):

The capacity need assessment of AKCs and VHLSECs is based on the responses received from these institutions. The districts represent all three agro-ecological zones of the provinces, high mountain districts, mid hills and terai.

The Mandate:

The mandate of district Agriculture Knowledge Centres (AKCs) is to improve the agriculture system of the district to improve production and productivity of agriculture and horticulture crops through dissemination of improved technologies, quality inputs, improving capacity of farmers and better support services to the farmers and entrepreneurs.

The key core functions of AKCs are to disseminate new technologies and methods to the farmers and to provide specialized, technical support to the producer farmers. In addition, AKCs are also involved in action research, laboratory services, agriculture extension activities, technical assistance, subsidies for promotion of agriculture and coordination between allied agencies for agriculture development in the district.

The AKCs are mandated to provide their services to all municipalities of the districts, however the support activities might differ depending upon the agro-ecological condition and market potentiality of the municipalities.

The key core functions of VHLECs are to implement the livestock development programs, health care support and improve the production and productivity of the livestock and fisheries in the districts. VHLECs are also responsible to create awareness on zoonotic diseases and their prevention and control and provide health and laboratory services. In addition, VHLECs are also mandated to promote livestock market and value chain development in the district in collaboration with the municipalities.

Programs:

The major program of AKCs are aimed at crop production improvement program, horticulture crops production improvement program, cash crops improvement program, integrated pest management, soil testing, and soil characteristics identification and advisory, market scoping and market development for agriculture commodities, coordination with other stakeholders including the municipalities, development partners and entrepreneurs. These programs are reviewed annually and discussed with the ministry officials for refinement/improvement. As agriculture commercialization is the major thrust of the national program, agriculture production system is also supported with mechanization to the entrepreneur farmers at subsidized rates. Organizing the problem focused trainings for the farmers and entrepreneurs is also one of the important programs of the AKCs and various trainings are being organized by AKCs to address the problems and needs, albeit these are still low in comparison to the need.

The programs of VHLECs are primarily focused to animal health and production support, including treatment and vaccination services, some basic laboratory diagnostic services, feed and fodder improvement, breeding support services including artificial insemination program and livestock market promotion program, providing support and technical services for safe and hygienic livestock products. Maintaining and managing coordination with the municipalities of the districts is another important program activity of VHLECs, though there is no specified mechanism to carry out this activity. The program activities are reviewed annually and discussed with the ministry officials for refinement/improvement. As livestock commercialization is the major thrust of the national program, the livestock production programs also support with the mechanization at the subsidized rates to the entrepreneur farmers.

Staffing:

Most of the districts do not have required number of qualified technical human resources and in most of the districts, the availability of permanent graduate technical staff varies. Some officers are being recruited in few districts on temporary basis. Thus, considering the number of program and budget available in the districts, the number of technical staff present in the districts is very low and is considered as the major constraints for program implementation in the districts. For details about human resources, please see the section 4.3 in this report.

Planning and Monitoring:

For both AKC and VLSEC, there is no specific unit being dedicated for planning and monitoring of program activities in the district, however, the district chief allocates some officials for supporting in planning and budgeting on as-required basis. While preparing the program budget, the staff salaries and other essential requirements are prioritized followed by essential logistics. The remaining budget is used for field programs, for which priority is based on various factors including the local political influence. The program budget guidelines developed by the ministry is followed to develop the program and budget accordingly.

Similarly, there is no monitoring unit in the AKC and VHLECs, however, monitoring of the activities is done on ad-hoc basis as and when necessary and when complaints are registered. Moreover, recording and reporting of the monitoring is also very weak. Data on agriculture production, area etc. is collected periodically from the local level mostly by taking assistance of agriculture and livestock development section, related stakeholders and organizations and compiled regularly. Similarly, livestock related data on meat shops, slaughter house, co-operatives, and agro-vets etc. are collected intermittently from various sources. Data collection system and tools needs drastic improvements for a regular and reliable database management.

So, it can be said that there is an urgent need to improve the monitoring system and its proper recording. With the advancement of ICTs and availability of gadgets like smart mobile phones and tablets even in the remote parts of the country, it might now be possible to design the app based monitoring system. These recording should be transferrable between the provincial ministry, federal ministry and all the concerned authorities, so the program implementation could be made more transparent and evidence based. It could also be an important tool for assessing the governance in program implementation and management.

Constraints and opportunities:

The major constraints for program implementation in the district based agricultural offices is the inadequate and qualified technical human resource base, which is affecting the program delivery in the field. The other constraints as reported by these institutions is the excessive political pressure for program design and implementation in the field. In addition, managing and maintaining the coordination with the municipalities is also a critical constraint, for municipalities have not yet recognized their authority and program implementation modality in the municipalities.

The federal structure and system has recognized the importance of district based agricultural offices for the development of agriculture sector, there is a growing opportunity for complementarity with the financially resourceful but technically weak municipalities to plan their agricultural activities technically resourced AKCs and VHLSECs. Proactive role from the municipalities to partner with the district based institutions would help bring effective program design and implementation in the municipalities. However, again, from the overview of this study it has been observed that the allocated budget, physical infrastructure, and facilities are not adequate for the effective service delivery with wider coverage. So, in order to redress the current problem of inadequate budget and other resources, district based institutions need to bring this matter forward during the annual planning period.

3.4.5 District Coordination Committees (DCC)

The nine-member committee of the DCC is elected by the District Assembly. The DCCs are formed as per the Article 220 of the constitution. According to the Clause 7 of the Article, major tasks entrusted to the DCC include: i) coordinate between the municipalities within the district, ii) monitoring of the development and construction related activities, iii) coordinate between municipalities and district based federal and provincial government institutions, and, iv) carry out other tasks as per the provincial laws. In the similar vein, the Federal, Province and Local Level Coordination and Interrelation Act 2077 has also empowered the role of DCCs for the coordination between local level and other agencies. Local Government Operation Act 2017 has stated that the definition of local level also includes the District Coordination Committees, however, unlike the municipalities as such they have no executive power and the federal government has not allocated necessary budget to accomplish its activities. In many instances DCCs officials mentioned that they have no full-fledged authority to coordinate and monitor the activities of the municipalities and cannot intervene on their own capacity. For municipal planning activities also, there is no direct and functional link of the DCCs. According to the Constitution, the DCCs should function as per the provincial laws, however, provincial assemblies have yet to draft the laws relating to manage the DCCs. Despite these transitional status quo, in many districts DCCs have been organizing coordination meetings between the municipalities and AKCs/VHLSECs (particularly on request of district based agricultural institutions). Attendance of the municipalities in the DCC coordinated meetings has been found useful to build partnership and avoid duplication and miscommunication, albeit many municipalities have raised concerns about the unclear role and modality of the DCCs to coordinate them.

However, over the last couple of years some positive actions have been taken by the PMAMP to instrumentalize the mechanism of DCC for coordination meetings between the project and project implemented municipalities. Such meetings are held on bi-monthly basis and decisions are recorded to assess the progress. PMAMP has four components – Pocket, Block, Zone and Superzone development program. Super zone and zone programs are implemented by the Project Implementation Unit (PIU) in collaboration with the provincial government agencies local levels; Block development programs are implemented by the PIU in coordination with the district based agriculture and livestock offices and similarly, Pocket development programs are implemented in collaboration with the local level. For the implementation of the project, roles and responsibilities of federal, provincial and local levels and corresponding committees are clearly defined in the project implementation manual (PIM) of the Project. For the local level, District level Project Implementation Coordination and Monitoring Committee have been constituted under the chairpersonship of DCC Chair including the members from municipalities concerned and other relevant district based agencies of as per the PIM. Similarly, such mechanisms are established at the provincial and federal level. PMAMP is spread across all the districts with 75 Program Implementation Unit, however, not all the municipalities are covered with the Project. So, by realizing the fact to bring those out-of-project municipalities in the coordination meetings, TCF initiated the activity to include those municipalities in the PMAMP organized coordination meeting in coordination with the PMAMP central office, respective DCCs and municipalities. These districts include Dolakha, Ramechhap and Nuwakot. For other districts, it can be followed the similar suit. In order to manoeuvre the DCCs mechanism for coordination until the regulations are brought in place, MoALD and MoLMAC can arrange a formal process through MoFAGA.

3.5 Municipalities

3.5.1 Composition of the Municipality:

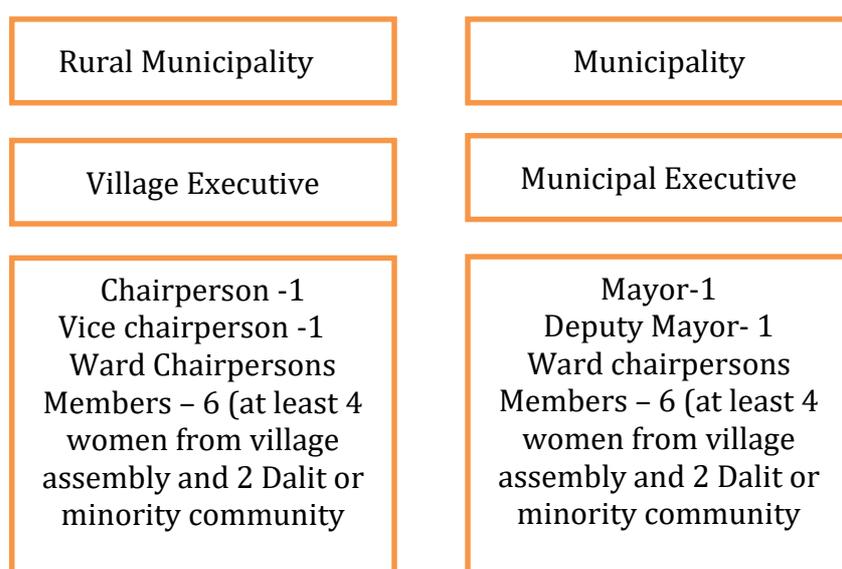
Part 17 of the Constitution, defines about the formation, governance and operational structures of the municipalities. There are four categories of municipalities: Metropolitan, sub-metropolitan, municipality and rural municipality. The newly established municipalities are overall larger in geographical size after the merger and adjustments of previous village development committees (VDCs). A major change in the structure of local governance under the new framework is the jurisdictions of the municipalities which are much larger in both area and population. Currently, there are 753 municipalities of which 460 are rural municipalities. The constitution devolves 22 exclusive and 15 concurrent powers and responsibilities to the local governments. Population size has been taken as the principal criteria for the categorization of the municipalities according to which a metropolitan municipality has the population size of 500,000 or more, Sub-metropolitan municipality has 200,000 and a Municipality has 10,000 or more. There are 6 metropolitan municipality, 11 sub-metropolitan municipality and 276 municipality See Table 1).

Table 1: Category of the municipality and their numbers

Category of municipality	Numbers	Population size
Metropolitan	6	500,000+;
Sub-metropolitan municipality	11	200,000+;
Municipality	276	10,000+;
Rural Municipality	460	
Total	753	

Although the organizational structure of the municipalities have been found varying having five to eleven divisions, agricultural development section belongs to the local economic development division of the municipality. For the first time in Nepal's political history, under the new Constitution, municipalities have been entrusted with the executive, legislative and judicial powers. Municipalities (rural or urban) are governed by a Municipal Executive headed by the mayor and chairperson of the urban municipality and rural municipality, respectively. The Municipal Executive consists of the deputy mayor/chair, ward chairpersons and five women members elected by the Municipal Assembly among themselves and three members from the Dalit or other minority communities (Fig. 1). As per the Article 218 of the Constitution, the executive of the municipalities shall formulate their regulations and distribute the portfolios to perform the operational tasks and duties.

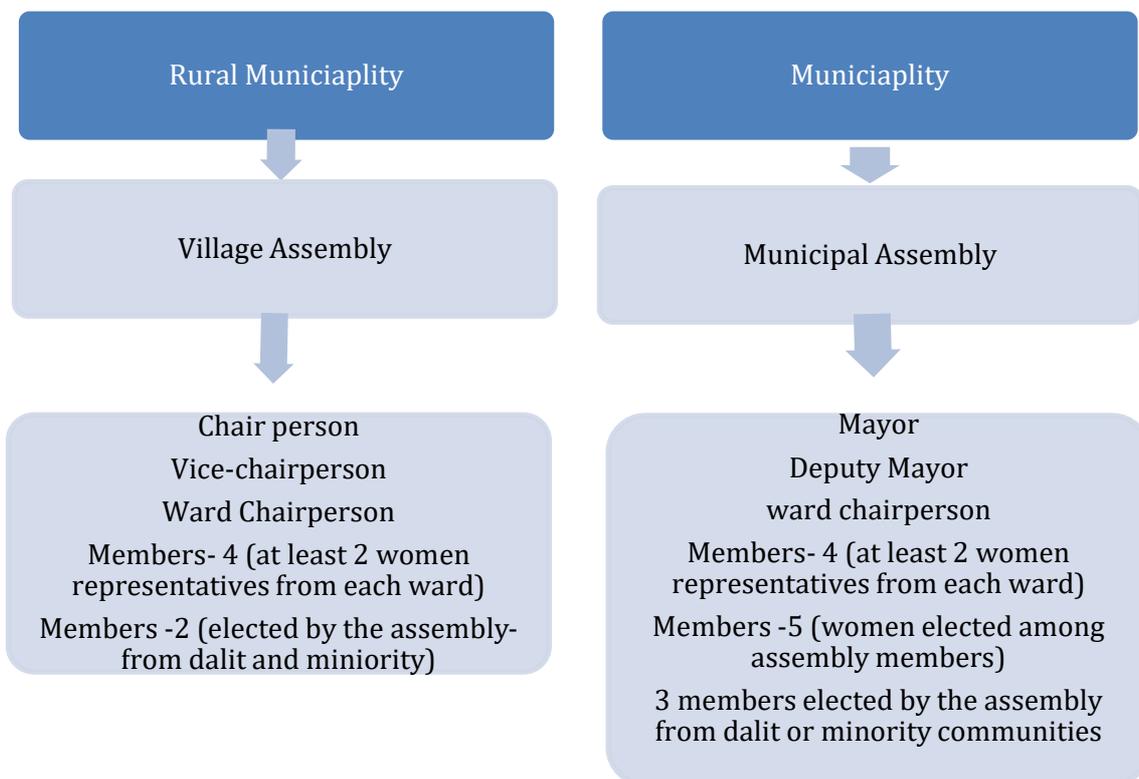
Figure 2: Structure of the municipality executive



Part 18 of the Constitution of Nepal stipulates that the Municipal Assembly holds all legislative powers of the municipality. It consists of the mayor/chair person, deputy mayor/deputy chair, ward chairpersons and four ward

members elected from each of the wards out of which at least two must be woman. One member of the Dalit elected to the Municipal Executive is also a member of the Assembly. Part 17 includes provisions for a Judicial Committee which is headed by the deputy mayor/deputy chairperson and consists of two other members elected by the Municipal Assembly. Schedule 8 and Schedule 9 of the Constitution deal with the concurrent and exclusive powers of the municipalities. The legislative/governance structure of the municipality is presented in Figure 2.

Figure 3 : Structure of the Municipal Assembly



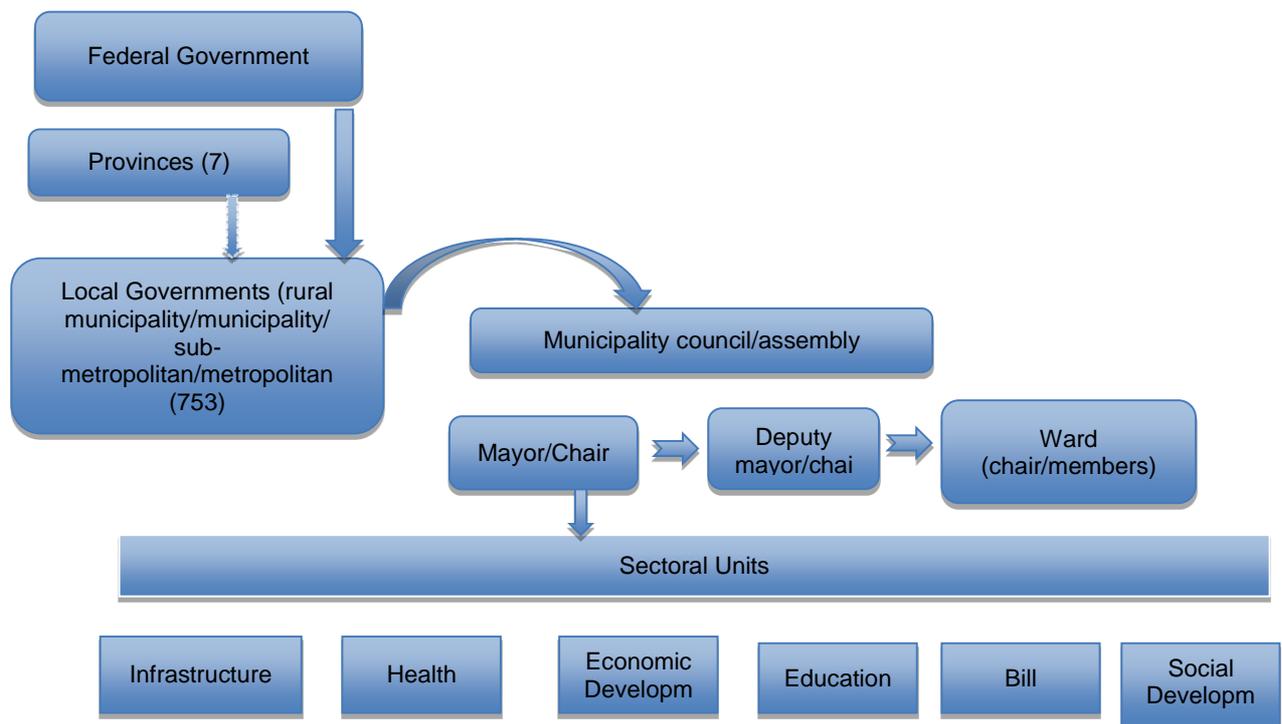
Local level governments are further divided into wards, which are represented by a ward chairperson and four ward members. Out of the four ward members two must be women and one of the two women must be a Dalit. All of the locally elected representatives comprise the Village or Municipality Assemblies, which have local legislative power. The local executive bodies share power through a division of work, particularly in nominating the conveners of the thematic committees.

3.5.2 Agriculture in the Municipality composition:

As per the regulation for the management of municipality administration, they can form various committees to facilitate the efficient flow of services in the municipality. The Thematic Committees at the local level are as follows (Fig. 3):

- Public Service and Capacity Development Committee
- Social Development Committee
- Infrastructure Development Committee
- Bill Committee
- Economic Development Committee
 - Agriculture development section
 - Livestock development section
 - Industry, cooperative and employment section
- Environment and Disaster Management Committee

Figure 4 : Thematic committees in the municipality



Agricultural and livestock development related activities generally fall under the purview of the Economic Development Committee which is headed by the deputy mayor/ vice chair of the municipality. However, the capacity of the elected officials who hold the important positions in the municipality level committees have been generally found weak to undertake the responsibilities for project development, planning, budgeting, monitoring and to enter and contest the policy related matters. Similarly, the present structure of the committees is less effective for the coordination functions within the municipality and beyond e.g. with provincial authorities.

Chapter 4: Analysis and Findings

4.1 Governance, Policies, Coordination and Partnership

In this chapter, we will discuss the rights that govern the operation of the municipalities and their application in preparing the policies, Acts, regulations and plans. As defined by the Constitution of Nepal 2015, municipalities have 22 exclusive and 15 concurrent rights to formulate their own policies, Acts, regulations and establish regulatory structures and other pertaining guidelines and directives. Since agriculture extension and management related activities fall under the exclusive rights of the municipalities, so in this study as what policies and Acts are formulated by the municipalities pertaining to agriculture is assessed. Coordination is another major area for the effective planning, implementation and facilitating judicious resource allocation of the agricultural activities. In this context how the municipalities are coordinating and establishing partnerships and alliances with other agencies concerned are also discussed. Similarly, in view of the CNA, their performance and gaps in the agriculture sector are analysed.

4.2 Governing Policies and Acts of the municipality:

Local governments are the closest administrative units that deliver public services to citizens in the current federal structure. Compared to local bodies in the previous unitary structure, the newly constituted municipalities have more constitutional rights. The Constitution of Nepal has in essence transformed the structure of the municipality from a “local entity to the point of a local government” having full-fledged responsibility for its management through complete restructuring process.

Governance of any entity generally refers to a system or a set of principles that regulates public affairs by applying approaches that are participatory, inclusive, responsive, and accountable. Proponents of the good governance agenda see it as a worthy goal and as a means through which to impact a variety of other outcomes, particularly economic growth and development (Gisselquist, 2012)⁷. Based on concrete policies and legal guidelines, it manages the societal, political, economic and administrative tasks of government.

Municipalities are governed by a host of policies, Acts and regulations for their day-to-day operation, to formulate local Acts, regulations, planning- medium term and long term planning, budgeting, and monitoring and evaluation (M&E). The following documents constitute as major guiding instruments defining the roles, responsibilities and duties of the municipalities. Furthermore, these provide the direction as how to plan, execute and monitor the plans, budget and other resources of the municipality.

Table 2: Policy, Acts and Regulations governing the municipalities

Policy, Acts, regulations	Issuing Authority
Local Government Operation Act, 2075	Federal Government
Inter-government Fiscal Management Act, 2075	Federal Government
National Natural Resources and Fiscal Commission Act, 2074	Federal Government
Province public service commission (Basis and standard determination) Act, 2075.	Federal Government
Fiscal procedures and Accountability Related Act 2076 आर्थिक कार्यविधि तथा वित्तीय उत्तरदायित्व सम्बन्धमा बनेको ऐन, २०७६	Federal Government
Employees Adjustment Act, 2075	Federal Government
TTIM Act, 2077	Federal Government
Provincial Public Service Commission Act, 2075	Federal Government
Local level planning preparation guideline 2075	National Planning Commission
Standard for the classification and distribution of projects and programs under the responsibility of Federal, Province and Local level -2076	National Planning Commission
Subject Specific Committee (Operation) Procedure, 2078	MoFAGA
Rural/Urban Profile Preparation (First Amendment) Procedure, 2078	MoFAGA
Internal control system preparation guideline 2078	MoFAGA

⁷Gisselquist, R.M. (2012), “Good Governance as a Concept, and Why This Matters for Development Policy”, Working Paper No. 2012/30, United Nations University, Helsinki.

Standard for the assessment of performance evaluation of the employees under contract and contract renewal 2078	MoFAGA
Youth involvement in local level planning procedure 2078 (sample)	MoFAGA
Local level fiscal governance risk assessment procedure 2077	MoFAGA

In addition to those mentioned above, the federal government (mainly through the MoFAGA) issues the necessary guidelines and directives to facilitate the local governance processes. It regularly provides sample laws and procedures to frame the policies, Acts, rules, regulations etc. This has been found to be enabling while the capacity of the municipalities is still considered to be low and various organizational structures are in their formative stages.

4.3 Local Government Institutional Self-Assessment (LISA):

MoFAGA has recently introduced the Local Level Institutional Self-evaluation Assessment (LISA) Procedure (2077) to self-measure the performance of the municipalities and assess their strength and weaknesses and ensure they have the capacity to carry-out constitutional mandates effectively. This Procedure has come into effect from FY 2077/78. The Procedure has clearly stipulated that the municipalities should complete the self-assessment by mid-January and publish the final assessment by the first week of Magh (the third week of January) every fiscal year and upload the same in their website. The LISA, as prescribed in the Section 2, covers 10 thematic areas with 100 indicators collectively:

1. Governance system
2. Organization and administration
3. Annual budget and planning management
4. Fiscal and financial management
5. Public services delivery
6. Judicial performance
7. Physical infrastructure
8. Social inclusion
9. Environmental protection and disaster management
10. Collaboration and coordination

Self-assessment is to be based on the facts and figures of the achievements of the previous fiscal year. The self-assessment should be approved by the municipality's executives and thus approved assessment should be made public within 7 days on the notice board of the municipality and similarly, a copy of the final assessment result should be shared with the district coordination committee (DCC), Office of the Chief Minister and Council of the Ministers (OCMCM) and Ministry of Federal Affairs and General Administration (MoFAGA). It allows the local governments to self-assess their work whether rights and responsibilities are adequately exercised, recognize the gaps so that they can address it for better service delivery and identify the areas for improvement. Most of the municipalities have already carried out their self assessment and published them on their website. However, it is not clear that as how the LISA indicators capture the performance of the sector specific activity, for instance agriculture. *Since LISA is still in the evolutionary phase in terms of its applicability, process and approach, it is important to include sector specific performance assessment indicators in each of the abovementioned themes which in the future provide objective information and directional input to pinpoint the areas for sectoral improvement.* The illustrated Ilam municipality in Box 1 has obtained 86% on average having as high as 100% in areas of financial management and judiciary function, to as low as 66.67% on partnership and coordination and environment conservation. Since this is an exercise carried out by the municipalities themselves, it is difficult to discern as to what extent they were value neutral and impartial to assign the score.

Box 1: LISA of Ilam municipality, an example

विषय: बुझना ।

स्वामीय तह संस्थागत क्षमता स्वयम्वाकन कार्यविधि, २०७७ समोजिम इलाम नगरपालिकाबाट आ.स. २० समोजिमको १० वटा विषय क्षेत्रको सूचक अनुसार भर गरिको वार्षिक कार्यसम्पादनहरूको संख्यागत र निम्नानुसारको नतिजा प्राप्त भएकोले इलाम नगरपालिका, नगर कार्यपालिकाको मिति २०७६/०७/२२ को पत्र संख्या १०७६१०७९मा जनजनको लागि प्रकाशन गरिएको ज्ञात गरिनु पर्दछ ।

क्र.सं.	जम्मा पूर्णांक	जम्मा प्राप्तानुंक	विषय क्षेत्र	प्रारण
१	६	६	सावकीय प्रबन्ध	१००
२	६	७	संगठन तथा प्रशासन	१११
३	११	९	वार्षिक बजेट तथा योजना व्यवस्थापन	८१
४	११	११	वित्तीय सचम् आर्थिक व्यवस्थापन	१००
५	१५	१५	सेवा प्रवाह	१००
६	७	७	व्यार्षिक कार्यसम्पादन	१००
७	१३	११	भौतिक पूर्वाधार	८५
८	१०	६	साथाजिकसम्बन्धी कार्य	६०
९	९	९	आन्तरिक सरक्षण तथा विपद् व्यवस्थापन	१००
१०	६	४	सहकार्य सम्बन्ध	६६
	१००	८६	ससय औसत	८६

4.4 Formulating and operationalising of local policies and legislations:

Municipalities require enabling legislation to become fully operational and provide every service as envisioned in the constitution. Legislation-making is an important right and duty of the local governments under the current federal system. The Constitution has accorded the municipalities with a significant new authority: the power to make local laws, Acts, regulations, directives, operational guidelines (Article 226.2). Accordingly, municipalities can legislate and administer executive power with 22 functions under their exclusive jurisdiction and further 15 functions with the concurrent jurisdiction of the Federal and provincial governments. Similarly they can make the laws for the concurrent rights as well, however these should not conflict with the federal level laws. Such laws shall be nullified if in conflict with the laws of the federal and provinces. As according to the composition of the municipality village assembly and municipal assembly at local level lie at the highest level with the mandate to endorse the bills, regulations and pass the policy and budget of the Municipalities.

Chapter 3 of the Local Government Operation Act 2074, Article 11 has defined the roles, responsibilities and rights of the municipalities as per the Annex 8 of the Constitution of Nepal. As per the sub-clause 2 (b) of the Article 11, municipalities shall have the rights and responsibilities to make the laws, regulations, and arrange regulatory mechanisms for cooperative, local services management which includes the operation and management of the employees, local level statistical and data management, local level programs and project management, coordination, facilitation and cooperation in the implementation of the programs and projects implemented by the federal and provincial level; local market management, environment conservation and bio-diversity; local level roads, rural roads, agriculture roads and irrigation and land ownership certificate distribution.

Regarding the agricultural sector, in sub-clause 2(NA), 13 different provisions have been made for the formulation of agriculture and livestock, agriculture produce management, animal health and cooperatives related policies, laws, standards, plan, monitoring and enforcement. Other provisions include market infrastructure development for agriculture and livestock, construction of small irrigation, technology dissemination, technical services, supply of agricultural inputs, and conduction of the farmers' capacity development, monitoring and regulation. Others include as: control of the pandemic and natural disasters control related to agriculture and livestock, veterinary services, bio-diversity conservation, genetic improvement, high value agriculture production and marketing, local grazing and pasture land development, regulation of the animal feed, livestock related data and information management, slaughterhouse management and livestock related insurance. Similarly, in sub clause (DA), agriculture extension, management and control has been made with 10 different provisions. These in summary include agriculture extension related policies, laws, standards, plan, execution, monitoring and regulation; projection of agriculture extension staff, management and operation; capacity development of the farmers, skills development, technical support and empowerment; supply and regulation of agricultural inputs, seeds, varieties; coordination, management and regulation among the farmers group, cooperatives and regulation; agriculture resource centre development and management; organic agriculture and fertilizer promotion, and publicity.

On the constitutional provisions regarding the rights and responsibilities of the three tier governments, Article 59 (1) of the Constitution states that all three levels can formulate laws, prepare an annual budget, take decisions, formulate plans and policies, and implement them in matters related to their financial powers within their respective jurisdiction. According to Article 59 (2) of the Constitution, for financial matters under the concurrent list, federal policies, standards, and laws can be made to be applicable to the provinces as well. According to Article 60 (3), the amount of fiscal transfer that a province or local unit receives is recommended by the National Natural Resources and Fiscal Commission (NNRFC). Article 59 (1) of the Constitution empowers the three levels of government to formulate and implement plans, policies, and programmes, and make their own annual budgets within their respective jurisdictions. Article 59 (3) requires sub-federal governments to adhere to federal laws regarding their budgetary processes.

Although a host of laws, regulations, and directives promulgated by the federal government are to facilitate the way towards effective implementation of executive, legislative and judicial functions and authorize the municipalities, there was a huge capacity gap and confusion among the elected representatives and civil servants regarding the formulation of necessary policies, laws and guidelines. Hence, it has been found that the preparation of local policies, legislations, Acts, by-laws and regulations occurring in a varying degree across the municipalities studied. Regarding agriculture related local policies and legislations; municipalities have been found preparing such policy instruments as according to their needs and requirements.

For instance, Table 3 provides an overview of the Policies, Acts, regulations, directives formulated by the municipalities in Province 1. Almost similar pattern has been observed in other provinces, too, except relatively some slow progress in the municipalities of Madhesh Pradesh. Agri-business Promotion Act and Cooperative Act are the most common policy and legislations prepared by the municipalities. However, their effectiveness to facilitate the development is not yet clear. There are only a few proactive municipalities which seem to be regularly showing the initiative to formulate policy documents while others are struggling.

Table 3: Policies, Acts, regulations, directives formulated by municipalities in Province 1

Municipality	Policies, Acts, regulations, directives
Hatuwagadhi	Cooperative Act, Agri-Business Promotion Act, Forest Act, Livestock services operation procedure, Agriculture development program operation procedure, digital village profile - periodic plan development (EOI published)
Ilam	Land Use Plan, Investment promotion policy, Cooperative Act, Agri-Business Promotion Act, O&M survey report
Suryodaya	Resource map, profile, Periodic Plan, Local road management Act, Internal Control system directives, Data Collection and management Act, cooperative Act, Agri-business Act, Production oriented Cooperatives Subsidy directives, Pesticides Control and management directives, Quality tea production standard procedure, Standards for agriculture and livestock group procedure, Enterprise development fund mobilization procedure, Improved cattle procurement procedure, Cooperatives integration procedure,
Kamal	Animal Feed industry operation through revolving fund directives, Agri-business promotion Act, Cooperative Act, Subsidized fertilizer distribution management directives, village profile
Miklajung	Agriculture Program Implementation Procedure, Agri-business promotion Act, Cooperative Act
PathariSanischare	Artificial Insemination Implementation Procedure, Nursery management Procedure, Plastic tunnel distribution procedure, drip irrigation procedure,
Belaka,	Land Use Plan, Land Act, Capacity development plan, livestock and fisheries program implementation procedure, Partnership program operation and management procedure, goat resource centre operation and management procedure, agriculture program operation and management procedure, agri-business promotion Act, Cooperative Act, Gender Policy, Agriculture, Livestock and Tourism Strategy (2077-2082), Agriculture Act, forest and bio-diversity conservation Act,
Katari	Cereal and Vegetable seed production subsidy implementation procedure, Dairy business and chilling centre, sales outlet establishment procedure, Cattle Promotion Program operation procedure, Pig rearing Promotion Program implementation Procedure, Goat rearing program implementation procedure, Fisheries Production Pond construction Procedure, Infrastructure Maintenance Fund operation procedure, Environment and Bio-diversity conservation Act, Agriculture and Livestock Act, Public-Private Partnership Project Operation Directives, Cooperative Act, Agribusiness promotion Act
Pakhribas	Cooperative Act, Homestay Operation Procedure
Sahidbhumi	Agriculture Act, Land Act, Forest Act, Agri-business promotion Act, Cooperative Act, Potential agricultural crops- Avocado, Coffee, moringa
Siddhicharan	Agriculture development program implementation procedure, cooperative Act, Agribusiness Act, Market monitoring directive,
Fidim	Village Profile, Agriculture, livestock and fisheries program implementation procedure, Agri-business promotion procedure, Agri-business Promotion Act, Cooperative Act
Yanwarak	Agri-business promotion Act, Cooperative Act, Model Agro-entrepreneur Program Procedure, Model Rainbow Trout Farm operation procedure
Mahakulung	Cooperative Act, Agri-business promotion Bill, local poultry hatchery program implementation procedure, rainbow trout program implementation procedure, commercial livestock program implementation procedure, farmers group formation and operation procedure
Likhu Pike	Agri-business promotion Act, Local Market management Act, agri-business subsidy procedure, Data and records management Act, Public-private partnership Act,

DiktelRupakotMajhuwagadhi	Agri-business promotion Act, Cooperative Act, Market monitoring directives, municipality profile
Sakela	cooperative Act, agriculture and livestock development program procedure and directives
Ramdhuni	Capacity Development plan, profile, Agriculture and livestock promotion Act, Periodic Plan, Tourism Master Plan, Enterprise development strategic plan, GESI Policy,

Source: CNA survey and www.mofaga.gov.np

Despite the limited technical capacity of the municipality staff, some of the municipalities of Karnali Province have prepared the following Acts, procedures and directives, a bit disparate to other provinces, which are listed as follows:

- NGO Coordination Act, 2075
- Public Private Partnership Act, 2077
- Concessional Interest Subsidy Program for Farmers Cooperation Group guidelines, 2077
- Training management and conduction working procedure, 2076
- Establishment and operation of community agricultural extension service center Procedures, 2077
- Registration and operation of farmer cooperation groups Procedures, 2077

Some municipalities under this study, for instance: Belaka in Udayapur (Province 1) and Kohalpur in Banke district (Lumbini Province) have prepared their capacity development plan as per the “Capacity Development Plan Preparation Guideline” 2076. However, the capacity development plan, as it seems, that agriculture sector CD plan is weak in terms inadequate sector analysis (see. Ch.3 of the CD plan). Therefore, since it has just begun the process of preparing CD plan by hiring the consultants, it is imperative to have at least one member having agriculture/livestock and fisheries development planning background in the multidisciplinary team to ensure the concrete agricultural capacity development activities.

Furthermore, local governments will need to draft more than a hundred of Acts and regulations simply to unlock their executive functions. Each of these laws must be assessed for consistency with the Constitution and with other laws before they are effective. The Local Government Operation Act, 2017 (the ‘LGOA’) is the most important legislative piece required to institutionalize the new local governments. This Act specifies local government functions and powers and provides a basic structure for the working of municipal assemblies. In many Municipalities preparation of such Acts have been stalled owing to the lack of adequate capacity of the political representatives to deal with the legal matters and also owing to the lack of human resource with legal background and confidence.

So, while observing the sector policy making processes at the municipality level it generally demonstrates the fact that Nepal’s local development policymaking regime needs to strengthen their administrative capability, provision adequate and experienced human resources in place in order to make a transformative move for having essential policy documents.

4.5 MoFAGA’s role in municipality:

MoFAGA has a major responsibility to facilitate the development management, capacity development and service delivery of municipalities across the country. In addition, it has been supporting 77 DCCs for their coordination roles. The ministry provides support to the local level government, *inter alia*, to enact the Local Government Operation Act 2074, Inter-government Fiscal Management Act 2075, Federal, Provincial and Local Government (Coordination and Inter-relation) Management Act 2077 (FPLGM Act) and implementing various directives and orders as promulgated by the federal government. Furthermore, the ministry plays active role to facilitate the implementation of projects/programs funded by the development partners to forge alliances, coordinate between different line ministries, agencies and municipalities. One of the crucial mandates of the ministry is to support the municipalities in their capacity development processes and activities.

Conduction of local level economic survey:

Quite recently, MoFAGA has issued a mandatory note with a 9 page long format to the municipalities to prepare the Economic Survey Report for the current fiscal year, prior to the promulgation of municipalities’ annual

program and budget, as done in the federal level⁸. The report should be shared with the provincial ministry for economic affairs and planning and PPPC. This indicates the enactment of the FPLGM Act 2077 to establish better coordination among the three tiers of government. Regarding the agriculture sector the report should focus on a description of production figures, market centres, production related cooperatives and challenges of last fiscal year and status of the current fiscal year comprising the period until mid-April. Given the enormity of the subjects and issues to be written in the report in the similar manner to that of federal level Economic Survey, this begs the question whether the municipalities across the country have the capacity to do so. For this to materialize, a rigorous capacity development training and exercise may require for the municipality staff. Furthermore, it may require a large database to compare the progress and way forward. However, this can be an opportunity for the municipalities to drive for the establishment of a proper database and analysis system with which development planning and budgeting can benefit and evidence-based policy making processes.

Coordination and partnership building mechanism:

As a local government, municipalities have the rights to establish sectoral coordination mechanism within the municipal structure and build collaboration and partnership with other organizations. Implementing the planned activities is not always possible with the given resources and time of the municipalities alone. So, garnering the support from different agencies, private sector, I/NGOs and other stakeholders by establishing the coordination mechanism system is essential. Other local and external institutions such as other line ministries and departments, DP funded projects, I/NGOs, different commodity associations, cooperatives, private companies, farmers' institutions and enterprises can play a very important role to provide complementary services to promote the agricultural development. Although, it has been observed that sector-wise coordination mechanism in many of the municipalities have not been established yet, it has been found that the subject matter specific meetings are held when deemed necessary and also sector specific discussions are held during the regular staff meetings. INGOs have been found working in many municipalities in agriculture sector by taking permission from the federal government, and with local level permission for the NGOs, detail profiles and records of such organizations are rarely kept hence leading to duplication of the activities.

Article 232 of the constitution says that the relationship between federal, provincial and local government bodies should be based on the principles of cooperation, coexistence and coordination. In order to build better coordination and communication among the three tiers of government, Federal, Provincial and Local Level Coordination and Inter-relationship Management Act 2077 has been enacted which lays sufficient grounds for coordination between the governments at each level. The District Coordination Committee (DCC) has been assigned to establish coordination mechanism for the municipalities and other agencies working in the district. In many districts DCCs conduct coordination meetings, mostly on request of the municipalities or other agencies working in the district. However, a permanent coordination mechanism has yet to take place in the DCCs to conduct coordination meetings on a regular basis. Part of the reasons for the coordination failure can be attributed to the delayed enactment of Federal, Provincial and Local Level Coordination and Inter-relationship Management Act, subsequent guidelines and directives and required budgetary provisions to operate such mechanisms.

The federal and provincial governments have been trying to have their separate influence at the local level. With the intergovernmental coordination getting weak, dissatisfaction is rising at the local level.

- Chair, Jugal Rural Municipality/Chair Federation Nepal Rural Municipality Association

In the section below, the status of the coordination mechanism, collaboration and partnership with other organizations are discussed.

Province 1:

Of the studied municipalities, only in four municipalities (Hathuwagadhi, Dhankuta, Mikalajung and Kamal) there is a coordination committee at the political and administrative level. As such there are no agriculture related coordination committee formed in the municipalities. However, after the participation in the orientation workshop conducted for the municipalities' officials by EU TCF to ADS on rolling out the ADS strong realization for the

⁸ Ministry of Finance publishes the Economic Survey report every year before the announcement of the federal government's policies, programs and budget.

establishment of some form of coordination mechanism has been expressed for municipalities have to deal with various sector specific agencies in future than ever before. Furthermore, TCF had emphasized to have a strong coordination mechanism in the municipality level during the agriculture development planning training for the technicians of the municipalities. The full-fledged result of this training is yet to see; however, preliminary observations and reactions from the municipalities have indicated the initiation to constitute the coordination mechanism in the municipalities.

Madhesh Province:

In Madhesh Province there are 136 municipalities in total. The municipalities include one metropolitan city, three sub-metropolitan cities, and 73 municipalities and 59 rural municipalities in the province. The number of wards range from 9 to 11. Of the surveyed municipalities in five municipalities coordination committees are established. In Janaknandini rural municipality coordination committee has been established as specified by village assembly and committee meets as and when needed. In Mithilabihari municipality the coordination committee has been formed and it meets regularly on every 5th day of Nepali month. In Shahidnagar municipality all the members of executive committee are the members of coordination committee. The committee meets as and when needed rather than on regular basis. Regarding the presence of NGOs, there are few NGOs active in the agriculture and livestock activities for example in Hanspurand Malangawa municipality one NGO is working for supporting buffalo rearing, wheat seed multiplication and vegetable seed kit distribution. There is no partnership with private sectors and no other development partners have been found except livestock mega project in Dhanushadham municipality. The cooperation and coordination with provincial government and other sectors (NGOs, privates) is very rare.

Almost all selected municipalities coordinate the program and activities of agriculture and livestock section within the municipalities regularly by arranging discussion and interaction program with agricultural technicians where they discuss about the status of program implementation, problems in program implementation and their solutions. In addition, the municipalities have no formal cooperation and coordination with MoLMAC, AKCs, VHLESCs and development projects under different arrangements, e.g. PMAMP, NLISP regarding program planning and implementation. In most of the districts, AKC, VHLSEC and PMAMP have taken proactive role to invite the municipalities agriculture and livestock technician in their monthly/bimonthly or relevant meetings by sending request letters. Allowing the permission to technicians to participate in such meetings lies on the discretion of the chief administrative officer of the municipality. In most cases, municipality level technicians have very low turnout in the district level meetings with erratic responses for the participation. Despite these facts, municipality level technicians frequently take advice from the district based agriculture and livestock offices on various technical matters.

Bagamati Province:

Coordination mechanisms have not been established except in Namobuddha municipality in which Agriculture and Livestock Committee has been formulated and in Rapti municipality it is in process. It has been observed that there are no formal coordination mechanisms to link with federal and provincial institutions for agricultural development activities.

The situation of coordination between municipalities and district based institutions is almost the same as in the Madhesh province. However, in this province some of the DCCs (Dolakha, Ramechhap, Nuwakot, Sindhupalchok, and Kavre) have established the coordination mechanism for the PMAMP activities and Municipalities. Alongside PMAMP's program specific discussions, municipalities avail the opportunity to discuss and coordinate their activities with the district based institutions. In the 18 municipalities (out of 20) there is the presence of NGOs/INGOs for the development of agriculture and livestock sector. However, these organizations are rarely coordinated for the planning and sharing of the knowledge.

Gandaki:

The mechanism for cooperation and coordination among the stakeholders appears to be still lacking in most of the municipalities surveyed. Some of the municipalities have realized to have a regular interaction among the stakeholders working for the agricultural development. Recently, municipalities have taken initiative to form a regular institutional framework for coordination as there appears NGOs, private sectors, government institutions and research centres approaching the municipalities for collaboration of agricultural activities. In doing so, some of the municipalities in Tanahun, Kaski, Gorkha Lamjung have begun to include the regular program for coordination with budgetary provision. However, little coordination among the agriculture based institutions in majority of the municipalities have been expressed.

At the provincial level, on request of the EU TCF to ADS a mechanism for inter-ministerial coordination has been started recently and ministry leadership has recognized the importance of it for having interfaces between different agencies and stakeholders working for agriculture directly or indirectly. This mechanism has been proposed mainly to roll out the ADS and to make coordination more reliable and a permanent institution for provincial ADS implementation. Coordination mechanism will take a new shape after formalizing it with regular budget and program.

Lumbini:

On requests placed for coordination and collaboration from different agencies, MoLMAC and its subsidiary institutions including AKCs and VHLSECs have supported municipalities and other stakeholders for the implementation of agricultural and livestock programs. Normally, in the districts bi-monthly coordination meetings are held with the municipalities, attendance of the municipality staff is improving with the involvement of the CAOs and sometime elected representatives. Moreover, other alternatives practices to coordinate with them have been done through phone, email, and personal visit. Meeting with NGO/INGO is held on the 7th day of every month. AKC and VHLSECs have technical partnership with the private sector, cooperatives and I/NGOs. Some of the municipalities have begun to invite the district based institutions for technical advice on agricultural matters. Similarly, loose network and collaboration has been observed between municipalities and AKC/VHLSEC for planning. This could be the impact of TCF led orientation program for ADS which encouraged the municipalities for having engaged relation with other agencies. AKC and VHLSEC coordinate with municipalities for planning and implementation of various training programs, seminars and workshops. During such events they discuss about plans, goals, milestones and future targets. While conducting the training at the municipalities AKC/VHLSEC are invited as resource persons/agencies.

However, in order to sustain these practices, a formal coordination system mechanism is warranted to have at each level of government and institutions with embedded regular program and budget.

Karnali:

This province is believed to have the higher proportion of the presence of I/NGOs and they have livelihood improvement, nutrition, income generation activities mainly based on agriculture and livestock. NGOs are well coordinated with the municipalities for their work and in most cases they are found to have good working relationship with the local government. However, still in formulating the agricultural programs of the municipality, NGOs are left and they have limited involvement in the planning processes. At the provincial level, MoLMAC has already prepared the list of the institutions working for agriculture development and related tasks. Similarly, regular coordination meetings have occurred over the years. In addition to this, MoLMAC organizes the interaction programs between these institutions before the commencement of planning and budgeting cycle.

Sudur Paschim:

Various development partners and agencies are working in Sudur Paschim Province for agriculture and livestock promotion. Some of these include, KISAN II, and GIZ skill up program. There is however, little coordination and linkage with the municipalities for program implementation and almost program reporting system is non-existent. In addition, there is no formal coordination and linkage with the government institutions (MoLMAC, AKCs, VHLSECs) regarding program planning and execution. In recent days, PMAMP through DCC has initiated organizing monthly coordination meetings between stakeholders and as such PMAMP implemented municipalities are invited in the coordination meeting. This has provided a common platform to discuss the agricultural activities, their plans, issues and challenges and possible solutions. This action has been recognized fruitful to mainstream all the agencies working in agriculture through coordinated mechanism. With the initiation of TCF, some 5 municipalities have planned to establish the agriculture coordination mechanism within the agriculture/livestock section. However, its regularity depends on the political commitment and provision of regular budget.

4.6 Communication, Website, Face book pages:

One of the interesting finding is that all the municipalities across the country have their own websites and some have opened Face book pages to inform the general public. The municipality office and all the ward offices have access to broadband internet. The municipality offices have been found offering free internet access to the public. This has been found very useful to get access to the information and get acquainted with the activities of the municipalities in their governance system. Municipality Websites across the country have a common format(perhaps as prescribed by the MoFAGA) which generally include the wide ranges of information about annual program and budget, reports (annual report, trimester report, audit, social audit, public audit, public

hearing and monitoring), policies, laws, regulations, public notices and information, public procurement and tender notices, e-governance services and contact information. It has been found that some of the municipalities have added new items in their websites as according to their need to serve the public with municipality specific services and information. Uploading of the information and updating of the information/publications have been found varying across the municipalities and information on some subjects, e.g. reports are found not uploaded. However, a feedback system has been set up for the visitors with which municipalities may receive useful suggestions.

Although, some of the municipalities across all seven provinces have recognized the use of ICTs for the promotion of agricultural activities and also have included in their annual plans to introduce it, this area has largely been found undeveloped. Regarding the use of ICTs for agriculture such as for agro advisory services, market and resource information, Kisan Call Centers, Agriculture Atlas of Nepal, Land Usage Monitoring and Analysis, land use zoning maps based on soil quality and crop suitability, online seedling order system, etc. are not set up at the municipality website. Most of the municipalities persistently grapple with the inconsistent power supply thus hindering the access to websites although many of them have back-up systems installed. Since ICTs application is largely written in English, so language barrier has been found one of the constraining for its application and uses.

4.2 Municipality Level Planning, Monitoring and Evaluation (M&E)

4.2.1 Policy provisions for local level annual, periodic and strategic planning:

As discussed in the previous chapter, local level governments are guided by the Local Government Operation Act which provides them with the authority to prepare annual, periodic and strategic plans and implement them accordingly. Furthermore, as guided by the Act, National Planning Commission (NPC) has prepared a comprehensive common local level planning guideline to help formulate the annual, periodic and long term strategic plan. In addition to preparing annual policies and plans, municipalities should have to prepare their periodic and strategic plans. Periodic plan preparation process should have to follow series of feedback and consultations including the submission of draft to the MoFAGA and PPC for their input and check its synchronization with the national and provincial goals, objectives, strategy and priorities (NPC, 2078:38). By adopting the bottom-up/participatory approaches, municipalities can endorse such plans at the municipality executive. For its execution, this should be distributed among the divisions within municipality, ward offices, supporting agencies, NGOs and other local level institutions. The approved periodic plans are executed through the annual budget and programs, for this a medium term expenditure framework should also have to be prepared. Similarly, municipalities can prepare project bank by conducting feasibility studies and establishing databank about the potential investment projects including agriculture. In the section below, planning and budgetary process and practices adopted by the municipalities and current state of affairs are discussed.

4.2.2 Planning and budgetary processes, practices and achievements in municipality:

Annual Plan:

As per the Local Government Operation Act, 2017 (2074 BS) (section 24 (1)) municipalities need to prepare and implement annual, periodic, strategic and long-term development plans. Each plan should be in line with the policies, targets, objectives, time frame and processes prescribed by the federal and provincial governments integrating crosscutting issues, such as good governance, child-friendliness, climate change adaptation, disaster management, gender equality and social inclusion. Since the plans prepared by each tiers of government are inter-related, local levels must have to refer the national and respective provinces' plan while preparing their periodic plans. In order to complete the planning process, the federal government ensures a strict timeline at each step comprised of different activities.

Chapter six of the Local Government Operation Act–2074 has described about the annual planning process and implementation mechanism. In order to make the inclusive planning processes municipalities must have to involve the local intellectuals, subject specialists, experienced persons, marginalized and endangered communities, women, youths, minority, senior citizens and other related stakeholders in planning and implementation of program/activities. They must have to prepare action plan and corresponding budget with monitoring and evaluation plan. Local levels should formulate their plans by identifying the local level potentials, specificities, and opportunities for prioritization. In this regard, National Planning Commission has prepared a seven step annual planning processes (seven steps less than in the previous governance mechanism) which describes the procedures as what and how it needs to be carried out in each step. These steps are presented in Table 4. In general, it takes about 5.5 months to complete the planning processes in the municipalities.

Table 4: Seven Step Planning process in local level planning

Steps	Action	Timeline
Step 1	Pre-planning for the budget – submit income and expenditure projection at the federal government Obtain budget ceiling from the federal and province	By the end of Poush (mid-January) By the end of Chaitra (mid April)
Step 2	Local level estimation of sources and budget ceiling determination	By 10th Baisakh (Mid-May)
Step 3	Plans and activities selection at the cluster and tole level	By the end of Baisakh (Mid April–mid May)
Step 4	Selection and prioritization of plan at ward level	By 15th Jesth (Mid May – end May)

Step 5	Preparation of budget and programs	By 5th Asar (Mid May – 3rd week of June)
Step 6	Approval of the budget and plans by municipal executive	By 10th Asar (Within 25th June)
Step 7	Approval by the village or municipality assembly	By the end of Asar (4th week of June)

Although some variations in organizational structure and number of divisions and sections of the municipalities have been observed, most commonly there are six functional divisions under the leadership of class II gazetted chief administrative officer (CAO). Planning and M&E section functions under the portfolio of Administration, Planning and M&E Division headed by a section officer and subsequent units are staffed by junior officer/s. In order to bring the annual policy and budget, a committee under the chair of deputy mayor is constituted as follows:

Coordinator: Deputy mayor/vice chair
Member: Members of the executive committee of the thematic areas
Member: Chief administrative officer
Member Secretary: Planning division/department/section chief

Chairs, vice chairs, executive board members, ward committees, council members, and technical staff are all involved through the deliberative process in plan formulation. Based on the experience of the last three years across a range of municipalities and from the key observations from this study, we find that the seven steps planning processes are followed, *de jure*, however, while examining the qualitative aspect of the process, several flaws have been observed and reported. One of the major flaws is the disregard of the meaningful inclusion of the people from different walks of life as prescribed in the guideline. And, in many instances planning processes is largely dominated by the political representatives and individualistic interest supersede over the observed and felt need". Firstly, this can partly be due to the lack of change management at structural level with the "business as usual" approach carried over from the non-federal political legacy. Secondly, less accustomed to the spirit of devolved governance system where elected officials are not sufficiently oriented and trained about the principles of planning and development. Also, most often prioritization of the activities is not based on the evidence and consensus is rarely visualized and reflected in the planning. This further suggests that the capacity of the municipality leadership is moderate or weak in formulating inclusive plans and implementing them and civil servants are relatively unskilled or unwilling to challenge the political apathy in evidence based planning. So, having planning guidelines and enabling legislations alone may not be sufficient to prepare the plan and hence achieve the desired results, until the capacity of local government – both elected representatives and staff- is enhanced to the extent to understand and analyse the problems and identify the solutions. Apart from the 7-step planning process, there are few key guiding principles to be taken into account for the preparation of plan (see box 2).

Box 2: Guiding principles for the preparation of plan:

- Direct contribution to economic development and poverty reduction
- Production oriented and quick return potential
- Employment generation and increasing the life standard
- Partnership and investment potential by local people
- Volunteer mobilization and cost effective
- Maximum use of local resources and skill
- Gender and social inclusion
- Sustainable development and environmental protection
- Promotion of local culture, language and heritage
- Others as deemed necessary

Due to the mandatory provisions of local governance Act, over the years women's participation in overall policy making and planning processes has increased and this practice has provided a new dimension of gender mainstreaming in all developmental activities in the municipalities. Similarly, climate sensitivity has been found adopted in the overall planning processes of the municipalities.

In this study, it has been observed that agriculture and livestock sectors relatively receive less priority over the other sectors in planning and budgeting. This fact has been further supported by a study carried out by The Asia Foundation, the study finds that lack of infrastructure identified as the biggest problem in local areas. In

particular, in the same categories, respondents to that survey identified local problems and challenges as follows: roads (49.2%), drinking water (26.6%), difficulty in finding work/making a living (16.3%), lack of electricity (12.5%), access to affordable healthcare (7.4%), and poor education access (6.3%) with no mentioning of the problems of agriculture (The Asia Foundation, 2018).

Observations indicate the fact that with the introduction of the federal system, municipalities have been able to implement various agriculture and livestock activities at a larger scale than ever before with greater power and autonomy. As common agricultural activities planned by the most of the municipalities include the production and productivity increase of agronomical crops and its related program, organic farming, plant protection, fruit cultivation promotion, irrigation, farmers capacity development, roof top farming, mechanization, modernization, Dalit, ultra-poor and single women special program, seed distribution in subsidy (cereals, fruit sapling vegetable seed, machinery, vegetable farming, potato and ginger seed, mushroom spawn), kitchen gardening, soil testing campaign and pocket development of potential crops. Likewise, the programs of livestock unit are animal breeding, vaccine, forage seed distribution, cattle shed improvement, animal health campaign, farmers' capacity building, livestock nutrition, fingerlings distribution and fish pond maintenance, distribution of chaff cutter, improved breed of buffalo and goat, poultry and buffalo farming training, goat farming for youth, purchase of medicine, dipping and drenching, AI, sample collection and lab test, promotion program of cattle, buffalo and goat etc.

Moreover, there are still key gaps in the structure and planning capacities of the municipality to effectively and efficiently manage the resources to achieve the intended results. Federalization was enacted with very broader frameworks for governance, regulatory mechanisms, however, the knowledge, skills and acquaintance have not been able to coexist thus creating some vacuum and shock particularly at the municipality level. Major gap lies in the proper structure for the planning and budgeting, trained staffing, coordination mechanism and other regulatory frameworks. In order to mitigate this gap in planning, it is quintessential for the municipalities (particularly rural municipalities) to conduct interaction, discussion, training, seminar and exposure visit from time to time to the employees involved in the planning processes.

4.2.3 Preparation of periodic plan:

It has been found that some progressive municipalities across all provinces have started the preparation of periodic plan with a vision to promote agriculture and livestock sector in their municipality, for instance Kharpunath rural municipality of Humla, Belaka of Udayapur, Benighat Rorang of Dhading. These periodic plans have prioritized self-reliance (in vegetable, milk, meat, cereals), utilization of barren land, priority for commercial farmers in subsidy, increase production and productivity of crops and livestock for nutrition and food security, agriculture led SMEs promotion, farmers incentives, insurance, assurance of inputs availability, provision of irrigation, identifying the potential pockets, land consolidation, biodiversity conservation, conservation of indigenous crops and organic farming.

In the section below, province wise observations on planning practices and achievements are summarized.

Province 1

All Municipalities have planning unit responsible for annual planning, reviewing and reporting. References are made with the national, provincial and other sectoral plans while preparing the annual plan. Furthermore, expert advices are solicited in most of the municipalities. In all Municipalities, the program planning is carried out under the chairmanship of Deputy Mayor/Vice-chairman with some other team members. This team is responsible for monitoring of program activities. Two municipalities of the province have already prepared their periodic plan namely: Suryodaya and Hathuwagadi. Similarly, some 4 municipalities have prepared revenue improvement plan, one has prepared capacity development plan and most of the municipalities have GESI plan. While preparing different kinds of plans, reference has been made to the ADS, however, how much alignments are made with the ADS activities is not clear.

Madhesh Province

All Municipalities have planning unit responsible for annual planning, reviewing and reporting. In all the municipalities, the annual planning is prepared as per the guideline prepared by NPC. Major concerns raised during this study include:

- So far as the reference to ADS in municipality is concerned, only six municipalities among the selected municipalities said that they were aware of ADS so they think that their programs are aligned with ADS.
- Inclusive and deliberative development planning processes has been found to be very poor in most of the municipalities. Farmer's views are less appreciated and incorporated. Very little discussion are held

- particularly for agriculture sector budget allocation
- Lack of knowledge about new and modern techniques and systems
- Population parameter is less concerned during the planning
- Good and effective programs are not selected from wards
- All the priority activities cannot be included in the annual plan due to the capping of the budget
- Extensive politicization in selection process of programs.
- Infrastructures and construction get higher priority over the agriculture

Bagmati Province:

All the municipalities have planning unit responsible for planning, reviewing and reporting. The agriculture development program mainly includes vegetable production, crop production, group formation and strengthening, plant protection, trainings and insurance activities while the livestock programs are mostly focused towards animal care and vaccination, forage development, etc. The planning process follows the regular pattern as per the guideline. Most of the municipalities in this province have given priority to the wards for the selection of the need based agricultural activities. The responsibility of technical units (agriculture/livestock) is to collect the need of the communities and develop it into program for submission to the executive body. In all Municipalities, the program monitoring is carried out under the chairmanship of Deputy Mayor/Vice-chairman with some team members. This team is responsible for monitoring of program activities. No formal approach with proper recording and follow up is done in the monitoring but with ad-hoc methodology and supervision. In this province, 19 municipalities have prepared their periodic plan, 34 municipalities have prepared revenue improvement action plan (RIAP) 8 have prepared capacity development plan. Furthermore, Dhulikhel municipality has prepared an integrated urban development plan and six municipalities have prepared Green Municipal Development Plan. While preparing different kinds of plans, reference has been made to the ADS, however, how much alignments are done with the activities to that of ADS is not clear.

Gandaki

All the municipalities have planning unit responsible for planning. While preparing the annual plans some municipalities (e.g. Mangala, Myagde, Devchuli, Dordi,) but others did not mention about the involvement of district based agencies in planning. According to the sources of PLGSP, in this province none of the municipalities have drawn their CD plan, however, 25 municipalities have got their periodic plan. Most of the municipalities have incorporated GESI and climate change related considerations in their annual plan. Prioritization of the activities is done through ward level consultations and farmers consultation. While preparing different kinds of plans, reference has been made to the ADS, however, to what extent the alignments are made with the activities of the ADS is not clear. Apart from routine plans, Palungtar municipality has prepared a Green Municipal Plan.

Lumbini

All the municipalities have planning unit operated under the administrative division headed by an officer level staff. The planning unit staffs are junior officers whose role is mainly to administratively facilitate in the process of planning and monitoring rather than solely preparing the plans. The first step in the development of the agricultural sector is the formulation of agricultural policies and plans. In this respect, some 22 municipalities have prepared their CD plan and 12 municipalities have prepared periodic plan. All municipalities follow bottom up planning approach.

The municipalities in this province have a focus on food and nutrition security, and self sufficiency in livestock products (egg, milk and meat). In the annual planning exercise municipalities have taken ADS into consideration and as such have taken the activities from it in the municipality's annual plan. The agriculture and livestock technical staffs are not competent in program planning and accommodate the changed governance context. They are also unable to assess and analyse potentialities of commercialization of crops and livestock. Most of the agriculture/livestock section of the municipalities had faced the deficit of agricultural planning guideline; which however was provided by the TCF during its training on agriculture development planning for the municipality level agriculture and livestock staff. Some of the critical challenges faced by the agriculture technician are: 1) to influence the political leadership and chief administrative officer on agriculture with definitive and evidence-backed need based planning; 2) adjusting the program to meet the expectations of the beneficiaries/farmers with the given ceiling of the budget for allocated for agriculture; and, 3) other technical stuff that are relevant for planning purposes e.g. GIS mapping, PRA, value chain identification etc.

Karnali

Institutional structures and procedures for the planning are as same as in the other provinces. So far, as per the reports of the PLGSP, some 5 municipalities have prepared their CD plan and none of the municipalities

have prepared periodic plan. Narayan municipality has prepared Integrated Urban Development Plan. Major problem of the province is inadequate numbers of agriculture staff deployment in the municipalities which critically hinders the services delivery and planning of agricultural development activities. Since Karnali province has stated objective to make the province “organic”; so the municipality plans are framed in the similar vein. The agriculture development program are mostly geared towards fruit development, condiments promotion, nursery establishment and management and plant protection, while the livestock programs are mostly focused towards animal care and vaccination, forage development and improvement in small ruminant production system. A very low degree of planning knowledge of the local level staff have been expressed; however upon receiving the ADP training conducted by TCF, some of the skills deficit has been filled to a great extent.

Sudur Paschim:

Institutional structures and procedures for planning are similar to in other provinces; but the planning structures in most of the municipalities are found in a quite basic and primitive state without much knowledge, skills and database for the planning. In the mountain districts municipalities planning unit has not been set up as yet. Of the targeted 18 municipalities for CD plan, so far 7 have been completed with the support of PLGSP and seven periodic plans are completed out of the targeted 10. The planning follows all the standards of the procedure; however, political influence retards the process of participation by all walks of the life of the community. The development program are selected at the ward level, based on the need and demand of the farmers, these requirements are submitted to the municipality executive body, where all proposals are prioritized within and between the wards and once approved are included in the annual plan and budget. The responsibility of technical units (agriculture/livestock) is to collect the need of the communities and develop it in to program for submission to the executive body. The technical staffs are not well qualified in program planning and hence require trainings on program planning and proposal writing. Similarly, they are not well qualified to identify the potentialities of the area/crops/livestock. For the implementation of the activities, new interventions methods are rarely identified. Hence, the whole development planning process sounds routine and ritual.

The agriculture development program mainly focus on fruit development, honey bee promotion and honey production, fresh vegetable and ginger production, orchard management and prevention of citrus decline, while the livestock programs are mostly focused on animal care and vaccination, forage development and improvement in goat production system.

There is a monitoring unit under the leadership of vice chairmen and supported by two officials and three ward members. This team is responsible for regular monitoring of program activities. No formal approach with proper recording and follow up is done in the monitoring and ad-hoc methodology and supervision is carried out.

4.3 Human Resources

4.3.1 Human resources in the municipalities

With the changes of country's political governance system, massive changes have taken place in the institutional structures of the government entities and apparatuses. This unprecedented change mainly impacted on the distribution of human resources across the country and particularly the agriculture sector is hard hit. While the process of integration of civil service employees yet to be completed, all the local levels studied were facing the shortage of staff to a varying degree. The shortage of technical staff in agriculture section has been experienced more acute than for the administrative sections. This change has further exacerbated the service delivery operational modalities. Adjustments and recruitment processes of the civil servants at the provincial level are yet to be completed. Similarly, restructuring of the civil service and adjustment of civil servants to the local governments has yet to complete. This kind of prolonged transition for the deployment of the required number of human resources has been severely experienced in the agriculture sector.

The allocated human resources for agriculture and livestock sector have been found largely inadequate to serve the farm households in most of the municipalities. There is a huge discrepancy between the approved and currently serving technical personnel positions at the local level. It has been found that the around 60% municipalities have hired the frontline extension technicians on annual contractual basis allocating the budget for human resource. The newly hired technicians are not very efficient and experienced, municipalities have not planned to enhance their capacity development activities such as advanced/refresher training, exposure visits, etc. on a regular basis. Due to very limited experience of the field activities, their effectiveness in the service delivery has been reported rather low. Also, there is a high turnover of the agriculture staff due to the uncertainty of extending the contract and low remunerative packages.

Frequent transfers of key officials, mainly chief administrative officers, have affected the smooth functioning of the day to day activities. This issue is even more acute in the mid-hill and high hill municipalities. Reasons for transfers of CAOs are often mentioned as conflict with elected representatives. The role of CAOs is crucial in managing the municipalities both administratively as well as for the implementation of planned activities.

If a criteria of serving about 500 households by one technician is applied as a measure for modest service delivery, of the 134 municipalities surveyed across all provinces, more than 80% Municipalities will have severe human resources deficit. Amongst the provinces, Province 2 appears to be the most severely inadequate for agriculture/livestock technician with an average of 2230 households to be covered by one technician followed by Karnali and Lumbini provinces. However, an interesting fact is that where the municipalities are vibrant in agri-businesses, well connected with market centres and more demanding farmers are, municipalities have responded the need by hiring the technician with higher qualification from their own resources. The allocation of human resource in the municipalities does not show any specific trend in terms of number, positions, temporary or permanent appointment. In some municipalities, they have hired higher number of technicians from their own sources or through OVOT scheme on annual contract basis, so this sort of situation makes analysis of the HR situation difficult. Also, it has been observed that the approved positions for agriculture extension are four across the all municipalities irrespective of their household size or business activities; whereas the approved positions for livestock varies. The reason for this distinction is not clear at the moment. In the following section, province wise observations of the current human resource situation in the municipalities are provided.

Province 1:

Of the total approved 56 positions for agriculture and 86 for livestock in 14 municipalities, some 39.3% and 52.3% positions are vacant for agriculture and livestock services respectively. Per technician households coverage ranges from 389 households in Sakela to more than 3600 households in Fidim.

Table 5: HR situation of Province 1

Municipality	Households	Agriculture			Livestock			Total staff working	Coverage
		Approved	Filled	Vacant	Approved	Filled	Vacant		
Sakela	2335	4	3	2	5	3	2	6	389
Yangawarak	3096	4	4	0	5	4	1	8	387
Diktel	10050	4	4	0	6	6	0	10	1005
Siddhicharan	6994	4	2	2	8	3	5	5	1399

Municipality	Households	Agriculture			Livestock			Total staff working	Coverage
		Approved	Filled	Vacant	Approved	Filled	Vacant		
Phidim	10994	4	1	3	8	2	6	3	3665
Pakhribas	4398	4	3	1	8	2	6	5	880
Sahidbhumi	3876	4	2	2	5	2	3	4	969
Mahakulung	3225	4	2	2	5	2	3	4	806
Miklajung	6417	4	2	2	8	2	6	4	1604
Pathari	13956	4	3	1	6	4	2	7	1994
Hatuwagadi	4,579	4	2	2	5	1	4	3	1526
Ilam	4,732	4	2	2	6	4	2	6	789
Belaka	8,930	4	3	1	6	4	2	7	1276
Kamal	10256	4	2	2	5	2	3	4	2564
Total	93838	56	35	22	86	41	45	76	
%			62.5%	39.3%		47.7%	52.3%	53.5%	

Province 2:

There are 76 approved posts for agriculture and 120 for livestock in the selected municipalities. The percentage of fulfilled posts is only 47% of the total approved posts. The coverage of households by agriculture and livestock technician in these terai municipalities range as low as 403 per household to as high as 6547 households in Birganj metropolis (perhaps an outlier being a metropolis as very limited households are engaged in agricultural activities).

Table 6 : HR Situation of Madhesh Province

Municipality	Households	Agriculture			Livestock			Total staffs working	Coverage (Technician/HH)
		Approved	Filled	Vacant	Approved	Filled	Vacant		
Aurahi RM	4003	4	2	2	8	1	7	3	1334
Dhanauji RM	3717	4	1	3	5	1	4	2	1859
Dhanushadham Municipality	8553	4	3	1	6	2	4	5	1711
GaneshManCharnath M.	6648	4	2	2	5	2	3	4	1662
Hanspur M.	7660	4	2	2	6	2	4	4	1915
Janaknandini RM	4960	4	1	3	5	2	3	3	1653
Mithilibihari M.	6704	4	2	2	5	2	3	4	1676
Shahidnagar M.	7690	4	2	2	9	3	6	5	1538
Videh Municipality	5817	4	2	2	6	2	4	4	1454
Bishnupur RM	3469	4	2	2	6	3	3	5	694
Kalyanpur RM*	9391	4	4	0	5	5	0	9	1043
Karjanha M	6088	4	2	2	5	2	3	4	1522
Malangwa M	7912	4	2	2	7	3	4	5	1582
Kaudena RM	4073	4	1	3	5	1	4	2	2037
Prasauni RM	3626	4	3	1	6	6	0	9	403
Jitpur-Simara SMP	21670	4	2	2	11	6	5	8	2709
Bidabasini RM	3576	4	2	2	5	1	4	3	1192
Birganj MP	39280	4	2	2	7	4	3	6	6547
Bardibas M	13113	4	3	1	8	4	4	7	1873
Total	167950	76	40	36	120	52	68	92	
%			53%	47%		43%	57%		

Bagmati:

Of the studies municipalities, some 23% staff deficit is observed. Some municipalities (Gauri Shankar and Sunapati) have hired additional staff other beyond the approved positions. Majority of the working staff are junior level technicians with very little experience in the field. Per technician household coverage ranges from 291 in Kalika to 4577 in Budhanilkantha. Again, the case of Budhanilkantha can be taken as outlier as this municipality lies adjacent to the Kathmandu metropolis where agricultural activities are minimal. However, municipalities recently have encouraged for rooftop vegetable growing in the urban areas where the extension workers can be fully utilized for technical services.

Table 7: HR Situation of Bagmati Province

Municipality	Households	Agriculture	Livestock	No of approved staff	Existing staff	Vacant	Coverage
		Approved	Approved				
Rapti	15,437	4	5	9	6	3	2573
Thaha	8,649	4	5	9	5	4	1730
Dhudhauri	14,944	4	6	10	9	1	1660
Gauri Shankar	4,061	4	8	12	14	-2	290
Indrawati	7,244	4	8	12	10	2	724
Namobuddha	6,584	4	5	9	7	2	941
MadhyepurThimi	20,302	4	5	9	6	3	3384
Bhudhanilakantaha	32,039	4	5	9	7	2	4577
BenighatRorang	5,854	4	5	9	2	7	2927
Kakani	5,184	4	9	13	8	5	648
Makawanpurgadhi	4,826	4	5	9	8	1	603
Khaireni	12331	4	7	11	8	3	1541
Sunapati	4,705	4	8	12	13	-1	362
Bigu	4,418	4	8	12	8	4	552
Panchkhal	9,381	4	5	9	6	3	1564
Tarakeshwar	18,098	4	5	9	6	3	3016
Belkotgadi	7,941	4	5	9	8	1	993
Kalika	2,529	4	5	9	9	0	281
Total	184,527	72	109	181	140	41	
%					77%	23%	

Hired by Municipality source (17)

Gandaki:

In the selected municipalities of Gandaki province, there are 78 technicians working in agriculture and livestock sector. The coverage of households by one technician ranges from 416 in Dordi (Lamjung) to > 8000 in Beni (Myagdi). Had the positions been filled as per the numbers approved, one technician's coverage of households would come around 670.

Table 8: HR Situation of Gandaki Province

Municipality	Households	Existing staff	Agriculture	Livestock	Total Approved	Vacant	Coverage
Dordi	4394	8	4	5	9	1	549
Mangala	3672	6	4	5	9	3	612
Myagde	5396	4	4	5	9	5	1349
Phedikhola	2436	5	4	5	9	4	487
Annapurna	5655	5	4	8	12	7	1131
Beni	8652	1	4	5	9	8	8652
Sundarbazar	7199	7	4	5	9	2	1028
Putalibazar	9955	8	4	5	9	1	1244
Vyash	18339	13	4	6	10	-3	1411
Devchuli	12025	7	4	5	9	2	1718
Tamankhola RM	2043	4	4	5	9	5	511
Dharche RM	3932	4	4	8	12	8	983
Gharapjhong RM	1664	4	4	5	9	5	416
Harinas RM	3394	2	4	5	9	7	1697
Total	88756	78	56	77	133	55	
%		59%	42%	58%		41%	

Lumbini Province:

The staffs employed in agricultural sector are of 44% from federal and 56% from Municipalities. On average it appears that some 27% of agriculture staff is vacant. In relation to rest of the provinces, human resource deployment appears to be better off in this province. The reasons for this can be attributed to the fact of allocation of municipality fund for hiring the agriculture staff and motivation for the better service delivery in

agriculture. The per technician household coverage ranges from as low as 343 in Mallarani rural municipality in Pyutahn district to as high as 2550 in Tilottama municipality in Rupandehi. Tilottama is highly growing urban municipality having more industrial and business activities than agricultural activities. Similarly, this province has created a bunch of green volunteers in all the municipalities to act as first contact point for agricultural services.

Table 9: HR Situation of Lumbini Province

Municipality	Households	Existing	Agriculture (approved)	Livestock (approved)	Total Approved	Vacant	Coverage	If filled, HH coverage
Begnaskali RM	5,159	12	4	5	9	-3	430	573
Resunga M	8,353	4	4	5	9	5	2088	928
Sandhikharka M	10,581	6	4	5	9	3	1764	1176
Mallarani RM	4,120	3	4	8	12	9	1373	343
Sunawal M	15,084	8	4	6	10	2	1886	1508
Suddhodhan RM	6,145	6	4	6	10	4	1024	615
Mayadevi RM	6,810	12	4	9	13	1	568	524
Bhddhabhumi M	12,759	4	4	6	10	6	3190	1276
Khajura RM	10,671	7	4	8	12	5	1524	889
Madhuban M	11,243	13	4	8	12	-1	865	937
Tinau RM	3,988	6	4	8	12	6	665	332
Musikot M.	7,075	12	4	8	12	0	590	590
Sitganga M.	9,009	7	4	8	12	5	1287	751
Sunil smriti RM	6,503	7	4	8	12	5	929	542
Bhume RM	3,835	6	4	5	9	3	639	426
Tilottama M.	25,503	9	4	6	10	1	2834	2550
Banganga M.	15,894	12	4	6	10	-2	1325	1589
Lamahi M	10,309	5	4	6	10	5	2062	1031
Badhaiyatal RM	12,092	10	4	6	10	0	1209	1209
Total	185,133	149	76	127	203	54	26,250	912
		73%				27%		

Karnali Province: Looking at the human resources situation, some 32% positions are vacant. Some of the fulfilled positions may have been made through annual contract basis rather than on permanent basis. Highest level of experience is around 23 years. Some of the employees have obtained higher degrees in the subjects other than agriculture/livestock. Majority of the employees have TSLC educational qualifications.

Table 10: HR Situation of Karnali Province

Municipality	Households	Agriculture Approved	Livestock Approved	Total approved	Existing	Vacant	Coverage
Thuli Bheri	1,840	4	5	9	1	8	1,840
Chandan Nath	4,271	4	5	9	7	2	610
Khanda Chakra	3,556	4	8	9	3	6	323
Bheri	6,590	4	8	9	7	2	941
Kapurkot	3,827	4	5	9	6	3	638
Kumakh	5,806	4	5	9	6	3	968
Siddha Kumakh	2,452	4	5	9	8	1	306
Birendra Nagar	23,710	4	6	9	6	3	3,952
Barahatal	5,447	4	6	9	6	3	340
Gurbhakot	9,998	4	8	9	9	0	833
Bhagwati Mai	3,363	4	5	9	9	0	374
Bheri Ganga	8,895	4	8	9	8	1	1,112
Chaurjahari	5,422	4	8	9	5	4	1,084
ChhayanathRara	4,983	4	5	9	7	2	356
Kharpu Nath	1,132	4	5	9	4	5	283
Narahari Nath	4,992	4	8	9	6	3	713
Narayan	5,198	4	5	9	6	3	650
Simkot	2,445	4	5	9	5	4	306
Sinja	2,510	4	5	9	6	3	279

SubhaKalika	2,900	4	8	9	7	2	363
Total	109,337	80	123	180	122	58	16,271
Percentage					68%	32.22%	

Sudur Paschim Province: Of the agriculture and livestock technicians, most of the posts are filled by the local government, on contract basis from the municipality funding, which is insufficient to carry out the field activities, Among the CNA conducted municipalities, household coverage by one technician ranges from as low as 358 in DogadaKedar to 3000 in Punarbas in Kanchanpur. Some 37% positions are vacant, the percentage still may go up because the positions filled are largely done by the municipalities. Punarbas is a terai municipality with high population density, therefore the comparison for coverage can be misleading.

Table 11: HR Situation of Sudur Paschim Province

Municipality	Households	Existing	Agriculture	Livestock	Total Approved	Vacant	Coverage
Goumul	1,588	3	4	5	9	6	529
Mahakali	4,164	8	4	5	9	1	521
Dogadakedar	4,292	12	4	8	12	0	358
Badi Malika	3,129	8	4	8	12	4	391
Jay Prithvi	4,015	5	4	5	9	4	803
Chure	3,362	7	4	8	12	5	480
Gauri Ganga	11,854	6	4	5	9	3	1976
Godawari	16,978	8	4	5	9	1	2122
Krishnapur	10,016	9	4	6	10	1	1113
Belauri	9,970	9	4	9	13	4	1108
Thalara-HH	3,573	10	4	8	12	2	357
Sikhar-MH	6,591	3	4	8	12	9	2197
Amargadi-MH	4,778	4	4	5	9	5	1195
Alital-MH	3,280	5	4	8	12	7	656
Budiganga-MH	4,277	6	4	8	12	6	713
Pancheshwar-MH	3,125	5	4	5	9	4	625
Marma-MH	2,650	6	4	8	12	6	442
Mahakali-Terai	9,460	9	4	8	12	3	1051
Punarbas-Terai	12,001	4	4	5	9	5	3000
Ghodaghodi-Terai	16,141	7	4	6	10	3	2306
Total	135,244	134	80	133	213	79	
%		63%	38%	62%		37%	

4.3.2 Human resource situation at the federal and provincial level:

Having adequate human resource capacity is important for meeting the intended vision, mission, goal, strategies and activities of an organization. Over the past few years agriculture sector is constrained with requisite level of human resources in all three tiers of government. This is partly because the staffs working with MOALD and its subsidiaries during the unitary governance system have been reallocated to provincial, and municipal levels. New recruitment and promotion of existing staff has been slow due to delays in promulgating the Federal Public Service Act. Similarly it took longer time to set up the Provincial level Public Service Commission. Approved organizational structure and functions recommended by “organization and management” survey is also required to fill the vacant positions which is yet to be undertaken at provincial and local level. Hence, the gap between the number of approved and filled staff positions is widening every year. The following sections provide an overview of the staffing at the federal and provincial level.

Currently the federal-level agriculture staff are working at the following organizations:

- MoALD
- Department of Agriculture (DOA),
- Department of Livestock Services (DLS),
- Department of Food Technology and Quality Control Center (DFTQC)
- Seed Quality Control Center (SQCC),
- Plant Quarantine and Pesticide Management Center (PQPMC),
- Agriculture Information and Training Center (AITC);
- National Farmers' Commission (NFC); and
- Prime Minister Agriculture Modernization Project (PMAMP).

Some of the above mentioned entities have their offices in the provinces and districts, e.g. PMAMP in which staffs are deployed by the MoALD. In addition to this, there are other federal level semi/autonomous institutions such as: Nepal Agriculture Research Council (NARC), different boards, corporations, committees, and companies managing human resources with their own recruitment rules and regulations.

Given the longer transition to recruit new staff, number of staff working in the MoALD has been found to be satisfactory. By the end of FY2019/20, about 16% percent of the approved positions were vacant. Some vacant positions were filled temporarily by contractual staff wherever possible. However, the human resource situation in other federal-level institutions was much lower. Around 6 percent of positions in DoA and 15 percent of positions in PMAMP were vacant. Details are presented in Table 15 below.

Table 12 Staffing Situation in MoALD and Related Federal Institutions

SN	Institutions	Approved Positions	Filled Positions	Vacant Positions	Vacancy %	Remarks
1	MOALD	161	135	26	16.15	
2	SQCC	22	17	5	22.73	
3	AITC	44	34	10	22.73	
4	PQPMC	140	78	62	44.29	
5	DOA	234	220	14	5.98	
6	DLS	552	404	148	26.81	
7	DFTQC	370	245	125	33.78	
8	PMAMP	741	632	109	14.71	
	Total	2,264	1,765	499	22.04	

Source: Annual Progress Report of MOALD, 2020/21.

Province Level: At the provincial level, there are agriculture ministries in all seven provinces. Secretaries of the ministries are deputed from the federal level. However, there are several institutions under the ministry, such as the Directorate of Agriculture Development (DoAD), the Directorate of Livestock and Fisheries Development (DoLFD), and two distinct training centers on agriculture and livestock services, laboratories, farms/centers. Furthermore, there are district based provincial offices providing agriculture and veterinary services, namely Agriculture Knowledge Centers (AKCs) and Veterinary Hospital and Livestock Services Expert Centers (VHLSECs), respectively. Staff under these institutions are employees of the provincial ministries.

The structure of ministries, and the number of AKCs and VHLSECs have been changed over the last years, resulting in changes in approved staff positions. There are around 3,100 approved positions in provincial-level organizations, out of which around 38 percent were vacant by the end of FY2020/21. The highest number of vacant positions were in Gandaki (43.24 percent) and lowest in Karnali (28.45 percent) province. Some provinces have recruited technical staff on a contractual basis to meet their human resource needs. Details on the staffing situation by province are presented in Table 31.

Table 13 Staffing Situation in provincial ministries and Related Provincial Institutions

Province	Approved	Filled	Vacant	%
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Province 1	432	297	135	31.25
Madhesh	416	238	178	42.79
Bagmati	608	347	261	42.93
Gandaki	451	256	195	43.24
Lumbini	444	300	144	32.43
Karnali	362	259	103	28.45
Sudurpaschhip	392	226	166	42.35
Total	3,105	1,623	1,182	38.07

Source: Provincial Agriculture Ministries (from all 7 provinces) 2021/22.

4.3.3 MoLMAC and Subsidiaries:

Over the last decade or so, there has been noticeable growth of agricultural, horticultural, fisheries and livestock commercialization. The growth phenomena can be attributed to the increasing urbanization, consumerism fuelled by remittances, monetization and host of other embedded factors associated to agriculture sector. So, in this context, MoLMAC and its province based subsidiaries should proactively move towards working out a mechanism in which building and promoting capacity of the private and commercial sectors to make them thrive in production, processing, marketing, quality improvement and applying trade related regulations and standards. This can, however, be done through programmatic actions, training, mentoring, counselling, exposures and other complementary supports.

One of the weak areas of the agriculture service delivery has been identified as having inadequate information and knowledge base and dissemination mechanism. This is the area in which MoLMAC can act to expand the information and knowledge system departing from conventional approaches and methods. In this context, ABPTSCs and LSTCs (In the case of Karnali Province these training institutions are merged) need to build their capacity and widen the vision of the institution from merely providing training events to a vibrant service and technical agency in providing agribusiness and industrial information and services to needy, prospective and progressive agro-entrepreneurs and investors. Currently, there is no interfacing mechanism between the province based MoLMACs, private sectors and service providers beyond government agencies. MoLMAC should instrumentalize the ABPTSCs and LSTCs in this direction to develop an appropriate interfacing mechanism.

4.3.4 Technical capacity of the staff and municipality representatives:

Majority of the municipality level agriculture and livestock technicians have got the Technical SLC level qualifications and majority of them are fresh graduates having less than 3 years of work experience. The main responsibilities of these staff are to implement, monitor and report agriculture and livestock activities. Furthermore, they assist to implement thematic programs received from federal and provincial governments, identify and collect farmers' problems, deliver technical support to the farmers, facilitate the planning process of municipality, and coordinate with agricultural associations. The role and responsibilities of these staff is rather different and more demanding than before the federal structure. They have also to perform some administrative tasks as delegated by the municipality administration. Ward technicians do the work assigned by the staff one level above them.

Unlike Permanent staffs, the contractual staffs do not have the opportunity to receive the pre-service entry orientations about the procedures and ToR of the tasks they are supposed to deliver. Also, almost all the municipalities do not have the capacity development plan for their staff. Municipalities were not so much aware on ADS and had not incorporated its framework during planning process before the intervention of the EU TCF to ADS. Some changes in adopting the ADS can be observed in the municipalities with the training, counselling and regular interactions organized through TCF organized orientation and training programs across all provinces for all the municipalities. The technical staffs of municipality level are not well qualified in program planning methods, analysing the potentialities for the commercialization of crops and livestock.

The approved staff level for both agriculture and livestock, in the seven provinces is 3012 for agriculture and 4712 for livestock. The level of staffing has been further categorized from officer level 9/10 to assistant level 4. The provincial public service commissions across the provinces have recently recruited the local level staff but interaction with the municipalities recently indicates that there are still many more vacancies to be filled.

4.3.5 Service Delivery:

Services provided by sectoral offices are still transitioning from district and federal offices to local governments. While local government representatives seemed enthusiastic about service centers coming to the local level, there was still lack of clarity on how and where these services were to be delivered⁹. Similarly, district-level agriculture experts were not available at local units and many important technical tasks were being carried out by junior technicians. Provinces also started establishing directorates and knowledge centers under different sectors but there was no proper coordination between the local governments and the provinces.

4.3.6 Capacity building and training:

There is no survey of public sector training needs in place in Nepal. That is to say, there is not yet a plan that lays out the kind of training and capacity building that is necessary for government officials in the federal system. Nor is there an estimate of how much it might cost to put such a capacity development system or an institutional arrangement in place to accommodate this level of training. The Federal level Capacity Needs Assessment (FCNA) survey, conducted by UNDP/World Bank provides a picture of the magnitude of the needs for capacity development at the provincial and local level, is a step toward making such a plan¹⁰. This situation, to a large extent, is further corroborated by this study.

Local level planning guideline prepared by the National Planning Commission (NPC) has clearly stipulated the requirement of human resources need identification and projection. It has prepared a format and through O&M process this task can be conducted as per the need, local situation, workload, priority programs and policies, administrative and legal provisions and rights of the local level.

The adoption of federalism has resulted in changes in the governance structure, which has seriously affected the agricultural data collection and database management aspect. The evidence-based planning calls for the need of updated agricultural statistics at municipal level disaggregated up to the ward levels. But the municipal staffs lack capacity in necessary tools and methods. On the other hand, Nepal still lacks proper identification, registration, and classification of farmers, thus creating gaps and overlaps in providing services to the needy farmers. Realizing such situation, given the mandate included in Right to Food and Food Sovereignty Act (2075), the Ministry of Agriculture and Livestock Development (MoALD) has developed a Farmers' Registration Software, which aims gather relevant details from farmers across the country to identify, register and classify them based on a number of criteria. The Software need to be rolled out in all municipalities of the country through mobilization of municipal level technicians. In addition, the federal government provides conditional budgetary support the local municipalities the specified activities as agriculture data collection, database management, development of municipal agriculture profile as well as for farmer's registration of the municipalities using the software developed by the federal ministry with the support from TCF to ADS.

On the other hand, due to the restructuring and redeployment of human resources, there are gaps in staffing and skills at municipal level. The technical capacity of the existing agricultural human resources seems quite inadequate in planning, monitoring and evaluation and providing regular extension services. Hence, it is crucial to provide the knowledge and skills on the above subjects to the technical manpower of the municipalities involved in agriculture/livestock sectors. As according to the terms of reference of the agriculture section, the staffs are responsible for overall planning, management and implementation of the agricultural activities and are subject to performance evaluation at different time intervals in a year. Most often it has been reported the fact that the elected officials accord very low priority to the agriculture and turn down the plans and initiatives proposed by the agriculture technician. So, in addition to agricultural staffs capacity development, it is also important that the elected members of the municipalities responsible for planning and resource allocation for the agriculture sector need to be oriented to be able to understand the importance of agriculture sector, its potentials for improving the livelihoods and priority based planning. By having enhanced knowledge on the general perspectives of the agriculture, current situation may improve with heightened commitment for agriculture.

⁹DRCN 2019. Functioning of Provincial and Local Governments in Nepal.

¹⁰ World Bank, UNDP (2019): Nepal Capacity Needs Assessment for the Transition to Federalism

Box 4: Opinion of a mayor in Nawalparasi

“Elected officials are largely obsessed with the idea of building infrastructures, e.g. roads, drinking water, school buildings but agriculture. This is partly because we give relegated position to agriculture because elected representatives have very limited knowledge on the subject. And also we think that agriculture is our age-old occupation, it moves as usual anyway even without larger investment”.

Mayor of Sunawal Municipality, Nawalparasi (Feb 2021)

In this context, as a part of capacity enhancement effort, TCF to ADS in collaboration with MoALD and MoLMAC of all provinces designed a capacity building program targeted to the agriculture and livestock technicians of the municipalities across provinces to enhance their knowledge and skills on agriculture planning, data collection, database management, and agriculture profile development of the municipalities and registration of farmers using the computer software program. The TCF to the ADS followed a Training of Trainers (ToT) methodology as this technique further contributes to ensuring sustainability and mitigate the impact of staff turnover during the project lifetime. The TCF to the ADS designed a two stage ToT to the core team of trainers identified in each province sourced among the key agencies under MoLMAC, primarily the Knowledge/Service Centre staffs. The approach is expected to ensure that the core team of people have the skills to trickle down and further train relevant staff at municipal level with the needed skills.

Upon finalization of the 2-Stage ToT, a three-day long cluster level training program on ‘Agricultural Development Planning, Database Management and Farmers’ Registration Software’ was designed and organized with the aim of enhancing the capacity of municipality level participants. The sessions included understanding importance of agriculture and Agriculture Development Strategy, understanding provincial and municipal planning process, planning tools and project cycle, agricultural database and municipal profile, farmers’ registration software and program planning and budgeting. The sessions were organized with presentations, group exercises, field exercise as relevant, and interactive sessions (key focus of training is presented in Box 1 below, please refer to Appendix 5 for details of the schedule). Training materials were prepared including a training guide for trainers and a guide for implementation.

Box 5: Key focus of cluster level training

Importance of Agriculture

Highlight the current situation and key trends of agriculture and livestock sectors particularly relevant to the concerned municipality.

Understand the importance of agriculture and livestock sectors in the rural economy and need to emphasize agriculture and livestock sectors during the planning process.

ADS

Enhance their understanding of the ADS Vision and Key Elements.

Understand ADS Indicators and Targets and their relevance to the municipalities.

Realize the need to consider ADS as a strategic framework for agricultural planning at the municipal level.

Align agriculture-related activities of municipal periodic and annual plans with the vision, outcomes, and indicators of the ADS.

Planning

Understand the current planning process followed by the MoLMAC and related agencies in the concerned province.

Formulate local government’s plan in line with the provincial priorities through their enhanced understanding of policies and strategies of the MoLMAC.

Understand the key strengths of the current planning process being followed by the municipalities.

Understand the key weaknesses of the current planning process being followed by the municipalities.

Make necessary improvements in the current planning process resulting in more evidence-based and need-based planning.

Planning tools

Define the project concept, particularly the scale, purpose, and duration, and link the elements of the project cycle with the planning process.

Apply project appraisal criteria such as technical, financial, economic, social/gender, institutional and environmental, to ensure that the project is viable.

Understand the applicability and usefulness of a range of planning tools in the agriculture development planning process at the municipal level.

Box 5: Key focus of cluster level training

Apply the planning tools during the annual agricultural development planning process at the municipal level.

Value chain

Understand the concept of the value chain and its applicability in the agricultural development planning process at the municipal level.

Follow a sequence of steps in value chain identification and prioritization.

Apply the value chain prioritization tool during the annual agricultural development planning process at the municipal level.

Database and profile

Understand the importance of data for agricultural development planning, monitoring, and evaluation at the municipality level

Apply a range of reporting formats during planning, monitoring, and evaluation.

Understand the structure of the agricultural database prepared by the MoALD and municipal profile

Database

Database: sources of data, collection techniques including developing the checklists and questionnaires

Apply a range of data collection techniques at Municipality and ward level.

Triangulate and validate data collected from different sources

Farmers' registration software

Understand the structure of the Farmers' Registration Software and the Guidelines prepared by MoALD.

Understand how to use the software to enter farmers' data.

Understand the process to access and verify the data entered by the farmers.

Program planning and budgeting

Understand the approaches of program planning and budgeting including the planning formats being used, particularly the NPC guidelines and formats.

Identify technical solutions and institutional/policy changes to enhance crop/livestock productivity and lead to profitable commercialization.

Align annual plan activities with ADS and ensure coherence with provincial and national periodic plans.

Assess the resource need and formulate the budget for annual program activities.

Prepare the action plan for agricultural development in the municipality.

The cluster level training has been completed in all 77 districts covering all 753 municipalities in the country. Some 1,474 persons were trained of which 16 percent were female. The province wise summary breakdown is given in Table 14 below and the details for all districts and provinces are provided in the following sub-sections.

Table 14: Summary of ADP Cluster Level Training

Province	# of districts covered	# of Municipalities covered	Participants		
			Female	Male	Total
Province 1	14	137	57	219	276
Province 2	8	136	22	240	262
Bagmati	13	119	58	162	220
Gandaki	11	85	32	129	161
Lumbini	12	109	27	188	215
Karnali	10	79	19	144	163
Sudurpaschim	9	88	20	157	177
Total #	77	753	236	1238	1474
%	100	100	16.01	83.9	100

The capacity building training of the technical staff of municipalities was carried out by the officials of MoLMAC, who were provided with skills and knowledge through the 2-stage Training of Trainers (ToT) program as discussed in previous section. In addition to the ToT trainers, officers and technicians from the MoLMAC and its institutions in all provinces were provided with three-day training of trainers (ToT) on use of computer software on farmer registration and data collection and database management and these individuals were used

for farmer registration and database management component of the training. In addition, other expertise was also drawn from the province as and when required and available.

The technical session of the workshop was preceded by an exercise designed to identify the expectations of the participants. The participants spelled out the following expectations from the training workshops:

- Understanding of Agriculture Development Strategy
- Develop a data base for Municipality and ward level
- Adopt seven steps of planning process in the Municipality
- Carry out farmers registration procedure and activities in the Municipality
- Know about value chain analysis in the Municipality level
- Prioritization of commodities in ward level based on value chain analysis
- Develop action plan for Municipality based on existing policies of federal, provincial and local level.

4.3.7 Capacity development through PLGSP:

The other institution active in the capacity development of the provincial and local government is PLGSP through which officials and elected representatives of the provincial and local government officials have enhanced their knowledge and understanding of GESI, public finance management, budget planning, RIAC's role, LISA/MTEF, IT & e-governance, monitoring and evaluation, service-entry and on-the-job training, law drafting and revision, SuTRA, CD plans, RIAPs of LGs, and have applied the acquired knowledge in the planning of local development initiatives. Over the years, PLGSP has provided capacity development training on the aforementioned themes to more than 2000 elected representatives and civil servants.

4.3.8 Local Development Training Academy:

In order to support local level government in their capacity development, Government of Nepal has established Local Development Training Academy (LDTA) which is governed by a council headed by the minister/state minister of MoFAGA. After the introduction of the federal government structure, LDTA has been quite instrumental to provide various capacity development related training programs targeted for local level officials, both political and employees. Over the years, LDTA has prepared varieties of training modules and materials which include:

- Integrated local development planning system” 2078– for local level instruction and training materials, 7 days training module
- Monitoring and evaluation for instructors- 5 days
- Office management – 6 days
- Policy making 7 days
- ICT – 7 days
- Nepali Language proficiency (shuddhalekhan) – 3 days
- Local fiscal management – training material – 7 module for 7 days prepared by PLGSP -2078

Recently, MoFAGA has prepared a 10 year long strategy (2077/78 – 2087/88) of the ministry, in which ample spaces has been given for the wide ranging issues of the capacity development of local level. One of these include the conduction of regular training needs assessment of the local level and on the basis of that it aims to provide need based training for them. It aims to strengthen the capacity of the Local Development Training Academy (LDTA) for this task.

In order to enhance the capacity of the municipalities, MoFAGA has prepared the “Capacity Development Plan Preparation Guideline” 2076. To bring this guideline into effect, the ministry has already circulated the checklists to all the municipalities to send the training needs assessment for the representatives and employees (2078/07/10).

4.3.9 Assessment of the training needs:

Training is one of the important methods for developing and enhancing the capacities of individuals to improve their performance. In future, training technicians to enhance their knowledge, skills, and practices would be a major investment for the Government of Nepal in general and the provinces and municipalities in particular. The role of municipality technician will be much higher in future and that will demand for a substantial skill

requirement to deal with various aspects of agriculture and livestock. The findings from this assessment identified some key problem areas of knowledge and skills deficit of current human resources deployed in the municipalities. In order to address the knowledge and skills gap, the areas divided under three main headings:

1. General subjects – this topic generally deals with the subject headings e.g. Planning, monitoring and evaluation, policy formulation, human resources management, project design, computer proficiency, GIS, government rules and regulations and decision-making processes.
2. Technical training – although the need expressed for technical trained varied across the geographic regions ranging from specific training needs to general to suit to their situation. Some of these commonly expressed training include: agricultural production, disease and pest management, extension methods and techniques, vegetable production, post-harvest management, fruit plantation and harvest (local to exotic e.g. avocado, kiwi, strawberry, dragon fruit, etc.), Good agricultural and horticultural practices, improving nurseries propagation techniques, soil test, best practices in the use of fertilizers, herd management, Artificial insemination, livestock management, livestock disease management, organic agriculture, fisheries, trout fish farming, to name but few.
3. Agri business, management and organization skills training –agri-business, agro-entrepreneurship, business skills, management training and organizational capacity building, marketing techniques use of ICT for marketing, management/business skills, business planning, marketing, value chain analysis and value addition, food safety and hygiene.

In Nepal, training for agriculture and livestock technicians are mainly offered by the ABPTSCs and LSTSCs in the respective provinces. In addition, municipality technicians may receive trainings from different sources e.g. NGOs and Producer Organisations; agricultural education institutions, BFIs and agribusiness companies. Providing training with a view to develop human resources is a costly exercise and a single institution may not be able to cater to all the training events. In this context one way of achieving this would be through institutional collaborations between and among the institutions according to their strength and mandate. Past training programs have been ad hoc or project-based and therefore lacked continuity. Therefore, in the future municipalities and provincial training institutes should draw a long term HRD plan with sufficient funding. Similarly, alliance can be forged with the LDTA, Women's Training Centres, NARC and subject specific training providers as a mechanism for capacity building and capacity strengthening activities. In addition, organizing of exposure visits, thematic talk programs, conferences and agro technology and trade fair attendance should be encouraged and planned for the capacity development of the agriculture and livestock technicians of the municipalities.

4.4 Monitoring and Evaluation (M&E)

As per the regulatory provision of the local government operation Act, deputy mayor/deputy chairman of the municipality is the ex-officio head of the monitoring and evaluation committee. Other members of the committee include senior executive officer, engineer, ward chairperson, municipal staff concerned and ward secretary. The ToR of this committee is to conduct on-site monitoring of the programs implemented at the municipality level and recommend for the corrective measures if required. Furthermore, it provides reports to the municipality council regularly over the performance of the activities launched from the conditional grant budget received from the province and federal governments in addition to the programs implemented by the municipality. Also, in the organizational structure of the municipality (in general) under the Administration, Planning and Monitoring section, a sub-section/unit on M&E has been provisioned. However, this is not clear as what are the roles of the M&E committee under the management of deputy chair/mayor and the planning and monitoring unit under the civil servants.

In general, the planning and monitoring unit is staffed with a 6th level officer and one assistant of 4th level staff. The ToR of the planning and monitoring unit is as follows:

- Formulation, implementation, monitoring and evaluation of local development policy, short term, medium term and long term development plan and master plan
- Formulation, implementation, monitoring and evaluation of the projects for economic, social, cultural, environmental, technological and infrastructural development
- Annual development program, planning and implementation
- Formulation and implementation of local people's participation enhancement program in the development process
- Environmental impact assessment of development plans
- Determining priority areas for development
- Coordination, facilitation and assistance in federal and provincial planning, project implementation
- Monitoring of development projects, periodic progress and review of impacts
- Determining the basis and procedure for monitoring and evaluation of development plan
- Study, research and impact assessment of the project
- Monitoring and evaluation of thematic policy
- Local policy and planning related to local public-private partnership
- Selection and implementation of local public-private partnership projects
- Public community partnership
- Promotion of private sector in local development

This study finding in general indicates the fact that there are many shortcomings in the overall M&E system of the municipalities, although some have fared well in establishing the system. These include lack of timely (regular interval) monitoring, lack of systematic recording of monitoring reports, lack of systematic feedback mechanism and follow up, inability to use proper indicators, etc. Although some of the municipalities have taken initiatives to establish their database and management system with regular update, large numbers of the municipalities have not started it yet. Data is collected mainly from the household level through certain formats, checklists and questionnaires.

A slightly different format is used when collecting data related to agriculture and animal husbandry. Municipalities do not have separate online software and apps for data collection and there is no system to store data online. It has been found that the information and data from various agencies have been used for formulating the development plan of the municipality. The municipality administrations expressed their view that the employees of the municipality do not possess required level of skill on database management, for which the staff should be provided training.

Although the officials involved in the monitoring and evaluation work are aware of the general methods of M&E, they feel the need to develop their capacity for effective planning and monitoring such as preparation of the standard procedures for monitoring and evaluation, develop objective oriented monitoring indicators and basic technical issues in all thematic areas.

The DCC is envisioned by the Constitution as a coordinating and monitoring mechanism of local governments but its involvement in monitoring of the municipality level has remained mix for DCCs involvement is based on the invitation of the municipalities which is rather optional than mandatory and DCCs lack financial and human

resources for such tasks. Similar finding has been reported by DRCN study found that they were yet to function effectively. In absence of clear terms of reference, lack of executive authority and resources, the monitoring done by DCCs was largely inconsequential. DCC's limited influence in monitoring was widely acknowledged by members of DCC¹¹. PLGSP- a project under the MoFAGA has prepared the Planning and Monitoring Software/Guideline for local governments, however, it has not been piloted as yet. According to the report, PLGSP aims to conduct piloting the computer based software to comprehensively collect the data in selected municipalities in the current fiscal year. Similarly, the GoN has approved "Rural/Urban Profile Preparation Procedure 2075". Its main objective is to facilitate the evidence based development planning and service delivery mechanism of local level through formulation of policy, plan and program. For this, local level profile needs to be updated. It consists of documentation of basic data on natural, physical and cultural resources, unemployment record, and various technical information and their analysis.

In the section below, province wise assessment of M&E system and its implementation is discussed.

Province 1:

By way of (mandated) standard organizational structure for the municipalities monitoring and evaluation unit has been set up in all the municipalities. Monitoring and evaluation unit comes under the Administration, Planning and Monitoring Section. However, the task of monitoring is carried out by a committee coordinated by deputy mayor comprising other members from ward chairs, other functional sections and technicians as required. Federal and provincial governments conduct field level monitoring and evaluation for the program funded/operated in partnership with the municipalities. However, there is no structured format for monitoring and systematic recording, analysing and reporting has been observed weak. Indicators and targets are not defined in a systematic manner nor there is a logical framework developed. Geographical complexity and remoteness including lack of technical staff pose challenges for regular monitoring of agricultural activities,

Upon the establishment of the new governance structure, most of the municipalities prepared their village profile and collected some basic database. Data are collected from (representative) households using survey questionnaires. Agriculture related data is collected by agriculture and livestock unit. In Belaka municipality, software has been used to collect and store agriculture related data. Capacity gap for M&E system operation and plan, proper analysis and lack of regular feedback have been noticed in all the municipalities.

Madhesh Pradesh

Monitoring and evaluation section has not been established in most of the selected municipalities, however, a monitoring committee has been formed under the leadership of deputy chief and supported by two or three officials as well as ward chairmen. It has been found the committee regularly monitors the program activities of respective municipality. In monitoring the programs the subject matter specialists are involved by the committee but no formal approach with proper recording and follow up are planned.

Of the selected municipalities that federal and provincial agricultural institutions have not carried out monitoring and evaluation of the agricultural activities till date. However, monitoring from federal and provincial level has been done in MithilaBihari municipality, however it is not clear as what was the monitoring for. Normally for the conditional grant provided by the federal or provincial government and specific projects implemented in collaboration with the municipalities are monitored by the federal and provincial governments.

Some of the municipalities (Aurahi and Dhanauji rural municipalities and Dhanushadham municipality) have developed their profiles plan to update it in a five year's interval by collecting data using checklists and questionnaire from sample households. Many corrections are necessary in the profiles of municipalities. Some information/data need to be corrected and some lacking data should be added in those profiles. In the prepared profiles data on land distribution pattern, production parameters are not included. Some of the municipalities are in the process of preparation of their municipalities profiles. Some data for the profiles preparation have been collected from the sources other than questionnaires. Moreover, it has been found that the municipalities are using the available database for planning purpose.

Almost all of the municipalities have not used any software or apps for data collection and have not used online system for data storage but two municipalities have prepared digital profiles by using the computers. The municipalities intend to go to digital system and require technical support to adopt this technology and technical support for developing the monitoring formats and also report writing skills. Dhanauji rural municipality has recruited one IT engineer for using computers and software in planning, reporting and other activities.

¹¹DRCN (2020): The Interrelationship between Three Levels of Governments in Nepal's Federal Structure

TCF to ADS prepared the agriculture profile format which will be useful in future and for its use municipality technicians have been trained during the ADP training. As the database is necessary for the developmental activities in the municipalities' proper approach and methodology for data collection and processing capacity development for skill upgrading will be essentially required for the staffs concerned.

Bagamati:

In all Municipalities, the program monitoring is carried out under the chairmanship of Deputy Mayor/Vice-chairman with some team members involved from relevant sections. However, these are carried out on ad-hoc basis, unsystematic methodology, supervision and weak recording and follow up plan. In some of the municipalities digital profiles are prepared but these are not updated.

Gandaki:

Monitoring and Evaluation (M&E) system applied are more or less similar across all municipalities as well as rural municipalities. In most of them, they do not have a separate division of M&E in the municipality's organizational structure- rather is confined in a section which is largely understaffed and deployment of less experienced and trained personnel about the system and its philosophy. The function of M&E of the program is conducted with the coordination of deputy chair comprising ward chairpersons, members and technical staff. Some data is collected at the household level but its proper storing and analysis has been found lacking. Having proper database system of all the municipality is of major concern mainly for planning and comparing the results. Moreover, it has been noticed that most of the municipalities have not updated and managed the data as per the scientific methodology. Deficit of trained human resources is attributed for the data collection, storing and analysis.

Lumbini:

M&E system is as similar the municipalities of this province as that discussed above. Effective monitoring and evaluation is the key to effective budget implementation. Municipalities do not have separate M&E section. No formal approach with proper recording and follow up is done in the monitoring. Most of the program activities are monitored by related sections. Apart from, elected representative including mayor and ward chairperson also monitor and evaluate the ongoing activities. In all Municipalities, the program monitoring is carried out under the chairmanship of deputy mayor/vice-chairman with some other team members consists of mayor, planning officers, engineers and agriculture officers. Monitoring of field activities carried out by agriculture /livestock technicians and they submit their monitoring report to Chief Administrative Officer. In some of the municipalities for ward level monitoring and evaluation of the projects and programs a monitoring and evaluation committee has been formed with ward chairman as co-ordinator, ward members as members and ward secretary as member secretary and other members as deemed necessary included in the committee.

Regarding the database, most of the municipalities have very scant data on land distribution pattern and there are very few agriculture related information documented. However, efforts are underway in the municipalities to collect data and updating their profile. Buddhabhumi and Khajura Municipality have prepared municipality profile with the prescribed format which includes mainly the items such as profile description, framework, tools, data processing, analysis and preparation of resource maps.

None of the municipalities have used any software or apps for data collection and have not used online system for data storage. The Municipalities are still practicing obtaining data from secondary sources of previous Village Development committee (VDC) and DADO profile. Since reporting have been found on a piecemeal basis. So, the technicians need technical support to develop monitoring formats and report writing skills for municipality level profile preparation.

Karnali:

A separate unit has been set up for monitoring and evaluation in all the municipalities of the province. Monitoring and evaluation of various programs are conducted under the chair of deputy mayor/deputy chairman of the concerned municipality by involving ward chairs and technical staff concerned. Monitoring activities are mainly conducted with on-site monitoring of the programs conducted at the municipality level.

There are many shortcomings in the overall M&E system of the municipalities, these include lack of timely monitoring, lack of effective monitoring, non-compiling of monitoring reports in a systematic manner, inability to report the monitoring work after monitoring, inability to use proper indicators etc. Although the officials involved in the monitoring and evaluation work are aware of the general methods of M&E, they feel the need to develop their capacity for effective monitoring. The training should focus on capacity building programs, especially on

planning and monitoring, standard procedures for monitoring and evaluation, monitoring indicators, and basic technical issues in all thematic areas.

Generally, databases have not been prepared in the municipalities; however, when needed these are collected from ward level. Data is collected from the representative households through certain formats, checklists and questionnaires. A slightly different format is used when collecting data related to agriculture and animal husbandry. Municipalities do not have separate online software and apps for data collection and there is no system to store data online. The collected information and data from various agencies have been used for formulating the development plan of the municipality. The municipality thinks that the employees of the municipality do not have much database management skills and for this they should be provided training.

Sudur Paschim:

Most of the municipalities have developed their profile, though with incomplete data. None of the municipalities have data on land distribution pattern, nor the production parameters and figures. Updating of the data is carried out in some municipalities with sample data collection every year. None of the municipalities have used any software or apps for data collection and have not used online system for data storage and need technical trainings and support to adopt this technology.

Updating of the data is carried out every year, for which data collection from the sample households is carried out. However, to make the standard profiles and data management system, these profiles will have to be updated in a uniform pattern and data collection and entry system will have to be standardized for all. None of the municipalities have used any software or apps for data collection and have not used online system for data storage and need technical trainings and support to adopt this technology. Moreover, municipalities desperately need technical support to develop monitoring formats and report writing skills.

4.5 Budgeting

Inter-Governmental Fiscal Arrangement Act 2074 was enacted to implement intergovernmental fiscal transfers among the three levels of government. The IGFA Act defines the process related to the transfer of grants, revenue-sharing, borrowing, budget management, public expenditure, and financial discipline for all three levels of government. Under the federal system, the provincial and local governments started to receive fiscal transfers from the federal government since 2017/18.

A common process for the budgeting of the municipality is that the executive body receives federal and provincial budgetary ceilings and policy guidelines which then need to be reworked according to the ability of the municipality to raise revenues. The revised version of the budgetary and policy guidelines is then forwarded to the ward committees with clear mandate to deliberate them in communities. It has been observed that municipalities with more financial and technical capabilities have been organising informal forums at diverse communities to communicate such budgetary and policy guidelines as well as listen to what ordinary people in communities have to say. In others, ward committees organise broader semi-formal deliberative forums with the aim of discussing budgetary and policy guidelines with elites representing professionals such as teachers, health workers, NGOs, private sector and politicians. The end product of such deliberative forums—both at the semi-formal and informal levels—need to be forwarded to the executive body of the municipality. The executive board then forwards the proposals to the Council for final decision-making. All these tasks require at least nine different activities under three different stages.

Provincial and local governments are predominantly financed through multiple intergovernmental transfers and revenue sharing, which account for between 8 and 9 percent of GDP per year¹². Articles 60 (3) to 60 (6) of the Constitution has established four categories of grants, e.g. fiscal equalisation grants, conditional grants, complementary grants, and special grants. These grants are provided by the federal government to provincial and local levels and by provincial governments to local levels. Furthermore the recently released report of the World Bank on - Fiscal Policy for Sustainable Development Nepal – Public Expenditure Review has stated that Nepal's system of fiscal transfers is relatively transparent, rule-based, and predictable.

The ability to effectively operate the municipalities lies in their financial capacity in terms of its judicious allocation and absorption capacity. With the promulgation of the federal structure, Municipalities receive direct budgetary support from the federal as well as provincial government to implement its annual plans and activities under the fourfold grant regime established by the Constitution (conditional grants, complementary grants or special grants, and equalization grants). This applies for the agriculture sector, too, that the expenditures have to be made within these four categories.

At the Municipality level the Resource Consultation and Budget Ceiling Allocation Committee assigns the prior ceiling for preparing the sector specific budget. While reviewing the allocated budget scenario of the Municipalities of last three fiscal years (FY 2076-77, 2077-78 and 2078-79), it generally demonstrates the increasing trend of the budget allocation in around 90% of the Municipalities surveyed. The percentage of the budget increase ranges between 0.66% to 9%. In monetary terms the agriculture and livestock sector of the Municipalities have received the budget as low as Rs. 2.66 million (Sudur Paschim) to Rs 16 million in one of the Municipalities of Lumbini province. In some Municipalities, agriculture budget has been reduced this year, however, majority of the Municipalities (~90%) have received increased budget allocation lying with the range of 0.6 to more than 300%. The increasing budgetary allocation trend for agriculture sector in the municipalities generally indicate the increased priority for agricultural sector development. Although this seems still very low in relation to the budget provided to other sectors and in view of the supposedly higher importance accorded to the agriculture sector in the Municipalities through its annual stated policy and political commitment.

Furthermore, the reason for the incremental budgetary provision for the agriculture and livestock sector can be attributed to the increased demand for agricultural activities spurred by the increasing access to market opportunities and rural road networks thus stimulating the growth for vegetable and livestock production. The output of the increased budget can be witnessed as most of the municipalities have prioritized for the regular supply of essential inputs, services and mechanization, also at times through private sector as well.

Despite the growth in budgetary volume, however, there appears that the absorption capacity of the municipalities is still low, this can presumably be ascribed to the inadequate and less competent human

¹² World Bank, 2021: Fiscal Policy for Sustainable Development Nepal – Public Expenditure Review

resources deployment, mismatches in prioritization of the activities, inadequate provisioning of critical services and complex procurement procedures to follow.

To assess budget allocation at the local level, available information from nine-to-10 selected municipalities from each province were used, although some municipalities could provide information only for the current FY, some for the last two FYs, and others for the last three FYs. Details are provided in Tables 15 to 21 below.

4.5.1 Budget in the municipalities

Province 1

Among the nine municipalities from Province 1, allocation of agriculture budget against total budget significantly varies, ranging between one percent to 4.6 percent, mainly due to their type (urban and rural), size, technical staff capacity, and agriculture potentials. Table 15 provides details by municipality for FY2021/22, as information could not be accessed for previous FYs.

Table 15. Agricultural Budget in Selected Municipalities of Province 1(NRs'Million)

Description	Sakela	Diktel Maj-Rup	Siddhicharan	Phidim	Pakhribas	Sahid Bhumi-	Yangwarak	Mahakulung	Miklajung
Total Budget in FY2021/22	554.1	7,842.9	613.4	852.8	489.6	350.0	259.3	682.0	503.0
% Ag. Budget in FY2021/22	4.62	4.21	3.11	1.58	1.02	1.57	4.33	2.49	1.17

Sources :Ministry of Economic Affairs and Planning from province, 2021

Madhesh Province

In Madhesh Province, of the nine selected municipalities, only two had allocated slightly more than two percent of the total budget to the agriculture sector for FY2020/21, and 0.1 percent to 2.26 percent for FY2019/20 (data was not available for FY2021/22). Although this province is most promising from agricultural potentials, such a low level of budget allocation to agriculture is a matter of concern. Table 9 summarizes the details of nine municipalities.

Table 16. Agricultural Allocation in Selected Municipalities of Madhesh Province (NRs' Million)

Description	Aurahi	Dhanauji	Janaknandini	Dhanushadham	Charnath	Hanspur	Mithilibihari	Shahidnagar	Videhi
Total Budget FY2019/20	349.5	276.9	354.4	-	669.7	665.4	187.7	480.4	269.4
Ag. Budget FY2019/20	21.00	29.00	78.00	-	15	-	17.50	30	55.2
%Ag. Budget FY2019/20	6	10	22		2		9	6	20
Total Budget in FY2020/21	445.7		376.1	506.1	702.3	919.4	614.1	527.6	507.8
Ag. Budget FY2020/21	32.0		98.0	32.0	6.8	45.0	48.0	38.0	84.0
%Ag. Budget in	7.2		26.1	6.3	1.0	4.9	7.8	7.2	16.5

Description	Aurahi	Dhanauji	Janaknandini	Dhanushadham	Charnath	Hanspur	Mithilibihari	Shahidnagar	Videhi
FY2020/21									

Sources :Ministry of Economic Affairs and Planning from province, 2021

Bagamati Province

Budget allocation to agriculture against the total budget is slightly better in Bagamati Province. All except one municipality have increased budget allocations in FY2020/21 compared to FY2019/20. Table 10 summarizes details by municipality.

Table 17. Agricultural Budget in Selected Municipalities of Bagmati Province(NRs' Million)

Description	Rapti	Thaha	Dhudhuli	Gauri Shankar	Indrawati	Namobuddha	MadhyepurThimi	Bhudhanilakantaha	Kakani
Total budget for FY2020/21	907.69	869.23	596.77	475.85	226.73	691.93	1,604.80	2,675.13	600.57
Ag. Budget	27.25	29.43	20.45	12.50	5.50	15.05	10.10	42.70	16.60
% Ag. Budget	3.00	3.38	3.42	2.62	2.43	2.81	0.63	1.58	2.76
Total budget for FY2019/20	991.26	836.15	557.94	421.76	178.66	626.64	1,524.87	1,474.06	572.47
Ag. Budget	19.46	11.90	23.84	9.25	3.78	9.48	5.95	5.34	12.66
% Ag. Budget	1.96	1.42	4.27	2.19	2.11	1.51	0.39	0.36	2.21

Sources :Ministry of Economic Affairs and Planning from province, 2021

Gandaki Province

In Gandaki Province, 9 out of 10 selected municipalities have increased their agricultural budgets in FY2020/2021 compared to FY2019/20. The allocated budget, however, is still very low. Table 11 provides details by municipality. The budget allocation for agriculture in the studies municipalities has decreased in the fiscal year 2020/21 in relation to previous fiscal year. Also, there has been decrease in the overall budget for FY 2020/21. This can be attributed mainly for three major facts: 1) due to the incidence of COVID 19, budget had to be prioritized for health and welfare hence the reduction in other sectors, 2) low absorption capacity of the budget in the agricultural sectors, and, 3) low human resource base for the utilization and overseeing it.

Table 18. Agricultural Budget in Selected Municipalities of Gandaki Province(NRs' Million)

Description	Dordi	Mangala	Myagdi	Fedikholaha	Annapurna	Devchuli	Beni	Sundarbazar	Putalibazar	Vyash
Total Budget for FY2020/21	424.44	354.22	481.38	360	366.1	277.25	603.6	507.79	644.17	882.52
Ag. Budget	15.34	4.8	17.16	18.5	6.5	7.4	12.49	13.94	13.25	29.55
% Ag. Budget	3.6%	1.4%	3.6%	5.1%	1.8%	2.7%	2.1%	2.7%	2.1%	3.3%

Description	Dordi	Mangala	Myagdi	Fedikhol	Annapurna	Devchuli	Beni	Sundarbar	Putalibar	Vyash
Total Budget for FY2019/20	617.33	408.13	536.54	388.87	402.1	600.18	623.25	524.94	735.43	930.13
Ag. Budget	18	6.5	17	36.2	19.03	12	14.79	32.13	22.96	45.8
% Ag. Budget	2.9	1.6	3.2	9.3	4.7	2.0	2.4	6.1	3.1	4.9
% Increase in Budget between FY2019/20- FY2020/21	-14.8	-26.2	0.9	-48.9	-65.8	-38.3	-15.6	-56.6	-42.3	-35.5

Sources :Ministry of Economic Affairs and Planning from province, 2021

Lumbini Province

Of the 10 municipalities selected from Lumbini Province, all have allocated relatively higher budget (up to nine percent) for agriculture and livestock, compared to their total budget. Further, they have also increased their agriculture budgets in FY2021/22, compared to FY2020/21. Table 12 summarizes information by municipality. The increase in budget for the agriculture sector in this province has been mainly due to the fact of commercial vegetable and cereal production orientation in the terai districts and to some extent in the mid-hill districts with better connectivity of roads and market facilities. Similarly an improved human resource situation in the municipalities have provided impetus for more technical services and overseeing.

Table 19. Agricultural Budget in Selected Municipalities of Lumbini Province (NRs' Million)

Description	Bagnaskali	Resunga	Sandhikharka	Mallari	Sunawal	Suddhodhan	Mayadevi	Bhddhabhum	Khajura	Madhuban
Total Budget FY2021/22	450.46	562.61	874.9	605.27	870.96	553.16	524.31	959.2	356.54	747.25
Total Ag. Budget in FY2021/22	26.93	5	81.2	25.31	29.57	17.96	12.45	26.54	27.25	25.1
% Ag.	5.97	0.88	9.28	4.18	3.39	3.24	2.37	2.76	7.64	3.35
Total Budget in FY2020/21	427.76	494.04	661.96	358.93	972.87	468.98	527.96	866.73	397.24	730.44
Total Ag. Budget in FY2020/21	12.75	2.66	18.20	15.64	24.21	13.98	8.80	14.64	9.40	16.00
% Change in Budget	111.21	87.96	346.15	61.82	22.13	28.46	41.47	81.28	189.89	56.87

Sources :Ministry of Economic Affairs and Planning from all province, 2021

Karnali Province

Of the 10 municipalities selected from Karnali Province, budget allocations for agriculture compared to the total municipality budget ranged between one to four percent in FY2019/20 and FY2020/21. However, all the municipalities have increased their agriculture budget allocations in FY2020/21 compared to FY2019/20, which

is detailed in Table 20. The increase in budget for agriculture in the municipalities can be mainly attributed to the stated objective of the province to prioritize for agriculture and increased demands for vegetable and fruits.

Table 20. Agricultural Budget in Selected Municipalities of Karnali Province(NRs' Million)

Description	Birendranagar	Gurbhakot	Barahatal	Bheri	Kapurkot	Kumakh	Siddhakumakh	ThuliBheri	Chandanath	KhandaChakra
Total Budget FY2020/21	1207.9	584.1	497.4	445.9	438.1	430.1	300.0	282.9	425.1	632.6
Ag. Budget in FY2020/21	6.0	14.8	7.4	12.4	5.5	12.0	7.3	5.6	3.0	15.0
% Ag. Budget in FY2020/21	0.5	2.5	1.5	2.8	1.3	2.8	2.4	2.0	0.7	2.4
Total Budget FY2019/20	1,423.0	630.2	537.1	680.6	472.0	426.8	315.4	398.9	420.8	622.1
Ag. Budget in FY2019/20	14.6	18.5	20.0	26.6	6.5	13.0	14.0	5.3	6.0	20.0
% Ag. Budget in FY2019/20	1.0	2.9	3.7	3.9	1.4	3.1	4.4	1.3	1.4	3.2

Sources :Ministry of Economic Affairs and Planning from province, 2021

Sudurpaschim Province

In Sudurpaschim Province, budget for agriculture from the total allocation in the selected 10 municipalities ranges between 0.2 to 8.5 percent in FY2021/22, which is low in view of the importance of the agriculture sector. Priority given by many municipalities to infrastructure investment was the main reason explained for such low allocation to agriculture. However, except for Jayprthvi and Gauriganga municipalities, allocation to agriculture has increased in FY2021/22 compared to FY2020/21. Details by municipality are presented in Table 21.

Table 21. Agricultural Budget in Selected Municipalities of Sudurpaschim Province

Description	Goumali	Mahakali	Dogadaker	BadiMalika	JayPrithvi	Chure	GauriGanga	Godawari	Krishnapur	Belauri
Total Budget FY2020/21	320	592.8	454.6	264.5	521.3	433	412.4	1,028.30	688.7	542.4
Ag.Budget	13.3	8.5	11	9.8	12	8	1	26.5	29	30
% Ag.Budget	4.20	1.40	2.40	3.70	2.30	1.80	0.20	2.60	4.20	5.50
Total Budget FY2019/20	340	597.79	430.4	256.5	451.7	386	408.85	725.8	778.7	591.8
Ag.Budget	6.75	6.5	10	4.3	12.5	3.5	4.6	17.6	18.9	16
% Ag.Budget	2.0	1.1	2.3	1.7	2.8	0.9	1.1	2.4	2.4	2.7
% Change in Ag. Budget from	97%	31%	10%	128%	-4%	129%	-78%	51%	53%	88%

Description	Goumul	Mahakali	Dogadaker	Badi Malik	Jay Prithvi	Chure	Gauri Ganga	Godawari	Krishnapur	Belauri
FY2019/20 to FY2020/21										

Sources :Ministry of Economic Affairs and Planning from province, 2021

For a sound development plan, the program planning and budget preparation process should go hand-in-hand. From the above observations, it appears that the quantitative size of the agricultural sector budget over the years has increased at all levels. However, for a resource scarce economy, like that of Nepal, judicious allocation of resources is critical to obtain optimum results through better allocative efficiency. To achieve intended development results and improve service delivery, proper planning and budgeting is needed to mitigate structural weaknesses at all levels. Furthermore, it is necessary to improve the coordination mechanism, and identification of priority programs in consultation with key stakeholders.

4.5. 2 Provincial Level Budget Allocation to Agriculture

Although the Constitution guarantees autonomy of provincial governments, their main source of finance is still the fiscal transfers provided by the federal government. The provincial government determines the size of their budget based on these transfers, and to some extent, the revenue generated in the province under their jurisdictions.

The provincial budget for agriculture is given in Table 15 below, which indicates increased allocations in most provinces showing the realization of the agriculture sector's importance, which has now become a more crucial sector to ensure food security in the COVID-19 context. However, there has been a decrease in the amount of agriculture sector budget due to contraction in provincial budget allocation in FY2021/22 as compared to the previous fiscal year.

Table 22. Province-wise Budget Allocation for Agriculture Sector from FY2019/20-FY2021/22 (NRs 'Million)

Provinces	FY 2018/19		FY 2019/20		FY 2020/21		FY 2021/22	
	Province	MoLMAC	Province	MoLMAC	Province	MoLMAC	Province	MoLMAC
Province 1	35,930	3,872	42,184	3,193	40,870	3,392	32,441	1,934
Madhesh	29,786	2,987	39,964	3,672	34,704	3,281	33,881	2,696
Bagmati	35,606	3,113	47,607	4,848	51,409	3,719	57,720	3,367
Gandaki	28,275	2,390	34,377	2,508	39,078	3,190	42,436	1,797
Lumbini	36,416	4,075	36,416	4,043	36,352	4,007	40,949	3,403
Karnali	28,282	2,841	34,353	3,424	33,741	2,701	36,546	2,983
Sudurpaschim	25,600	1,410	28,160	2,810	33,380	3,360	30,330	2,835

Sources :Ministry of Economic Affairs and Planning from all provinces, 2021.

In Table 23 below, it presents the comparison of provincial agricultural budget over the total provincial budget for FY2018/19 to FY2021/22. Except in Karnali Province, there has been decrease in the agricultural budget in all the provinces in FY2021/22.

Table 23 MoLMAC Budget as Percentage of Total Provincial Budget

Provinces	FY2018/19	FY2019/20	FY2020/21	FY2021/22
Province 1	10.8	7.6	8.3	6.0
Madhesh	10.0	9.2	9.5	8.0
Bagmati	8.7	10.2	7.2	5.8
Gandaki	8.5	7.3	8.2	4.2
Lumbini	11.2	11.1	11.0	8.3
Karnali	10.0	10.0	8.0	8.2

Sudurpaschim	5.5	10.0	10.1	9.3
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Source: Ministry of Economic Affairs and Planning from all provinces, 2021.

In Table 17, province wise expenditure of the allocated budget is presented between FY2018/19 to FY2020/21. According to the expenditure figures for over the three fiscal years, Province 1 and Madhesh Province appear to have the low budget absorption, while Bagmati, Gandaki and Lumbini provinces having medium and Karnali and Sudurpaschim have the highest absorption rate.

Table 24: Percentage of Expenditure against MoLMAC budget (NRs' Million)

Provinces	FY2018/19		FY2019/20		FY2020/21		FY2021/22
	Budget	Expenditure	Budget	Expenditure	Budget	Expenditure	Budget
Province 1	3,872	1,483 (38.3%)	3,193	1,096 (34.3%)	3,392	1,469 (43.3%)	1,934
Madhesh	2,987	1,399 (46.9%)	3,672	1,399 (38.1%)	3,281	1,736 (52.9%)	2,696
Bagmati	3,113	1,598 (51.3%)	4,848	2,830 (58.4%)	3,719	2,466 (66.3%)	3,367
Gandaki	2,390	1,447 (60.5%)	2,508	1,614 (64.4%)	3,190	2,059 (64.5%)	1,797
Lumbini	4,075	3,040 (74.6%)	4,043	1,808 (44.7%)	4,007	2,735 (68.3%)	3,403
Karnali	2,841	1,955 (68.8%)	3,424	2,636 (77.0%)	2,701	2,219 (82.2%)	2,983
Sudurpaschim	1,410	1,006 (71.3%)	2,810	1,938 (69.0%)	3,360	2,654 (79.0%)	2,835

Note: The numbers in parenthesis indicate percentage of expenditure.

Source: Ministry of Economic Affairs and Planning from all provinces, 2021.

Within MoLMACs, allocation of budget shows that a large proportion is either for programs/offices under it or to programs/offices under the Directorate of Agriculture Development (DOAD). The province-wise breakdown of total budget is presented in terms of recurrent and capital costs in Table 25. It appears that the percentage share of budget for recurrent purposes is much higher than capital expenditures, although the distinctions have been hazy, as program costs for line items, such as extension services and functional training, are also kept under recurrent costs in all cases.

Table 25 provides the details on the province-wise total agricultural budget disaggregated by recurrent and capital costs for FY2019/20 to FY2021/22.

Table 25 Recurrent vs Capita budget by provinces for FY2018/19 to FY2021/22 (NRs' Million)

Provinces	FY2018/19			FY2019/20			FY2020/21			FY2021/22		
	Total	Recurrent	Capital									
Province 1	3,872	3,598	274	3,193	3,011	181	3,392	3,132	259	1,934	1,750	183
Madhesh	2,987	841	2,146	3,672	2,277	1,394	3,281	1,843	1,437	2,696	1,555	1,140
Bagmati	3,113	1,006	2,107	4,848	3,908	939	3,719	2,591	1,127	3,367	2,396	971
Gandaki	2,390	190	2,200	2,508	2,188	320	3,190	2,701	488	1,797	1,534	262
Lumbini	4,075	2,543	1,531	4,043	3,798	245	4,007	3,722	284	3,403	3,159	244
Karnali	2,841	1,522	1,318	3,424	2,274	1,149	2,701	2,186	514	2,983	2,322	661
Sudurpaschim	1,410	1,260	1,500	2,810	2,460	350	3,360	2,880	480	2,844	2,578	266

Sources :Ministry of Economic Affairs and Planning from all provinces, 2021.

4.6 Market Based Infrastructure and Institutions

Market based infrastructures are essential for unlocking the development potential of agribusiness, agro-industry, trade, market centre development and technological intervention. Market based infrastructures mainly include the cold store facilities, collection centres, resource centres, hat-bazaars, processing centres and market centres. Similarly, agriculture based institutions such as farmers groups, cooperatives, seed companies, nurseries and farms, animal farms (cattle, poultry, pig, fish) help augment the development prospects. Similarly other institutions such as banking and finance power suppliers, agricultural machine and equipment suppliers and agro-vets provide the necessary services as enablers for the agricultural activities. In this chapter, province wise situation about the market based infrastructure and institutions is discussed.

Province 1: Most of the municipalities have prioritized for the construction of roads across the province, so road connectivity has improved in recent years, albeit the quality of road is poor in the hilly municipalities and most of them are fair weather road and still in poor condition. Although, the transportation has been far more easier than ever before, poor road condition still poses the challenges for increased commercialization of agriculture mainly for the perishable goods. Although, grid electricity supply has reached in all the terai districts and district headquarters of many districts, not all the municipalities have access to grid electricity. It has been reported that where regular and reliable supply of electricity has reached, some agriculture processing industries have increased over the years. Similarly, the combination of road and regular supply of grid electricity has been found contributing to establish the milk collection and chilling centres, thus providing the opportunity for farmers to regular stream of income.

Due to the mandatory provision issued by the government, all of the municipalities have bank branches (this applies across the country), however, it is not clear that to what extent they have been providing financial services to the agriculture sector. All the municipalities have agro-vets services through private sector, although the numbers range from 2 in mid-hills municipality to 15 in terai municipality. Similarly, most of the municipalities have private commercial farms, fruit and vegetable nurseries, cattle, buffalo, chicken and fish farms. Similarly, in the mid hills some exotic fruit farms such as kiwi (in Khotang) have been established. Milk collection and chilling centres are more concentrated in the terai municipalities and major townships of hills. Due to the lack of reliable electricity and sufficient market such enterprises are not available in the high hills. Agriculture and livestock collection centres and haat bazaar are in higher numbers in terai municipalities than in the hills. However, in major townships and road heads of hills also some agricultural collection centres are emerging with the support of municipalities and other agencies e.g. AKC/VHLSECs and agricultural projects. Agricultural groups and cooperatives are available in all the municipalities, although their numbers vary with the population and needs for the services.

Madhesh Pradesh: Almost all of the municipalities of this province lie in the terai region having much potential for agriculture, livestock and fisheries production. The road density is higher in this province than in others thus providing opportunities for easy access to market and other agricultural services. Similarly, most of the municipalities have the grid connection which unlocks the opportunity for establishing the agro-based processing industry. All of the municipalities have agro-vets services (2–8), agricultural cooperatives (1-25) and farmer's groups (2-97)¹³. Similarly, in most of the municipalities they have agriculture and milk collection centres (1-4). Major livestock markets are established almost in all the districts which facilitate the off-take of animals. However, majority of the agriculture and livestock market centres are still less equipped with better sheds, drainage and ramp facilities. Most of the municipalities have fruit and vegetable nurseries (2-10) but these are not sufficient to cater to the needs of the farmers.

Bagamati: Most of the municipalities are connected with road and grid electricity although the quality is poor in high hills. Almost all the municipalities have farmers' groups (7-141), agriculture cooperatives (3-56), commercial livestock/fisheries farms (19-151), agro-vets (2-20) except 2 Municipalities, commercial agriculture farms (6-125) except in Gauri Shankar rural municipality and milk collection centers (2-19) except in Budhanilakantha municipality. Slaughterhouses are established in 5 Municipalities and agriculture collection centers are in all highway connected districts. Small agro processing industries such as cheese (Yak, cattle, buffalo and goat), ginger and turmeric processing, orthodox tea and strawberry wine processing industries are established in this province. Similarly, all the municipalities have agro-vets services, albeit their numbers vary according to the population and market.

¹³Same farmers may be involved various commodity groups.

Gandaki: Most of the municipalities are connected with road and grid electricity although the quality is poor in high hills. Over the years agriculture market and collection centres have been established along the highway and in recent years with the construction of rural roads, agriculture production pockets are well connected with the major collection centres. Similarly, fruit and vegetable nursery with modern facilities are established in the commercially thriving areas; however, this is yet to reach in most of the hinterland rural municipalities. Three major highways such as Siddhartha, Prithwi and Pokhara-Baglung highway transect the province with well-established feeder road connecting Gorkha and Lamjung, these provide tremendous opportunities for the transportation of agricultural goods to terai towns and major cities like Pokhara and Kathmandu. Farmers groups and agriculture cooperatives are available in all the municipalities. Banking and micro finance facilities are available in most of the municipalities. Agro-vets services have reached in all the municipalities. Similarly, in the accessible areas, artificial insemination (AI) services have increased over the years. However, access to services from these amenities and institutions are not equal to all the farmers and their distribution varies depending on the population and market sizes.

Lumbini: Most of the municipalities have motorable roads and have even extended to the ward level; however, however, most of the rural roads are fair weather thus having uncertainty to market access during the rainy season. All of the municipalities have access to financial institutions and better communications. Grid electricity has been supplied in terai districts and major townships and district headquarters of the mid hill districts. Some commercially growing municipalities having agro-ecological advantages have established agro-processing enterprises e.g. turmeric, ginger, coffee processing.

Terai municipalities have higher numbers of supporting institutions for agriculture commercialization like agro vets, co-operatives, farmers groups (both in crops/horticulture and livestock sectors), commercial agricultural and livestock farms, milk collection centres, slaughtering house and collection centres for agriculture product marketing. The numbers of agro vets ranges between 7- 15. Similarly, there are multipurpose cold storage facilities for farm produce and a 300mt capacity cold storage is under construction in Sunawal Municipality. The recent operation of Gautam Buddha international airport may provide ample opportunity to export the fresh vegetables and fruits if required amount are produced as per the international standards.

However, most of the municipalities in the mid-hills are partially equipped with supporting institutions needed for agriculture commercialization such as agro-vets, co-operatives, farmers groups (both in crops/horticulture and livestock sectors), commercial agricultural and livestock farms, milk collection centres, slaughter houses and collection centres.

Karnali: With the opening of the Karnali Highway, Ratna Highway and Chhinchu- Dunai road all of the districts of the provinces except Humla are connected with road thus providing incentives for agricultural commercialization and access to agriculture markets. Apart from the main highways, most of municipalities have relatively good facilities from feeder roads, district roads and agricultural roads. There are regular flights to Dolpa, Humla and Kathmandu from Surkhet Airport in Birendranagar. Electricity supply has been provided by the national grid but have not reached to majority of the municipalities due to hilly terrain and low density of population. All of the municipalities have access to banks and to some extent with the microfinance institutions. Similarly, all the municipalities have farmer groups, agro-vets ad agricultural cooperatives. Along the road heads mid-hill districts agriculture produce collection centres have been established thus providing the opportunity to sell the produce Establishment of the collection centres have encouraged commercial production and connectivity with the buyers from Surkhet and Nepalgunj. Some municipalities have fruit and vegetable nurseries of regular fruit and vegetable and recently walnut and apple nurseries have been established in Mugu, Kalikot and Jumla districts as the province has prioritized to commercially produce apple and walnut. High hill district of the province have been growing apple for many years and is considered as high value product. Similarly, in recent years walnut plantation is growing which is expected to provide regular income to the farmers. However, with all these supportive institutions and infrastructures, given the difficult geographic conditions, remoteness and widespread poverty in most of the hill and mountainous districts, there needs to improve the qualitative and quantitative access of the services to farmers to unlock the exiting potentials of the mountain districts

Sudur Paschim: The geographic condition widely varies in the province as it stretches from the plain terai areas to rugged high hills and mountains. All the terai municipalities are located in the accessible areas with modest facilities of roads, electricity and irrigation. All the municipalities in terai have adequate supporting institutions like agro vets, agri cooperatives, farmers groups (both in crops/vegetables and livestock sectors) and agro processing facilities. In addition, all the municipalities have commercial agriculture farms, milk collection centres and agriculture marketing centres (except at Belauri) and fish farms, although their operational

status varies. In addition, Gauriganga municipality, has two seed companies, which are not present in other municipalities. Presence of these supporting institutions reflect that farmers have opportunities and choices for getting the technical and financial services of his/her choice within the municipalities, which will contribute for commercialization of agriculture sector as a whole. However, the presence of service providing enterprises and institutions in remote district municipalities is rather low and irregular.

4.7 Transport, Logistics and Facilities

Since the local governments were formed only four years ago under the federal system, the situation of availability of logistics and facilities e.g. office spaces, computers, means of transportation, basic laboratory facilities, meeting and training hall varies across the municipalities and are still transitional phase. So, managing the required level of infrastructure and other resources for effective service delivery may take some more time than expected. However, findings generally suggest that none of them is critically constrained by poor logistics. As per the constitutional provisions, utmost responsibility now lies with the local government to provide extension services that are of direct concern to the people and for the better service delivery provision of adequate logistics is quite important. Furthermore, the situation of aforementioned logistics and facilities are relatively more acute in the high mountain regions than in the mid hills and terai municipalities. The country's mountainous terrain poses significant logistical challenges to remote areas.

Of the surveyed municipalities, all of them have mentioned that they are housed in their own government buildings, although more than 50% of the municipalities mentioned that these buildings are not sufficient to accommodate all the offices and facilities. So, the municipalities have taken some office buildings on rent. Some of the common problems include inadequate staff rooms, lack of training halls and furniture to conduct seminars, meeting and other special gatherings. In such a situation, they have to conduct the events in other offices and/or hotels.

Similarly, regarding the provision of other logistics e.g. means of transportation, observations vary across all municipalities. However, the most common finding is that the municipalities having connection with roads have procured motorbikes and scooters for the field level extension workers and are made available to them when needed, although not all the employees have equal access to use them. Most of the municipalities have provisioned computers and internet connections for each section however; this is also not sufficient for effective service delivery as envisaged. Furthermore, most of the staffs have limited capacity to use the computers and different apps e.g. soil maps, farmers' registration. Reporting and communication are commonly done through email. Apart from these positive side of the logistics, frequent interruptions of power supply, lack of backup system, inadequate office room and furniture, improper office layout, limited access to computers, irregular internet and lack of essential agriculture or livestock related equipment are the common problems faced by the employees.

Province 1

Most of the municipalities are housed in their own buildings although quite insufficient to accommodate all the sections and other office amenities such as meetings and training halls. The situation is even worse at the ward level offices. All of the municipalities reported that they have limited numbers of computer/printer, and software for data management. None of the municipalities are currently using any kinds of apps for agricultural activities except the one for farmers' registration currently implemented by the federal government in collaboration with the provincial and local government. Transport facilities are found largely sufficient in the terai districts, however, the same is not the case in the high-hills and mountainous municipalities. Municipalities have made plans to procure more motorbikes for the field level mobility. Only some of the municipalities have provided basic toolkits of soil test and animal health check to the extension staff, but there lacks proper laboratory facilities and necessary chemicals.

Madhesh

The availability of logistics is very much important for smooth running of the offices. The situation of logistics availability varies between the municipalities. Some of the essential facilities and logistics such as the availability of sufficient working space, meeting room, use of computers for recording and reporting are common problems faced by the agriculture staffs. Sixteen out of twenty selected municipalities have reported that they do not have enough office rooms for the staffs, meeting and training events. Although none of the municipalities is critically constrained by poor logistics. Presently almost all the municipalities have rented the office buildings and for training and meeting most of the municipalities are using community building and schools.

All of the municipalities reported that they have limited numbers of computer/printer, software for data management. None of the municipalities are currently using any kinds of apps for agricultural activities except the one for farmers' registration currently implemented by the federal government in collaboration with the provincial and local government. So far as the availability of transport facility from the municipalities is concerned, all of the municipalities have made the transport facility available to almost all the staffs except in Hanspur municipality. Similarly, MoLMAC has distributed basic toolkits for the selected municipalities for animal

health check, but there lacks proper laboratory facilities and necessary chemicals and not all the staff are equally competent to handle and analyze the laboratory results.

Bagmati: Logistics situation of this province echoes almost equally as in the Madhesh province. Lack of sufficient office spaces for agricultural staffs has been reported by 17 municipalities. All of the municipalities have common meeting halls, however these are not always available for the training and workshops. Since office buildings are under construction in some of the municipalities such as Dudhauri and Namobuddha which have planned for the separate training and meetings halls. Regarding the use of agricultural apps, some of the municipalities in Chitwan have installed COPOMIS for cooperatives but other agricultural apps are not in use. Main reasons for this can be attributed to the lack of knowledge and awareness about the availability of the agriculture related apps, lack of skills and training to the staff to handle the apps, insufficient accessories and appliances and plan to make these available. For the field visits, all the municipalities have procured the motorbikes for the agricultural staffs where there is road connection but this is not available for the extension staffs.

Gandaki: Logistics and other facilities support for agricultural and livestock activities are found generally weak in most of the municipalities. Office space as well as computer facilities are rather insufficient for the extension staff. Technician level staffs mainly working in the ward level have been constrained with office rooms and inadequate motorbikes for field mobility. Similarly, there are no scientific tools and equipment at the municipality level to diagnose the problems of plants and livestock.

Lumbini: The logistics facilities vary between the municipalities. Municipalities have provided required logistics for every section though it is not sufficient and mainly for the agriculture and livestock services. Most of the municipalities reported inadequate office rooms, office furniture, training hall, and means of transportation and inadequate quarter to the agricultural staffs. Similarly computers are made available on shared basis. Almost all the municipalities have procurement plans for computers and a motorbike, so once this plan is materialized, it can be expected to have better service delivery function. Logistical facilities are found to be in better position in the terai municipalities than in the mid-hill and high hill municipalities.

Karnali: Of the studied municipalities, it has been found that none of the municipalities have enough office rooms and furniture for the staff and for conducting seminars, meeting and other special gatherings. They have to rent other offices and hotels to conduct the events. Similarly, there are limited numbers of motorbikes and scooters for field mobility and not all employees have access to such facilities. In addition frequent power cuts, inadequate numbers of computers, irregular internet services and lack of essential equipment for agricultural and livestock services are the major problems faced by the agriculture and livestock staff. The provision of logistics is more acute in the mid-hills and high mountain municipalities.

Sudur Paschim: The situation of logistics availability varies between the municipalities and none of them have a uniform pattern. While one of the municipalities in Darchula district did not report any logistics constraints, but other municipalities surveyed expressed limitation with office room, training hall, transport and computer facility. It must, however, be noted that none of the municipalities are severely constrained with logistics to affect their service delivery and some improvement could enhance their service delivery status. Provision of the means of transportation for the agriculture and livestock extension staff is satisfactory in the terai municipalities and road connected mid hill district municipalities.

4.8 Extension and Research

The Constitution of Nepal, 2015 has given the local level the right to agricultural production, management and agricultural extension but the agricultural research is beyond the jurisdiction of the local level. However, by coordinating with the research centers municipalities can access to the technologies related to production and productivity of crops and livestock sector. For which proactive initiative mainly from the municipalities to establish linkages with the research centres would be useful.

Assessment of the current agricultural extension tasks of the municipalities indicates the fact that they provide wide ranging of services, albeit its coverage is often inadequate and reached to only limited numbers of farmers for various reasons. Technical assistance provided mainly include the modern agricultural technology, distribution of subsidized agricultural materials, distribution of machinery, improved breeds of goats, buffalo, and swine, marketing, vaccination etc. However, on the other hand farmers' expectation from the local governments is huge, which include the support for irrigation, mechanization, building market infrastructure, support for commercial agriculture, new innovations, and subsidy on inputs. Provisioning of these supports from the municipality level alone are far from the realistic possibility with the given financial and technical resources available. Nonetheless, some resource rich farmers have been found obtaining such additional technical services from agro-vets, private service providers, provincial offices, federal offices and I/NGOs.

Farmers can easily get services from the municipality if capacity of agriculture and livestock technicians is increased, similarly they can benefit from the enhanced capacity of the agro vets and other service providers. Lack of coordination among major development actors, lack of priority on agricultural extension and research, lack of focus on research to address local burning issues and farmers' needs, lack of human resources in research and inadequate budget allocation for research and extension are the major weaknesses expressed by the farmers and municipalities.

Agriculture and livestock section deal mainly with the extension of agricultural technologies and their dissemination. Municipalities through this section support the farmers by providing the new technology and services, incentives on production inputs and machinery, improved animal breeds/seeds, marketing arrangement for agriculture/livestock products, trainings for capacity improvement and incentives on transport of agri commodities and information as available. Information is disseminated through a variety of means e.g. aired from FM, publications, notices, meetings and training events. It has been found that across many municipalities the information about agri technologies are provided through the local FM radio and personal contact. Farmers expect timely and regular support for production inputs and seeds but most of the municipalities have very limited capacity and resources for these services. To address these problems, it has been found that the municipalities reach out to Agriculture Knowledge Centre (AKCs) and Veterinary Hospitals and Livestock Expert Centres (VHLECs) for support and advice- perhaps this is the area for which municipalities and district based provincial institutions mostly interface and possibly collaborate.

Almost all the municipalities have poor access to research and extension system and as it is known that municipalities do not conduct any research by themselves. Because of lack of formal mandate, mechanism and resources there are no linkages between municipalities and the research and extension institutions e.g. Nepal Agriculture Research Council (NARC), except in those municipalities where NARC has special interest and regularly running research activities. Also, there is no formal horizontal and vertical coordination mechanism to hold the technical dialogue with research institutions, extension, and farmer's institutions at the local level. As a result there are no close and formal linkages with the subject matter experts and technicians to discuss and coordinate about the problems observed in the field.

Also, for some years now, there has been a severe delinked relationship between municipalities and Agriculture Knowledge Centres and Veterinary Hospitals in the districts. The frequency of contact and networking has been very limited due to scarce human resources at the AKCs and Veterinary Hospitals, removal of some AKCs from some districts and disconnection of formal communication mechanism between the provincial and local governments.

However, municipalities recognize that agriculture sector could be improved with the introduction of new technologies and resources, improving the technical capability of the farmers through trainings on IPM, soil health management, animal health management through farmer's field school approach. Services to the farmers could have been increased by establishing community agriculture extension services centre/s. It is also recognized that the agriculture development has not taken place as expected, among many reasons- due to

the lack of linkages between the research agencies, municipalities and AKCs/VHLSECs subsequently resulting in the inability to transfer the technologies at the farmer's level.

With all these situations in the backdrop, it begs serious questions that whether commercialization, mechanization, modernization and diversification in agriculture is possible as envisaged in the different plans of Nepal through the present composition and authority of the municipalities, coordination mechanisms, human resources, extension approaches and connectivity with research institutions. In the section below, province wise discussions are done around the issues of research and extension in the municipalities.

Province 1

The geographic distribution of the province stretches from top of the world to the low lying terai, thus providing the opportunity to grow all sorts of crops and animals suitable for Nepal. Therefore, the scope and needs for agricultural development in this province may slightly differ than other provinces. After the dissolution of the district agriculture development offices and district livestock service offices, establishment and provision of the services have not been smooth as before. The transition to arrange the agricultural services system has somewhat prolonged and deployment of the agriculture and livestock staff at the municipality level are not equally qualified and experienced to deal with various requests, demands and problems of agriculture and livestock issues. Despite these facts, in general the municipalities are offering the following extension services covering the farmers from subsistence to commercial level.

- Advice and technical services related to modern agriculture
- Disseminate new varieties and materials on grant or cost sharing basis
- Administer subsidy program and recommend for the grant or services
- Distribution of machine and tools (subsidized)
- Distribution of improved breeds of animals
- Management of agriculture and livestock market
- Animal health care, dissemination of technologies, animal development, animal feed
- Training and follow up

Generally, the extension services are transmitted through field visits, personal contact, distribution of information leaflets and publication, training and workshops and exposure visits to demonstration plots and organizing farmer to farmer knowledge sharing events. But all of these services vary across municipalities and some services depend on the demand and availability of the municipality resources.

Madhesh Pradesh:

Although municipalities are supporting farmers on different aspects of agriculture and livestock extension services, it has been found challenging to fulfil the rising expectations of farmers. As a result, most of the farmers are dissatisfied with the inadequate services and insufficient input provisions (as per the expectation of the farmers). The reasons are : 1) unavailability of agriculture and livestock technicians in the municipalities; for example, in Ganeshman Charnath municipality agriculture and livestock technicians are not posted from federal and provincial level and also the municipality is not interested to recruit any agriculture technicians for administrative and financial reasons. This has resulted into non implementation of the agricultural activities throughout the year; and, 2) Very small budget (mostly < 1 % of total budget) allocation to agriculture sector.

Since the capacity of the municipalities are so weak to provide the extension services, farmers have been receiving the required services from private extension service providers e.g. local agro vets which in the farmers opinion have been playing very crucial role at a time when the government services are extremely inadequate, private extension service providers (subject matter specialists, professionals, retired agriculture specialists and others). Most of the selected municipalities have not heard about the CAESC but most of them recognized it after having discussed about the CAESC system. Municipalities are aware about the fact that agriculture sector could be improved with the introduction of new technologies, resources and improving the technical capability of the farmers as well as the technicians through trainings. Furthermore, farmers suggested to have at least one agriculture and livestock technician at the ward level.

The followings services are provided to the farmers through municipality agriculture and livestock section

- Provide suggestions and advice about modern and scientific cultivation practices
- Arrange and provide improved and quality production inputs and different types of machineries on grant and/or subsidized price from the municipalities
- Support farmers animal breeds on subsidized price
- Support for market centre management

- Supports in improving the capacity of farmers through trainings and providing incentives in transporting the agricultural commodities
- Provide livestock health service free of cost (or minimum charge)
- Support in installation of deep boring, pumping set, and other irrigation devices.

Bagmati:

Most of Municipalities support farmers by providing the new technology on various commodities of vegetables, cereal crops, bee keeping, sericulture, mushroom cultivation and services on sapling distribution, improved seed distribution, incentives on production inputs and machinery, improved animal breeds/seeds, marketing arrangement for agriculture/livestock products like dairy shops and meat shops, trainings for capacity improvement and incentives on transport of agriculture commodities. The information and knowledge about agriculture technologies are being disseminated through the social media and personal contact. The farmers expect support on production inputs and seeds free of cost but municipalities cannot provide all support required by the farmers, for which they seek the support from AKCs and VHLECs. Some of the municipalities said that they were aware about CAESCs, however, have no idea on its scope, modality of operation and the benefits.

The municipalities understand that agriculture sector could be improved with the introduction of new technologies and resources and improving the technical capability of the farmers through trainings on IPM, soil health management and animal health management through farmer's field school approach. It is also recognized that the agriculture development has not been as expected due to the the lack of coordination, and the inability of technologies to reach at the farmer's level. Another limitation has been identified as the lack of exposure and training for the agriculture/livestock/veterinary technicians on modern technologies.

Gandaki:

Most of the issues and challenges of this province are similar to those of the provinces discussed above. Regarding the access and dissemination of the technologies from research, almost all of the municipalities have very poor access to research and extension system largely due to the lack of linkages. Municipalities as such are working in the isolation and also the frequency of contact and networking is very limited from the AKCs and VHLSECs due to the low number of human and financial resources and non-clarity on the role of these institutions with the municipalities. The reasons for having low level or no linkages with the research institutions and others can mainly be due to the limited capacity and authority of the agriculture and livestock technician to network and build linkages.

Lumbini:

Agriculture and livestock section is one of the means for extension of agricultural technology. The municipalities have major extension strategy on food and nutrition security, marketing arrangement for agriculture/livestock products, economic development, employment generation, poverty alleviation, high value agricultural product development program etc. Municipalities have given priority to provide services to the poor farming community without any delay and make access to inputs/services/trainings/incentives. Municipalities support farmers through subsidy and demonstration for commercialization of crops, fruits, vegetables and livestock with adequate market and small irrigation development. Agricultural programs mainly consist of providing knowledge and information and distributing production materials such as seeds, fertilizers, farm machinery, pump set, and technical backstopping on manure improvement, soil health improvement, animal health management and other technical services etc. However, expectation of the farmers is for more financial support rather than technical facilities. Agricultural technicians provide extensions services to the farmers about the use of new technology. The agriculture technologies are being disseminated through the social media such as radio, face book page, website, and through contact. Most of the municipalities have constructed agriculture collection centres, supporting the collection and marketing of agricultural commodities produced in the municipalities, new information and knowledge are disseminated through these centres as well. Although formal linkages for many activities have been cut, municipalities approach AKCs and VHLSECs and DoAD for the technical solutions of severe problems of disease and agribusiness matters.

Since agriculture extension system consists of multidisciplinary components such as agronomy, horticulture, agro-economics, marketing, fisheries, soil and agricultural engineering, livestock and veterinary services, these services are not available unlike in the previous system under DADO and DLSO. Hence, municipalities' services are very patchy and scant in general let alone expect for the specialized and competitive enterprises. This is mainly due to deficit of human resources both in terms numbers and quality, physical facilities, budget and program planning. Similarly, it has been found that over the last 2-3 years there has been no exposure visits to observe modern technology, best practices and exchange of ideas at technician as well as farmers level.

Karnali:

The agriculture and livestock service technicians have been attempting to transfer the agricultural technologies as demanded by the farmers through various educational methods of agricultural extension. Major services provided by the municipalities widely ranges from the provision of regular technical assistance on modern agricultural technology, distribution of subsidized agricultural materials, distribution of machinery, improved breeds of goats, buffalo, and swine, marketing, vaccination etc. to conducting short trainings, linking with the insurance and financing institutions. Farmers have high expectations for the delivery of varieties of services and infrastructures in view of the growing opportunities in agriculture commercialization; however, given the limited resources of the municipalities delivering these are beyond the capacity of the municipalities owing to the limited human and financial resources. Farmers obtain additional technical services from the agro vets, private service providers and even approach provincial, federal offices and I/NGOs.

Since National Ginger Research Center of the Nepal Agricultural Research Council is located in Salyan district, municipalities located around the centre have greatly benefited from the research in coordination with the local level. Municipalities generally disseminate information about agriculture and livestock extension related events and subsidy through their websites for general public.

Sudur Paschim

The municipalities support the farmers by providing the new technologies and services, incentives on production inputs and machinery, improved animal breeds/seeds, marketing arrangement for agriculture/livestock products, trainings for capacity improvement and incentives on transport of agri commodities. New information about services is generally disseminated through the local FM radio and community visits. The farmers expect support on production inputs and seeds but municipality alone are not able to cater to their needs, for which they receive some support from the AKCs and VHLECs.

Municipalities are not aware about the scope and philosophy of the CAESCs but when explained they would like to have it with some external support in the initial phase. The extension strategy now is more oriented towards the active farmers, who are aware of the opportunities available including the incentives. This population is very small and the majority of farming community is still the poor farmers without any access to information, inputs/services/trainings/incentives. This situation has created a bipartition status in the farming community; the one getting the support and the others left behind. Thus, the strategy of focused support towards the better offs need to be revised in favor of all farmers through on-the-spot trainings, incentive support on inputs used by all and market linkage for all agriculture produce and incentives based on marketed products. This is required to uplift the current service delivery system towards an aggressive and focused approach for overall development of agriculture sector. Similarly, lack of coordination between the service providers has been the most crucial stumbling block for development of agriculture activities within the municipalities and thus has created the duplication in programs and resources. There is informal linkage between the municipalities and the government institutions and the district coordination committees have not been very effective and efficient for developing coordination mechanisms between the municipalities and other agencies working for agriculture and other related sectors e.g. educational institutions and financial service providers.

Chapter 5: Discussion and Recommendations

5.1 Analysis of policies, planning, implementation procedures and coordination

5.1.1 Policy and law making:

The concept of local and provincial level governance evolves in and around the principles of cooperation, co-existence and coordination with autonomy, subsidiarity and proximity. In this broader governance context, the local government needs to play an important role improving efficiency, accountability, inclusion, and exercising their autonomy which demands that the decision making takes place at the local in the spirit of the Constitution by being responsive to the local needs and services.

In this regard, for the effective implementation of the agricultural activities, the presence of a generally favourable situation at municipality level is crucial. One of the critical factors for this is to have the required policies, Acts, regulations, operational guidelines in place which function as essential and enabling tools to implement the program without hitch and help produce desired outcomes and results over the long term. However, serious capacity gaps have been observed in almost all municipalities to formulate their own policies, Acts, rules and regulations although “sample” frameworks and templates are provided by MoFAGA.

The Constitution of Nepal has made the following provisions for the local level governance:

- To prepare policies, Acts, plan and budget and implement them within the jurisdiction of the municipality
- To implement Work division and accomplishment related matters by making rules and regulations
- Exercise of the jurisprudence and mediation on designated subjects and disputes
- Formation of administration and local service delivery management mechanism to be accountable to local level
- Taxation on the subjects designated by the law and constitution
- Receive the share of the revenue on designated areas
- Obtain subsidy from the federal and provincial government

In addition to the abovementioned subjects, there are 22 exclusive rights of the municipalities, amongst these four rights are directly related to agriculture such as: i. cooperatives, ii. Local road, rural road, agricultural road and irrigation; iii. Agriculture and livestock, agriculture production management, animal health, cooperative, and, iv. Agriculture extension management, operation and control.

Preparation of the Policies, Acts, rules, regulation and procedures vary across all municipalities suggesting that they prepare these important documents to address their current need rather than making them ready for use at any time. In this respect, the majority of the municipalities have prepared cooperative and agri-business promotion acts. Less than 2% of the municipalities have prepared a Land Act and Animal Health and Livestock Services Act. In addition to preparing the Acts, the municipalities have prepared varieties of rules, regulations, operational guidelines and procedures to enable them to function their work. These include: User’s committee formation guideline, winter forage, market monitoring, agriculture and livestock program implementation, land use, hiring the technician on contract, farmers group formation, subsidy for fallow land utilization, to list but a few. Very few Municipalities have prepared agriculture policy formulation acts, regulations and directives are time taking and administrative-technical task. This task at present is carried out largely by the chief administrative officer of the municipality with the support of other administrative staff and is also outsourced sometimes. Policies and Acts are passed by the municipality assembly for its effect. This is one of the areas where municipalities staff and political representatives need training on understanding the constitutional rights and as how to prepare the policy documents for the agricultural activities. It has also been observed that very rarely the agriculture and livestock staffs are consulted and involved during the policy making processes of the municipality. They have formed a legislative committee, which includes few elected members to draft new bills, but many of the committee members are unaware of and are not involved in the law-making process. The chief administrative staff and other bureaucrats are the key players in the law-making process, even though legislation-making does not fall under their roles, duties and authorities. However, the total dependency on government employees for preparation of legislation can risk the law-making process more bureaucratic, technical and non-participatory. More in-depth and longitudinal studies are needed to understand the processes and barriers to inclusive and locally relevant legislation-making processes in the local government bodies. All provincial governments (as it is their jurisdiction) need to prepare the required acts and directives to guide the inclusive legislation-making processes in the local governments. However, as it seems after analysis that the

existing institutional and technical capacities of local governments does not always match the capacity needed to execute some of their mandates.

5.1.2 Coordination:

As reiterated many times before, there is very little cooperation, coordination and linkage within the municipalities for program planning, implementation and monitoring. In addition, the Municipalities do not have formal cooperation and coordination with MoLMAC, AKCs, VHLESCs regarding program planning and execution except in some instances for specific project implementation such as PMAMP. Agriculture and livestock section of the municipality deals with the extension of agricultural technologies and their dissemination. The municipalities through this section support the farmers by providing the new technology and services, incentives on production inputs and machinery, improved animal breeds/seeds, marketing arrangement for agriculture/livestock products, trainings for capacity improvement and incentives on transport of agri commodities. The information about agri technologies are being provided through the local FM radio and through personal contact with the technicians. Farmers expect support on production inputs and seeds but the municipalities have not been able to provide the support as required by the farmers, for which at times they seek support from Agriculture Knowledge Centre (AKCs) and Veterinary Hospitals and Livestock Expert Centres (VHLECs).

Almost all the municipalities have poor access to research and extension system and as it is known that municipalities do not conduct any research by themselves. Because of the poor mechanism of networking with research and extension institutions (e.g. NARC), municipalities are working in isolation. Also, there is no formal horizontal and vertical coordination mechanism to hold the technical dialogue with research institutions, extension, and farmer's institutions at local levels. As a result, there is no working environment for subject matter experts and technicians to discuss and coordinate the problems that are observed in the field.

Also, for some years now, there has been a severe delinked relationship between municipalities and Agriculture Knowledge Centres and Veterinary Hospitals in the districts. The frequency of contact and networking has been very limited due to scarce human resources at the AKCs and Veterinary Hospitals, removal of some AKCs from some districts and disconnection of formal communication mechanism between the provincial and local governments.

However, the Municipality understands that the agriculture sector could be improved with the introduction of new technologies and resources and improving the technical capability of the farmers through trainings in IPM, soil health management, animal health management through farmer's field school approach. Services to the farmers could be increased by establishing community agriculture extension services centre/s. It is also realized that the agriculture development has not been as expected due to the lack of coordination, and the inability to transfer the technologies at farmer level.

5.1.3 Planning:

Municipality level annual planning processes are carried out as per the Local Level Planning Directives prepared by the National Planning Commission (NPC). The guideline has prescribed 7 steps planning processes (see about details in the Chapter 2) to formulate the annual plan and budget. It has been found that all the municipalities have established a planning unit headed by the chief administrative officer (CAO) and this section is responsible for planning of all sectors. Agriculture section falls under the economic division. Years of experience of the staff in planning section has been found ranging between 2-24 years. . However, they have limited experience of planning in the federal governance structure. Municipality mayor/chair, deputy chair and CAO have received basic orientation on planning guideline. But other staffs involved in planning have not been trained in the planning guideline. For agriculture development planning, needs are initially identified at the ward level and then these are submitted at the municipality level for further screening. Agriculture and livestock employees are involved in the initial planning processes but they have very limited role to influence/persuade the political leadership. The technical staffs are not well qualified in program planning and require trainings on program planning and proposal writing. Similarly, they are not well qualified to identify the potentialities of the area/crops/livestock and their development for the agriculture development of the municipalities. Thus, new interventions could not be identified and explored and program development adopts a ritual approach of planning, budgeting and disbursement.

The municipalities vary greatly in terms of their capacity, interest, resources, and initiatives in agricultural development. Some municipalities – a relatively small number – are actively pursuing agricultural development as their main development agenda and have, accordingly, allocated a sizeable budget to the agriculture sector even from within their core budget. Some municipalities allocated some budget to agricultural programmes but the size of the budget allocated and actually spent has been low and varies according to the interests of the elected officials and the technical capacity and profile of their agricultural staff. The remaining municipalities – also a sizeable number – did not, at the outset of the project, consider agriculture as a priority development issue, as reflected in their limited agricultural budget and programmes. Overall, some of the municipality studied were only able to spend less amount of the unconditional grant budget for agriculture over the last fiscal years. At project inception, the primary interest of local government was largely political with physical infrastructure a development priority. Many municipalities, in the aftermath of the federalization, lacked the willingness, interest, and capacity to invest in agriculture.

5.1.4 Database management:

One of the major constraints for evidence based policy and planning is the lack of reliable and regular database management system. As federalism brings the decision-making power to provinces and local governments, the need for various aspects of the local level has been recognised increasingly. Data is vital for successful implementation of federalism. Local governments' core activities – including policy development, program implementation, performance monitoring and decision making – all require reliable data. Already there is high demand from local and provincial governments for evidence to ensure decisions on service delivery and planning for agricultural development are made based on robust evidence. Traditionally, data production has been a top-down approach in Nepal and before the introduction of federalism, local units such as village development committees were less engaged in data collection and management. As observed there have been so many mismatches on key metrics of basic data upon the merger of VDCs and no system has yet been introduced to establish an integrated data management system in the municipalities. Furthermore, a huge gap in knowledge and system of data collection, its storing, analysis, usages and sharing with the provincial and federal government has been found in most of the municipalities. As has been discussed many times that by way of constitutional provision, newly formed local government are largely autonomous and responsible for their policy making, formulation of Acts and prepare their plans (e.g. approach papers, annual, periodic and strategic plans) and budgets, they need accurate and reliable data to ensure that these are grounded in evidence. The need for reliable data may grow in future for multiple purposes. Therefore, supporting data generation, enhancing the skills of planners and agricultural staff, including others, for making its uses in local and provincial (sub-federal) government policy making and planning has become increasingly important. To make data collection and management system effective and responsible, a new and distinctly separate data management or statistical section should be established in the municipality where all sectors are integrated. As an immediate action for data management, municipalities need to be supported in their technical capacity for data generation, processing, analysis and use for evidence-based decision-making as well as become connected to other actors. This is one of the critical areas where development partners can support the municipalities.

However, over the last years, EU funded TCF to ADS has provided a 5 day long agriculture development (ADP) training program for the municipality level agriculture and livestock technician on areas of planning processes, needs identification, agriculture value chain identification and prioritization, problem analysis, database management and M&E systems and preparation agriculture profile. Preliminary observation suggests that this training has been found very useful in the federalized context for effective planning. The trained technicians have been able to present their views on prioritization of agricultural activities in the municipality. But this training alone would not be sufficient in the future. There should be some refresher courses also conducted for the municipality level agriculture technician on this subject. Also, it is recommended to integrate the ADP training module in the Local Development Training Academy (LDTA), among others. LDTA is the government managed entity under MoFAGA to provide training to the local level staff and conducts training programs on varieties of subjects to enhance the skills and knowledge of the employees. And particularly for agriculture sector development planning, this module should be included in the curriculum of the ABPTSCs and LSTCs training program.

5.1.5 Analysis of human resources and service delivery

The available capacity – number of staff and technical skills in agriculture sector is not adequate to develop new programmes for the sector nor can it work considerably for growth of the sector in general and subject specific

subsectors in particular. As there are insufficient numbers staff (covering between 500 to 3300 households), it has been very difficult for them to address agriculture, livestock and fisheries related problems, develop linkages, monitor programs and provide support to develop capacity of relevant stakeholders (Farmers Groups) and fulfil the mission of agriculture extension as such.

Different subsectors within the agriculture has grown tremendously over the last few years thus demanding increased and varied level of services. Furthermore, there are some growing problems of pests, diseases and quality production as expected by the consumers. Only a limited number of junior technical staff with very limited technical capacity cannot address the need of the beneficiaries. Although municipalities have recently recruited some technical staff (mostly the fresh graduates with no work experience and exposure to the sector before) and Provincial Public Service Commission has recently appointed local level technician, still on average there remains about 60% local agriculture staff to be fulfilled.

Moreover, most of the municipalities (except e.g. Belaka, Sunwal) do not have a human resource development plan and budget to enhance the capacity of their staff. No orientation programs are organized for the newly recruited contract staff, however, they are left to learn the basic office rules, regulations and procedures while working, let alone the technical subject matters. Some staff have received training on technical matters of agriculture and livestock, but these are not as per the plan but on ad-hoc basis as and when available basis.

In order to improve the human resources capacity, municipalities should draw a long term HR development plan by having a clear needs assessment and identification of areas for training and this should be broken down in annual plans with adequate budget and resources. For wider access to knowledge on agriculture related matters to the municipality staff, MoLMACs should organize training and workshops on subject matter specific topics mainly on technical subjects. Sufficient number of staff should be recruited and a separate HR development section should be established in the municipalities for its management, follow up and effective utilization of the training. Furthermore, municipalities should maintain the record of the training received by the employees disaggregated by name, subjects, numbers and few other relevant information. This helps to select the employees for the upcoming training programs and can help avoid duplication, repetition and waste of resources. Also, it is recommended to prepare a training skill application plan and monitor whether the skills thus learned are effectively utilized.

Regarding the engagement of the private sector in service delivery, their capacity to provide goods and services is evolving in many municipalities, but their concentration is large in semi-urban and commercially oriented areas. Therefore their presence and role in the rural interiors is rather thin. This has hindered the services in the needy rural areas leading to slow growth of both agriculture and livestock activities. The opportunity and challenge therefore is to create an enabling environment in which the private sector, NGOs and other actors can play a more significant role while at the same time fostering synergy and coordinated action.

Furthermore, municipalities should develop a strong database by mapping the local level private sectors, community organization and NGOs about their capacity, scope of operation, budget and timeline which allows the municipality level program planning and as to how and in which program areas partnership can be established and strengthened for better service delivery. For this, municipalities should develop a policy and guideline to regularly assess the presence and performance these entities.

5.1.6 Analysis of budgeting and absorption capacity

From the observations of the municipality level budget, it can be summarised that by and large agriculture sector has received increased budget portfolio, albeit the range of increase vary across municipalities. Still, large proportion of the municipality budget is spent for infrastructure, however, a recent study conducted by Democracy Resource Centre Nepal (DRCN)¹⁴ finds the fact that over the last couple of years there has been a gradual shift in priority from infrastructure to other economic sectors e.g. agriculture. According to the report, municipalities have increased the budget in agriculture because it is the main source of livelihood and income for the local people. Increased agriculture budget is mainly spent for grants to purchase agricultural input, subsidizing the interest rate and promote commercialization. The municipalities across different parts of Nepal seem to have allocated relatively less percentage of budget to agriculture and livestock sectors. There are, however, some examples where municipalities have shown continued interest to allocate budget for agriculture which is reflected in increase in allocated budget over the years.

¹⁴ DRCN (2021): Budget Prioritization and Implementation by Local Governments during the COVID-19 Pandemic.

Sector wise budget headings are not separated in most of the municipalities, rather the activities are mixed. This makes it very difficult to see as how much budget is allocated per sector. Therefore, it is recommended that in future municipalities develop a format to separate the sector and budget sources for each activity as how it is financed e.g. regular, capital. This should even further be divided into the categories such as: conditional grant, complementary grant, equalization grant and special grant.

Operationalization of municipalities under the federal system has been a major shift in governance and has yet to take form according to the spirit and philosophy of the Constitution of Nepal. From field visits a frequent complaint heard at municipality level by the political echelon was the large size of budgets was received but they have the limited capacity available to utilise the budgets effectively. Very often the need to show quick results and utilise sizeable budgets distorts the priorities for investment. In order to ensure that municipalities are effective in their performance, improvements are needed in the numbers of staff deployed as well as their capacity to undertake the tasks set for efficacious return of investment. A strategic capacity development programme is required to meet the expectations of the sector.

Some of the recommended actions to improve the situation can be as follows:

- Conduct formal communications/consultations among the three tiers of government on intergovernmental budget allocation before the budget formulation process starts at provincial and local levels. This could help improve allocation in high priority areas and minimize confusion on exclusive and concurrent powers among the three tiers of government, prevalent in the absence of federal and sub-national laws.
- Make provisions for skill development training to technical, administrative, and financial staff on programming, budgeting, procurement, monitoring, and progress reporting.
- Establish a regular monitoring and feedback system at all levels of government for credible financial information flow for informed decision-making, increased operational efficiency, improvements in service delivery, and to promote accountability.

5.1.7 Analysis of M&E system

As per the regulatory provision of the Local Government Operation Act, deputy mayor/deputy chairman of the Municipality is the ex-officio head of the monitoring and evaluation committee. Monitoring and evaluation division or section has been established in many of the selected municipalities under the leadership of junior officials and in parallel a monitoring committee has been found formed under the leadership of deputy chief and two or three officials (concerned) as well as ward chairmen of every Municipality and this committee regularly monitors their program activities. For monitoring staffs concerned and relevant subject matter specialists are involved. This study finding in general indicates the fact that there are many shortcomings in the overall M&E system of the municipality. These include lack of timely (regular interval) monitoring, lack of systematic recording of monitoring reports, lack of systematic feedback mechanism and follow up, inability to use proper indicators, etc. Although some of the municipalities have taken initiatives to establish their database and management system with regular update, large numbers of the municipalities have not started it yet. Data is collected mainly from the household level through certain formats, checklists and questionnaires. A slightly different format is used when collecting data related to agriculture and animal husbandry. Municipalities do not have separate online software and apps for data collection and there is no system to store data online. It has been found that the information and data from various agencies have been used for formulating the development plan of the municipality. The municipality administrations expressed their view that the employees of the municipality do not have much skills on database management skills, for which the staff should be provided training.

In order to implement the approved annual program and budget, municipalities issue the notice for general public. Municipality officials conduct the field verification as per the application and identify the farmers/groups or cooperatives. The report is then submitted to the agriculture development committee for approval.

The DCC was envisioned by the Constitution as a coordinating and monitoring mechanism of local governments but it has been found that they were yet to function effectively. In absence of clear terms of reference, lack of executive authority and resources, the monitoring done by DCCs was largely inefficacious to influence the policy making, monitoring and overall implementation of the municipality programs and to be a bridge between the different tiers of governments.

Although the ToR of the agriculture and livestock technician comprises to prepare a field monitoring plan, prepare the report and submit to the officer responsible to oversee, this activity rarely takes place. So, it is recommended that municipalities should establish the strong M&E mechanism by involving the agriculture staff and have to prepare their regular monitoring and evaluation plan for agricultural activities. Furthermore, M&E reports should be prepared with recommended actions to improve the implementation of the activities. The learning thus obtained should be considered to address the gaps while designing the policy, program and budget for the coming fiscal years.

5.1.8 Analysis of logistics

According to the constitutional provisions, utmost responsibility now lies with the local government to provide basic and essential services that are of direct concern to the people. In the similar vein, delivering of the basic and essential agricultural services belong to the Municipalities. In order to operate the services smoothly and effectively, a good provision of logistics such as office building, adequate rooms, training and meeting halls, means of transportation, to name but a few are necessary. As it has been found in general that the situation of logistics availability varies between the municipalities, although none of them are critically constrained by poor logistics. The newly formed local governments are still in transition to manage the whole host of logistics situation ranging from the office premises to the means of transportation. . Since construction of office buildings and procurement plans for various equipment are underway, often delays have been experienced due to the procedures to follow as per the regulations.

Of the studied municipalities, all of them have mentioned that the municipality offices are housed in their own government buildings, although more than 50% of the municipalities mentioned that these buildings are not sufficient to accommodate all the offices and facilities. Similar situation applies in the case of ward offices. So, the municipalities have taken some office buildings on rent. Some of the common problems as identified include inadequate staff rooms, lack of training halls and furniture to conduct seminars, meeting and other special gatherings. In such a situation, they have to conduct the events in other offices and/or hotels. Non availability of sufficient spaces within the municipalities for major events have been found constraining as it involves time for chasing around for the spaces and spending of the scarce financial resources.

Similarly, regarding the provision of other logistics e.g. means of transportation, observations vary across all municipalities. However, the most common finding is that the municipalities having connection with roads have procured motorbikes and scooters for the field level extension workers and are made available to them when needed, *although not all the employees have equal access to use them*. Most of the municipalities have provisioned computers and internet connections for each Section and staffs having computer skills do have access to use them. Reporting and communication are commonly done through email. Apart from these positive side of the logistics, frequent interruptions of power supply, lack of backup system, inadequate office room and furniture, improper office layout, limited access to computers, irregular internet and lack of essential agriculture or livestock related equipment are the common problems faced by the employees.

All these observations and findings generally suggest that some of the logistics related problems are structural and some belong to the internal management within the municipalities. Those items which are of capital investment nature may not be solved in the short term, however, managing the computers and motorbikes can be easily managed and scheduled. Also, it has been clearly found that due to inadequate provision of the logistics effective delivery of services has been constrained. In order to mitigate this problem, municipalities should formulate a comprehensive logistics plan and implementation modality to give away with the present anomalies. Training on logistics management capacity development should be provided to the officials concerned. Similarly, all and sundry items such as back up of power supply systems can be improved by provisioning the annual budget and plan. Regarding establishment of basic laboratory facilities for agricultural and livestock related tests, municipalities should provision a separate building and shades with the necessary lab equipment and accessories.

5.1.9 AKC and VHLSECs:

Despite improvements and increased budget for the AKCs and VHLSECs (although absorptive capacity is still low), the expansion of service outlets (number of staffs and service centres, for example) has been limited to implement the programs and activities under the provincial ministry, particularly after the introduction of federal system. Since lack of clarity, to some extent, still exists about the engagement of district based institutions in the municipalities' agricultural development activities which has thus hindered the implementation of various

planned programs of AKC and VHLSECs leading to slow performance of both agriculture and livestock activities. Similarly, there are various I/NGOs working in the agriculture sector in the municipalities with very little coordination with the district based agencies. The opportunity and challenge therefore is to create an environment in which the private sector, NGOs and other actors can play a more significant role while at the same time fostering synergy and coordinated action. Both AKCs and VHLSECs can increase their service capacity and coverage to address the changing needs of the respective sectors many fold by involving the NGOs and the private sector to collaborate as partner. Also, district based agricultural institutions can develop MoU between NGOs and private sectors for the service delivery. Therefore, creating a framework within which this sort of mechanism can occur is crucial and in this MoLMAC and the directorates should play a leading role to create enabling environment by promulgating necessary policies, Acts, regulations and guidelines.

Besides this, in the changed governance context, AKCs and VHLSECs needs to focus their attention more on supporting the municipalities in policy formulation, preparation of annual and other relevant plans pertaining to the agriculture sector and monitoring and regulatory functions within the scope of the roles and responsibilities as defined by the Constitution. So, these institutions need to develop different sets of capabilities, institutional structures and work style. Some of the critical areas where these institutions need to develop their capabilities are mechanism of coordination and partnership with municipalities, private sector and NGOs; enabling policy environment for private sectors to operate more efficiently, devolve the functions that can be best handled by municipalities and function as connecting bridge between the local bodies, provinces and federal institutions. Furthermore, they can be proactive in developing themselves more as resource centres for variety of purposes such as: training, demonstration, research, other functional services like lab test, treatment etc. for the municipalities, farmers, cooperatives and private sectors.

5.1.10 Human resources:

With the restructuring of civil services, the staffing situation of the province based agricultural institutions is still weak with many crucial vacant positions and deployment of subject matter specialists in MoLMAC and its subsidiary institutions. The capacity of service delivery has been impacted due to unfulfilled positions. Beside this, service delivery can be effective by having relevant human resource development policy and practices. Frequent transfer of staffs has also impacted in the performance and desired outcome of the annual programs. In the changing role of the MoLMACs and subsidiary institutions and needs expressed by the service recipients a distinct human resource development policy is a must to have in place with sufficient budget. For a full fledged service delivery improvement, recruitment of the approved positions is critical. Furthermore, conducting a regular organization and management (O&M) survey is necessary to understand the gaps and weaknesses in human resources availability, their necessary capacity and to address the services required by the farmers and private sectors associated in agricultural services. One interesting finding of the study is that there are no agricultural economist/livestock economist across all the VHLSECs and livestock training centres who have to deal with the livestock enterprises and businesses. This is one of the weakest areas of the livestock which needs to be addressed in their staffing plan in future.

As discussed in the preceding sections, a significant gap exists between the approved and filled staff positions of agriculture and livestock technicians in the federal, provincial, and municipal levels. Although all three tiers of government are mandated to prepare their own agriculture development policies and programs to address the needs, however, the implementation of policies and programs remains a challenge at the local level, mostly due to, lack of adequate human resources, ownership and jurisdictional issues. To deliver efficient services to farmers and agri-entrepreneurs, the capacity of technical staff working at the provincial level must be strengthened through training, observation tours, and other means.

The major reason for capacity gaps is owing to the unfilled approved positions and also the lack of experience in planning, monitoring, training and providing advice to the beneficiaries. Delay in the enactment of the federal Public Service Act has retarded the timely recruitment and promotion of staff at all levels, and alternative measures of filling the gap have not been sought. There are several training institutes producing junior technician and junior technical assistant level technicians. They can be mobilized through private sectors and can thus provide services to farmers. Although this has been initiated by some cooperatives, agro vets, seed companies, and rice mills, this is not, however, gaining momentum.

All three tiers of government should be given the authority to recruit and mobilize qualified human resources on a contract basis to fill their needs without increasing long-term liability to the federal government until the promulgation of a new Public Service Act, which guides the recruitment of staff. Agriculture service delivery

through the private sector should also be taken as an option. Generating intended results will require coordination and utilizing expertise from among all three tiers of governments, private sector, DPs, and the projects supported by them, and other relevant stakeholders. Resolving identified issues requires developing a system to undertake problem-based discussions and solutions among stakeholders at the field level.

5.1.11 Cross cutting institutional issues:

This can cover various contemporary issues which needs attention in development planning. In the changed context the current monitoring practices and cross cutting issues need to be improved. The present M&E system is an activity monitoring tool rather than a tool to inform the benefits or results of the intervention at various level of beneficiaries. Monitoring is conducted with a specified format provided by the National Planning Commission. In order to support the M&E system there is a Planning, Monitoring and Evaluation division in the MoLMAC headed by a class II officer. Despite regular collection of information that much needed results and impact level monitoring has been lacking. Although the inputs and services provided to farmers are well documented, however, this provides very little information about the intended outcomes and results. The M&E system needs to be more output oriented than input driven and activities and plans should be evaluated not only in terms their achievements and annual targets, but should be developed to evaluate the performance at multi annual level by expanding with additional sets of indicators included to demonstrate the outputs and results. For this, all the plans and programs of MoLMAC should be aligned with the provincial periodic plan, Provincial ADS and others as deemed necessary. Similarly, gender mainstreaming mainly by adopting GESI approaches and environmental issues need to be addressed by incorporating GESI and climate change related specific activities supported by matching monitoring indicators. Environmental and social safeguarding is also required for environmental impact monitoring areas which at present seems to be lacking.

5.1.12 Training strategies:

During the course of this capacity needs assessment and also based on interaction with key officials in the MoLMACs, training centres and directorates and municipalities over the last couple of years, some insights were gathered as what and how training strategies should be formulated. However, looking back at the history of training strategies, these seem to be largely supply driven without having much follow-up, monitoring and outcomes.

Some of the suggestions received to offset the training related anomalies are as follows:

- Organize farmer level training at the district based institutions and municipalities for there will be opportunity to conduct practical and hands on exercises
- Conduct subject matter related advance training events with a focus to prepare the trainees as extension service providers at the provincial/federal training institutes
- Revamp the training institute and curriculum to dovetail with the farmers needs and match with the market need
- Cost sharing with the municipalities
- Conduct rigorous follow up upon the training and introduce follow up plan as perquisite to wholistic training processes

Training programs as requested during this study are in Annex 2.

5.1.13 Coordination, collaboration and partnership:

Coordination within the MoLMAC institutions has improved over the years by having a regular review and planning meetings under the aegis of MoLMAC. It has been increasingly realized by all agencies concerned in agriculture development that agricultural activities can be less efficacious if implemented in isolation and without coordination and support of other stakeholders and agencies. However, despite visible potential possibilities of linkages and synergies between different line agencies and departments for the policy formulation, planning, budgeting, implementation, M&E, actions are carried out largely independently by the MoLMAC. Furthermore, there are overlapping roles and activities implemented by other line ministries pertaining to agriculture almost having no sharing of information, plans and implementation plan thus leading to duplication and redundant use of the resources. Although there is a mechanism under the leadership of Chief Minister to improve the coordination, collaboration and partnership, it has been felt largely insufficient. Since agriculture is not a standalone type of activity and institution, there is a strong need of having a formal institutional structure to have a strong coordination mechanism between relevant non-agricultural line ministries and other agencies alike where they can meet and discuss the issues, challenges of agriculture development regularly. Once the PADS

comes into effect with the proposed coordination structures, it can be envisaged that the coordination weaknesses can improve.

Furthermore, Provincial Policy and Planning Commission (PPPC) has overall responsibility for inter-ministerial/inter-sectoral linkages and coordination whereas the Ministry of Economic Affairs and Planning allocates the financial resources to the sector programs, therefore coordination in budget allocation is required to occur in a concerted and coordinated manner so as to realize the targeted outputs as planned.

At the district level AKCs and VHLSECs have initiated efforts to coordinate between the municipalities, district based agricultural projects under the federal government and the DP funded projects, the results have been mixed particularly involving the municipalities. Part of the reasons for mixed results can be attributed to the lack of clarity in roles and responsibilities of the AKCs and VHLSECs for municipality level agricultural activities and delayed enactment of the Federal, Provincial and Local Level Interrelation and Coordination Act, per se. However, the Act has entrusted the District Coordination Committee (DCC) to take a role of coordination between these institutions by establishing the agriculture development coordination committee with clear guidelines, plan and budget. It is expected that DCCs will carry this function in the forthcoming days as the Act has already been enacted.

Chapter 6: Capacity Development Action Plan

By definition, capacity building is a long term process by which individuals, organisations, institutions, and societies develop abilities to perform better assigned service delivery functions, solve problems, improve the governance system as well as set and achieve goals. In this vein, capacity development plan should be a regular process based on the needs assessment, rigorous evaluation, clearly defined standards, time lines (short, medium and long term) and indicators. By analysing the capacity needs of the municipalities and provincial institutions and identification of the major issues, a common framework for capacity development plan has been divided into four core areas as follows:

- Institutional development
- Planning, monitoring and evaluation
- Budgeting
- Human resources development
- Physical and logistical facilities

These are presented in table 32, in turn as follows, firstly at the provincial level and then secondly at the municipality level:

Table 26 : Strategic activities for institutional development

1. Provincial level

SN	Issues and challenges	Areas to be Addressed	Activities to be carried out
A. Institutional Development			
1.	O&M survey of the MoLMACs and its subsidiaries have yet to be completed	Complete the O&M survey to determine the organisational structure and human resources needed	<ul style="list-style-type: none"> • Conduct regular O&M survey • Prepare new organizational structure with clear ToR of each divisions, sections • Regularly orientate the staff about the vision, mission, goal, objectives of the ministry and its associated entities
2.	Inadequate Policies, Acts and regulations thus constraining the enabling environment to implement agriculture and livestock activities	Prepare required policies and Acts	<ul style="list-style-type: none"> • Conduct regular assessment of the required polices, laws and regulations • Identify the necessary policies, laws, regulations with priority – short, long and medium • Expedite Formulation of the policies and required laws and timely passage of the bills
3.	Although established Planning processes and steps are in place; updating about it and more need based planning is weak	Timely updating about planning processes to the divisions, sections and officials concerned on the planning processes	<ul style="list-style-type: none"> • Form a strong planning team involving agricultural officials and subject matter specialists • Regular conduction of planning related training and orientation to staffs concerned in all entities under MoLMAC • Establish planning and monitoring units/sections in AKC/VHLSECs • Establish a system to prioritize the activities for planning based on needs identification and evidence
4.	Weak alignment of the annual policies and programs vis-à-vis periodic plans, ADS and other	Regular update with the long term plans, strategies of the federal, provincial and local level	<ul style="list-style-type: none"> • Conduct regular orientation, training and workshops to the officials to build the familiarity with the strategic documents, plans and strategies • Ensure linkages with the federal level plans where necessary • Establish relationships, linkages and

SN	Issues and challenges	Areas to be Addressed	Activities to be carried out
	related documents		<ul style="list-style-type: none"> coordination with PPPC, line ministries, local bodies and donors by having a permanent coordinating mechanism with operational procedures and budgetary provision Assess the status of alignment of the annual plans with respect to the activities, indicators and targets of the related strategic plans and documents Draw action plans for addressing the gaps
5.	Delay in implementation of the planned activities	Ensure timely Implementation of the planned activities with adequate resources, operational guidelines and communication	<ul style="list-style-type: none"> Organize information sharing workshop upon the approval of the annual plan and budget by involving all the stakeholders Prepare/update the implementation modality, procedures and guidelines on time
B. Monitoring and evaluation			
6.	<p>Inadequate M&E mechanism, system and tools and lack of province level guideline</p> <p>Inadequate human resources and budget</p>	Strengthen M&E system with various measures in place at all level of institutions	<ul style="list-style-type: none"> Upgrade M&E Section of MoLMAC with clear structure and ToR Formulate monitoring and evaluation guideline Focus on performance indicators particularly on results than only on activity and inputs Incorporate outcome and impact targets in reporting formats Ensure that learnings incorporated in the review and feedback system Establish web-based M&E system and Database Improve deployment of M&E related human resources Enhance the capacity on agricultural planning, M&E and database management Provision adequate budget for M&E division/section Develop formats to align M&E system with the periodic and strategic plans e.g. ADS, PADS.
C. Budgeting			
7.	<p>Inadequate training and orientation on budget processes and tools</p> <p>Weak absorption capacity</p>		<ul style="list-style-type: none"> Conduct training/workshops for the relevant staff on budgeting, its objectives and tools e.g. PLMBIS, SuTRA, MTEF, fiduciary risk assessment Provide adequate training on Procurement Act and regulations Assess the trend of budget expenditure regularly and identify the areas for improvement for enhanced absorption capacity Review and reallocate the budget (regular and capital expenditures) for activities where efficacious results can be obtained Develop a budget expenditure plan vis-à-vis planned activities to avoid the rush for completing the activities at the end of FY
D. Human Resources Development			
8.	Inadequate human resources	Fulfil the vacant positions	<ul style="list-style-type: none"> Conduct O&M survey and identify required number and level of staff (as mentioned above) Provision for agriculture/livestock economist in VHLSECs/training centres to deal with the

SN	Issues and challenges	Areas to be Addressed	Activities to be carried out
	Inadequate and poor service delivery		<p>livestock enterprise related matters and policy making</p> <ul style="list-style-type: none"> Clearly define the ToR and performance plan Conduct performance evaluation of the employees as per the ToR Prepare the code of conduct for the employees to make them responsible to their assigned responsibility Prepare and regularly update the roster of experts/institutions for outsourcing of expert services and specific agricultural service delivery Prepare the contingency plan to avoid the long gap of vacancy Establish personnel information management system (PIMS) for better planning and targeting for capacity development
9.	Lack of Human Resource Development plan and budget	Develop HRD plan	<ul style="list-style-type: none"> Prepare comprehensive human resources (HR) and capacity development plan for short, medium and long term with adequate budget and resources Effective implementation of the capacity development plan and make periodic review to revise
10.	Poor knowledge management system and sharing	Knowledge Management	<ul style="list-style-type: none"> Strengthen linkages with relevant institutions e.g. universities, research centres within and outside the country for knowledge exchange Conduct exposure trips and training to learn new ideas, innovations and methods in the sector/sub-sector Establishment of library, collection of journals and publications; Establish the system for the dissemination of lessons learnt to stakeholders
11.	Training centres at the provincial level have a larger scope to train the human resources for the province as well as local level. In this respect, curriculum and training materials should be timely, updated and demand based	Review and revise training curriculum to address the dynamic context of agriculture and demand of the farmers, and agro-entrepreneurs	<ul style="list-style-type: none"> Conduct training needs assessment regularly to cater to the needs of various stakeholders Develop training standardization tools for quality control and curricula Establish resource centre with wide ranging knowledge products Establish a rosters system to deal with particular subject matters for training

2. Municipality level

A. Institutional development			
SN	Issues and challenges	Areas to be Addressed	Activities to be carried out
1.	Current organizational structure may not be sufficient to address the need of agriculture sector	Organizational structure designed as per the O&M survey and findings	<ul style="list-style-type: none"> • Conduct O&M survey and determine actual numbers and specialization of the subject areas of the required human resources • Strengthen current planning and M&E section with clear mandate and scope of agriculture • Define the role and responsibility of the agriculture section with clear mandate and vision • Conduct regular meetings between agriculture staff at municipality and ward level to assess the agriculture specific organizational and staffing
B. Planning, monitoring and evaluation			
2.	Inadequate knowledge and skills on municipality level agricultural policy and planning	Enhance planning capacity of the municipality officials in agricultural planning	<ul style="list-style-type: none"> • Conduct training and workshops for the relevant the agriculture and livestock staff and other relevant staff on planning guidelines as prepared by the NPC municipality • Formation of strong agriculture committee comprising various stakeholders to provide direction, input and program implementation facilitation
3.	Still many of the municipalities have to prepare relevant agricultural policies, Acts, rules and regulations as per the rights established by the constitution	Prepare remaining local level policies, Acts, rules and regulations to enable the smooth implantation of agricultural activities	<ul style="list-style-type: none"> • Build capacity of the relevant stakeholders about formulating the policies, Acts and regulations • Prepare evidence based policies for agricultural development • Prepare Acts and regulations for agriculture extension and management, Agri-business, market centres, meat and dairy shops, agro-vets and other private sector agencies, Cooperative Acts and regulations • Regular update of policies and Acts • Provide regular orientation about the policies, Acts, regulations and procedures to political representatives and employees
4.	Most of the municipalities have yet to prepare their long term and periodic plan as per the LGOA	Prepare long term and period plan	<ul style="list-style-type: none"> • Form a strong planning team involving agricultural officials and subject matter specialists for drafting the plan • Provide training, mentoring and coaching to the planning team about different stages and steps of planning to build the planning capacity as per the guideline prepared by the NPC • Ensure adequate skills of the staffs involved in planning • Initiate proper identification of needs and prioritization by involving various stakeholders • Prepare sector (e.g. agriculture) and sub-sectoral plan with clear indicators and targets • Incorporate GESI and climate change related cross-cutting framework and issues in all sectors
5.	Lack of sufficient knowledge and	Conduct proper assessment of	<ul style="list-style-type: none"> • Provide orientation and training for the effective self-assessment of the indicators of

	skill to conduct LISA among agriculture staff and political representatives	performance as per Local Institutional Self- Assessment (LISA)	<p>LISA</p> <ul style="list-style-type: none"> Conduct LISA on the basis of realistic progress and objectively verifiable means
6.	Preparation of the agricultural plan and activities are largely carried out on ad-hoc basis and political pressure	Prepare agricultural plans and budgets on the bases of identified needs and priority	<ul style="list-style-type: none"> Conduct proper agricultural needs assessment by developing a clear format and structure as per the planning guideline Prepare annual action plans with clear outputs, indicators and timeline Align the planned activities with national, provincial and other strategic plans and documents Involve all the major stakeholders e.g. AKC, VHLSEC, DCC, NGOs, CBOs, private sectors and federal level project personnel based in the municipality in the planning processes Involve adjoining municipalities to ensure their alliance and collaboration in areas where appropriate
7.	Lack of proper implementation plan have often retarded the performance of agricultural activities	Ensure proper implementation of the plan with clearly defined activities, timeline and communication	<ul style="list-style-type: none"> Organize information sharing workshop upon the approval of the annual plan and budget by involving all the major stakeholders at municipality and ward level Provide orientation and training to users committees, beneficiaries about the implementation modality, procedures and their participation
C. Monitoring and Evaluation			
8.	In majority of the municipalities, specific planning and M&E units are not established yet. Similarly structured/standard formats to monitor the progress against specific targets are not in use. Weak capacity due to shortages of human resources and training on M&E		<ul style="list-style-type: none"> Establish a strong M&E & Learning section with adequate personnel base to perform the M&E specific Monitoring, Evaluation and Learning task of agriculture (including others) Prepare agriculture related M&E plan and procedure with indicators and targets as per the “Local level M&E Committee Operational Procedure 2078” prepared by MoFAGA for the municipalities Ensure that learnings incorporated in the review and feedback system Establish participatory monitoring and reporting mechanism with federal & provincial level. Establish web-based M&E system and Database Prepare annual working calendar with clearly defined timeline
D. Budgeting			
9.	Although municipalities receive large amount of budget, agriculture sector receives disproportionately low amount in relation to infrastructures, citing that		<ul style="list-style-type: none"> Effective implementation of local level planning and budgeting Procedure 2075 for the annual program and budget with the presentation of viable/priority agricultural activities that utilizes the larger sum of municipality budget Ensure involvement of agriculture section staff in plan and budget preparation process Implement Sub-national Treasury Regulatory Application (SUTRA) for planning and budgeting

	infrastructures support agricultural development and growth. Identification of viable agricultural activities is still lacking due to weak technical capacity and lobbying for budget		<ul style="list-style-type: none"> • Improve capacity of the agriculture section employees on budgeting and expenditure management • Prepare internal control system (ICS) for effective budgeting and expenditure on agriculture • Conduct periodic review and ensure reflect the learning for upcoming program, budgeting • Train municipality staff on fiscal management and fiduciary risk analysis
E. Human resources development			
10.	Inadequate and less experienced human resources hindered the effective implementation of agricultural activities and service delivery Agricultural staffs are assigned with for administrative tasks of the municipalities	Fulfil the vacant positions as per the approved positions	<ul style="list-style-type: none"> • Conduct O&M survey and identify required number and level of agriculture staff • Deploy staff at the municipality and ward level for effective delivery of services • Clearly define the ToR and performance plan for the agriculture staff • Conduct performance evaluation of the employees as per the ToR • Prepare the code of conduct for the employees to make them responsible to their assigned responsibility • Prepare and regularly update the roster of experts/institutions for outsourcing of expert services and specific agricultural service delivery • Ensure that agricultural staffs are posted for technical tasks only
11.	Most of the municipalities have not prepared HRD Plan	Prepare capacity development plan	<ul style="list-style-type: none"> • Prepare comprehensive human resources (HR) and capacity development plan with short, medium and long term with adequate budget and resources • Effective implementation of the capacity development plan and make periodic review to revise
12.	Agriculture and livestock staff have very limited capacity in terms of their knowledge, skills, tools and exposure to deal with various problems across wide areas and subjects	Conduct specific activities for capacity development of agricultural staff	<ul style="list-style-type: none"> • Agriculture development planning, monitoring and evaluation and data management • Annual plan and budget preparation and management • Project cycle management • Orientation on policy, acts, rules, regulations and operational procedures • Training of trainers • Business plan preparation (agriculture and livestock) and value chain identification • Good Agricultural Practices (GAP), standards and marketing • GESI, environment and climate change related • Proposal writing and report preparation • Cooperative management • Techniques and tools of effective service delivery, public hearing, public and social auditing • Exposure visits and knowledge sharing and attendance in professional group meetings • Computer training (word, excel, power point, GIS for senior/planning level staff, database

			<p>management)</p> <ul style="list-style-type: none"> Any other technical training (initial or refresher) on relevant subject matters, agriculture commodities, cultivation, harvest and processing
13.	Political representatives have the authority to exert influences for the agricultural development planning; however, they also lack general knowledge, skills and ideas on analytical skills for planning, evidenced by prioritization.	Conduct specific activities for the elected representatives	<ul style="list-style-type: none"> Orientation and training on periodic/annual program preparation, project cycle management, implementation, coordination, M&E system Agriculture development planning and data base management GESI related training User's committee and farmers group formation and mobilization Plan and program follow-up and report preparation Roles and responsibilities of the municipality officials in overseeing the service delivery and development Leadership development Orientation and understanding development about good governance
F. Physical and logistical facilities			
14.	Needs for the physical and logistical facilities vary across municipalities, although it has been found that they are not critically constrained in some areas, but inadequacy of the logistics and to some extent lack of these have hampered the service delivery in time and space and qualitatively and quantitatively.	Provision for adequate office and field level work management related	<ul style="list-style-type: none"> Availability of sufficient level of office spaces and furniture at the municipality and ward level for the agriculture staff Adequate number of computers (laptops preferred) and agriculture related apps for the staff Adequate number of motorbikes and provision for fuel for field visits Power point projector for agriculture section (specifically)
		For improved technical Services delivery, provide adequate labs and demonstration farms	<ul style="list-style-type: none"> Provision of training hall at the municipality as well as ward level (mainly with larger population size) Animal health and soil test related labs Demonstration units/plots for training and basic experimentation
G. Coordination, Collaboration and partnership			
15.	Coordination between different stakeholders and municipalities is crucial for resource and knowledge sharing with which desired results can be obtained in a shared manner, low cost and high efficiency. However, weak coordination or failure as such has	<p>Establish coordination mechanism or make use of existing mechanism for collaboration and partnership.</p> <p>Co-operation and linkage among different levels of government organizations, province government, district co-ordinations committee, various</p>	<ul style="list-style-type: none"> Establish coordination mechanism between different sections and wards within municipality for effective service delivery Conduct regular interaction program between service delivery staffs Prepare policies and Acts for the public private partnership Identify the private sectors for service delivery, program implementation and investment Identify NGOs and community based organizations (CBOs) and prepare their profile with areas of intervention and operation Prepare operational procedures to mobilize the NGOs and CBOs Coordinate with NGOs and community

	<p>been observed in many instances particularly for agricultural development activities at vertical as well as horizontal institutional level.</p>	<p>district offices, municipality, and rural municipality should be strengthened</p>	<p>organizations for the preparation of annual program and budget and avoid duplication</p> <ul style="list-style-type: none"> • Establish inter-municipality level coordination mechanism at the municipality level to avoid duplication of the programs and forge alliances for selected agricultural value chains, infrastructure and training programs • Establish agriculture coordination mechanism in District Coordination Committee and conduct regular meetings • Conduct regular interaction program with the universities, NARC and other research agencies to identify the areas for research and improvement in extension system (albeit research is not under the jurisdiction of the municipalities).
H. Improved Information and Communication System			
	<p>Improved Communication and use of ICTs are still in their incipient stages in most of the municipalities. Over the coming years, the use of such technologies may escalate tremendously. However, municipalities have paid very little attention to make good use of innovative technologies for agriculture</p>	<p>Prepare comprehensive communication and ICT plan with adequate budget and extension methods to the farmers level</p>	<ul style="list-style-type: none"> • Prepare information and communication plan • Regular update the municipality website and make information publicised • Designate a focal person with responsibility to ensure the regular update of and access to information in the website • Categorise information portals and develop separate technical section about agriculture related information in the website • Prepare Agriculture Management Information System (AMIS) and agriculture database system • Establish knowledge management system and repository of knowledge on agriculture through establishment of library, collection of journals and publications; • Dissemination of lessons learnt to stakeholders
I. Others			
	<p>Municipalities are the base for agricultural production, in order to encourage for investment in agriculture municipalities can prepare various feasibility studies in collaboration with provinces, private sectors and combining more municipalities of similar physiographic conditions together which has still to take place</p>	<p>Prepare investment promotion programs and events</p>	<ul style="list-style-type: none"> • Prepare various feasibility studies on agri business and value chain • Create a portal of project bank related to agriculture for external/internal investment • Organize investment events in collaboration with multiple agencies

Annex 1: List of the Municipalities involved in CNA

Province 1

District	Number of Municipalities	Municipality
Bhojpur	1	Hatuwagadhi
Ilam	2	Ilam, Suryodaya
Jhapa	1	Kamal
Morang	1	Miklajung
Morang	1	PathariSanischare
Udayapur	2	Belaka, Katari
Dhankuta	2	Pakhribas
		Sahidbhumi
Okhaldhunga	1	Siddhicharan
Panchthar	2	Fidim, Yanwarak
Solukhumbu	2	Mahakulung, Likhu Pike
Khotang	3	DiktelRupakot
		Majhuwagadhi Municipality
		SakelaGaunMunicipality
Sunsari	1	Ramdhuni
Sankhuwasabha	1	Madi
Total Municipalities:	20	

Province 2

S. No.	District	Number of Municipalities	Municipality
1	Dhanusha	7	Dhanushadham, GaneshmanCharnath, Jananknandini, Mithilabihari, Sahidnagar, Videha
2	Mahottari	3	Aurahi, Dhanauji, Bardibas
3	Sarlahi	2	Kaudena, Malangwa
4	Rautahat		
5	Bara	2	JitpurSimara, Prasauni
6	Parsa	2	Bindabasisn, Birgunj
7	Siraha	4	Siraha, Kalyanpur, Bishnupur, Karjanha
8	Saptari		
Total Numbers:		20	

Bagamati

S. No.	District	Number of Municipalities	Municipality
1	Makwanpur	2	Makawanpurgadhi, Thaha
2	Chitwan	2	Rapti, Khairani
3	Ramechhap	1	Sunapati
4	Dolakha	2	Bigu, Gauri Shankar
5	Kavre	2	Namobuddha, Pachkhal
6	Kathmandu	2	Budhanilkantha, Tarkeswor
7	Nuwakot	2	Kakani, Belkotgadhi
8	Rasuwa	1	Kalika
9	Dhading	3	Benighat, Rorang
10	Sindhupalchok	1	Indrawati
11	Sindhuli	1	Dudhauri
12	Lalitpur		
13	Bhaktapur	1	MadhepurThimi
Total Municipalities:		20	

Gandaki

S. No.	District	Number of Municipalities	Municipality
1	Syangja	4	Harinas, Phedikhola, Putalibazar
2	Myagdi	2	Tamankhola, Beni
3	Gorkha	1	Dharche, Prithwinagar
4	Parbat	2	Jaljala, Modi
5	Lamjung	3	Dordi, Sundar Bazar
6	Tanhun	2	Vyash, Myagde,
7	Kaski	2	Annapurna, Rupa
8	Nawalparasi (east)	1	Devchuli,
9	Manang	1	Chame
10	Mustang	1	Gharapjhong
11	Baglung	1	Nishikhola
Total Municipalities:		20	

Lumbini

S. No.	District	Number of municipalities	Municipality
1	Rupandehi	3	Tilottama, Siyari, Suddhodhan
2	Nawalparasi	1	Sunawal
3	Kapilvastu	3	Banganga, Mayadevi, Buddhabhumi
4	Dang	1	Lamahi
5	Banke	1	Khajura
6	Bardiya	2	Badhaiyatal, Madhuwan
7	Pyuthan	1	Mallarani
8	Rolpa	1	Sunilsmriti
9	Rukum (east)	1	Bhume
10	Palpa	2	Tinau, Baganashkali
11	Gulmi	2	Musikot, Reshunga,
12	Arghkhanchi	2	Sitganga, Sandhikahraka
Total Municipalities:		20	

Karnali

S. No.	District	Number of municipalities	Municipality
1	Surkhet	2	Birendra Nagar, Bheri Ganga
2	Jajarkot	2	Bheri, Nalgadh
3	Salyan	3	Kapurkot, Kumakh, Siddha kumakh
4	Rukum (west)	2	Musikot, Chaurjahari
5	Jumla	1	Chandanaath
6	Kalikot	2	Khandachakra, Shubha Kalika
7	Mugu	2	ChhayanathRara
8	Humla	2	Simkot, Kharpunath
9	Dolpa	2	ThuloBheri
10	Dailekh	2	Narayan, Bhagawatimai
Total Municipalities:		20	

Sudur Paschim

S. No.	District	Number of Municipalities	Municipality
1	Kailali	4	Ghodaghodi, Godawari, Chure, Gauri Ganga
2	Kanchanpur	3	Punarbash, Belauri, Krishnapur
3	Dadeldhura	2	Aalital, Amargadi
4	Baitadi	2	Dogadakedar, Pancheswar
5	Darchula	2	Mahakali, Marma
6	Bajhang	2	Jay Prithvi, Thalara

7	Bajura	3	Badi Malika,Budhiganga,Goumul
8	Doti	1	Shikhar
9	Achham	1	Sanfe
Total Municipalities:		20	

Annex 2: Recommended Training Programs

Sustainable Agriculture

Present farming systems in the region are in many cases not ecologically sustainable because of inadequate fertility management of the soils. The project will promote a sustainable agriculture approach to improve productivity and sustainability of food crop production. This will be achieved through:

- Training of farmer facilitators (ToF-farmers) from the FFS groups for running FFS at village level to facilitate and share between farmer-to-farmers.
- Training of JT/JTA facilitators (ToF-JT/JTA) at the district levels to build up a culture of quality farmer education process and to support in networking of organic agriculture.
- Training of ToF-subject matter specialists to develop a cadre of skilled facilitators capable of quality farmer education and able to facilitate training and provide technical backstopping support to JT/JTAs and farmer facilitators at the district level.
- Develop capabilities in organic farming from hands-on farmer field research at district level.
- Refresher course to farmer facilitators to share and update their skills/knowledge.
- Refresher course to JT/JTA to share and update their skills/knowledge.
- Refresher course to District SMSs to share and update their skills/knowledge
- Training to enhance the organizational and managerial capacity of the self-help groups, their associations and cooperatives.
- Learning to access market and making available technologies that will enhance marketing of healthy agricultural produce, especially delicate vegetables and other high value commodities.
- Create awareness of the need for quality farmer education and further institutionalization.

The following types of organic practices will be promoted:

- Improvement of animal shed for farm yard manure management;
- Use of animal urine as for bio-fertilizer and bio-pesticides;
- Integration of leguminous crops in crop rotation;
- Green manuring of legumes and non-leguminous plants;
- Promote vermiculture compost;
- Use of Effective Micro organisms (EM) and
- Use of bio-fertilizers such as rhizobium, azola, micorhyzae and biogas slurry.

Business Management for Rural Entrepreneurs and Farmers

The Business Management Training is designed to provide farmers with skills and competencies in business management and training. It has been designed as a field level training programme to be conducted periodically at village level over an entire season. Farmers are expected to work together in a learning group. The exercises developed are practical and field based. The underlying principles of the training are: learning by doing, farmer to farmer learning and problem solving. The content of the training programme is to be developed together with farmers and rural entrepreneurs in the community. The following represents an indicative list of content that could be covered. The training assumes that groups will meet on a weekly basis for up to 3 hours at a time. The schedule can be adjusted depending on the time availability and preferences of the participants. The training could be divided into three phases: (1) Pre-season (2) In-season (3) Post season.

Topics can be selected by farmer groups from a menu of possible subjects. These could include:

- Understanding the commercial farming environment.
- Understanding farming as a business
- Understanding marketing and the market
- Understanding enterprise profitability
- Assessing the current farm performance
- Planning for the market
- Purchasing inputs and materials
- Record keeping

Market Extension Services and Post-Harvest Management

Developing market on scientific basis, project formulation, pre-planning survey evaluation, and feasibility studies.

Agricultural Produce Market in development and promotion of modern marketing techniques, measures for increasing marketing efficiency through innovative and cost effective techniques, introduction and adoption of innovative post harvest management practices, supervisions of grading at producer's level before sale, weight and measures, display of standard samples of different agricultural commodities arriving in the market.

Provision of storage facilities, mechanical cleaning, dryers and grading facilities, display of market information, arrangements for audio-visual aids for education of the producers about the benefits of regulated markets. Role and importance of extension service, administration of market extension service, inter-personnel communication and transfer of farm technology, role of Radio Nepal and various FM Stations in market extension and preparation of guidelines for TV/Radio talk, motivation, and leadership in market extension.

Estimation of marketable/marketed surplus and post-harvest losses, cost and margin studies, pre-planning surveys for development of agricultural produce markets, economics of storage, and surveys on market development projects, evaluation, and feasibility studies. Fundamentals of post-harvest technology of fruits and vegetables, educating the farmers to market their produce through regulated market, impact of grading and scientific storage on the marketing of farm produce, grading of farm produce before sale, role of various agencies in the development of post-harvest technology. Improving the awareness of farmers about regulated markets and quality, promotion of group and Co-operatives, marketing, packaging of food grains and fruits and vegetables.

Role of Government incentives for export, export procedures for agricultural commodities, providing capital incentives, financial assistance for development of Post-harvest technological infrastructure, role of World Bank, FAO, GATT, WTO – Agreement on agriculture, technical barriers to trade, codex standards-HACCP, sanitary and phyto-sanitary measures, non-technical barriers to trade, General Agreement on trade in service, TRIPS, ITC and IRRI, development of specialized markets for export of horticultural produce etc. Overseas quality packaging etc.

Agricultural Extension

Topic 0 – The Changing Role of Extension Services. Dynamics of change creating a pluralistic advisory system (public, private, cooperatives, NGOs) as part of an innovation system; the changing role of the extension advisor as a broker of information.

Topic 1 – The Role of the Extension Worker and Extension Principles. This topic is designed to identify the qualities and abilities of good extension workers; identify and develop an understanding of extension principles; identify and develop an understanding of general policies and objectives of extension related programmes; and to provide an understanding of the philosophy of extension programmes.

Topic 2 – Adult Learning Principles. The purpose of this topic is to correctly define what learning is; provide an understanding of how adults learn; to identify reasons why learning in may not occur; to identify the principles of learning; and to identify the principles of learning adults.

Topic 3 – Basic Communication. The materials in this topic are designed to present a basis for understanding the process of communication; to provide an understanding of the need for a two-way communication process; to identify communication problems or barriers; and to apply the communication process effectively.

Topic 4 – Extension Training Methods: Instruction, Demonstration, Discussion and Summary. The objective of this topic is to review the principles of learning; to develop more effective instruction methods; to learn ways to analyse instruction skills; and to use correct style or approach in training.

Topic 5- Extension Training Methods: Visual Aids, Planned Visits, ITC, and Mass Media. This topic is designed to provide a basis for understanding the role and importance of using visual aids in extension training; to develop ways of enhancing communication of extension principles and practices; to introduce participants to the aims,

benefits and techniques of using the Planned Visit; and to learn the essentials of how to produce a video programme as an extension tool.

Topic 6 – Planning Extension Programmes. The purpose of this topic is to provide an understanding of the planning process involved in extension programmes; to enable participants to draw up long-range planning guidelines with specific development objectives; and to enhance the participant's ability to select the best course of action to accomplish programme objectives.

Topic 7 - Managing Extension Staff: Lessons in Group Process. This topic is designed to acquaint participants with the various aspects of group dynamics or group processes; to enable participants to diagnose group problems and deal with them more effectively; and to enhance the ability to be a more effective group participant.

Topic 8 – Managing Extension Staff: Motivation. The purpose of this topic is to help participants gain an understanding of the meaning of motivation and how it affects job performance; to become aware of the role motivation plays in extension supervision; to determine what the barriers are to motivation and ways of handling them; and to discover what are the best motivators.

Topic 9 – Organizing Extension Units. This topic is designed to review the various factors involved in organizing extension units; to acquaint participants with the meaning of the organization process and how it is essential to management supervision; and to introduce participants to the principles and tools of organization.

Topic 10 – The Organizational Structure of Extension Services. The purpose of this topic is to introduce some principles of extension service; and to alert participants to common problems encountered by extension services.

Topic 11 – Extension Programmes for Youths. This topic will underline the importance of creating interest in young farmers about extension programmes as a means of laying the foundation for future cooperation between farmers and advisory services.

Topic 12 – Evaluation of Extension Training. The objective of this topic is to provide an understanding of the meaning of evaluation as a way of obtaining feedback and assessing training value; to introduce various levels of evaluation and the setting of training objectives at each level; and to provide an understanding of the major reasons for an how to conduct follow-up procedures.

Topic 13 – Financing Extension. The need for new ways of financing extension services; a conceptual framework for analysis of approaches to financing; who should finance what in extension (private goods, public interests and extension; supply and demand side financing; fostering private extension; options for public extension services.

Agro-Entrepreneurship and Business skills training:

Agro-entrepreneurship development can be a very important activity for the municipalities in future as rural Nepal has limited activities to offer outside the agriculture. So, an important activity for the municipality will be to facilitate the prospective youths, fledgling entrepreneurs and other interested farmers/groups to provide entrepreneurship and business skills training to. These groups and individuals most often tend to think of themselves "merely as farmers" and do not see themselves as small business owners. Entrepreneurship development training will help producers and associations to think more strategically, build important planning and negotiation skills and develop record-keeping skills necessary to maintain their positions in market chains. In addition this change in mentality typically increases willingness to adopt new production techniques that lead to more competitive and profitable activities. This training can be bifurcated as, 1) ToT for those who act as trainer to deliver entrepreneurship and business skills training to target groups/individuals; and, ii) potential target groups as discussed earlier.

Good Agricultural Practices:

Over the years consumer awareness has tremendously increased about the food safety and thus gaining increasing importance from the health and financial point of view. Implementation of GAP has become important

tool to win the confidence of the agriculture goods consumer. Nepal has already promulgated the NEPAL GAP standard and has been adapted in relation to food safety, quality, environmental management and workers health, safety and welfare modules which can be implemented individually or in various combinations. Training on GAP and its paraphernalia would help fruits and vegetable producers to establish the trust and enhance competitiveness in their product.

Trade related trainings for provincial level staff:

In future the provinces can be the production hubs for agriculture and government has accorded high priority for the agricultural commercialization, industrialization and export trade. In this respect, Nepalese farmers, traders and authorities have to deal with various aspects of agricultural and livestock international trade, regulations and standards. So, equipping provincial officials mainly to those who deal with production, production economics and trade, food safety and quality control, value chain needs rigorous training on GAP, GHP, market/trade, SPS and TBT, trade regulations and compliance system.

पालिकाहरूको क्षमता आवश्यकताको अध्ययन

पालिकाको नाम: जिल्ला: प्रदेश:
 अक्षांश: देशान्तर: उचाई:

(क) पृष्ठभूमि:

(१) कूल जनसख्या:

महिला: पुरुष: अन्य:

(२) जम्मा घरपरिवार संख्या:

(३) जमिनको आकारको आधारमा घरपरिवार संख्या

भूमिहीन	०.५ हे. भन्दा कम	०.५ देखि २ हे. सम्म	२ देखि ५ हे. सम्म	५ देखि १० हे. सम्म	१० हे. भन्दा बढी	कूल

(४) पालिकाको कूल क्षेत्रफल (हेक्टर अथवा वर्ग किलोमिटर) :

(५) जम्मा खेतीयोग्य जग्गा (हेक्टर) :

(६) जम्मा खेती गरिएको जग्गा (हेक्टर) :

(७) सिंचित जग्गा (हेक्टर) :

(८) वनजंगलको कुल क्षेत्रफल (हेक्टर) :

(९) वनजंगलको किसिम:

(१०) पालिकामा के के पशुपंक्षीहरू पालिन्छन् ? तिनीहरूको महत्वको आधारमा श्रेणीबद्ध रुपमा वार्ड समेत उल्लेख गरि तालिका अनुसार विवरण दिनु होला ।

पशुपंक्षी तथा माछा	संख्या तथा क्षेत्रफल	वार्डहरू
१.		
२.		
३.		
४.		
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६.		
७.		

(११) पालिकामा खेती गरिने वालीहरू कुन कुन हुन् ? तिनीहरूको महत्वको आधारमा श्रेणीबद्ध रुपमा तलको तालिका अनुसार विवरण दिनुहोला ।

वालीहरू	क्षेत्रफल (हेक्टर)	वार्डहरू
१.		
२.		

३.		
४.		
५.		
६.		
७.		

१२. पालिकामा कृषिमा संलग्न निजीस्तरका सुचिकृत ब्यवसायिक संस्थाहरुको विवरण तलको तालिकामा भर्नुहोस्

ब्यवसायिक संस्था	संख्या	कैफियत
१. एग्रोभेट		
२. कृषक समूह		
३. कृषि सहकारी		
४. वीउ बिजन कम्पनी		
५. निजिस्तरका ब्यावसायिक कृषि फार्महरु:		
५.१ ताजा तरकारी फार्म		
५.२ फलफूल फार्म		
५.३ तरकारी नर्सरी		
५.४ फलफूल नर्सरी		
५.३ अन्य		
६. निजिस्तरका ब्यावसायिक पशुपन्छी फार्महरु:		
६.१ गाई फार्म		
६.२ भैंसी फार्म		
६.३ बाख्रा फार्म		
६.४ मत्स्य फार्म		
६.५ कुखुरा फार्म		
६.६ अन्य (जस्तै, अस्ट्रीच, हाँस, भेंडा, आदि)		
७. दुग्ध संकलन केन्द्र		
८. पशुपन्छी बधशाला		
९. कृषि उपज संकलन केन्द्र		

(१३) सबैभन्दा नजिकको बजार केन्द्र कुन हो र कतिको दूरीमा पर्छ? त्यहाँ व्यापार गरिने मुख्य वाली वस्तुहरु के के हुन्?

(१४) पालिका भित्र प्रशोधन तथा मूल्य अभिवृद्धि गर्ने खालका उद्योगहरु के के छन तथा कुनै उद्धमीहरु छन भनेर कुन ठाँउमा छन उल्लेख गर्नुहोला ।

(१५) पालिकाको सडक सम्पर्क तथा यातायात सन्जाल कस्तो छ? सबै वार्डमा मोटर जान सक्छ ?

(१६) कृषि क्षेत्रमा देखिएका मुख्य मुख्य समस्याहरु र चुनौतीहरु:

१.

- २.
- ३.
- ४.
- ५.

(१७) कृषि तथा पशुपंक्षि क्षेत्रमा पालिकामा देखीएका महत्वपूर्ण संभावनाहरू:

- १.
- २.
- ३.
- ४.
- ५.

(ख) संरचना र कार्यहरू:

- (१) यो पालिकामा कति वडाहरू छन् ?
- (२) कृषि तथा पशुपालन ब्यवसाय प्रमुखरूपमा रहेको वडाहरू कुन कुन हुन ?

(ग) कर्मचारीको व्यवस्था:

(१) यस पालिकामा जम्मा कति जना कर्मचारी छन् ?

विवरण	प्रशासन तर्फ	कृषि तर्फ	पशु तर्फ	अन्य प्राविधिक तर्फ
जम्मा स्वीकृत दरबन्दी				
जम्मा कार्यरत				

(२) तलको तालिका अनुसार कृषि तथा पशु तर्फको कर्मचारीहरूको विवरण दिनु होला ।

नाम	जम्मा दरबन्दी	संघ बाट नियुक्ति	पालिका बाट नियुक्ति	योग्यता	सेवा अवधि (वर्षमा)
कृषि					
१.					
२.					
३.					
४.					
५.					
६.					
७.					
८.					
१०.					
पशु सेवा					
१.					
२.					
३.					

४.					
५.					
६.					
७.					
८.					
१०.					

(३) कृषि तथा पशु सेवाका प्राविधिकहरू पालिकाको मुख्य कार्यालयमा बस्छन वा वडा कार्यालयमा पनि बस्छन ?

(४) उनीहरूको भूमिका र जिम्मेवारीहरू के के हुन्?

(५) कर्मचारीको आवश्यक संख्या र मुख्य पदहरू कसरी निर्धारण गर्नुहुन्छ? पालिका सँग यसको कुनै बिधि वा प्रक्रिया छ?

(६) पालिकाले कर्मचारी नियुक्ति गरेको छ भने कस्ता खालका चुनौतीहरू आइपरेका छन?

(७) हाल कार्यरत कृषि/पशु सेवा तर्फका कर्मचारी को संख्या पालिकाको आवश्यकता अनुसार पर्याप्त छ?

(८) यदि छैन भने, अरु कति कर्मचारी चाहिन्छ? कुन विषय क्षेत्र (कृषि/ पशु सेवा)

(९) कर्मचारीको संख्या बढाउन पर्ने भए तपाइको योजना के छ?

(१०) यस पालिकामा कार्यरत कृषि/पशु सेवातर्फका कर्मचारी आ-आफ्नो कार्यक्षेत्रमा दक्ष र तालिम प्राप्त छन?

(११) यदि छैन भने तिनीहरूको दक्षता एवं सीप बढाउन यस पालिकाको योजना के छ ?

(१२) कुन कुन विषयमा थप तालिमको आवश्यकता पर्न सक्छ?

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(घ) नीति र योजना:

(१) कृषि र पशु व्यवसाय प्रवर्धन को लागि पालिका सँग कस्तो नीति / योजना छ ?

(२) कृषि र पशु क्षेत्रको बिकासको लागि पालिकाको आवधिक (जस्तै पन्च वर्षीय) योजना पनि छ ?

(३) के पालिकाको वार्षिक/आवधिक योजनाहरू किसानहरूको आवश्यकताको मूल्यांकन र प्राथमिकतामा आधारित छन् ?

(४) के यस पालिकाले आफ्नो कार्यक्रम र नीति बनाउँदा वा कार्यक्रम कार्यान्वयनमा महिला सहभागिता र जलवायु परिवर्तनलाई पर्याप्त ध्यान दिएको छ ?

(५) चालु आ.व. २०७७.७८ मा पालिकाको कृषि र पशु क्षेत्रको मुख्य मुख्य कार्यक्रमहरू के के छन् ?

कृषि तर्फको कार्यक्रम	पशुतर्फको कार्यक्रम

(६) तपाईंको पालिकाको कृषिका कार्यक्रमहरू प्रदेश र संघ को कृषि कार्यक्रमसंग तालमेल मिलेको छ ?

(७) तँपाइलाई कृषि विकास रणनीतिको बारेमा केही जानकारी छ ?

(८) यदि जानकारी छ भने, पालिकाको वार्षिक/आवधिक योजनाहरू कृषि विकास रणनीति संग मेल खान्छन् ?

(९) योजना तर्जुमा को लागि को को संलग्न हुन्छन् ? योजना तर्जुमा गर्दा अन्य सरोकारवाला हरु जस्तै: कृषि ज्ञान केन्द्र, भेटेरिनरी विज्ञ केन्द्र, गैह्र सरकारी संस्थाहरू, सहकारीहरू तथा नीजी क्षेत्रलाई सहभागी गराईयो?

(१०) योजना शाखामा कार्यरत कर्मचारीको विवरण तलको तालिकामा दिनुहोस् ।

नाम	पद	तह	सेवा	योग्यता	सेवा अवधि (वर्षमा)

- (११) पालिकाको योजना तर्जुमा (वार्षिक तथा आवधिक दुवैको) प्रक्रिया के के हो?
- (१२) योजना तर्जुमा प्रक्रियाको क्रममा पालिकाका विभिन्न विषयगत क्षेत्रहरूले कसरी सहयोग पुऱ्याउँछन्?
- (१३) पालिकामा कृषि तथा पशुक्षेत्रको योजना तर्जुमाको लागि कुनै छुट्टै प्रक्रिया/चरणहरू छन् ?
- (१४) कृषि र पशुक्षेत्रको योजना तर्जुमामा (कार्यक्रम र बजेट बनाउन) त्यहाँ भएका कृषि इकाइको भुमिका के हुन्छ?
- (१५) योजनामा कार्यरत कर्मचारी आफ्नो काममा दक्ष छन्? योजना तर्जुमाका तरिका र विधिहरूको बारेमा जानकार छन्?
- (१६) यदि छैन भने वहाँहरूलाई कस्तो किसिमको तालिम आवश्यक पर्न सक्छ ?
- (१७) यस पालिकाको कृषि (कृषि र पशु) कर्मचारीहरूलाई योजना तर्जुमा सम्बन्धी तालिम आवश्यक छ ?
- (१८) योजना तर्जुमा प्रक्रियामा कुनै कमी कमजोरीहरू छन्?
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(१९) योजना तर्जुमा प्रक्रियामा तपाईंले सामना गर्नुपरेका चुनौतीहरू के के हुन्?

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(ड) बजेट:

(१) यस पालिकाको बजेटको वारेमा तलको तालिका अनुसारको विवरण प्रदान गर्नुहोला ।

विवरण	आ.व. २०७७/७८	आ.व. २०७६/७७
जम्मा बजेट रू.		
संघीय सरकारबाट रू.		
प्रदेश सरकारबाट रू.		
सशर्त रू.		
निशर्त रू.		
कृषि तथा पशु क्षेत्रको कूल बजेट रू.		
कृषि बजेट कूल बजेटको प्रतिशत		
कृषि क्षेत्रको बजेट रू.		
पशु क्षेत्रको बजेट रू.		

(२) कृषि तथा पशुसेवाको बजेट छुट्टयाउँदा खास के के विषयमा ध्यान दिइएको छ ?

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(३) कुनै शीर्षक तथा कार्यक्रमको बजेट अर्को शीर्षक तथा कार्यक्रममा रकमान्तर गर्न सकिन्छ ? त्यसको लागि के प्रक्रिया छ ?

(४) गत आ.व.को कृषि तथा पशुसेवाको बजेटको कति प्रतिशत खर्च भएको थियो? खर्चको प्रतिशत घट्दो छ या बढ्दो छ?

(५) यदि कम खर्च भएको हो भने, के कारण हुन सक्छ?

(६) बजेट समयमा निकास भयो कि भएन ?

- (७) बजेटको उपयोग र खर्च गर्ने अवस्था कसरी सुधार गर्न सकिन्छ?
- (८) बजेट विनियोजन, निकास र खर्चमा कुनै समस्या वा कमी कमजोरीहरू छन्?
- (९) बजेटको वारेमा तपाईंले सामना गर्नुपरेका आन्तरिक र बाह्य चुनौतीहरू के हुन्?
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(च) अनुगमन र मूल्यांकन:

- (१) यस पालिकाले आफुले संचालन गरेका कार्यक्रमहरूको अनुगमन र मूल्यांकन गर्छ?
- (२) यस पालिकामा अनुगमन मूल्यांकन शाखा छ? र कति जना कर्मचारीहरू छन्?
- (३) अनुगमन मूल्यांकन शाखामा कार्यरत कर्मचारीको विवरण तलको तालिकामा दिनुहोस् ।

नाम	पद	तह	सेवा	योग्यता	सेवा अवधि (वर्षमा)

- (४) अनुगमन र मूल्यांकनका जिम्मेवार व्यक्तिलाई थप केही तालिम आवश्यक छ? छ भने के मा?
- (५) पालिकाबाट संचालित कार्यक्रमहरू प्रदेश तथा संघीय सरकारबाट पनि अनुगमन, मूल्यांकन हुन्छ?

- (६) यस पालिकाले आफ्नो प्रोफाइल अथवा डाटाबेश बनाएको छ वा छैन ?
- (७) कुन कुन तहमा कस्तो कस्तो तथ्यांक संकलन गर्नुहुन्छ? त्यस्ता तथ्यांकहरू कति समयको अन्तरालमा संकलन गर्नुहुन्छ?
- (८) तथ्यांक संकलन गर्दा सबै घरधुरीबाट गर्नुहुन्छ अथवा नमुना घरधुरीहरू बाट मात्र गर्नुहुन्छ?
- (९) तथ्यांक संकलनको लागि कस्तो विधिहरू प्रयोग गर्नुहुन्छ? कुनै फारम, चेकलिस्ट तथा प्रश्नावली प्रयोग गर्नुहुन्छ?
- (१०) कृषि तथा पशुक्षेत्रको तथ्यांक संकलन गर्न छुट्टै फारम, चेकलिस्ट तथा प्रश्नावली प्रयोग गर्नुहुन्छ?
- (११) तथ्यांक संकलन गर्न कुनै सफ्टवेयर तथा एप्सको प्रयोग गर्नुहुन्छ? संकलन गरिएको तथ्यांक अनलाइन भण्डार गर्नुहुन्छ?
- (१२) डाटाबेश तथा सफ्टवेयरमा भएका सूचनाहरू के को लागि प्रयोग गर्नुहुन्छ?
- (१३) के यो प्रभावकारी छ वा अझ केहि सुधार गर्न पर्दछ?
- (१४) डाटाबेश व्यवस्थापन तथा अनुगमन मूल्यांकनका लागि चाहिने सीपको कमी छ?
- (१५) त्यसको लागि केहि थप तालीमको आवश्यकता छ?
- (१६) अनुगमन मूल्यांकनमा मुख्य मुख्य कमी कमजोरीहरू के के छन्?
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(छ) सहकार्य तथा समन्वय:

- (१) यस पालिकामा कृषि तथा पशुक्षेत्रमा काम गर्ने कुनै संघ/संस्थाहरू छ वा छैन ? यदि छ भने कुन कुन हुन? के के कामहरू गर्दछन्?

(२) के यो पालिकाले नीजि क्षेत्रसंग कुनै काममा सहकार्य गरेको छ? यदि छ भने कुन संस्था र के काममा सहकार्य भएको हो र कसरी काम गरिएको छ?

(३) के यी संस्थाहरू (NGO/INGO, नीजि क्षेत्र र अन्य) संगको सहकार्यमा गरिएको कामहरू पालिकाको लागि उपयोगी र फाइदाजनक छन्?

(४) यी संस्थाहरूबाट यस पालिकाले कस्तो सहयोग र सहकार्यको अपेक्षा गरेको छ?

(५) कृषि तथा पशुसेवा संग सम्बन्धित गतिविधिहरू कसरी समन्वय गर्नुहुन्छ?

(६) समन्वयको लागि कस्तो संयन्त्र छ? कुनै समन्वय समिति बनाउनु भएको छ?

(७) यदि त्यस्तो समिति छ भने समितिको बैठक कति समयको अन्तरालमा बस्दछ? यसमा को को सहभागी हुन्छन् ?

(८) के समन्वय गर्ने काम चुनौतीपूर्ण छ ?

(९) पालिका र प्रदेशसंगको समन्वयको अवस्था कस्तो छ ?

(१०) समन्वय अझ प्रभावकारी बनाउन के गर्न सकिन्छ ?

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(११) यदि समन्वय समिति छैन भने कस्तो संयन्त्र बनाउने प्रस्ताव गर्नुहुन्छ?

(ज) रसद (logistics):

(१) पालिकामा कार्यरत सबै कर्मचारीहरूको लागि काम गर्न पर्याप्त कोठाहरू छन् ?

(२) पालिकामा बैठक, कार्यशाला गोष्ठी र तालिम आदि गर्न पर्याप्त कोठाहरू छन् ? छैन भने कसरी व्यवस्थापन गरिन्छ?

(३) कृषि सम्बन्धि गतिविधिहरूको रिपोर्टिङमा कम्प्युटरको प्रयोग हुन्छ? हुन्छ भने आवश्यक कुनै सफ्टवेयरहरूको प्रयोग पनि गरिन्छ की ?

(४) के आवश्यक सफ्टवेयरको वारेमा कार्यरत कर्मचारीहरू जानकार छन् ?

(५) कार्यक्रम कार्यान्वयनको लागी पालिका बाट यातायातको सुविधा उपलब्ध हुन्छ ?

(६) रसदको (लजिस्टिक) सम्बन्धमा के के कमी कमजोरी हरु छन्?

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(ज) प्रसार तथा अनुसन्धान :

(१) पालिकाले कृषकहरूलाई के के बिषयमा सहयोग गर्ने गर्छ ?

- आधुनिक कृषि सम्बन्धि सल्लाह सुझावहरू र प्राविधिक सेवा,
- अनुदानमा उत्पादन सामग्रीहरू,
- मेशीनरी औजारहरू,
- उन्नत नक्षका पशुहरू,
- कृषि र पशु बजारको व्यवस्था आदि,

(२) के पालिकाले कृषि बजारिकरणमा कुनै सहयोग गर्ने गरेको छ? र कसरि गर्छ?

(३) कृषकहरूलाई सल्लाह/सुझाव दिन आधुनिक सूचना तथा संचार माध्यम के प्रयोग गर्ने गरेको छ ?

(४) किसानहरूले पालिका बाट कस्तो सहयोगको अपेक्षा बढी गर्छन्?

(५) के किसानले चाहेको सबै किसीमको सहयोग र प्राविधिक सेवा टेवा पालिकाबाट प्राप्त गरेका छन् ?

- (६) छैनन भने तेस्तो सेवाटेवा किसानले कहाँबाट प्राप्त गर्छन्?
- (७) तपाईंको पालिकामा कृषि प्रसार सेवा सुधार गर्न तपाईंको विचारहरू के के छन्?
- (८) अनुसन्धान खोजहरू बाट आएका प्रविधिहरू प्रयोग गर्न पालिकाको सौच के छ ?
- (९) सामुदायिक कृषि प्रसार सेवा केन्द्रको नाम सुन्नु भएको छ ? के तपाईंको पालिकामा पनि छ ?
- (१०) यदी सामुदायिक कृषि प्रसार सेवा केन्द्र स्थापना गर्न चाहनु हुन्छ भने कतिबटा ?
- (११) किसानहरूलाई प्रभावकारी रूपमा सेवा दिनका लागि कृषि प्राविधिकहरूलाई थप प्रशिक्षण आवश्यक छ ? छ भने कुन कुन प्राविधिक क्षेत्रमा आवश्यक छ ?
- (१२) कृषि प्रसार र अनुसन्धान मा मुख्य कमी कमजोरीहरू के के देख्नु हुन्छ ?

(ज) अन्य :

- (१) कृषि विकास रणनीति कार्यक्रम (TCF to ADS) बाट पालिकाले कस्तो सहयोगको अपेक्षा राख्छ ? जस्तै:
- योजना तर्जुमा प्रक्रियामा सहयोग
 - अनुगमन तथा मूल्यांकन सहयोग
 - डाटाबेस विकास तथा व्यस्थापन
 - कृषि प्रसार सहयोग
 - तालिम तथा क्षमता अभिवृद्धि
 - अन्य



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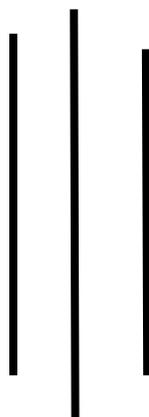
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Final report on:

Operation of Community Agriculture Extension Service Center and its Management



Submitted To:

Department of Agriculture
Ministry of Agriculture, Land Management and Cooperatives
Hariharbhawan, Lalitpur, Nepal

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Abbreviations

ADS	Agriculture Development Strategy
AESSC	Agriculture Extension Service Sub-Committee
AFSP	Agriculture and Food Security Project
AGDP	Agriculture Gross Domestic Product
ALSC	Agriculture and Livestock Service Centers
ASC	Agriculture Service Center
CAESC	Community Agriculture Service Center
CBRAE	Community based Rural Agricultural Extension
DADO	District Agriculture Development Office
DESTEP	Decentralized Science, Technology and Education Flagship Program
DLS	Department of Livestock Service
DLSO	District Livestock Service Office
DoA	Department of Agriculture
DoAE	Directorate of Agricultural Extension
FAO	Food and Agriculture Organization
FGD	Focus Group Discussion
FORWARD	Forum for Rural Welfare and Agricultural Reform for Development
GDP	Gross Domestic Product
GoN	Government of Nepal
HVAP	High Value Agriculture Project
ICT	Information and Communication Technology
IFAD	International Fund for Agriculture Development
IWRMP	Irrigation and Water Resources Management Project
KII	Key Informant Interview
KUBK	Kisankalagi Unnat Biubijan Karyakram
LAO	Local Agriculture Office
LSC	Livestock Service Center
MAPs	Medicinal and Aromatic Plant
MoAD	Ministry of Agricultural Development
MoALMC	Ministry of Agriculture, Land Management and Cooperatives
MoU	Memorandum of understanding
NARC	Nepal Agricultural Research Council

NTFPS	Non-timber Forest Products
PACT	Project for Agriculture Commercialization and Trade
PMAMP	Prime Minister Agriculture Modernization Project
RARS	Regional Agriculture Research Station
RISMFP	Raising Income of Small and Medium Farmers Project
RM	Rural Municipality
RWEE	Rural Women Economic Empowerment
SMS	Subject Matter Specialist
ToR	Terms of Reference
VDC	Village Development Committee
WFP	World Food Programme

Executive Summary

The majority of the Nepali people are directly involved in agricultural activities and is the source of livelihood, income and employment opportunities. Agriculture sector contributes about one-third to national GDP and has been kept in priority in periodic plans and programs, however the annual budget allocation has never exceeded 5%. Government of Nepal has launched Agriculture Development Strategy, a 20 year strategic plan to direct and guide the overall agricultural development of Nepal. The existing limited number of agriculture service centers is not able to reach and disseminate extension services to the majority of the farmers due to limited means, resources and human capacity which ultimately leads to slow agricultural development in Nepal. The ADS has targeted high agricultural growth rate and has imagined to establish separate body called as Community Agriculture Extension Service Centers in all the VDCs to accelerate agricultural development and for effective extension service system. The ADS was promulgated before the commencement of new constitution and now restructured to federal republican country with total of 753 local level units comprising 460 rural municipalities, 276 municipalities, 11 sub-metropolitan cities and 6 metropolitan cities. This appeals the need of study to identify the better way/techniques of operation and management of CAESC in local level units. The desk review was done to insight the knowledge about effective operation and management of CAESC. The field level survey on 3 districts was conducted to observe the feasibility, need and importance of CAESC at local level identifying the strength and weaknesses.

There were different approaches of extension system adopted in Nepal, however the group approach system has been found effective as compared to other approaches. The GoN has been providing extension services through various agriculture service centers and livestock service centers. The new constitution, federal republican country has ensured right to food and access to land for agri-activities for every citizen. The current restructure of Nepal has 3 tiers: central level mainly responsible for policies development, bilateral and multilateral agreement and negotiations; state level mainly responsible for development of state level policies and plans and direct for implementation; whereas local level is responsible for policy development for local level agriculture extension, implementation of programs and human resource management at local level.

In the new structure, the government's priority should be on effective management of local governance system. For effective governance and development, the existing four ministries are merged into one as 'Ministry of Agriculture, Land Management and Cooperatives. The

Decentralized Science, Technology and Education Flagship program of ADS has vision of establishment of CAESC in each VDCs. The CAESC established on Sindhuli and Rautahat districts has not been implemented effectively as thought by ADS. The infrastructures are used by RM/Municipality for their office purpose. The CAESC should be formed by local communities governed by a board representing from local level and fully managed by board and recruit manpowers for its efficient and effective implementation. The dissolution of DADOs by the fiscal year 2074/75, the majority of the farmers are worried on how to receive extension service and they focused to establish some extension units at local level for efficient and effective extension system. CAESC has its wider extension services related to agriculture and livestock for technical backstopping to farmers and agriculture staffs at local bodies. CAESC should be established with full responsibility of local government and fully managed by local community. The CAESC would generate some capitals from the sales of agri-inputs, membership fee, grant received and budget allocation by local bodies to cover operational cost.

1. Introduction

1.1 Background

Nepal is an agrarian country where majority of the people i.e. about 65.6 percent is directly involved in agriculture for livelihood, employment and income generation. The share of agriculture and forestry sector to national Gross Domestic Product (GDP) is about 28.89 percent¹. Nepal government aims to make public services accessible through the most convenient and easy way with less inputs and time in a qualitative manner to the majority of the farmers and entrepreneurs residing in rural and remote areas from the nearest possible service centers. Extension service is very much important to disseminate technology among the farmers. Various extension methods and approaches have been used in Nepal since the introduction of Gram Viskah Karyakram and establishment of Department of Agriculture (DoA).

In this context, Ministry of Agriculture, Land Management and Cooperatives (MoALMC) has been delivering agricultural extension services to provide improved technologies and services for the increase in production and yield of agricultural commodities through its District Agriculture Development Offices (DADOs) located in all 75 districts. The government has established service and sub-service centers to provide extension services to a large number of farm households at local level. Till now (until the dissolution of DADO and completely hand over of ASC/LSC/LSSC to respective local bodies), there are 378 Agriculture Service Centers under DoA and 999 Livestock Service and Sub-service Centers under Department of Livestock Services (DLS). However, a large number of farmers could not access extension service through such arrangement.

According to the Nepal's new constitution-2072, Nepal has been restructured to federal republic country. The creation of 753 local level units in line with federal structure marks a major restructuring of local bodies. As per the new arrangement, Nepal has 460 rural municipalities and 276 municipalities, 11 sub-metropolitan cities and 6 metropolitan cities. These local levels are divided into altogether 6,680 wards. The rural municipalities have 5 to 21 ward units while the municipalities including the sub-metropolises and the metropolities, have 9 to 35 ward units. In this new government structure, the DADO is going to be dissolved after the end of fiscal year 2074/75 which appeals the need of good and smooth

¹ AICC (2018). Krishi Diary. Agriculture Information and Communication Center. Government of Nepal, Ministry of Agriculture, Land Management and Cooperatives, Agriculture Information and Communication Center, Hariharbhawan, Lalitpur.

center in each local bodies (*palikas*) to provide extension services to the large number of people. The government's major priority should now be effective management of local governance system. For this, the big efforts are concentrated to restructure and reform different organizational structure of local, provincial and central level.

In view of the difficult physiographic terrain and limited number of frontline extension workers, the existing number of service and sub-service centers has been felt inadequate. More importantly, the issues and challenges due to climate change, decreasing number of agriculture labour force and increasing feminization of agriculture due to out-migration of rural youths, fast globalization due to dramatic development in information communication technology, and increasing change in tastes and preferences demand the easy access to extension services. For all such backdrop, Nepal's long term Agriculture Development Strategy (ADS) has envisaged establishment of Community Agriculture Extension Service Centers in each VDCs to increase the farmers access to agriculture extension services in Nepal. It was easy and possible to establish such CAESCs in all VDCs through existing DADOs in all 77 districts (now 77 in new federal structure) but in the new government structure (federal republic country) there is no provision of DADO. In this new context, there is need of study to identify the best way for the establishment of CAESC and to identify the way for its sustainable development. Based on these scenarios, establishment of CAESCs in each local level bodies (*palikas*) might be the better alternative. CAESC is formed by joint funding of Nepal government, private sectors, cooperatives and *palikas* and run under ownership and management of local communities. It is aimed to be governed by a board including representatives of local communities, cooperatives, farmer organizations and agro-enterprises.

1.2 Objectives of the study

The overall objective of this study was to identify the best way/techniques for the establishment of CAESC and to identify the way for its sustainable development. The specific objective of this study was:

- Identify the importance and functions of CAESC
- Identify the appropriate structure of CAESC
- Suggest and develop operational modality of CAESC

1.3 Scope and limitation of the study

The field level data were collected from only three districts due to time and budget constraints. Few FGDs and KII were done to collect data which might not represent the view of whole population. The desk review involves mainly the documents from governmental organizations. The study covers the limited area and population which might not be useful to generalize the wide area and large population. The interviewer bias was minimized as far as possible during field level data collection.

In this study, the best techniques for the establishment of community agriculture extension service centers (CAESCs) and its operation modality were identified. CAESC will be major key component for agriculture extension system in newly formed federal system. CAESC will be ground level institution to deliver research outputs to farmers and collect indigenous technologies and practices which acts as a bridge for the overall agricultural development of the country. This study will help in the implementation of CAESC and its functions.

2. Approach and methodology

The study comprised of desk review and field level study to gather the required information in order to identify the best way or techniques for the establishment of CAESC and its management. Both the primary and secondary information were collected for this study. Tools such as Focus Group Discussion (FGDs), Key Informant Interview (KII) were used to collect the necessary information.

The following desk review and field level study was conducted to collect the necessary data and are discussed below:

2.1 Desk review

The final report of agriculture development strategy 2015-2035, existing service delivery modality, structural and functional processes, programs, facts and figures, government policy and regulatory framework, private sector involvement in the development of agriculture sector and the other relevant documents published by MoAD and GoN was reviewed and analyzed to figure out and conceptualize the study. The provision of extension services delivered by governmental services was reviewed to make concept clear. Based on these information, the necessary institutional arrangement and regulation methods, design of physical and institutional structure was prepared.

2.2 Field study

In the newly government structure of federal democratic republic of Nepal, it is divided into seven Provinces. Altogether there are 753 local units which comprises 6 metropolitans, 11 sub-metropolitans, 276 municipalities and 460 rural municipalities. The MoALMC has established CAESC as a pilot study in Rautahat, Sarlahi and Sindhuli districts in cooperation with UN Women, FAO, IFAD, WFP and FORWARD. The Sindhuli district was purposively selected to observe the situation of piloting CAESC and its management mechanism. The real strength and weaknesses as well as guidelines for the establishment of CAESCs were identified through discussion in this district. The details about field study are described below in sub-headings.

2.3 Selection of site

Nepal is divided into three different agro-ecological belts namely Terai, Hill and High hill based on the land topography. In order to represent the whole areas, the three districts (each

from three different agro-ecological belts) was selected purposively and as per convenience to conduct field study. The three districts Rupandehi from Terai; Sindhuli from Hill and Dolakha from High hill was selected for this study to collect the field level information from the related stakeholder for CAESC operations. Similarly, during the time of study, the team had visited Rautahat district to observe the situation of CAESC in the terai region and interaction was made with the responsible concerned personnel to insight knowledge about its mechanism and operational structure.

2.4 Sample size and methods

There are various tools and methods that can be used to obtain primary information. For this study, FGDs and KII interview techniques were used to collect primary information. It believed that the more and reliable information can be collected from the interactions between the participants (Finch & Lewis, 2003)². The total of six FGDs (two in each district) and more than 10 KIIs were conducted to collect the necessary primary information from the study site. FGD was conducted at municipality/rural municipality level with the representatives from wards, section officers, chief executive officer and at farmers' level. Few KIIs with mayor of municipalities, president of rural municipalities, chief of DADO and DLSO and highly experienced personnel were interviewed to gather information regarding the operational and structure modality of CAESC in Terai, Hill and High hill. The FGDs and KIIs were conducted in municipality and rural municipality of each district.

2.5 Checklist preparation

The necessary objective based representative checklist was prepared and administered in the FGDs and KIIs to collect the information. The checklist had focused and mainly discussed on the need and importance of establishment of CAESC, structure and operational modality in three different agro-ecological belts, ownership and management at local level. The desk review mainly focused about the operational modality of farmers field school, establishment of demonstration plot, agriculture camps, agriculture library service, audio-visual service, e-learning, farmers identity card, farmers' pension, voucher system, mechanization tools, agriculture and livestock insurance, operation of agriculture inputs center. During FGDs and

²Finch, H., & Lewis, J. (2003). Focus groups. *Qualitative research practice: A guide for social science students and researchers*, 170-198.

KIIs, the appropriate structure and operational modality of CAESC in each belt was discussed to identify the appropriate modality.

2.6 Focus group discussion

The total of six FGDs was conducted with the group of 6 to 10 persons which includes the representative personnel from technicians of DADO, DLSO, ASCs, LSC, farmer groups, cooperatives, and so on. The FGD checklist was used to facilitate the discussion and the notes were maintained in diary.

2.7 Key informant interview

Key Informant Interview was done with the chairperson of mayor, president of rural municipality, chief of DADO and DLSO at field level and few KIIs with the first class officer at MoALMC, ADS unit at MoALMC and DoA at central level. A semi-structured questionnaire was prepared as per the task mentioned in the ToR for study and was administered to the actual respective respondents.

The FGDs, KIIs and desk review is mainly focused to identify and suggest the appropriate institutional arrangement and regulation methods with better modality of physical and institutional structure.

2.8 Analysis

The collected qualitative information from desk review and field site was analyzed appropriately to derive necessary inferences whatever needed.

2.9 Arrangement of discussion workshop

The workshop was organized at DoA hall, Hariharbhawan with the chairmanship of Director General to obtain the necessary feedbacks, comments and suggestions in the initial draft report prepared after the desk review, FGD and KII interviews to concerned stakeholders. The preliminary result and findings was presented in the presence of subject matter specialists (experts) to obtain critical comments and suggestions. The SMS comprises experts from MoALMC and DoA, flagship manager of ADS, director from different directorates. All the suggestions and comments from the workshop has been addressed and incorporated in this final report as far as possible.

3. Findings from study

3.1 Review of agriculture sector development in Nepal

3.1.1 Current status of agriculture sector

Nepal has diverse climatic zones in its three ecological belts namely mountains, hills and terai. In the north, there are alpines and tundra and sub-tropical in the south. From apples and walnuts to mango and litchi, it can be observed huge diversity in agricultural production too. Paddy is grown in high altitude as well in terai plain showing diversity in the varieties grown. Nepali agricultural system is unique due to complex nature. The elements of the system are intertwined among the multiplicity of enterprises of crops, livestock, poultry, vegetables, fruits, spices, fisheries, agro-forestry and non-timber forest products. To this day, majority of the farmers produce what they consume and consume what they produce. Rice, maize, wheat, finger millet and barley are the major cereals grown. Maize and millet are mostly grown in the non-irrigated uplands and rice-based cropping pattern is popular in the irrigated areas. Oilseeds, pulses, sugarcane and potato are the other important crops. Different fruits and vegetables are cultivated in summer and winter seasons in different physiographic regions. Aquaculture is popular in the southern Terai flat land and river systems originating mostly from the Himalayas harbor indigenous fish species. Agriculture system is moving towards commercial business but yet it is subsistence type. Livestock farming, fish farming and dairy farming has been observed to move little forward from subsistence farming showing gradual development in agriculture. In few areas, crop and vegetable production has been commercialized by private sector. Ministry of Agriculture, Land Management and Cooperatives has been planning national level as well as local level programs for commercialization in agriculture sector. For commercialization, different projects such as PACT, PMAMP, HVAP, AFSP, KUBK, IWRMP, RISMFP, etc. are the national projects under going to attain this goal.

3.1.2 Opportunities, challenges and current needs

Agriculture system being complex in nature, opportunities are amidst challenges. The single element can be challenge and opportunities at the same time. For example, topography is challenge as we do not have access of road corridor in high hills so development of agriculture has been constricted to flat lands. The productions in high hills and mountains are confined in the periphery of those areas only. The cost of transportation multiplies more than double as compared with the cost of production. Whereas, having overlook on opportunity,

we can grow unique crops in various topographic regions providing comparative advantages in production. Almonds and walnuts can be grown only in mountainous regions. Local herbs found in mountains are incredible to any medicines.

Some opportunities can be listed as;

- Diverse range of commodities grown
- Different agro-ecological belts for growing different crops
- Seasonal and off-seasonal vegetable production
- High value crops such as tea, coffee, cardamom
- Floriculture as commercial business
- Production and processing plants
- Chemical fertilizer manufacturing company
- Market linkage and regulations
- Different national level policies such as national agriculture policy-2004, tea and coffee policy, food security policy, etc.

Challenges faced are;

- Increasing population leading to decreasing agricultural land
- Land fragmentation and unmanaged town planning
- Decreasing productivity of major crops
- Use of traditional technologies for production and farm management
- Agricultural demand based research and its proper dissemination
- Systematized and clean marketing policies
- Access to agricultural credit
- Assurance of year round irrigation facility in agricultural land
- Import substitution
- Certification and quarantine

Current needs;

- Increase in production and productivity of agricultural crops
- commercialization in agriculture
- development of market hubs and linkage with farmers
- land management techniques and policies for conserving agriculture land
- promotion and value chain of high value crops
- reduce trade deficit in agricultural products

3.1.3 Government policy and strategies intervention

Being among least developed countries in the world, poverty has always remained one of the crucial development agenda for Nepal. The start of periodic plans and planned development, agriculture sector is also lined up in development plans. The different policies and programs to address land, productivity, forests and other natural resources are launched time to time. Nepal's agriculture sector has received less prioritization and investment over years in annual budget speech. The trend is of great concern for any of the stakeholder of agriculture as this is not only the key to Nepal's economic development, but also indispensable for averting a food crisis. The first four periodic plans mainly focused (prioritized) on infrastructure development and then 5th periodic plan put the agriculture at first priority for the first time and is continued in 6th and 7th plan as well which also focused on rural development through transportation, communication and other infrastructure. Likewise, 8th plan prioritized on poverty alleviation, 9th and 10th plans prioritized on agriculture, poverty alleviation, decentralization, governance and sustainable development. So, time to time, agriculture sector in Nepal has been at the top most priority but the budget allocation on this sector is very minimal which the major issues for the better agricultural development is.

Regarding land reform and management, land reform act, 1964 is major milestone with good land reform programs and policies. However, this act also prompted the unequal distribution of land to elite farmers' i.e. 19ha of land per family. Land fragmentation has always been major hindrance for agriculture development brought up by defective land ownership and inheritance pattern.

In 1997, Agriculture Perspective Plan (APP) was brought with aim of accelerating agricultural growth rate through increased factor productivity. It emphasized investments in (i) shallow tube-well irrigation in the terai; (ii) agricultural roads; (iii) fertilizer; (iv) technology development and delivery. Overall performance of APP was mixed. There was dramatic improvement in rural road infrastructure, community forest and horticulture. Irrigation expanded considerably although didn't achieve the target. Livestock, poultry and dairy sector performed well while cereal could not perform well. The mixed performance was one of the reasons for bringing another long term strategy i.e. ADS by Nepal government.

3.2 Review of agriculture extension system

Since 1950, the country has practiced several extension models and approaches, with support from donors or from the government's own resources. Some of the models or approaches adapted in Nepal are as follows:

3.2.1 Approaches adopted in the past

i. Training and visit system

This system was based on the principle 'single line of command' with continuous Training and visit. Research extension linkage was stronger though material support for adoption was quiet weak.

ii. Integrated rural development approach

This approach was based on the integration and coordinated management of resources for rural development. Technology support was not adequate in this kind of extension approach.

iii. Tuki approach

This approach had the goal of utilizing trained local farmers based on self-motivation principle. These farmers were also working as agriculture input dealer so that the technological message could go along with inputs required.

iv. Farming system research and extension approach

This approach viewed research and extension in the whole farming system perspective so that cropping system research could be done. Farmers would know the interdependencies between components and could relate to physical, biological and socio-economic factors.

v. Block production program

This program was based on the principle that intensive use of resources consolidated together in an area called "*block*" could increase the productivity. This was not effective for scattered area.

3.2.2 Existing approaches at present situation

i. Conventional educational approach

Besides the group members, the key farmers are involved in the process of motivation and education. The farmers themselves in a wider area disseminate the knowledge and skills taught to them. This approach has been effective to facilitate the adoption of new innovation by interested farmer, which eventually radiated demonstration effect to neighboring farmers.

ii. Pocket package approach

Pocket package approach refers to the production strategy on pocket area basis. The feasible pockets for a certain commodity are selected and then a project is developed through bottom up process. This has been positive to introduce the package of technologies as demanded by pockets. It has also helped to develop the crops/commodities on commercial scale.

iii. Projectization approach

Every commodity based production program has been implemented on the basis of project designed within the framework of time duration, budget expenditure and expected output package of activities which are required to achieve the output are identified and included in the project. This approach has been adopted in all the seventy-five districts with a priority in the production pockets.

iv. Farmers group approach

The principle is to put the farmers of same interest together and carry out the activities on group basis. This has been very effective to bring the innovation to the groups, which in turn expand to its command area farmers. The limited manpower and other resources can be well utilized by means of group.

v. Farmers field school approach

This is based on the principle of adult learning. This has been very effective approach in reaching farmers and helping them to have an access to the knowledge and skills required for crop management. This approach is becoming popular because of its democratic and participatory process. An effective example of this is IPM (Integrated Pest Management) classes.

vi. Partnership approach

Government organizations is undertaking partnership approach with other organizations like department of irrigation, NGOs, CBOs, private organizations etc., to effectively deliver the extension services. This strategy has encouraged relevant stakeholders to join hands in development. Challenges of the agriculture extension programs: in spite of the significant efforts made by the extension system, however, there are still several problems and issues that require due attention to be paid for more efficient and effective performance. One of the major challenges for agricultural extension system is how to serve the majority of rural poor and socially disadvantaged groups who had long been neglected by extension and other services. Other issues are inadequate linkage among research and extension, education, farmers and other stakeholders, poor infra-structural development, insufficient number of extension personnel, etc. to cater diversified agricultural services.

3.2.3 Present status of extension system

The extension service system in Nepal has been practiced since from autocratic rule by Rana regime, introduction of new technologies and techniques were solely depended on interest

and wish of ruling class people. Nepal is rich in agro-ecological diversity and investment programs should be prioritized and planned as per the different agro-ecological conditions, not only to the needs and potential of different communities. For example, in the design of appropriate farming system, the conditions of terai, hills and mountainous areas differ markedly and a technological solution is needed to be adapted. Similarly, the approach to value chain development should take consideration the geographical nature of the supply chain, from production areas to consumption or export destinations. In several areas of the hilly and mountainous areas of Nepal, commercialization of agriculture is not viable due to a number of factors including very poor infrastructure, difficult terrain, and agro-climatic conditions.

Till the date, the extension system under the management of the GoN is organized through a network of Agricultural Service Centers (ASC) under the responsibility of DoA and Livestock Service Centers (LSC) under the responsibility of Department of Livestock Services (DLS). Although there are 378 ASC and 999 LSC however the network has not been reached in all the VDCs of the country. The limited number of service centers as compared to high number of VDCs in the country is unable to provide its extension services to large number of farmers of Nepal. The limited number of service centers is aggravated by the limited resources available to carry out program and capacity building activities. Furthermore, even when farmers are reached by the existing extension system, there is no guarantee that the local needs are adequately met by the existing extension system. The agro-ecological and socioeconomic diversity of Nepal is extraordinary and represents a challenge for any specific type of extension service provider to respond effectively to the needs of different types of farmers. Government extension service providers, NGOs providers, and private sector providers are able to meet the needs of only active and lead farmers and agro-enterprises in Nepal.

The ALSCs and LSCs are often lacking in technical and operational funds to provide effective extension services and to implement the programs effectively. The improved capacity of the existing ASCs and LSCs would be the major backstopping to the successful establishment and implementation of CAESCs at the VDC level (now at *palikas* level). The ADS has envisioned for formulation of program of ICT in agricultural extension involving PCs or tablets linked to internet for agro-information centers located in CAESCs and mobile-based applications. National Agricultural Research Institutes (NARI) and Regional Agriculture Research Stations (RARS) under NARC are the existing structure which would

provide technical backstopping to local level structure such as CAESCs, cooperatives, agro-enterprises, and others for the adaptive research as well as customization of the technology as per the need of the community. The ADS suggests strengthening the seed and feed/fodder reserve system to cope with natural disasters such as flood in the terai, heavy snow fall in the high mountain areas through community managed seed banks at VDC level (now should be structured at province and local bodies), in coordination with the CAESCs.

3.2.4 Integration with the agricultural education system

The integration with the agricultural education system would include support to the Agriculture and Forestry University, Tribhuvan University, creation of a department of agribusiness in those universities, capacity building of vocational schools, inclusion of agriculture courses in school curricula and support to the establishment of agricultural colleges in the districts wherever it seems feasible. Additional measures to ensure closer integration with research and extension include joint educational and research programs with NARC institutes, joint extension programs with departments and district officers, joint educational programs with CAESC, identification of innovative ways for the Agriculture and Forestry University and the agricultural colleges to partner with the private sector (example renting/leasing facilities, training to private/community organizations), and coordination with health and medical institute to mainstream food and nutrition security into the agricultural universities, colleges, and vocational schools.

3.2.5 Issues regarding to public sector agricultural extension

Agricultural extension program in Nepal has been dominated by the activities of the two departments under the MoALMC: the Department of Agriculture (DoA) and the Department of Livestock Services (DLS) till the implementation of federal system after the promulgation of new constitution followed by formation of three tiers of government. Not with standing many encouraging evidences with regard to the performance of public sector agricultural extension in the past, Nepali public sector agricultural extension is often criticized for domination of supply driven approaches rather than demand driven; failing to cater the needs of the specialized client; demand for location specific extension services as required by the commercialization of agriculture; high cost-low impact of extension programs; insufficient face-to-face contact between extension worker and farmers; inadequate funds for operational purpose; inadequate personnel and technical qualifications of grassroots extension workers;

dilution of impact by thin coverage, that has not been satisfactory impact to contribute to sustainable agricultural growth. Along with these, some of the major issues in Agriculture extension services in Nepal are as follows:

- Lack of motivation among the rural youths, farmers
- Natural Resource degradation and climate change and sustainability issues
- Inadequate number of the extension workers and their qualification and skills
- Inadequate infrastructure and capacity for use of ICTs among the ground level extension workers
- Lack of monitoring and assessment of impact of extension activities in rural farmers
- Low level of need based extension coverage particularly for small farmers
- Ineffective and weak linkages between stakeholders at different levels
- Low level of education of farmers
- Insufficient budget and investment for extension activities
- Domination of supply driven approaches rather than demand driven
- Inadequate extension services in parts of value addition and market exposure

3.3 Constitutional arrangements in agriculture

3.3.1 Provisions for agriculture development in Nepal

In article 25(4) of constitution of Nepal, has mentioned land reforms, management and regulation in accordance with law for the purposes of enhancement of product and productivity of lands, modernization and commercialization of agriculture, environment protection and planned housing and urban development. This gives insights and legal support to launch programs for modernization and commercialization in agriculture.

The article 36 of constitution have ensured rights relating to food for every citizen. They have right to be safe from the state of being in danger of life from the scarcity of food. All shall have the right to food sovereignty in accordance with law. This creates mandatory for increasing production of agronomic and horticultural crops and its access to each and every citizen.

In article 42(4), it is mentioned that every farmer shall have the right to have access to lands for agro activities, select and protect local seeds and agro species which have been used and pursued traditionally, in accordance with law.

Likewise, there is special provision for agriculture and land management which includes

- scientific land reform policies, ending dual ownership in existing land,
- discouraging inactive land ownership by land pooling, ensuring farmer's rights
- commercialization, mechanization, modernization and diversification in agriculture
- productive land, agriculture inputs, agro-products at fair market price, access to market.

3.3.2 Approaches adopted worldwide to deliver extension services

The method known as community-based rural agricultural extension (CBRAE) method is adopted in limited arena in the world. Basically, the CBRAE is based on the idea of providing specialized and intensive technical training to one or two people in a community who then promote a variety of appropriate technologies including with occasional support and review from a supporting organization. Some periodic refresher courses should be made available to the rural extensionists for their capacity build up. These courses provides a space to discuss on their experiences and contribute to the improvement and refinement of training materials. In the case of CAESC in Nepal, refresher training or on the spot technical feedback could be provided by Krishi Gyan Kendra (Agriculture Knowledge Centre) and technicians from ASC/LSC.

CBRAE is considered as low cost technological facilitation system thus:

- facilitates farmers to experiment with new technologies on a small scale;
- use rapid, recognizable success in these experiments to motivate others to innovate;
- use technologies that rely on inexpensive, locally available resources;
- train villagers as extensionists and support them in teaching other farmers.

The report analysed the foreseeable challenge of paid service by farmers, for technical service, provided by extension worker. The institutionalization of CAESC by Palikas will helpful to make the services compulsorily payable during provisioning subsidized farm input support from government authority.

There is need of external investment for its initial establishment and to effectively implement the CBRAE. The operational cost for its implementation could be managed by internal income from different sources. In case of CAESC, it could generate some income from the operationalization of custom hiring centre, facilitation charge on agricultural training organized by other agencies, rental of training hall, fee for the certification of

agricultural related documents from local agency, investment from local government etc. for its sustainable operation and management.

3.3.3 Status of extension service delivery at community level

Till the date, services related to agriculture and livestock are provided to farmers through ASCs and LSCs, which are run by the central government, however, this network does not cater to the needs of all the farmers, as only 378 ASCs and 999 LSCs have been established throughout the country. The limited number of service centres is exasperated by the limited resources available to carry out programs and capacity building activities. As a result, most of the VDCs (now combined to become rural municipality/municipality) and farmers have been denied access to the national extension system. Furthermore, even in places where farmers have access to the service centres, there is no guarantee that the local needs are adequately met. The agro-ecological and socioeconomic diversity of Nepal is extraordinary and represents a challenge for any specific type of extension service provider to respond effectively to the needs of different types of farmers.

3.3.4 Role and responsibility for agriculture development in federal structure

As per above provisions made in constitution of Nepal, there are many role and responsibilities for government of Nepal. The roles and responsibilities are devolved from Ministry of Agriculture, Land Management and Cooperatives to respective departments and offices.

In current federal system, federation (central level) is responsible for;

- policies development and its implementation
- international trade, exchange, port and quarantine
- international agreements, negotiation between various international organizations, its implementation and monitoring
- assist, facilitate and monitor inter-state trade related policies and laws
- develop physical infrastructure relating to international trade, regulate and coordinate it
- implementation and monitoring of policies, laws and standards of food quality and quarantine
- implementation of pesticides and micronutrient usage and management related acts and regulations

- collection and dissemination of information related internationally banned pesticides

State is mainly responsible for;

- formulation of state level policies, plans and regulations, its implementation and monitoring
- control of agriculture and livestock related diseases, pests and epidemics
- development and promotion of agri-business and industrialization
- state level laboratories, its regulation and management
- quality determination of agro-products
- seed quality determination and genetic improvement
- food security
- agriculture related research, data system, source conservation and co-operative farming system
- price determination of agro-products
- infrastructure development and management (agri-roads, agri-markets, farm centers)

Local body is responsible for;

- policy making for local level agriculture extension
- human resource management and distribution in local level
- capacity building, technical assistance, skill development and empowerment of farmers
- supply and usage of seeds, fertilizers, chemicals and pesticides
- coordination between farmers' group, cooperatives and local bodies
- agriculture related information and communication
- technology adoption and dissemination
- development and management of farm centers
- crop and livestock insurance related planning and implementation
- infrastructure development for agro-market

3.4 Agriculture sector development in federal system

3.4.1 Restructuring of current agriculture institution

The creation of 753 local levels in Nepal marks a major restructuring of local bodies after six decades. This has been done in line with federal structure. As per the new arrangement, Nepal has 481 rural municipalities, 246 municipalities, 13 sub-metropolitan cities and 6 metropolitan cities. These local levels are divided into altogether 6,680 wards. The rural municipalities have 5 to 21 ward units while the municipalities including the sub-metropolises and the metropolises, have 9 to 35 ward units.

The government's priority should now be effective management of local governance system. For this, efforts are concentrated to restructure and reform different state bodies as per the constitution. Part 17 of the constitution has provisions on emerging issue of restructuring agriculture.

Needless to say, one of the objectives of local level restructuring was to provide qualitative services to local people. But this noble objective can only be met when all the concerned ministries work in coordination. Coordination remains a challenging issue in Nepal. The cabinet secretariat has already set up a division to look at the restructuring of government institutions and employees. This division is said to be looking at the coordination issues among all the ministries. Yet neither the concerned line agencies nor the concerned ministries are taking coordination seriously. This holds true to agriculture sector as well.

Ministry of Agricultural Development, Ministry of Livestock Development, Ministry of Land Reform and Management and Ministry of Cooperative and Poverty are merged into one ministry as Ministry of Agriculture, Land Management and Cooperatives for effective implementation of agricultural activities and better development of agricultural development and should work in coordination with related line ministries such as Ministry of Irrigation, Ministry of Finance, Ministry of Home Affairs and so on. These ministries are working separately which has hinder to speed up the pace of agricultural development. This appeals that all the line ministries should work in coordination for the better agricultural development in Nepal. The government needs to pay special attention to agriculture sector because this sector is different from other institutional setups in that it needs functioning institutions and more competent staff at the bottom to deliver services as per the demands of the farmers. A gazetted third class officer is required to lead agriculture work even at the rural municipality level in order to plan and implement all the agricultural activities at grassroots level. Subject

matter specialists are required to provide technical backstopping at cluster level to all the agricultural staffs deployed in rural municipality and municipality.

But Ministry of Federal Affairs and Local Development is proposing gazetted third class officer to lead the municipality team and a non-gazetted first class staff for rural municipality. This does not serve the need of the agricultural sector. Furthermore, only the officer from the administration service is going to lead the team. When junior officer from the administration service is leading the team, the senior officer from other services would feel frustrated. Thus, position creation and leadership will continue to be a thorny issue and will require a robust exercise by a team of experts to settle.

While setting up Local Agriculture Office (LAO) by integrating livestock and other closely related agencies in each local level by dissolving existing district level organizations, it may require several additional office buildings and other facilities. Similarly, there would be need of additional manpower as well. Adequate resources, in terms of knowledge, skills, experience, funding, and facilities are required for agriculture research and development. Each LAO needs one training center equipped with necessary facilities and some piece of land of its own.

There is need of one Community Agricultural Extension Service Center (CAESC) in each ward as proposed by the Agriculture Development Strategy (ADS) and the overall purpose of the centers would be to facilitate extension services at the village level and to meet the demands and needs of technical services at the grassroots.

Thus the government needs to support in establishment of several Community Agricultural Extension Service Centers (CAESCs) and equip them with all the facilities. A new act needs to be devised to make them operational.

3.5 Agriculture development strategy and extension service delivery

3.5.1 Provision of CAESC in ADS

After the completion of Agriculture Perspective Plan (APP) 1995-2015, the twenty year Agriculture Development Strategy (ADS), 2015-2035, has been launched with a vision “A self-reliant, sustainable, competitive and inclusive agriculture sector that drives economic growth and contributes to improved livelihoods and food and nutrition security leading to food sovereignty”. The ADS is a 20-year strategic plan which includes 10-year action plan and roadmap based on the current and past performance of agriculture sector which is the overall strategic guidelines to direct and guide the overall agriculture development of Nepal.

The existing very few numbers of agriculture service centers are not able to reach and disseminate extension services to the majority of the farmers. These service centers are not capable to provide sufficient services to the farmers (even when they go to ASCs themselves) due to limited means, resources and human capacity. Similarly, there is huge diversity in agriculture system and socio-economic status of Nepal. In this situation, to address the need of farmers in effective way, it is very important to adapt different strategies and methods instead of traditional extension methods. To solve these kinds of problems, Agriculture Development Strategy (ADS) has imagined a separate organizational body and committed to help for the appropriate and effective management of such body. The twenty year ADS has targeted to increase the average annual growth of AGDP by 6 percent in 2035 as compared with 2.23 percent in 2015 which helps to reduce the poverty in rural areas to 9 percent and food poverty to 6 percent. The percentage of farmers accessed to agricultural program is only about 18.2 percent and has been targeted to cover at least 32 percent farmers by 2035 in ADS. In order to increase in the access to agricultural programs, ADS has missioned to establish the community agriculture extension service center in each VDCs.

The decentralized extension system includes three main measures: (i) establishment of Community Agricultural Extension Service Centers (CAESC) in each VDC; (ii) strengthening capacity of existing and planned agricultural extension stations that will provide backstopping services to the CAESCs; and (iii) promoting a voucher system to empower farmers to access the best available extension and extension service providers.

The Decentralized Science, Technology and Education Flagship Program (DESTEP) of ADS has focused for the better delivery of agriculture extension services through the establishment of CAESC at VDC level. Although there are a number of actors involved in agricultural extension, their presence becomes even more important over time period, so rather than advocating a massive increase of human resources in the public extension service, the ADS promotes capacity building of government's existing human resources and the transformation of their role from delivery of extension services to overall facilitator of agricultural extension services.

The ADS provides institutional mechanisms to ensure farmers' participation and farmer's right in the planning, decision making, implementation and monitoring of the strategy as it ensures that farmers' representatives are part of the leading coordination mechanisms of the ADS at the center and local level including steering committee of the ADS Implementation Committee as well as in the board of CAESC. Farmers are consulted when formulating

policies for the agriculture sector, undertaking monitoring of the sector as well as they are members of the food security networks at the district level. Farmers would be able to ensure and strengthen their ownership in the ADS through their representatives in all these institutions.

ADS through its Community Agriculture Extension Service Centers (CAESC) and its market for the poor approach to value chain development emphasized to promote different approaches suitable to subsistence and commercial farmers. The ADS has focused to promote a decentralized approach to science and technology and empowers communities to reorient the extension, research and education system to meet their needs, this task would be facilitated by CAESC at community level. The services covering the small commercial farmer would be inappropriate to the subsistence farmer, and in the context of institutions targeted to the small commercial farmer, the subsistence farmers are always backward to receive services except for those few who can respond to the approaches suitable for the small commercial farmer. The landless rural households would be benefitted indirectly from the ADS through the combination of direct food and nutrition security interventions, the employment opportunities expanded in the rural non-farm sector, and the growth of agriculture-based enterprises. ADS has emphasized that the presence of CAESCs would ensure the account of agro-ecological and local level conditions for the better development of agricultural extension system. The development and dissemination of productivity enhancing technologies and systems appropriate to subsistence agriculture would be the major areas for the research and extension system.

The flagship program manager of Decentralized Science, Technology, and Education Program (DESTEP) has missioned to organize the various activities necessary to develop better agriculture extension system to meet the objectives and vision including the following contributions:

- a. Formulate general guidelines for the establishment of the CAESC
- b. Conduct awareness campaign about the initiative
- c. Carry out capacity building in supporting the establishment of the CAESC
- d. Provide seed money for the establishment of the CAESC; the seed money will be provided only under the condition that it leverages larger investment by the VDC and the community/cooperatives/private sector for the establishment of the CAESC
- e. Organize training of extension workers recruited by the CAESC

f. Provide technical backstopping of the CAESC through the network of government Agriculture and Livestock Service Centers and sub-centers (A/LSC), district offices, and regional and national training centers.

g. Carry out or commission external monitoring and evaluation of the CAESC

3.5.2 Organizational structure of CAESC proposed in ADS

The ADS has envisioned that formation of CAESCs by local communities governed by a board including representatives of local communities, cooperatives, farmer organizations, and agro-enterprises. The members of the board represent financial or in-kind contributions of different stakeholders. Initial funding of the CAESC would be supported by the existing policy of VDC level budget planning (separating 15% budget on agriculture sector), seed funding from the central government, and contributions of the different groups of stakeholders represented in the board. Each CAESCs would be fully managed by its board and recruit its own extension workers and technicians. The management of the financial and human resources of the CAESCs is totally dependent on the board of the CAESC.

The recurrent and program costs of the CAESCs would be generated by the community centers themselves. The local bodies (*palikas*) would be responsible and allocate some budget for the proper functioning and implementation of CAESCs at local level. The funding of the CAESC is also generated from other sources (farmer organizations, private sector, projects, etc.) depending on the capacity of the management of the CAESC to raise funds. The priority of agricultural extension activities is fully decided by the board meeting of CAESCs. Priorities in extension work are linked to support local programs and local programs would be in coordination with national programs under ADS. The CAESC would be in the best position to target farmers at their community and establish priorities consistent with their governance bodies. The CAESCs would be linked to the government network of A/LSC through exchange of information, training and technical backstopping. The CAESCs are fully owned and managed by the communities in each VDC/Municipality and funded by the combination of resources from the VDC/Municipality, cooperatives, private sector, and GON.

The funding of the CAESC come from different sources: (i) own funding of members; (ii) VDC budget; (iii) central government budget (as seed funding); (iv) projects; (v) service fees or other economic activities initiated by the centers themselves.

The centers might initially use the premises of local cooperatives, of VDC facilities, or any other available facility belonging to the members in order to conduct meetings. As the center grow both in membership and finance, they might acquire their own facilities.

The contribution of the ADS to the CAESC consists of an initial seed funding that is intended to leverage local resources. For each amount provided by the ADS as seed funding (up to a limit of NRs. 10 lakh) for the establishment of the CAESC, the center has to match with an equal amount and give a convincing plan that it will continue its operations in the future. This matched amount could be sourced by own sources, VDC funding or any other funding that the community center might be able to source.

The CAESC would be entirely managed by the community according to governance rules that are clearly established at the outset. The center would hire its own staff to provide extension services. The staff would be trained by the government staff either at the nearest ASC/LSC or at training centers of the DoA/DLS. The CAESC would be linked to the ASC/LSC so that activities in each district could be better coordinated. The outcome of implementation of CAESC would be a network of extension service centers that could be reached to all VDCs of the country and totally managed by the communities and therefore more likely to be responsive to the diverse needs of the farming population and be responsible for raising funds and therefore more sustainable. Each CAESC would registered at society level according to the law and memberships is opened to all farmers, agro-enterprises, and agricultural extension service providers in the VDC and their organizations; governance rules for the formation of a CAESC would be established by the DESTEP program manager to assure that representatives of different wards in each VDC and social and gender balance is assured in the board of the CAESC.

CAESC at society level would own and manage its own assets, hires its own staff, conduct, formulate business plan, open a bank account, disburse funds and audit accounts and review activities periodically. Governance rules is followed for the composition of the board and board members are elected by the members of the society. Membership fees would be decided by the general assembly of CAESC. The overall purpose of the centers would be to facilitate extension services at the village level and to meet the demands and needs of the grass root. The centers would hire their own extension service providers (agricultural and livestock technicians or village extension workers) who would receive training and technical backstopping from the government service centers in the districts or in the departments' appropriate units. The centers might also organize additional capacity building to obtain from

other providers such as agricultural university, agricultural colleges, or vocational schools. The center might initiate direct MoU or contracts with projects, NGOs, or private service providers as well.

3.6 Findings of field study

3.6.1 Current status of CAESC established in Sindhuli and Rautahat District

The Community Agriculture Extension Service Centre (CAESC) has been established by Rural Women Economic Empowerment (RWEE) project sites in Sindhuli and Rautahat, funded by UN-WOMAN, FAO, MoAD, FORWARD, WFP and other stakeholders as a pilot project of implementation of ADS. The structural design of the building and construction of integrated crop and livestock service center was not completed as per the requirement of CAESC. The proposed CASEC center of both Sindhuli and Rautahat are not providing any services to the farmers. The building for CAESC has been used by office of Municipality, Simara, Rautahat and ward office has been established in the CASEC building of Sindhuli. The community agriculture extension program which was thought to be implemented effectively has not been functional even after the establishment of the building for CASEC center.

After the cut off of the budget and program of DADO and DLSO for the service delivery, the community people are thinking about the use of the building for CAESC to implement the community extension program as provisioned in operation modality of CAESC as guided by ADS, but till now only basic services related to seed distribution are being provided from the municipality and ward office and the programs implemented by these bodies are not well managed as before implemented by DADO and DLSO.

Farmers of the community in the study areas when oriented with CAESC, requests governments help the community for the establishment of CASEC center at the local level that will be highly beneficial to the farmers. The community farmers suggested recruiting or deploying the skilled and trained technical manpower at CAESC in adequate quantity for the fast service and effective service delivery. The community people suggested the government to establish the CASEC center and formation of its executive board with a representative member from the farmers group or agriculture cooperative for effective and fair implementation of the programs in the future. Community people denied the government's plans to keep one agriculture technician at the *palika* level that is not sufficient for the effective implementation of the extension services to the farmers. The community farmers

think that after the establishment of the CASEC center at the local level, various activities of agricultural extension system should be similar to that of the existing DADO and DLSO, so that they will not suffered due to lack of technical delivery and facilitation as when required. The CASEC should address the technical, marketing as well as institutional strengthening aspect of the groups and cooperatives to address the various problems of the farmers. The SMS of DADO at the study area suggested establishing a coordinating office for the linkage of local level CAESC to the district or provincial level organization.

Senior Agriculture Development Officer and SMS of DADO suggested that block and pocket program of Prime Minister Agriculture Modernization Project (PMAMP) should be closely linked with CAESC at the community level for its successful implementation. There has been some changes in the farming culture of the community to shift to commercialization due to a certain program supported by PMAMP, where extensive use of available and affordable machines for agricultural purposes has come into practice and most of the small and subsistence farmers have started commercial agriculture. In Sindhuli district, farmers who used to apply pesticide using broom, now started to use spray tank with safety measures for spraying pesticide after the implementation of PMAMP project. Machineries like tractor, power tiller, weeding machine, spray tank, water boring, etc. are being extensively used after the implementation of the project (Rupandehi, Rutahat and Sindhuli,).

In the study area, farmers requested to manage Farmers Field School (FFS) and demonstration plot to be implemented with the involvement of skilled manpower so that farmers are able to adopt the new technology (Dolakha, Rapandehi, Sindhuli). FFS program is not being conducted frequently in all the area where there is a need of modern technology to boost up the production. In the new federal system, FFS program should be conducted frequently in all the areas where farmers are interested to shift to commercial agricultural practices. The elected representative of the municipality and rural municipality suggested that if central or provincial government wouldn't come up with concrete plan for management of skilled human resources within the end of this fiscal year, the local bodies will themselves start the recruitment process to hire technical expert in for service delivery in agriculture.

In the new federal system of government, farmers are expecting the demonstration plot to be more representative of new technology and regular demonstration should be done so that farmers will be acquainted to new technology which can enhance the overall productivity of agriculture

The farmers in the study area suggested to broadcast agriculture related information could be through audio-visual system (Sindhuli, Dolakha and Rautahat) that will be effective for the flow of information. The agriculture technicians in the rural municipality suggested the model training farm to demonstrate the technology through “seeing is believing” extension approach. Further, these farmers also suggested that poster presentation, road drama and other visual method of information dissemination will be more effective for the farmers to adopt and implement the programs. Establishment of agricultural library at the local level will be beneficial for the farmers. The youth farmers suggested for promotion of agri-library at proposed CAESC for access of agriculture related news at their convenient time and share to other farmers which will be highly beneficial to them.

Most of the farmers of the study area appreciated the government concept of distributing farmer’s identity card and farmer’s pension that will be highly beneficial for the farmers (Sindhuli, Dolakha and Rautahat). They suggested that the program should be only implemented by identification of the true farmers from the local level without any political, social, economic and religious biasness while categorizing and identification of the actual and needy farmers. People who are politically and economically strong are access to subsidies and services without implementation of such type pension program, but they believe that if local government could facilitate the central government, this type of program with proper judgment and consideration without any biasness, it could be beneficial to the farmers.

Majority of the study area, farmers group and agriculture cooperative has not used crop insurance premium subsidy program while farmers have done livestock insurance of government due to poor orientation by the insurance companies, so that local government should develop special desk for promotion of crop insurance program. Agriculture insurance companies who are responsible for the insurance are not ready to do the agriculture (crop) insurance (Rautahat). Insurance process is very difficult for the uneducated farmers and due to non-refundable system of the capital invested for the insurance; farmers find it boring and loss of money (Rupandehi and Sindhuli). Insurance companies are not ready for the agriculture insurance of small area but the area is more than the prescribed area by the insurance board (Rupandehi and Sindhuli)

Farmers in study area suggested for timely supply of agriculture inputs from the local level by forming a groups or cooperatives, where CAESC can facilitate for the quality check and monitoring of the program. Timely supply of inputs in new federal system can be done by collaborating with local agro-vets or with some other registered companies (Rautahat,

Sindhuli and Rupandehi). Provision for timely supply of inputs should be made by the local bodies such that each ward or *palika* should be supplied with required inputs by authorized company or agro-vets. Basically, availability of fertilizers like Urea, DAP and potash during the monsoon season is very difficult (Rupandehi and Rautahat). Farmers expect for the easily and timely supply of these inputs at new federal structure before planting/sowing time.

Most of the farmers and local level technicians at local bodies have serious concern about timely budget allocation in the past days as well as budget allocation based on potentiality of the specific sector due to political biasness which should not be repeated so far in the federal system with full power of local government. Most of the budgets are allocated at the end of the fiscal year which leads to misuse of the resources due to faulty implementation practices. Majority of the farmers interviewed during the study period suggested the government should prioritize in its program and budget to establish CAESC for better community level extension for the agriculture sector development at local level.

3.7 Importance, need and operation modality and management of CASEC

3.7.1 Importance and major functions of CAESC

- CAESC not only trains farmer groups directly in a range of technologies, but community extensionist under CAESC are also trained to provide advice and support services that are accessible to the wider community and would cover beyond the area due to its multiple impacts.
- CAESC conducts training to community representatives to support farmers with advice, services and inputs on an on-going basis. Private extensionists authorized by CAESC are trained on improved and scientific technology about animal health, agriculture practices, and crop protection measures. They provide advice on animal, crop or fisheries management, provides services such as vaccinations or training and sells inputs such as medicines and seeds. Community extensionists can earn an income from charging for their services or making some profit on the inputs they sell, that would be regulated and monitored by the board of CAESC.
- CAESC helps to promote and builds up crucial links between the communities and extensionists and beyond to government extension departments and private input suppliers. Extension services through CAESC would be critical in order to facilitate access to up to date information, skills and technologies that can enable communities to adopt various technologies and tools for improving the agriculture practices.

- CAESC becomes an important channel for accessing improved agricultural production technologies. However, government extension services rarely reach the poorest community members and state run services are increasingly being phased out in favour of private sector providers. As it has been observed that private providers tend not to reach farmers in remote areas and are geared towards advice relating limiting only to the sale of inputs rather than low external input technologies that are more appropriate to resource poor farmers.
- CAESC approach is a successful approach to fill the gap in existing extension services. Community agriculture extension or animal health workers under CAESC, for example, are able to provide community level training, advices on improved agriculture practices as well as animal vaccinations would ultimately support for community level that can reduce the incidence of disease outbreaks as coverage is greatly enhanced due to involvement of local extensionists in campaigns and timely notification of disease outbreaks in the community.
- CAESC supports for facilitation to implement several new approaches and programs that address the issues of land utilization, shortage of agricultural labor force, inclusive value chains, agro-entrepreneurship and competitiveness, non-trade barriers for exporting agricultural goods, development of quality assurance systems, capacity building of service providers at grass roots level, climate change and resilience building.
- CAESC helps to orient local representatives, service providers and farmers to remodel subsistence agriculture into commercial one aiming to enhance trade balance.
- CAESC plays the major role for the mobilization and utilization of subsidy program for agriculture and irrigation so that only doubling of the production within five years is possible.
- CAESC facilitates to achieve the national target indicated in policy and program followed by the annual budget keeping agriculture as an enterprise putting farmers at the center and many incentives proposed from CAESC to help them for producing more at lesser cost and to realize higher prices for their produce.

3.7.2 CAESC as a pillar for agriculture communication

- The plan transfer of farm technology from the research system to the farmers' system through extension system and media with a view to make desirable changes in respect of higher productivity, profitability and prosperity and also get feedback from clients would be possible through effective agriculture communication that should be facilitated by CAESC at the community level.
- The smooth operation of CAESC for the development of agriculture sector in a holistic approach should develop a strong framework of the three sectors viz. Research, Extension and Education at the community level as well, which can be facilitated through novel tools of agriculture communication.
- All these three sectors should then cater to the needs of the farmer, in such a way that production as well as productivity of agricultural goods would increase. Although, there is a good system set up in Nepal with establishment of autonomous agencies in all the three sectors, however the results are far behind what had been expected from them. Agricultural extension service is one of the major under taking of the government to educate, disseminate information and support the livelihoods of the Nepali farmers. CAESC will be one of the possible options for the agriculture extension at community level where community extension workers facilitate farmers about improved technologies so that they can increase agricultural production and productivity, thereby enhancing their living standard as well as the extension service supports the farming communities to empower them for making good decisions for their welfare.

3.7.3 Operation modality of CAESC

The governments aims to shift the agriculture dependent population to non-agriculture sector especially to agro-based industry and service sector would be supported by proper access to information and new technology and ideas to improve agricultural practice in small scale farmers that helps either to uplift themselves to commercial farming or quit from the farming practice to search their scope for having services in agro-based industry as this sector

provides good income as compared to small scale subsistence farming that incur high cost of production.

ADS has proposed establishment of CAESC, which is fully owned and managed by communities of each VDC or municipality and funded by VDC or municipality, cooperatives, the private sector and the government. But with respect to the current restructuring under federal system, the number of CAESC as proposed by ADS may vary as per the number of local bodies and demand of farmers of local government.

3.7.4 Working mechanism of CAESC

CAESC should work for the development of rural technology extensionists, so that these extensionists could work as ambassadors for their local communities by sharing relevant skills, information and services back in their villages. Majority of the farmers at the study area have suggested for CAESC working modality to become a bridge between the government extension service center and farmer entrepreneurs. Extensionists of CAESC should be trained in agro-processing, plant nursery management and horticulture, power tiller operation and maintenance, beekeeping, plant doctor, seed production and marketing, fish nursery management and fish entrepreneurship, buck rearing for breeding, livestock management, community nutrition and poultry vaccination. The government extension services should not overlook the extensionists of CAESC rather they should be regularly updating the community extension workers.

3.7.5 Need of CAESC in agricultural development

The supply side constraints are the major cause for increasing import of agricultural products so that the government should implement production capacity enhancement program to boost agricultural productivity of the country. Similarly, emphasis should be given on value chain development of agriculture products, food and nutrition security, agriculture extension service and agriculture research and technology to make the country self-reliant in agricultural products. The contribution of the agriculture sector in the economy has been gradually coming down, although two-third of the country's workforce is engaged in this sector. The government program targeting to invest huge grant and subsidy to make the country self-reliant in agriculture products by boosting productivity would be successful only through production enhancement program. The production program can only be enhanced through the proper extension of the novel technology at the community level; the CAESC at

the local level would act the proper channel for the mobilization of the extension staffs for disseminating the technology for its timely adoption to get the better result for the production enhancement.

3.7.6 Implementation progress to support CAESC

The government has already recruited 1500 agricultural technicians and 1500 livestock technicians on contract basis and has been deployed to rural municipalities or municipalities of different district to ensure farmers at the local level can avail better services and boost their yields.

The recruitment was done on the basis of government decision through the budget to appoint at least one agricultural or livestock technician in each of the 3,276 village development committees (VDCs) of the country in the budget for FY 2073/74, but after the implementation of the new federal system through the formation of three tiers of government viz, local government, provincial government and central government, the management of these technicians at the local body has become crucial.

Establishment of CAESC become the appropriate approach for the management of these technicians at community level of the local bodies for their deployment as extension workers on CAESC as ADS is formed by local communities governed by the board representative from the local level.

3.8 Operation management of CAESC

3.8.1 CAESC structure

Service delivery to remote areas in convenient way through CAESC due to poor service from ASC or LSC because of lack of human and financial resources needs new strategy for service delivery in place of convenient tools and method through establishment of CAESC with full responsibility of local government and the management from local community. The objectives of establishment of CAESC center at community level is to:

- Develop the capacity of farmers by their unity in terms of financial and technical aspects.
- Implementation of different extension tools and approaches for the adoption of new technology food and nutrition security, commercialization and marketing
- Service delivery to farmers for income generating work by technical backstopping from technicians at community level.

- Implementation of poverty reduction program through massive commercialization at community level
- Facilitation for the supply of agriculture inputs at local level

3.8.2 Working areas of CAESC

Activities related to Crop Husbandry, Livestock Rearing, Fishery, and Non-timber Forest Product, Herbs, Food and Nutrition, Local Agriculture Market, Awareness and Community Empowerment about new technology, Supply of Seed and Breeds, Fertilizer and Pesticide, Agri- Equipment and Machinery, Medicines and technical backstopping for its adoption and extension. Enhancement of Coordination with local farmers, farmers group, agriculture cooperatives, agri-business entrepreneurs and service providers.

3.8.3 Proposed operation committee for CAESC

The total member of operation committee of CAESC depends upon the number of CAESC that can be established within the respective periphery of local bodies. The number varies from 15 to 21 member based on the number of ward inside the local bodies. The tenure of the entire member shall be two years except Chairman, and Member Secretary. There should be female representatives either at vice chairperson or treasurer.

The criteria for the member of the CAESC should be:

- Chairman: The chairman of CAESC shall be the chairman of respective rural municipality or any of the elected member of municipality approved by municipality assembly.
- Vice-Chairperson: Representatives of one of the farmer from the farmers group or cooperatives or agri-business or traders related to crop and husbandry, non-timber forest products and herbs
- Treasurer: Representatives of one of the farmer from the farmers group or cooperatives or agri-business or traders related to crop and husbandry, non-timber forest products and herbs
- Members (...): Representative of elected member from every ward of rural municipality or municipality (At least 50 % female representative)
- Member (...): Representatives of expert or social workers who have been working to crop and livestock husbandry, non-timber forest products and herbs and its entrepreneurship since a long time (at least 50 % female representative)

- Member Secretary: Technical chief of CAESC

3.8.4 Provision on operation guidelines for CAESC

The rural municipality or municipality should develop operating guidelines based on the template provided by Ministry of Agriculture, Land Management and Cooperatives and the guidelines should be approved by the council of local government with the necessary amendments wherever necessary. The guidelines should come in to effect after its approval from respective council of local government and endorsed by office of executives of respective local government. For the first time of member for the formation of operation of CAESC committee would be selected on the mutual understanding between the council members of the local government for one years. After the endorsement of operating guidelines of CAESC, the formation of committees and selection of the committee member except chairman and member secretary as well as exchange of the members after completing of tenure should be based on the provision made on the operating guidelines. The selection of chairman and member secretary should be approved only by the council of the representatives of local government. The operating guidelines should have a provision of formation of council of CAESC. The council of CAESC should consist of members as follows:

- All the executive members of CAESC
- Two representatives one male and female members each from the ward level Agriculture Extension Service Sub-Committee (AESSC; formed at each ward)
- A member from the Agriculture, Forest and Environment committee of rural municipality and municipality
- Three members representing from the interested personnel, social workers or experts with involvement on entrepreneurships on crop and animal husbandry, MAPs, NTFPS and food and nutrition and agriculture market
- Four members from the farmers group under the National Farmers Network and National Farmer's Group Federation registered at respective local government body
- Two member representatives (one male and female) from the Forest User's Group registered at local government body.
- Two member representatives (one male and female) from the cooperative registered at respective local government body.

- Two member representatives (one male and female) from the Forest User's Group registered at local government body.
- Two member representatives (one male and female) from the Farmer's Group Coordination Committee formed in rural municipality and municipality.

3.8.5 Meeting of the CAESC council

The meeting of the council of CAESC should be conducted at least twice a year, one before the planning phase starts and another after the completion of the fiscal year program and as per necessary when Chairman realizes the need of meeting or one-third member of the CAESC cooperation committee has written demand for the council meeting. The date of the meeting of the council will be fixed by the meeting of the CAESC operation committee. The meeting of the council of CAESC will be chaired by chairperson of CAESC operation committee. The CAESC operation committee will inform the ward level Agriculture Extension Service Sub-Committee for the registration of their committee at CAESC two weeks before the council meeting. As well as the CAESC operation committee should inform the registered ward level Agriculture Extension Service Sub-Committee at CAESC, two weeks before the council meeting to nominate one male and one female representatives and send to the council for selection for the council member. The tenure of the two members from ward level AESSC will be of two years unless any new decision will be done by ward level AESSC.

3.8.6 Functions of Council of CAESC

- Revision of norms and rules of CAESC guidelines and its approval
- Revision of operating guidelines, approval and endorsement.
- Approval of annual agricultural development program and approval of report of the last year program.
- Selection of the member for CAESC operation Committee.
- Monitoring evaluation and auditing of activities of CAESC.
- Formulation of rule and regulation for the operation of CAESC, its revision, approval and endorsement.

3.8.7 Selection methods for the executive members of operation committee of CAESC

The selection of the executive members of operation committee of CAESC will be whole-approach (सर्वसम्मत) process. If whole-approach doesn't become success, election committee should be formed with the representation of the executive member of rural municipality and municipality or the election committee on chairmanship of CAESC chairman should also be done. The mode of election should be approved by CAESC.

3.8.8 Conceptual framework for CAESC Structure

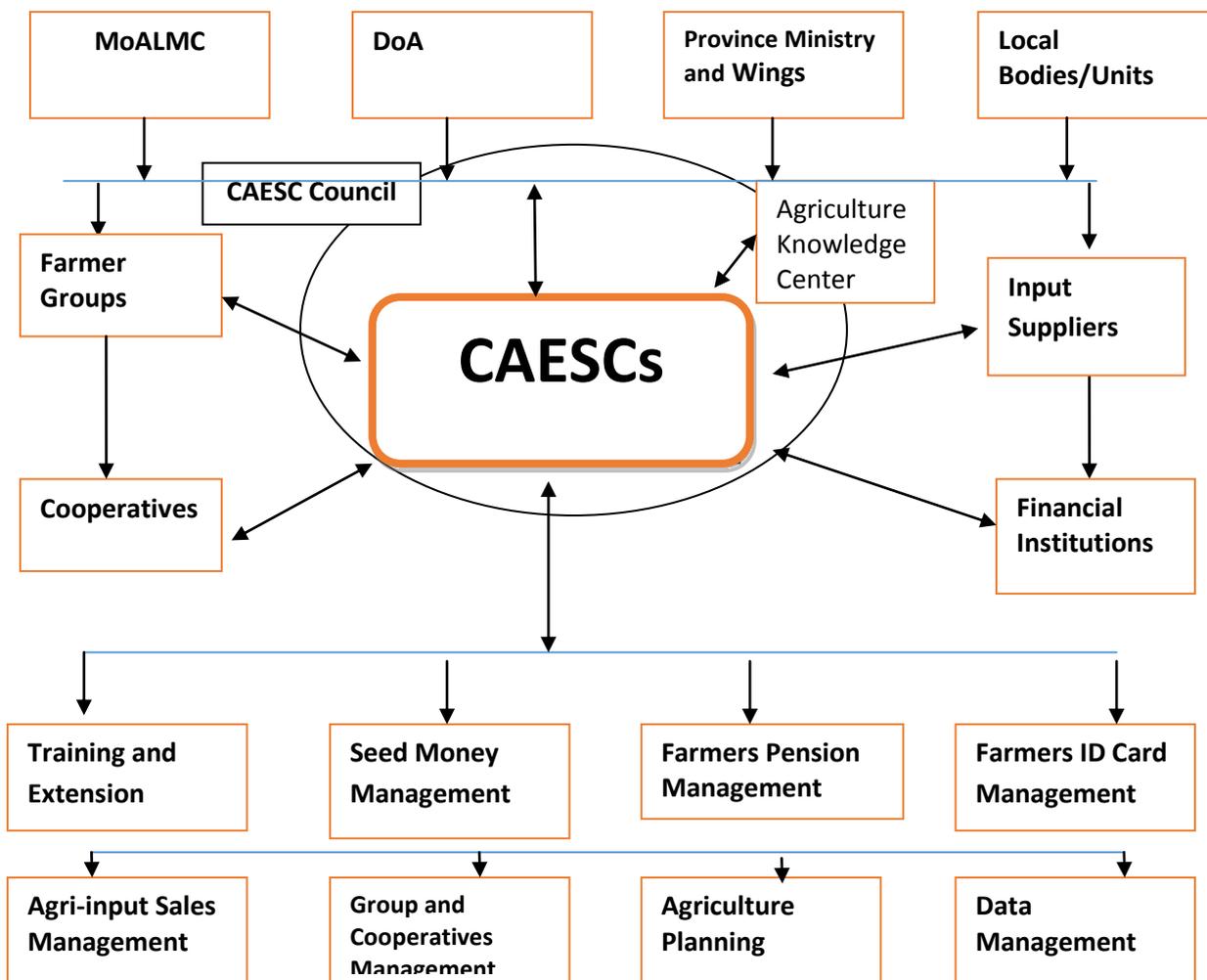


Figure 1. Conceptual framework of the operation of CAESCs and its management

3.8.9 ToR of CAESC

- Arrangement and implementation of all the activities related to crop and animal husbandry, MAPs, NTFPS and food and nutrition and agriculture market inside the local government area.
- Arrangement of bimonthly meeting
- Formulation of pre-preparation and management plan and implementation of the program.
- Strategic and process management for program implementation.
- Identification of the different organization for fund management.
- Coordination and cooperation between different stakeholders.
- Program formulation and implementation especially for small and women farmers
- Formation of new farmer's group at ward level and capacity development program both for new and old groups.
- Sales management to supply quality seed and breeds, fertilizer and pesticide, agri-equipment and machinery, medicines at CAESC
- Information sharing about crop and animal husbandry, MAPs , NTFPS and food and nutrition and agriculture market
- Effective implementation of the decision made by rural municipality or municipality or agriculture resource center for development of agriculture sector.
- Recruitment of employee and consultant as per necessary for the implementation of the program.
- Valuation of every types of resources of CAESC
- Make cost-effective, transparent and based on farmer's need and demand based service delivery.
- Preparation of necessary guidelines and rules to be approved from CAESC council
- Extension of knowledge and technology for awareness on crop and animal husbandry, MAPs, NTFPS and food and nutrition and agriculture market.
- Organizing exposure visit for farmers of community level.
- Coordination between rural municipality, municipality, NGO's and Agriculture Knowledge Center for request to organize training, workshops and seminar on the burning topics related to agriculture and its commercialization.

The CAESC operating guidelines should have provisions about the arrangement of meetings of CAESC operation committee. The meeting for CAESC operation committee should be of two types: complete meeting and simple meeting. Complete meeting should include all the elected member as well as there should be presence of about two-third majority in the meeting. Complete meeting is mainly responsible to make such type of decision which has long term effect. Simple meeting can be arranged to make any urgent and quick decision which might not need the presence of majority of the members. Simple meeting is mainly responsible to address certain emergency and the urgent need. Other provisions for the arrangement of meetings should be followed as per the operating guidelines. The roles and responsibility of each of the executive members of operation committee should be clear at the operating guidelines of CAESC. The CAESC can form the advisory board for the necessary advices and suggestion for the improvement of CAESC activities. The provision for the formation of advisory board should be clear in the operating guidelines.

3.8.10 Possible support from the CAESC

CAESC can support to the community farmers through many intervention activities and support. Some of which the farmers from field level has demanded are categorized as:

- Technological knowledge sharing and capacity development
- Farmer field school services
- Establishment of demonstration plot
- Agriculture camp
- Library services
- Audio-Visual services
- E-learning services
- Farmer's Identity card services, Farmer's pension facilitation services, implication of voucher system, Establishment of custom hiring center at community level
- Interaction program on extension methods through FFS, Farmers Market Field school, Value Chain Development, Sustainable Development Activities, Good Agricultural and Livestock Practices, Gender and Social Inclusion, Food and Nutrition and Establishment of agri-inputs sales center.

The rules and regulation should be developed for providing the support from CAESC and its effective management.

3.8.11 Financial capital development at CAESC

The financial sources for the operation of CAESC should be developed for its smooth operation to get the proper result from the establishment of CAESC. The financial capital can be generated from the following areas:

- Budget allocated by the respective rural municipality or municipality for the agriculture sector and operation of CAESC
- Profit from the sales of Agri-inputs and machinery.
- Membership fees
- Service charge from the clients
- Voluntary grant from the members
- Seed money or grant received from the provincial government or central government for the operation of CAESC

4. Conclusion and Recommendations

4.1 Conclusion

The existing poor and limited extension services to the farmers is the major bottleneck in hindering commercialization of agricultural sector. In the federal republican democratic Nepal, the existing DADOs are going to dissolve by the end of fiscal year 2074/75. At this scenario, there is need of new structure to provide extension services to the majority of the farmers. The ADS, 20 year overall agricultural strategic plan has imagined the establishment of CASEC which at now is important to establish at all local levels. The importance of CAESC has been highlighted by all the stakeholder working at the agricultural sector in the present context of federalization to deliver agricultural extension services for providing improved technologies and services for the increment in production and yield of agricultural commodities, which at now is carried out by district level offices (DADOs and DLSOs) located at all 75 districts. The promulgation of new constitution 2072 as federal republic democratic Nepal led to the establishment of 753 local bodies in Nepal which includes 481 rural municipalities, 246 municipalities, 13 sub-metropolitan cities and 6 metropolitan and the number of CAESC would vary than proposed by ADS. The major role is to facilitate farmer groups directly in a range of technologies to provide advice and support services that are accessible to the wider community for multiplier impacts. It has a role in providing the technical knowledge to the representative of respective community to support farmers with advice, services and inputs on and on-going basis on animal, crop or fisheries management, vaccinations and sales of inputs such as medicines and seeds would become the working areas for CAESC. The whole activities would be monitored by CAESC council as well as facilitate for the improvement in service delivery. As CAESC helps to promote and builds up crucial links between the communities and extensionists and beyond to government extension departments and private input suppliers. Extension services through CAESC will be critical in order to facilitate access to up to date information, skills and technologies that can enable communities to adopt various technologies and tools for improving the agriculture practices. CAESC becomes an important channel for accessing improved agricultural production technologies. However, government extension services rarely reach the poorest community members and state run services are increasingly being phased out in favor of private sector providers. As it has been observed that private providers tend not to reach farmers in remote areas and are geared towards advice relating limiting only to the sale of inputs rather than low external input technologies that are more appropriate to resource poor farmers. CAESC

approaches a successful approach to fill the gap in existing extension services. Community agriculture extension or animal health workers under CAESC, for example, are able to provide community level training, advices on improved agriculture practices as well as animal vaccinations will ultimately support for community level that can reduce the incidence of disease outbreaks as coverage is greatly enhanced due to involvement of local extensionists.

4.2 Recommendations

Regarding the operation and management of CAESC following recommendation can be drawn from the study:

- The existing poor extension services at community level is at the thirst to receive efficient extension services at their local level which prioritized the need of effective program and budget to establish CAESC at local level.
- The study recommends further study to identify the required number of CAESC at all RM/municipality level.
- CAESC should be established very soon at all local bodies in their full ownership and in an approach of public private partnership.
- The study recommends and suggests the local government to identify the actual and active farmers in order to carry out agricultural activities efficiently.
- The establishment of Agriculture Knowledge Center in future should provide technical backstopping to CAESC.

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Annex 6: Agriculture Extension Service Delivery Guideline through Voucher System, 2076

भौचर प्रणाली मार्फत कृषि प्रसार सेवा प्रवाहगर्ने कार्यविधि, २०७६

प्रस्तावना : हाम्रो विद्यमान कृषि प्रसार प्रणालीबाट १८.२ प्रतिशत कृषकहरूमा मात्र कृषि सेवाको पहुँच पुग्न सकेको र बहुसंख्यक ग्रामिण कृषकहरू समक्ष कृषि प्राविधिक सेवा नपुग्दा र कृषि सामग्रीमा पहुँच कम हुँदा कम खर्चिलो निर्वाहमुखी खेती गर्न बाध्य हुन्छन् जसबाट न्यून उत्पादन भइ खाद्य असुरक्षाको स्थिति रहन्छ । गरीब कृषकहरूको कृषि प्रसार सेवाको पहुँचमा कमी हुनुका साथै सेवा खरिदगर्न असमर्थ हुने हुँदा त्यस्ता कृषकहरूको पहिचान गरी नीजी सेवा प्रदायक मार्फत पाइलटिगकोरूपमा भौचर प्रणाली अपनाउँदै गुणस्तरीय कृषि सामग्री सहितको नियमित कृषि प्रसार सेवा प्रवाहगर्न सकिएमा कृषि उत्पादनमा अपेक्षाकृत बृद्धि भै खाद्य सुरक्षामा टेवा पुगनुका साथै लक्षित वर्गका कृषकहरूको जिवीकोपार्जनमा सुधार ल्याउन सकिन्छ । त्यसैले, कृषकको पहिचान, वर्गीकरण र अभिलेखीकरणको माध्यमबाट वास्तविक वर्गका कृषक लाभान्वित हुने सुनिश्चितता कायम राख्न तथा कृषि प्रसार सेवा प्रवाहको प्रक्रियालाई सहज, व्यवस्थित, प्रभावकारी र उपलब्धीमूलक बनाउन आवश्यक भएकोले कर्णाली प्रदेश, भूमि व्यवस्था, कृषि तथा सहकारी मन्त्रालयबाट यो कार्यविधि जारी गरिएको छ ।

परिच्छेद -१

प्रारम्भिक

१. संक्षिप्त नाम र प्रारम्भ : १) यस कार्यविधिको नाम “भौचर प्रणाली मार्फत कृषि प्रसार सेवा प्रवाहगर्ने कार्यविधि, २०७६” रहेको छ ।

२) यो कार्यविधि भूमि व्यवस्था, कृषि तथा सहकारी मन्त्रालय, कर्णाली प्रदेशबाट स्वीकृत भएको मिति देखि नै लागु हुनेछ ।

२. परिभाषा: विषय र प्रसंगले अर्को अर्थ नलागेमा यस कार्यविधिमा -

क) “कृषक” भन्नाले दफा ३ बमोजिम परिभाषित व्यक्ति वा एकाघरको परिवारलाई सम्झनु पर्छ ।

ख) “कृषि पेशा” भन्नाले प्रथमिक कृषिजन्य उत्पादन कार्यमा मात्र संलग्न रहेको पेशा सम्झनुपर्छ, तर कृषि सामग्री उत्पादन, वितरण तथा प्राथमिक उत्पादनको बिक्री वितरण, प्रशोधन तथा अन्य व्यवसायमा मात्र संलग्न रहेको पेशालाई कृषि पेशा भनिने छैन ।

ग) “लक्षित कृषक वर्ग” भन्नाले दफा ४ को कृषक वर्गीकरण मापदण्ड अन्तर्गतका सिमान्तकृत कृषक, निर्वाहमुखी कृषक र साना कृषक भन्ने सम्झनु पर्छ ।

घ) 'स्थानीय तह' भन्नाले यस कार्यविधी अनुरूप कार्यक्रम सञ्चालन गरिने वडा भएको गाउँपालिका वा नगरपालिका भन्ने सम्झनु पर्दछ ।

ङ) “वडा कार्यालय” भन्नाले कार्यक्रम सञ्चालन गरिने स्थानीय तहको सम्बन्धित वडा कार्यालयलाई जनाउँदछ

- च) "मन्त्रालय" भन्नाले भूमि व्यवस्था कृषि तथा सहकारी मन्त्रालय, कर्णाली प्रदेश लाई सम्झनु पर्दछ ।
- छ) "भौचर प्रणाली" भन्नाले निजी सेवा प्रदायकले लक्षित वर्गको माग र आवश्यकताका आधारमा निर्धारित परिमाणको गुणस्तरीय कृषि सामग्री र कृषि प्रसार सेवा उपलब्ध गराए वापत कृषि सामग्रीको मूल्य र सेवा दस्तुरका लागि लक्षित वर्गले उपलब्ध गराएको प्रमाणित कुपनका आधारमा सम्बन्धित कार्यालयले निजी सेवा प्रदायकलाई रकम उपलब्ध गराउने प्रणाली लाई बुझिन्छ ।
- ज) "निजी सेवा प्रदायक" भन्नाले भौचर प्रणाली अनुरूप लक्षित कृषक वर्गलाई गुणस्तरीय कृषि सामग्री र कृषि प्रसार सेवा दिन छनौट भएका कृषि/पशुसेवा प्राविधिकहरूलाई सम्झनु पर्दछ ।

परिच्छेद २

कृषकको परिभाषा, वर्गीकरण, कृषक वर्ग पहिचान र अभिलेखीकरण

३. कृषकको परिभाषा: १) कृषक भन्नाले कृषि पेशालाई प्रमुख पेशा बनाई ५० (पचास) प्रतिशत भन्दा बढी समय र परिश्रम (मानसिक वा शारिरिक) सो पेशामा लगानी गरेको र पारिवारिक खर्चको कम्तीमा ४० (चालिस) प्रतिशत योगदान कृषि पेशाको आम्दानीबाट हुने गरेको व्यक्ति वा एकाघरको परिवारलाई सम्झनु पर्छ ।

२) कृषि पेशाको व्यवसायिकरण प्रयासमा कृषक निरन्तर संलग्न रहेको हुनुपर्दछ ।

४. कृषक वर्गीकरण: क) कृषकको वर्गीकरण देहाय बमोजिमको मापदण्ड अनुरूप गरिनेछ ।

कृषकको वर्ग	वार्षिक लगानी	वार्षिक कारोवार	मासिक आम्दानी कम्तीमा	पारिवारिक खर्चमा योगदान%	रोजगारी श्रृजना	व्यवसाय सञ्चालन अनुभव वर्ष	दक्षता र प्रविधि
बिशिष्ट कृषक	३ करोड भन्दा माथि	२ करोड भन्दा माथि	५ लाख	१००	३० जना भन्दा माथि	७ वर्ष	तालिम प्राप्त अत्याधुनिक प्रविधि
उद्धमी कृषक	५० लाख भन्दा माथि	४० लाख भन्दा माथि	२ लाख	१००	१५ जना भन्दा माथि	५ वर्ष	तालिम प्राप्त अत्याधुनिक प्रविधि
व्यवसायिक कृषक	२४ लाख भन्दा माथि	२५ लाख भन्दा माथि	१ लाख	१००	९ जना भन्दा माथि	५ वर्ष	तालिम प्राप्त उन्नत प्रविधि यान्त्रिक
व्यवसाय उन्मुख कृषक	५ लाख भन्दा माथि	१२ लाख भन्दा माथि	३० हजार	८०	५ जना भन्दा माथि	४ वर्ष	तालिम प्राप्त उन्नत प्रविधि यान्त्रिक
साना कृषक	५ लाख भन्दा माथि	५ लाख भन्दा माथि	१५ हजार	५०	४ जना भन्दा माथि	३ वर्ष	उन्नत प्रविधि

निर्वाहमुखी कृषक	५ लाख भन्दा कम	५ लाख भन्दा कम	५ हजार	५० भन्दा कम	२ वा सो भन्दा कम	२ वर्ष	मिश्रित
सिमान्तकृत कृषक	१ लाख भन्दा कम	१लाख भन्दा कम	१ हजार	४० वा सो भन्दा कम	२ वा सो भन्दा कम		मिश्रित
सौखिन कृषक	करेशा बारी ,कौशी खेति र अन्य						

ख) उपदफा क) बमोजिमको आधारहरू बमोजिम कृषक वर्ग छुट्याउन नसकिने अवस्था भएमा मासिक आम्दानीलाई मात्र आधार मानी सोही मापदण्ड बमोजिम कृषक वर्गीकरण गर्न वाधा पर्ने छैन ।

५. कृषक वर्ग पहिचान तथा अभिलेखीकरण:

१) भौचर प्रणाली मार्फत कृषि प्रसार सेवा प्रवाहगर्न छनौट भएको वडाको वडा अध्यक्षको समन्वय र सहयोगमा घरधुरी सर्भेक्षण गरिनेछ ।

२) दफा ४ बमोजिमको मापदण्ड अनुरूप उपयुक्त कृषक वर्ग प्रष्ट हुनेगरी कृषकको विवरण तयार पारिनेछ ।

३) उपदफा २ बमोजिम भरिएको कृषकको विवरण एक प्रति सम्बन्धित वडा कार्यालयमा अभिलेखको लागि सुरक्षित राख्नुपर्ने छ ।

४) कार्यक्रमले कृषक वर्गीकरण मापदण्ड अन्तर्गतका सिमान्तकृत कृषक, निर्वाहमुखी कृषक र साना कृषक लाई लक्षित वर्गको रूपमा लिएर सो वर्गका कृषकहरूलाई विशेष प्राथमिकता सहित भौचर प्रणाली मार्फत कृषि प्रसार सेवा दिनेछ ।

५) लक्षित वर्गका कृषकहरूलाई उनीहरूको वर्ग उल्लेखगरी कृषक परिचयपत्र नम्बर उपलब्ध गराइनेछ ।

६) कृषकहरूलाई उनीहरूको माग अनुसारको समयमा कृषि प्राविधिक सेवा प्रदान गर्न वडामा छनौट भएका निजी सेवा प्रदायकहरूको सम्पर्क नम्बर उपलब्ध गराइनेछ । ती मध्येबाट कृषकहरूले आफैले को बाट सेवा लिन चाहेको हो सोही संग फोन सम्पर्कगरी सेवा लिन सक्नेछन । यसरी उनीहरूले बर्षमा अधिकतम ३ पटक सम्म कृषि प्राविधिक सेवा लिन सक्नेछन ।

७) कृषि सामग्रीको हकमा कृषकले बर्षभरी खेती गर्दा आवश्यकपर्ने कृषि सामग्रीहरूमध्ये अधिकतम रु ५,०००। सम्म कार्यालयले निर्धारण गरेको श्रोतबाट तपसिल अनुसारको सामग्रीहरू निःशुल्क लान सक्नेछन । यसको भुक्तानी कार्यालयले कृषि सामग्री उपलब्ध गराउने निकायलाई कृषकको परिचय नम्बर र कृषि सामग्रीको परिमाणका आधारमा प्रकृयागतरूपमा पछि भुक्तानी गर्नेछ ।

उन्नत विउ

२५ प्रतिशत मूल्य

पशुको दाना, औषधी

२५ प्रतिशत मूल्य

कृषि औजार, उपकरण र स्पेयर पार्ट्स २५ प्रतिशत मूल्य

प्रांगारिक मलखाद र बनाउन चाहिने सामग्रीहरू २५ प्रतिशत मूल्य

द) रासायनिक मल र बिषादीहरू भने यस कार्यक्रमबाट उपलब्ध हुने छैन

परिच्छेद ३

भौचर प्रणालीको उद्देश्य

६. भौचर प्रणालीको उद्देश्य: १) भौचर प्रणाली अपनाउंदाका फाइदाहरू यस बमोजिम हुने छन्:

क) लक्षित वर्गका कृषकहरूको घर घरमा प्राविधिक सेवा प्रदानगरी कृषि सामग्रीमा पहुंच विस्तार गर्ने

ख) कृषि सामग्रीको उपयोगबाट उत्पादन बृद्धिमा सहयोग पुग्ने

ग) जीविकोपार्जन सुधार ल्याउने

घ) कृषकलाई भरपर्दो श्रोतबाट सुलभ मूल्यमा गुणस्तरीय कृषि सामग्री उपलब्ध गराउने

ड) कृषकको फुर्सद/ आवश्यकता / चाहना अनुरूप उनीहरूले रोजेको निजी सेवा प्रदायकबाट सेवा लिन सक्ने अवस्था श्रृजना गर्ने

च) निजी सेवा प्रदायकहरूमा गुणस्तरीय सेवाको लागि प्रतिस्पर्धा गराउने

छ) निजी सेवा प्रदायक र कृषकबिचको सम्बन्ध विस्तारले उनीहरूको व्यापार व्यवसायमा बृद्धि गराउने

परिच्छेद ४

निजी सेवा प्रदायकहरूको परिचालन र पध्दती

७. निजी सेवा प्रदायकको छनौट प्रकृया:

१) निजी सेवा प्रदायकको रूपमा बडामा काम गरिरहेका र काम गर्न इच्छुक निजी संस्थासंग सेवा प्रवाहको लागि सार्वजनिक निवेदन आह्वान गरिनेछ ।

२) अनुसूची...मा उल्लेख भएको योग्यता भएका र निजी सेवा प्रदायक भइ कार्य गर्न इच्छुकहरूले निर्धारित मिति भित्र निवेदन दिनु पर्नेछ ।

३) छनौट समितीले अनुसूची ...मा उल्लेख भएको मूल्यांकनका आधारमा निजी सेवा प्रदायकको छनौटगरी बडाका लक्षित वर्गका कृषकहरूलाई भौचर प्रणाली मार्फत कृषि प्रसार सेवा प्रवाह गर्न कार्यान्वयन सम्झौता गरी कार्य गर्न लगाउनेछ ।

४) सम्बन्धित जिल्लाको कृषि विकास कार्यालय एवं पशु अस्पताल तथा पशु सेवा कार्यालयले त्यस्ता सेवा प्रदायकहरूको अनिवार्यरूपमा अभिलेख राख्नुपर्नेछ ।

द. सेवा प्रवाह कार्यान्वयन पध्दती:

१) सम्बन्धित बडाको समन्वयमा सेवा प्रवाहको कार्यान्वयन गरिनेछ ।

२) आधिकारिक भौचर अर्थात सेवाको कुपन छानिएका वडाका लक्षित वर्गका कृषकहरूलाई अभिमुखिकरण कार्यक्रमगरी वितरण गरिनेछ ।

३) कृषकको आवश्यकता अनुरूप निजी सेवा प्रदायकले उपलब्ध गराएको निर्धारित परिमाणको कृषि सामग्री वा सेवा दस्तुर वापत उनीहरूलाई शुल्कको साटो कार्यालयले उपलब्ध गराएको भौचर प्रमाणित गरी कृषकले सेवा प्रदायकलाई दिनेछन ।

४) सेवा प्रदायकले प्रत्येक महिना कृषि सामग्री/सेवा प्रदान गरी कृषकहरूबाट प्राप्त भएका प्रमाणित भौचरहरू सहित भुक्तानीका लागि सम्बन्धित कार्यालयमा सम्पर्क गर्नेछन ।

५) कृषि सामग्री उपलब्ध गराउन सहमत निजी सेवा प्रदायक वा एग्रीभेट/ कृषि सहकारी/ होलसेल व्यापारीले कृषि सामग्रीको मूल्य सबैले देखेगरी टांस्नु पर्दछ ।

९.निजी सेवा प्रदायकको प्रमुख कार्यहरू: १) निजी सेवा प्रदायकको प्रमुख कार्यहरू तपसिल बमोजिम तोकिएकोछ:

क. सेवा करार अनुरूप नियमितरूपमा वडामा अभिलेखीकरण भएका साना कृषक, निर्वाहमुखी कृषक, र सिमान्तकृत कृषक समुदायमा आवश्यक पर्ने कृषिका विविध बिषयमा कृषकहरूको आवश्यकता र मागका आधारमा प्राविधिक सेवाहरू उपलब्ध गराउने

ख. कृषकहरूलाई सहज र सुलभ मूल्यमा गुणस्तरीय कृषि सामग्री (विउ बिजन, प्रांगारिक मल, कृषि औजार उपकरण, पशु औषधी, दाना, भ्याक्सिन, प्लाष्टिक सिट, स्पेयर पार्टस) उपलब्ध गराउने

१०.निजी सेवा प्रदायकलाई प्राप्त हुने सेवा सुविधा: १) यस कार्यक्रममा सहभागी हुने निजी सेवा प्रदायकहरूलाई तपसिल बमोजिमको सेवा सुविधा प्राप्त हुनेछ:

क) विउ पुंजीकोष वापत एकमुष्ट रू २,५०,००० ।

ख) सम्बन्धित वडाका लक्षित वर्गका कृषक, कृषक समुह र सहकारी संस्थामा कृषि प्रसार सेवा दिए वापत सेवा दस्तुर रू.५०० । प्रति सेवा का दरले थप सुविधा प्राप्त हुन्छ ।

ग) वडा भित्रका लक्षित वर्गका कृषक, कृषक समुह र सहकारी संस्थामा विक्रि गरिने निर्धारित परिमाणका कृषि सामग्रीको मूल्य

घ) वडा भित्रका अन्य कृषक, कृषक समुह र सहकारी संस्थामा कृषि सामग्री विक्रि भइ कारोवार बृद्धिबाट हुने थप मुनाफा आर्जन

११.भुक्तानी प्रकृया:

क) सेवा प्रदायकको सेवा दस्तुर र कृषि सामग्रीको भुक्तानीमा भौचर प्रणाली अपनाइने छ ।

ख) निजी सेवा प्रदायककोरूपमा कार्य गर्नेगरी छनौट भएका प्रत्येक निजी सेवा प्रदायकलाई विउ पुंजीकोष वापतको रकम सम्बन्धित कार्यालयले करार नियुक्तिको सम्झौताका बखत एकमुष्ट उपलब्ध गराउनेछ ।

ग) सम्बन्धित वडाका लक्षित वर्गका कृषक, कृषक समुह र सहकारी संस्थामा कृषि प्रसार सेवा दिए वापत निर्धारण गरीएको सेवा दस्तुर र कृषि सामग्री वितरण गरिएको प्रमाणित भौचरको फाँटवारी अनुरूपको रकम मासिकरूपमा विवरण प्राप्त भए पश्चात सम्बन्धित सेवा प्रदायकको बैंक खातामा बैंक दाखिला गरिनेछ ।

१२.बाधा अडकाउ फूकाउ : यस कार्यविधि कार्यान्वयन सम्बन्धमा कुनै द्विविधा भएमा सो को निरूपण मन्त्रालयले गर्नेछ ।

१३.संशोधन तथा खारेजी : यो कार्यविधि मन्त्रालयले आवश्यकतानुसार संशोधन तथा खारेज गर्न सक्नेछ ।

अनुसूची १

निजी सेवा प्रदायक छनौट समितिको गठन

निजी सेवा प्रदायकको छनौट गरी प्रभावकारीरूपमा लक्षित वर्गका कृषकहरूमा गुणस्तरीय कृषि सामग्री तथा कृषि प्रसार सेवा प्रदान गर्ने प्रयोजनका लागि निम्न पदाधिकारीहरू रहनेगरी निजी सेवा प्रदायक छनौट समितिको गठन गरिनेछः

महाशाखा प्रमुख, कृषि विकास महाशाखा	अध्यक्ष
शाखा प्रमुख, प्रशासन तथा जनशक्ति विकास शाखा	सदस्य
शाखा प्रमुख, आर्थिक प्रशासा शाखा	सदस्य
शाखा प्रमुख, पशुपन्छी विकास तथा उत्पादन शाखा	सदस्य
शाखा प्रमुख, नीति अनुसन्धान मापदण्ड तथा समन्वय शाखा	सदस्य सचिव

अनुसूची २
कृषि प्रसार सञ्चालक समितिको गठन

प्रभावकारी कार्यक्रम सञ्चालनमा सहजिकरण गर्ने र सञ्चालित कार्यक्रमको व्यवस्थितरूपमा अनुगमन गर्ने प्रयोजनका लागि निम्न पदाधिकारीहरू रहनेगरी कृषि प्रसार सञ्चालक समितिको गठन गरिनेछः

सम्बन्धित वडाको वडा अध्यक्ष	अध्यक्ष
सम्बन्धित जिल्लाको पशु अस्पताल तथा पशु सेवा कार्यालयका प्रमुख	सदस्य
सम्बन्धित वडाको महिला वडा सदस्य	सदस्य
सम्बन्धित वडाको अनुभवी कृषक एक जना	सदस्य
सम्बन्धित जिल्लाको कृषि विकास कार्यालयका प्रमुख	सदस्य सचिव

अनुसूची ३

निजी सेवा प्रदायकको योग्यता

कृषि प्रसार सेवा प्रवाहका लागि निजी सेवा प्रदायकको न्यूनतम योग्यता देहाय बमोजिम तोकिएको छः

१. कृषि विषय लिइ टि एस एल सी उत्तीर्ण वा
२. एस एल सी उत्तीर्ण गरी एक बर्षे जे टि ए तालिम प्राप्त गरेको वा
३. ग्रामिण कृषि कार्यकर्ता तालिम लिइ कृषि उद्यममा संलग्न भएको वा
४. एग्रोभेट सञ्चालक वा
५. सेवा निवृत्त कृषि बिषयका शिक्षक तथा कर्मचारीहरू

अनुसूची ४

कृषकको पेशागत विवरण (वडा कार्यालयमा भर्ने)

कृषक परिचय पत्र नं

नाम:

वाड नं:

1	2	3	4	5	6	7	8	9	10
जिल्ला		स्थानीय तह		वडा		दर्ता क्रम			

ठेगाना: जिल्ला: नगरपा

PHOTO

मुख्य पेशा: कृषि, मुख्य बाली/वस्तु:

सम्पर्क नं. :

नागरिकता नम्बर/जिल्ला :

परिवार संख्या:	१८ वर्ष मुनिका:	१८ वर्ष देखि ५९ वर्ष सम्म:	६० वर्ष देखि माथि:	कैफियत (अशक्त /अपांग)
महिला				
पुरुष				

खेतीमा संलग्न परिवार संख्या:

पुरै समय रोजगार संख्या:

आंशिकरोजगार संख्या:

व्यवसायिक विवरण

सि. नं.	व्यवसाय बाली पशुपंछी, अन्य	क्षेत्रफल वा संख्या	उत्पादन परिमाण	उत्पादन मुल्य	सञ्चालनमा आएको मिति	सहयोगी निकाय वा संस्था र रकम रु.
१.						
२.						
३.						
४.						

जम्मा वार्षिक लगानी रु.

वार्षिक कारोवार रु.

सरदर मासिक आम्दानीरु.

पारिवारिक मासिक खर्च रु.

कृषि आम्दानीको योगदान प्रतिशत:

व्यवसाय सञ्चालनको वर्ष:

अन्य व्यवसायमा रोजगारी र आम्दानी

क्र.सं.	व्यवसाय	रोजगार संख्या	वार्षिक आम्दानी	कैफियत
१				
२				
३				

आगामी योजनाहरु

१.

प्रस्तुत गरिएका सबै कुरा सत्य हुन, झुठा ठहरीएमा कानून बमोजिम सहुँला, बुझाउँला। कृषि पेशा छाडेको १ महिना भित्र सम्बन्धित वडामा जानकारी गराउने छु।

दायाँ

बायाँ

कार्यालय प्रयोजनको लागि

कृषक वर्गीकरण:-----

पेश गर्नेको सही:

नाम:

पद:

मिति:

स्वीकृत गर्नेको सही:

नाम:

पद:

मिति:

अनुसूची ५

कृषक परिचय पत्र नं तथा कृषक वर्ग भनें तरीका

१. कृषक परिचय पत्र महलमा १० वटा कोठा छन् ।
२. पहिलो र दोस्रो कोठाले कर्णाली प्रदेशका १० जिल्लाको कोड जनाउँछ । यी दुइ कोठामा जिल्लाको क्रमअनुसारको दुइ डिजिट अंक भर्नुपर्छ ।
३. तेस्रो र चौथो कोठाले कर्णाली प्रदेशका ७९ स्थानीय तहको कोड जनाउँछ । यस कोठामा अंक ०१ देखि अंक ७९ मध्ये स्थानीय तहको क्रम अनुसारको दुइ डिजिट अंक भर्नुपर्छ ।
४. पाँचौं र छैठौं कोठाले सम्बन्धित स्थानीय तहको वडा नम्बर जनाउँछ । यसमा जति नम्बरको वडामा कृषक दर्ता हुने हो सोही वडा दुइ डिजिट अंकमा भर्नुपर्छ ।
५. सातौं देखि दशौं कोठामा निवेदक कृषकको दर्ता क्रमानुसार शुरुको ०००१ देखि बढाउँदै लानु पर्छ
६. यसरी अंक भर्दा जिल्ला तथा स्थानीय तहको क्रम संख्या नेपाल सरकार, संघीय मामिला तथा स्थानीय विकास मन्त्रालय, संघीय मामिला शाखाबाट प्रकाशित गाउँपालिका तथा नगरपालिकाको संक्षिप्त परिचय पुस्तिका, २०७४ मा उल्लेखित कर्णाली प्रदेशभित्र पर्ने जिल्ला तथा गाउँपालिका, नगरपालिकाको क्रमसंख्या अनुसार भर्नुपर्नेछ । यसको क्रम देहायबमोजिम रहेको छ ।

७. उदाहरणको लागि:

सुर्खेत जिल्लाको वीरेन्द्रनगर नगरपालिकाको वडा नं १४ को कुनै कृषक दर्ता हुन २५ औं नम्बरमा आएमा नीजको कृषक परिचय पत्र नं यस प्रकार हुने छ:

६	१	१	७	१	४	०	०	२	५
जिल्ला कोड		स्थानीय तह कोड		वडा नम्बर		कृषकको व्यक्तिगत दर्ता नम्बर			

जिल्ला कोड: ६१
 नगरपालिका कोड: १७
 वडा नं: १४
 शुरु देखिको कृषक दर्ता क्रम: २५
 तसर्थ कृषक परिचय पत्र नं: ६११७१४००२५ हुने भयो ।

अनुसूची ६
भौचरको नमूना

मन्त्रालयको छाप	सिरियल नम्बर: ००१	कृषक परिचय पत्र न: ६११७१४००२५	
	कृषि प्रसार सेवा प्रवाहको भौचर कार्ड		रु.५००।
	यस्को म्याद मिति: २०७६।११।०१ देखि २०७६।०३।२० सम्म मात्र हुनेछ ।		
	(हस्ताक्षर) (राजेन्द्र प्रसाद भारी) सचिव		

अनुसूची ९

निजी सेवा प्रदायकहरूले भौचरको भुक्तानी लिन आउंदा मासिकरूपमा दिनुपर्ने निवेदनको ढाँचा

मिति: २०७६।१२।०३

श्रीमान् सचिवज्यू,
भूमि व्यवस्था, कृषि तथा सहकारी मन्त्रालय
वीरेन्द्रनगर, सुर्खेत ।

विषय: कृषि सामग्री तथा सेवा उपलब्ध गराएको रकम भुक्तानी पाउँ भन्ने बारे ।

उपरोक्त विषयमा मैले यस वीरेन्द्रनगर नगरपालिकाको वडा नं १४ का लक्षित कृषकहरूको आवश्यकताका आधारमा २०७६ फाल्गुण महिनामा प्रदान गरेको कृषि सामग्री र प्राविधिक सेवाको तपसिल अनुसारको रकम भुक्तानीको लागि आवश्यक कागजात र सेवा प्रवाहका बखत कृषकहरूबाट संकलित भौचर समेत यसै साथ संलग्न राखी पेश गरेकोले भुक्तानी पाउन अनुरोध गर्छु ।

तपसिल

सि नं.	उपलब्ध गराएको कृषकको व्यक्तिगत आइ डि नम्बर	उपलब्ध गराएको कृषि सामग्री/सेवाको विवरण	इकाइ	परिमाण	दर	जम्मा रू
१	००७	काउलीको विउ	प्याकेट	१	३००	३००।
२	००७	कृषि सेवा	पटक	२	५००	१०००।
३	००७	कोदालो	संख्या	१	३५०	३५०
४	०७९	भैंसीको दाना	किलो	२०	४०	८००
५	०५३	झारी	संख्या	१	२५०	२५०
जम्मा						२७००।

संलग्न कागजातहरू:

१. भौचर थान २
२. विल थान १

(राम प्रसाद देवकोटा)

(एग्रीभेटको छाप)

शाही एग्रीभेट, वीरेन्द्रनगर

अनुसूची १०

छनौट भएका निजी सेवा प्रदायकहरूको कार्यालयमा अनिवार्यरूपमा राखिने विवरणको नमूना

सि नं	निजी सेवा प्रदायकको नाम थर	स्थायी ठेगाना	सम्पर्क नम्बर
			मोवाइल
			इमेल
			मोवाइल
			इमेल
			मोवाइल
			इमेल
			मोवाइल
			इमेल
			मोवाइल
			इमेल

अनुसूची ११

निजी सेवा प्रदायकहरूको छनौटका आधारहरू

सि नं.	मूल्यांकनका क्राइटेरियाहरू	मूल्यांकन			
		अंक भार	अति उत्तम	उत्तम	सामान्य
१	शैक्षिक योग्यता	१०			
२	अनुभव (वर्ष)	१०			
३	स्थानीय वासिन्दा	१०			
४	मोटर वाइक भएको भए	१०			
५	महिला/जनजाती/दलित	१०			
६					
७					
	जम्मा	५०			

अनुसूची १२

जिल्ला र स्थानीयतहको विवरण

(गाउँपालिका तथा नगरपालिकाको संक्षिप्त परिचय पुस्तिका, २०७४)

जिल्ला		नगरपालिका/गाउँपालिका	
सि.नं.	जिल्लाको नाम	सि.नं.	नगरपालिका/गाउँपालिकाको नाम
५९	सल्यान	०१	शारदा नगरपालिका
		०२	बाघचौर नगरपालिका
		०३	बनगाड कुपिण्डे नगरपालिका
		०४	कालीमाटी गाउँपालिका
		०५	त्रिवेणी गाउँपालिका
		०६	कपुरकोट गाउँपालिका
		०७	छत्रेश्वरी गाउँपालिका
		०८	ढोरचौर गाउँपालिका
		०९	कुमाख मालिका गाउँपालिका
		१०	दार्मा गाउँपालिका
६०	रूकुम (पश्चिम)	११	मुसीकोट नगरपालिका
		१२	चौरजहारी नगरपालिका
		१३	आठविसकोट नगरपालिका
		१४	वांफिकोट गाउँपालिका
		१५	त्रिवेणी गाउँपालिका
		१६	सानीभेरी गाउँपालिका
६१	सुर्खेत	१७	वीरेन्द्रनगर नगरपालिका
		१८	भेरीगंगा नगरपालिका
		१९	गुर्भाकोट नगरपालिका
		२०	पञ्चपुरी नगरपालिका
		२१	लेकवेशी नगरपालिका
		२२	चौकुने गाउँपालिका
		२३	बराहताल गाउँपालिका
		२४	चिँगाड गाउँपालिका
		२५	सिम्ता गाउँपालिका
६२	दैलेख	२६	नारायण नगरपालिका
		२७	दुल्लु नगरपालिका
		२८	चामुण्डा विन्द्रासैनी नगरपालिका
		२९	आठविस नगरपालिका
		३०	भगवतीमाइ गाउँपालिका
		३१	गुराँस गाउँपालिका

		३२	डुंगेश्वर गाउँपालिका
		३३	नौमुले गाउँपालिका
		३४	महाबु गाउँपालिका
		३५	भैरवी गाउँपालिका
		३६	ठाँटीकाँध गाउँपालिका
६३	जाजरकोट	३७	भेरी नगरपालिका
		३८	छेडागाड नगरपालिका
		३९	त्रिवेणीगाड नगरपालिका
		४०	कुशे गाउँपालिका
		४१	जुनीचाँदे गाउँपालिका
		४२	बारेकोट गाउँपालिका
		४३	शिवालय गाउँपालिका
६४	डोल्पा	४४	ठुलीभेरी नगरपालिका
		४५	त्रिपुरासुन्दरी नगरपालिका
		४६	डोल्पोबुध्द गाउँपालिका
		४७	शे फोकसुण्डो गाउँपालिका
		४८	जगदुल्ला गाउँपालिका
		४९	मुङ्केचुला गाउँपालिका
		५०	काइके गाउँपालिका
		५१	छार्का ताड्सोङ्ग गाउँपालिका
६५	जुम्ला	५२	चन्दननाथ नगरपालिका
		५३	कनका सुन्दरी गाउँपालिका
		५४	सिँजा गाउँपालिका
		५५	हिमा गाउँपालिका
		५६	तिला गाउँपालिका
		५७	गुठीचौर गाउँपालिका
		५८	तातोपानी गाउँपालिका
		५९	पातारासी गाउँपालिका
६६	कालिकोट	६०	खाँडाचक्र नगरपालिका
		६१	रासकोट नगरपालिका
		६२	तिलागुफा नगरपालिका
		६३	पचाल झरना गाउँपालिका
		६४	सान्नीत्रिवेणी गाउँपालिका
		६५	नरहरीनाथ गाउँपालिका
		६६	कालिका गाउँपालिका
		६७	महाबै गाउँपालिका

		६८	पलाता गाउँपालिका
६७	मुगु	६९	छायानाथ रारा नगरपालिका
		७०	मुगु कार्मारोङ गाउँपालिका
		७१	सौरू गाउँपालिका
		७२	खत्याड गाउँपालिका
६८	हुम्ला	७३	सिमकोट गाउँपालिका
		७४	नाम्खा गाउँपालिका
		७५	खार्पुनाथ गाउँपालिका
		७६	सर्केगाड गाउँपालिका
		७७	चंखेली गाउँपालिका
		७८	अदानचुली गाउँपालिका
		७९	ताँजाकोट गाउँपालिका

