GAFSP Grant No.: TF A8013
Project ID: P164319

PROJECT IMPLEMENTATION MANUAL
(2018-23)
for
Food and Nutrition Security Enhancement Project
(FANSEP)

Government of Nepal
Ministry of Agriculture and Livestock Development
Food and Nutrition Security Enhancement Project
Project Management Unit
Harihar Bhawan, Lalitpur, Nepal

September, 2020

TABLE OF CONTENTS

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

ABBREVIATIONS AND ACRONYMS

ADS	Agriculture Development Strategy
AFSP	Agriculture and Food Security Project
AI	Artificial Insemination
AKC	Agriculture Knowledge Centre (*Krishi Gyan Kendra* of the Provincial Government)
AWBP	Annual Work Program Budget
BCC	Behaviour Change Communication
BCT	Behaviour Change Theory
BMI	Body Mass Index
BP	Business Plan
CBO	Community Based Organization
CGIAR	Consultative Group for International Agricultural Research
CLSC	Cluster Level Selection Committee
CSA	Climate Smart Agriculture
CSO	Civil Society Organization
CST	Climate Smart Technologies
DA	Designated Account
DFTQC	Department of Food Technology and Quality Control
DIME	Development Impact Evaluation
DoA	Department of Agriculture
DoHS	Department of Health Services
DLS	Department of Livestock Services
DTCO	District Treasury Control Office
ESMF	Environment and Social Management Framework
FCHV	Female Community Health Volunteer
EMP/SAP	Environmental Management Plan/Social Action Plan
EPA	Environment Protection Act
FANSEP	Food and Nutrition Security Enhancement Project
FAO	Food and Agriculture Organization of the United Nations
FAT	Farmer Acceptance Trial
FBS	Farm Business School
FCGO	Financial Comptroller General Office
FCHV	Female Community Health Volunteer
FFS	Farmer Field School
FG	Farmers' Group
FIES	Food Insecurity Experience Scale
FMR	Financial Monitoring Report
FY	Fiscal Year
GAFSP	Global Agriculture and Food Security Programme
GAP	Good Agricultural Practice
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GHP	Good Husbandry Practice
GLP	Good Livestock Practice
GMP	Good Manufacturing Practice
GOG	Grant Operating Guidelines
GoN	Government of Nepal
GR	Grant Recipients
GRC	Grievance Redress Committee
GRM	Grievance Redress Mechanism
GVP	Good Veterinary Practice

Secretary

Government of Nepal
Ministry of Agriculture and Livestock
Singhadurbar, Kathmandu

HACCP	Hazard Analysis and Critical Control Points
HANCI	Hunger and Nutrition Commitment Index
HDD	Household Dietary Diversity
HDI	Human Development Index
HH	Household
HNG	Home Nutrition Garden
HP	Health Post
HPI	Human Poverty Index
HRD	Human Resource Development
ICB	International Competitive Bidding
ICM	Integrated Crop Management
ICT	Information Communication Technology
IDM	Integrated Disease Management
IEC	Information Education Communication
INAGEP	Innovation and Agro-entrepreneurship Program
INMS	Integrated Nutrient Management System
IPF	Investment Project Financing
IPNMS	Integrated Plant Nutrient Management System
IPM	Integrated Pest Management
IPR	Implementation Progress Report
IWRMP	Irrigation and Water Resources Management Project
IYCF	Infant and Young Child Feeding
KAP	Knowledge, Attitude and Practice
KIS	Key Informant Survey
LAPA	Local Adaptation Plan of Action
LGOP	Local Government Operation Act
LNFSCC	Local level Nutrititon and Food Security Steering Committee
LUP	Land Use Plan
M&E	Monitoring and Evaluation
MDD-W	Minimum Dietary Diversity for Women
MDG	Millennium Development Goal
MFI	Micro Finance Institution
MG	Matching Grant
MIYCF	Maternal, Infant and Young Child Feeding
MoALD	Ministry of Agriculture and Livestock Development
MoF	Ministry of Finance
MoFAGA	Ministry of Federal Affairs and General Administration
MoFP	Ministry of Finance and Planning (Province)
MoHP	Ministry of Health and Population
MoLMAC	Ministry of Land Management Agriculture and Cooperative
MoSD	Ministry of Social Development
MoU	Memorandum of Understanding
MoV	Means of Verification
MPVN	Multi-purpose Village Nursery
MSNP	Multi-sector Nutrition Plan
MT	Metric Ton
NARC	Nepal Agricultural Research Council
NCB	National Competitive Bidding
NDHS	Nepal Demographic and Health Survey
NFS	Nutrition Field School
NGO	Non-governmental Organization
NPC	National Planning Commission
NPR	Nepali Rupees
NS	Nutrition Security
O&M	Operation and Maintenance

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhdurbar, Kathmandu

OFD	On Farm Demonstration
OVI	Objectively Verifiable Indicator
PA	Productive Alliance
PAD	Project Appraisal Document
PCN	Project Concept Note
PCR	Project Completion Report
PCU	Project Cluster Unit
PD	Project Director
PDO	Project Development Objective
PG	Producer Group
PHC	Primary Health Centre
PIM	Project Implementation Manual
PMIS	Project Management Information System
PMT	Proxy Means Test
PMU	Project Management Unit
PSC	Project Steering Committee
PVS	Participatory Varietal Selection
RFW	Result Framework
RFI	Rural Financial Institution
RM	Rural Municipality (*Gaun Palika*)
SAR	South Asia Region
SBD	Standard Bidding Document
SDG	Sustainable Development Goal
SHP	Sub-health Post
SLCC	State Level Coordination Committee
SMF	Social Management Framework
SP	Service Providers
SPG	Seed Producer Group
SQCC	Seed Quality Control Centre
SSNP-PAF	Social Safety Nets-Poverty Alleviation Fund
STEP	Systematic Tracking of Exchanges in Procurement
TA	Technical Assistance
TCC	Technical Coordination Committee
ToT	Training of Trainers
UN	United Nations
UNICEF	United Nations International Children's Emergency Fund
VAHW	Village Animal Health Worker
WASH	Water, Sanitation and Hygiene
ZHC	Zero Hunger Challenge
WB	World Bank

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

CHAPTER 1

1 INTRODUCTION

1.1 BACKGROUND INFORMATION

1. Household food deficiency due to low agricultural productivity coupled with dominance of subsistence agriculture, limited livelihoods opportunities, inefficient food distribution, weak market linkages, inadequate irrigation facilities, poor supply chain and use of quality seed, frequent occurrence of natural calamities like flood, drought, landslide, hot wave (*Loo*), cold spell, hailstorm, and poor infrastructure are some of the key development challenges being faced by the country. The situation is further aggravated due to lack of awareness about healthy food, healthy food habit and sanitation. Of the seven states/provinces of Nepal, socio-economic condition of Province 2 is particularly poor despite it being entirely a *Terai* (plain land) belt and grain basket of Nepal.

A. Country Context

2. **Nepal is a landlocked, low-income country with varied agro-ecological areas, high poverty levels, diverse socio-ethnic fabric and poor nutritional status.** Nepal is one of the poorest countries in the world with per capita income of US$ 762 in 2015. About 80% of Nepal's population resides in rural areas and 66% are directly engaged in agriculture. Nepal ranks 197th in terms of GDP per capita and 145th out of 186 countries in terms of Human Development Index (HDI). The country's agro-ecological areas are very diverse spanning from plain lands of *Terai* to the high and lowlands of hills and mountains. These lands have specific potential for agro-economic development and are populated by diverse ethnic groups with varied social and cultural norms. The nutritional status of Nepal's population is poor and ranks 118 out of 162 in the world with an average daily dietary energy consumption of 2,340 kilocalories per day[1].

3. **A new government, backed by a historic majority in Parliament is in place.** The Constitution of Nepal came into effect on 20 September 2015 and it provisions three tiers of government- local, provincial and federal. There are seven provinces and each province is composed of 8 to 14 districts (total 77 districts). The districts, in turn, comprise local units known as *Palikas* or urban and rural municipalities. There are 753 *Palikas* which include six metropolitan municipalities, 11 sub-metropolitan municipalities and 276 municipalities for a total of 293 urban municipalities and 460 rural municipalities (RMs). Each *Palika* is composed of wards and there are 6,743 wards in total. Local and provincial governments hold a variety of political, fiscal as well as administrative powers, while there are also concurrent powers with the federal government. The new federal structure has an immense potential to promote democracy and equip citizens with fundamental rights if it is managed well. The latest democratic election was held in November 2017 and a new government with historic majority in the parliament is in power since 15 February 2018.

4. **Over the past decade, Nepal's economy has performed reasonably well.** Growth averaged 4.3% (at market prices) over 2005-15. Although declining share in the economy, agriculture continues to play a large role, contributing one third of value-added. The service sector has grown in importance, accounting for more than half of value-added in recent years. Industry, in general, and manufacturing has grown more slowly and its relative share in the economy is falling. Similarly, exports continue to struggle, while imports are fueled by remittances which reached 30% of GDP. Inflation was in single digit for most of the past decade, with the peg of the Nepalese rupee to the Indian rupee providing a nominal anchor. Fiscal balances remained sustainable owing to strong revenue growth and modest spending.

[1] Hunger Portal, FAO, 2012.

The incidence of poverty measured against the national poverty line fell by 19 percentage points from 2003/04 to 2010/11, and in 2010/11[2], 25% of the population was counted as poor. Most multidimensional indicators of poverty also showed improvements across regions in Nepal. However, these gains remain vulnerable to shocks and setbacks, like the 2015 earthquakes which were followed by trade disruptions resulting in the lowest economic growth in 14 years in 2016.

5. **Economic activity, which rebounded strongly in FY 2017, following two challenging years, has once again been disrupted by floods affecting more than one-third population of the country.** Rebound in FY 2017 stemmed partly from a base effect, as well as a favorable monsoon boosting agricultural output and earthquake reconstruction gathering speed to raise investment. High inflation in the past two years moderated sharply. Government revenue continued to perform well, and spending has also picked up significantly in FY 2017 compared to previous years. Nevertheless, ambitious expenditure targets envisioned in the budget have not been met and the quality of spending has not improved with 60% of the capital spending occurring in the last quarter. In the first half of the FY 2018, the spending pressures have increased due to fiscal transfers, election spending, capital goods and expenditure to implement federalism. Inflation in February 2018 has increased to 5.0% (year on year) from 2.7% (year on year) in August 2017. Meanwhile, rapid credit growth in early 2017 has slowed but deposits growth has continued to decline, pushing up the interest rates. On the external side, the cumulative effect of a sharp trade balance deterioration and a slow growth of remittances, is putting a significant pressure on the current account. Economic activity, which was expected to progress well in FY 2018, has been affected by the worst floods in decades particularly affecting the agriculture output.

B. Government's Priority for Agriculture, Food Security and Nutrition

6. Following the footpath of the Interim Constitution of Nepal 2007, the Constitution of Nepal 2015 has enshrined right to food as one of the constitutional rights of every citizen. In the fundamental rights and duties of the State, the constitution guarantees (a) every citizen shall have the right to food, (b) every citizen shall have the right to be protected from a state of starvation resulting from lack of food stuffs, and (c) every citizen shall have the right to food sovereignty as provided in law. This is very much in line with the agenda of Sustainable Development Goals (SDGs), "leaving no one behind and transform the way the world ends hunger, ensure food security, and tackle malnutrition in all its forms". The SDGs are agenda for the world and for Nepal as well. The SDGs[3] aims to "transform our world" by achieving 17 goals for people and the planet and offer a tremendous opportunity for Nepal. Of 17 SDGs, SDG 2 reflects GoN priority for agriculture, food security and nutrition. SDG 2 is about ending hunger, achieving food security and improved nutrition, and promotion of sustainable agriculture. The government has already begun to reorient policy and annual budgets along SDG targets, and presented a road map to achieving SDGs 4.

7. The 14th Three Year Plan (2016-19), which happens to be the first plan formulated after the promulgation of the Constitution of Nepal 2015, provides a high priority to agricultural development and emphasizes on food and nutrition security with three concomitant objectives: (1) improve the food and nutrition consumption status by increasing production of agriculture and livestock-origin products; (2) increase access to nutritious food especially in regions and for groups that are the most vulnerable; and (3) establish proportionate and equitable food and nutrition distribution systems. The plan aims to increase food availability through increasing agricultural diversification, conserving and utilizing the country's biodiversity, expanding processing technologies, climate change

2 Recent data not available.

3 Adopted by 193 countries in 2015 including Nepal.

4 Nepal Sustainable Development Goals: Status and Road Map (2016-2030), NPC.

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development

adaptation, and ensuring food is appropriately targeted to food insecure groups and areas during crises.

8. Apart from the above, Government's commitment and priority on food security and nutrition are also mirrored on other commitments, policies and plans such as the Zero Hunger Strategy (ZHS), the Agriculture Development Strategy (ADS), the Food and Nutrition Security Plan of Action (FNSPA), and the Multi-Sectoral Nutrition Plans (MSNP).

C. Sectoral and Institutional Context

9. **Agriculture is a major driver of Nepal's economy and the dominant source of employment; in the last two decades, agriculture growth has been instrumental for reducing poverty but insufficient to ameliorate people's nutritional status.** Over the last two decades poverty rates declined from 42% in 1994/95 to around 25% in 2015 (ADS[5]), mainly driven by raising agricultural incomes in rural areas. However, most of this income growth can be attributed to increased commodity prices (78%), rather than productivity increases (22%). As high global commodity prices have now largely abated, it becomes even more imperative to unlock agriculture productivity and value-addition potential as the key engine for growth, poverty reduction, and shared prosperity. Poverty is overwhelmingly rural and most of the country's poor are small-scale farmers with low nutritional status. Increase in rural incomes will continue to drive poverty reduction and improved nutrition over the medium-term.

10. **The agriculture sector exhibits persistent vulnerability to shocks including climate change**. Agriculture's vulnerability was evidenced by the effect of 7.8 magnitude earthquake of April 2015 which set back the country's development. The rural areas were particularly hard hit, with crop and livestock related losses and loss of post-harvest storage infrastructure. A joint GoN-UNDP assessment found that the agriculture, livestock and the small irrigation sector has experienced about NPR 10 billion of losses due to the earthquake, with more than 50% of the losses attributable to the livestock sector. In September 2015, a second shock to the economy came in the form of a near complete disruption of external trade by a seven-month long blockade of borders following the adoption of the new Constitution. These events contributed to a slowdown in agricultural growth to less than 1% in FY 2015 and 1.3% in FY 2016, vs. annual growth rates for agriculture GDP over the previous decade of about 3% per annum; they further exacerbated the wide fluctuation of output experienced at that time. The Climate Smart Agriculture Country Profile (2017) points to climate projections for Nepal which suggest a continued increase in mean annual temperature, a faster warming of the country's western regions, (compared to the eastern region), changes in precipitation during the monsoon period (with variations from 14 to 40%), as well as the increased likelihoods of heavy precipitation events. Changes in precipitation patterns are likely to affect rainfed agricultural activities, causing significant annual yield variability, deterioration of pasture land, and higher production risks. Nepal's food system is extremely vulnerable to climate change, ranked 145 out of 188 countries in the ND-GAIN index. Climate change is also expected to increase the frequency of weather related hazards (e.g. droughts and floods), further affecting croplands and yields. Costs associated with the impacts of climate variability and extreme events are estimated at US$ 270-360 million/year (expressed in 2013 prices), representing 1.5 to 2% of the country's Gross Domestic Product (GDP).

11. **Nepal's agriculture is characterized by subsistence farming** with the dominance of traditional crops and methods and an excessive dependence on weather outcomes. The underperformance of the traditional systems points to the need to modernize and expand agriculture, with the view to making it more responsive to both market requirements and the nutritional needs of the population. This should be achieved through a combination of

5Agriculture Development Strategy (ADS, 2015).

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu
Secretary

increased productivity of traditional crops and animal husbandry practices, supportive inputs and services, diversification to customized, more efficient and nutritionally sensitive agriculture enterprises, and better access to market outlets.

12. **Nepal has been undergoing a gradual "feminization" in the agriculture sector,** as male farmers continue to move out of agriculture, migrating to urban areas and abroad in search of more remunerative employment opportunities. The proportion of the labor force in the agriculture sector fell from 76% in 1998/99 to 74% in 2008, and women workers occupied a majority (84%) of that share (CBS 2011). However, women continue to face extremely low gains when it comes to ownership over assets, access to resources, ability to take part in decision making processes in development initiatives, benefit from capacity building, and economic gains. The recently conducted Country Gender Assessment of Agriculture and Rural Development (FAO, 2017) in Nepal shows that more than three-quarters (76.4%) of women engaged in agriculture work as unpaid family labor while only 10.4% receive in-kind payment, and 13.2% receive cash and in-kind payments. Furthermore, only 31% of female farmers received extension services in comparison to 69% of male farmers. To ensure gender equity and citizen engagement, the project will specifically target female farmers with gender focused interventions, and integrate women and other vulnerable beneficiary groups in all aspects of the project cycle, from planning, implementation to monitoring of the results.

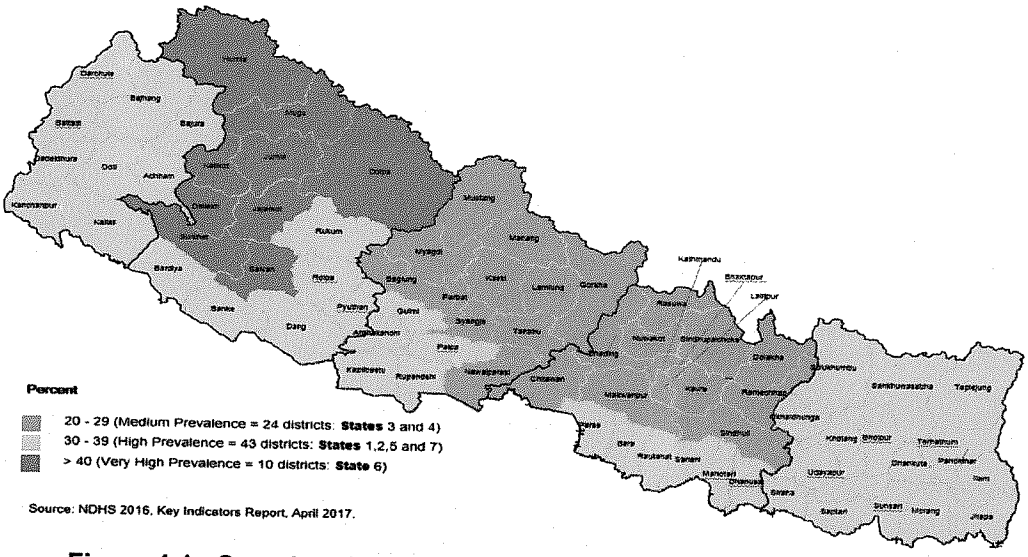
13. **The agriculture sector faces multi-faceted challenges,** including, *inter alia*: (i) low availability of good quality seed, improved animal breeds, chemical fertilizers and other inputs; (ii) thinly spread and inadequate research & extension support and agri-met services with weak research-extension-farmer linkages; (iii) low investment in productive assets, including supplementary irrigation infrastructure to reduce rain-dependence; (iv) poor market linkages due to high transfer and transaction costs and weak market leverage and access to rural financial service by small farmers; and (v) lack of resilience of farmers to shocks due to disease outbreaks, climate and market related shocks and weak nutrition sensitiveness of agricultural interventions.

14. **Poor nutrition, food insecurity, and malnutrition continue to pose risks to Nepal's population,** despite the country's progress in reducing stunting in under five years children from 57% in 2000 to 37.3% in 2014 and 36% in 2016 (NDHS, 2016; MICS, 2014). During this period, income progressively rose and the country implemented a range of social programs addressing multiple underlying causes of malnutrition including water, sanitation and hygiene (WASH), open defecation free (ODF) campaign, family planning, medical services, deworming, and homestead food production. However, according to the Nepal Demographic and Health Survey (NDHS, 2016)[6], stunting rate remains at a high of 36% among children under age 5, largely associated with income (49% compared to 17% of the highest wealth quintile) and with mother's education. Ten percent of children are wasted and 27% underweight. More than half (53%) of the children of age between 6-59 months and 41% of the women of age between 15-49 are anemic (NDHS, 2016). Stunting rate peaks among children aged 24-35 months (45%), when women likely discontinue breastfeeding and the child is reliant on a balanced food bowl. While the prevalence of diarrhea among children under 5 has decreased over time from 14% in 2011 to 8% in 2016, it increases with age. Six percent of children of less than 6 months and 15% of children of 6-11 months, suffered from diarrhea two weeks prior to the survey. This is also when children are typically introduced to complementary foods. Maternal malnutrition is a major concern in Nepal. In 2016, about 17% of women in the 15–49 age group were undernourished—as defined by a Body Mass Index (BMI) of less than 18.5 (NDHS, 2016). In 2011, 18% of women were undernourished (NDHS 2011). Anemia continues to be a significant problem for women and children in Nepal; 53% of children and 41% of women were anemic in 2016. It is for this

[6]Demographic Health Survey. 2016: https://dhsprogram.com/publications/publication-FR336-DHS-Final-Reports.cfm

reason that the project focuses on addressing practices before and during the 1,000 days (from conception to 2 years of age) to prevent long-term high stunting rates and related impaired health, physical and cognitive development.

15. The manifestations and underlying causes of malnutrition differ drastically across provinces and agro-ecological zones. Inadequate maternal, infant and young child feeding (MIYCF) practices, untreated episodes of acute malnutrition, infections, inadequate access to a balanced food basket, lack of potable water, and micronutrient deficiencies all constitute immediate and underlying causes of malnutrition in Nepal. While the highest stunting rates are documented in the mountainous regions of the country, even within urban areas, rates do not dip below 32%. The *Terai* ranks highest in incidence of diarrhea and anemia and lowest in BMI, minimum acceptable diet, and consumption of meat, eggs, green leafy vegetables, and Vitamin A rich fruits and vegetables. Evidence from the region suggests that coordinated efforts are required from nutrition-sensitive and specific sectors to effectively reduce stunting sustainably and particularly among the most vulnerable populations. Improving nutrition is, therefore, an important area as the country confronts various forms of nutritional problems ranging from deficits in energy intake to imbalances in consumption of specific macro and micronutrients. Furthermore, malnutrition has additional economic costs through cognitive delays in children and lower economic productivity in adults. The distribution of stunting severity across different provinces is depicted in Figure 1.1.



;Figure 1.1: Severity of stunting in different provinces in Nepal

16. **Achieving food and nutrition security and reducing poverty are national goals of the Government of Nepal (GoN),** in line with commitments to realize the Sustainable Development Goals (SDGs) and Zero Hunger Challenge (ZHC). The country's agricultural development priorities are aligned with these two main goals and the Sustainable Development Agenda – particularly SDG1 and SDG2 - focusing on access to increased employment opportunities, sustainable management of natural resources, supportive infrastructures development, new avenues creation for economic growth, coping with emerging effects of climate change, social inclusion, and the development of farmer-responsive governance. Nepal has set a target of reducing stunting to 24.2% by 2025 (from 36% in 2016), in line with the World Health Assembly target of reducing number of stunted children to 25% by 2025. This will require coordinated efforts from both nutrition-specific and nutrition-sensitive sectors and differentiated approaches by region.

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

17. **Nepal's Agricultural Development Strategy (ADS) provides the main policy framework for the sector.** The ADS was endorsed by the cabinet of ministers in 2015 to support the GoN's 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." The ADS calls for a 4% growth in Agriculture GDP by 2020 and 6% by 2025, by intervening across four strategic pillars: (i) improving governance, with clear targets for improved credibility of policy commitment, engage leading stakeholders (both from government and civil society) in the formulation, implementation, and monitoring of results on the ground; (ii) increasing productivity by developing effective agricultural research and extension, efficient use of agricultural inputs, promoting efficient and sustainable practices and use of natural resources (land, water, soils and forests), and building increased resilience to climate change and disasters; (iii) profitable commercialization by transforming the agricultural sector from subsistence farming towards a more commercialized sector, connected to the local, national, and international markets; and (iv) enhancing competitiveness by capturing the energy, innovation and inventiveness of the private sector and cooperative sector to spur growth and development in the sector.

18. **The ADS is aligned with the Government's 14th Periodic Plan and the Multi-Sector Nutrition Plan (MSNP).** The 14th Periodic Plan covers the period 2016/17-2018/19. It aims to make the agriculture sector competitive and move towards self-reliance through sustainable and commercial agriculture development. In addition, the 2nd phase of the MSNP guides the GoN's investment in nutrition for the period of 2018 to 2022, and details the roles of respective Ministries, including Ministry of Agriculture and Livestock Development (MOALD), Ministry of Health and Population (MoHP), Ministry of Education, Science and Technology, Ministry of Federal Affairs and Local Development, Ministry of Urban Development, and Ministry of Women, Children and Social Welfare under the leadership of the National Planning Commission (NPC). The ADS also includes a flagship report on Food Security and Nutrition (FSN), identifying a number of priority activities to improve FSN across the country. The alignment of ADS with the Periodic Plan and the MSNP is the evidence that the GoN is committed to achieving both agriculture sector development, and food security and nutrition objectives through concerted efforts. The ranking of Nepal under the Hunger and Nutrition Commitment Index[7] (8th out of 45 countries) further testifies to the strong commitment of the GoN to tackle hunger and malnutrition. Under that index, the country-level estimates[8] of domestic allocation to nutrition ranged from 0.06 to 9.23% in 2016 with a mean allocation of 2.1% which ranked Nepal in the top five countries with a 3.59% allocation.

1.2 Objectives of the Project

1.2.1 Project Development Objective (PDO)

19. The Project Development Objective (PDO) of the FANSEP is to enhance climate resilience and improved agricultural productivity and nutrition practices of targeted smallholder farming communities in selected areas of Nepal. The project intends to increase agricultural productivity through increased adoption of climate smart technologies (CST). CST refers to those technologies which integrate to manage landscapes, cropland, livestock, forests and fisheries that address the interlinked challenges of food security and climate change.[9] Central to this project is the concept of climate resilience which is defined as beneficiaries' ability to withstand and recover from climatic shocks, particularly droughts and rainfall. This would be achieved through the application of Climate Smart Agriculture (CSA) practices as well as diversification in crops grown and additional income generated. The

[7]The Hunger and Nutrition Commitment Index (HANCI) ranks governments on their political commitment to tackling hunger and under-nutrition. (www.hancindex.org)

[8]As mentioned in the Global Nutrition Report 2016.

[9] The World Bank. 2019. Climate Smart Agriculture. https://www.worldbank.org/en/topic/climate-smart-agriculture

project will deliver on CSA's "triple-wins" through: (i) sustainable increase in productivity and farm incomes (food security); (ii) enhanced resilience to impacts of climate change and variability (adaptation); and (iii) reduced greenhouse gas (GHG) emissions per unit of product, and increased carbon sequestration (mitigation). This approach will help: (i) optimize the management of different CSA interventions depending on local natural resources and livelihoods systems (agriculture and livestock); (ii) take into account the external environment (devolved governance structure, policies, strategic plans, regulations, markets, among others) that might influence relationships between stakeholders; and (iii) encourage inclusive stakeholder consultations [farmer groups (FGs), vulnerable and marginalized groups, service providers, input suppliers, community based organizations (CBOs), and government agencies, among others] to strengthen institutional capacity (at national, municipality and community levels) and enhance service delivery. Likewise, the nutrition practices will be improved through supporting diversified diets and increased nutrition intakes and improved feeding and caring practices for pregnant and nursing woment and children between 6 to 24 months.

1.2.2 Specific Objectives

20. The specific objectives of this project are to:
    - enable farmers in the project area to adopt improved agricultural production (climate resilient) technologies and management practices for improving agriculture and livestock productivity
    - contribute to food security, nutrition and livelihoods of the poor and vulnerable households (HHs) in the project area;
    - enhance the food security of vulnerable groups and enlarging the livelihoods base for farm income;
    - reduce food and health risks among vulnerable groups and improve income earning and employment opportunities for the poor HHs in targeted communities; and
    - contribute to enhancing nutrition security in project area through the promotion of diversified diets, increased nutrition intakes and improved feeding practices for pregnant and nursing women and children up to 2 years of age.

1.2.3 Result Framework of the Project

21. Key result areas of the project are as follows:
    - Farmers adopting improved agricultural technologies (including CSA) of which at least 65% are female (CRI);
    - Farmers reached with agricultural assets/services, of which 65% female (CRI);
    - Increased crop and animal productivity by direct beneficiaries (disaggregated by crop and animal species);
    - Household income (farm and off-farm) (GAFSP core indicator);
    - Improved score on the Food Insecurity Experience Scale (FIES[10]) by direct beneficiaries (gender disaggregated); and
    - Improved dietary intake for:
        - Pregnant and nursing mothers; and
        - Children between 6-24 months.

22. Result framework of this project is presented in Table 1.1.

[10]FIES was selected based on the use of extensive validation criteria focusing on whether the indicator: (1) correlates highly with the SDG nutrition indicators (such as stunting); (2) is relatively low cost to collect information; and (3) can have wide country coverage.

Table 1.1: FANSEP Result Framework

Project Development Objectives (PDO): To improve agricultural productivity and nutrition practices of targeted smallholder farming communities in selected areas of Nepal.

PDO Level Results Indicators	Core	Unit of Measure	Baseline	Target Values**					Frequency	Data Source/ Methodology	Responsibility for Data Collection	Description (indicator definition etc.)
				YR 1	YR 2	YR3	YR 4	YR5				
Indicator 1: Farmers adopting improved agricultural technologies (including CSA) of which female (CRI)	☒	Number	0	0	6000	16000	28000	31800	Annual	Progress reports, Annual report, Household Survey, Technical & economic monitoring	TA/ PMU	This indicator measures the number of farmers who have adopted an improved production practice promoted by the project. It is expected that the baseline value for this indicator will be zero.
Of which female (number)	☒	Percent	0	0	65 (3900)	65 (10400)	65 (18200)	65 (20670)				
Indicator 2: Increased crop and animal productivity by direct beneficiaries (aggregated by crop and livestock)	☐	Percent							Annual	Progress reports, Annual report, Household Survey, Technical & economic monitoring	TA/PMU	The indicator measures improvements in production per ha or animal through the average increase in units of production (kg, MT, l) per land area and/or animal, resulting from improvements in production practices through project inventions.
Crops (Food grains)		Percent	0	0	10	15	25	25				
Crops (Vegetables)		Percent	0	0	15	20	30	30				
Livestock (meat)		Percent	0	0	5	15	25	40				
Livestock (milk)		Percent	0	0	10	20	30	35				
Indicator 3: Household income (farm and off-farm)- (GAFSP core indicator, gender disaggregated)			BL	-	-	BL+10%	-	BL+25%	At start, mid-term, and end of project	Baseline, Midline, and End-line Survey questionnaires	DIME/TA/PMU	Income is measured through a production-based approach (revenues minus costs) and home-produced food that is not sold but home consumed is valued as income.
Female headed households			BL	-	-	BL+10%	-	BL+25%				
Indicator 4: Improved score on the Food Insecurity	☐	Percent improvement	n.a	-	-	15	-	40	At start, mid-term,	Baseline, Midline, and	External Survey Firm	The FIES is a measure of access to food at the

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development

PDO Level Results Indicators	Core	Unit of Measure	Baseline	Target Values**					Frequency	Data Source/ Methodology	Responsibility for Data Collection	Description (indicator definition etc.)
				YR 1	YR 2	YR3	YR 4	YR5				
Experience Scale (FIES) by direct beneficiaries (gender disaggregated).									and end of project	End-line FIES Survey questionnaires		level of individuals or HHs. It measures severity of food insecurity based on people's responses to specific questions about constraints on their ability to obtain adequate food.
Of which female	☒	Percent	0	-	-	65	-	65				
Indicator 5: Improved dietary intake for:		Percent over BL										
Pregnant and nursing women			BL	-	-	BL+10%	-	BL+20%	At start, mid-term, and end of project	Baseline, Midline, and End-line Survey questionnaires	External Survey Firm	Minimum Dietary Diversity for Women is a dichotomous indicator of whether or not women 15–49 years of age have consumed at least five out of ten defined food groups the previous day or night. The proportion of women 15–49 years of age who reach this minimum in a population can be used as a proxy indicator for higher micronutrient adequacy, one important dimension of diet quality.
Children between 6-24 months			BL	-	-	BL+10%	-	BL+20%				Measured by percent of children 6-24 months with minimum acceptable diet (MAD). The indicator measures both the minimum feeding frequency and minimum dietary diversity, as appropriate for various age groups.
Intermediate Result (Component A) – Climate and Nutrition Smart Technology Adaptation and Dissemination												

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development

PDO Level Results Indicators	Core	Unit of Measure	Baseline	Target Values**					Frequency	Data Source/ Methodology	Responsibility for Data Collection	Description (indicator definition etc.)
				YR 1	YR 2	YR3	YR 4	YR5				
Number of promising technologies developed through on-farm adaptation trials (including CSA and nutrition sensitive technologies)			0	0	5	15	20	20	Annual	Progress reports, annual report, Technical & economic monitoring	TA/PMU	The indicator measures the number of technologies (crop and livestock) validated on farm. Technology testing, adjusting and validation new technologies are a precondition for dissemination.
Farmers accessing technology dissemination services delivered by the project		Number	0	5000	15000	25000	35000	39750	Annual	Progress reports, annual report, Household Survey, Technical & economic monitoring	TA/PMU	Technology dissemination services include on farm demonstration, farmer field schools, Field days and training organized by the project
Of which female		Percent	0	65	65	65	65	65				
Indicator 2: Farmers reached with agricultural assets/services, of which female	☒	Number	0	5000	15000	30000	50000	65000	Annual	Progress reports, Annual report, Household Survey, Technical & economic monitoring	TA/PMU	This indicator measures the number of farmers who were provided with agricultural assets or services. It is expected that the baseline value for this indicator will be 0. Assets include property, biological assets and farm and processing equipment, etc. Services include: research, extension, training, education, ICTs, production related services (e.g. soil testing, animal health/veterinary services), phyto-sanitary and food safety, agricultural marketing support services, access to farm and post-harvest
Of which female	☒	Percent (number)	0	65 (3250)	65 (9750)	65 (19500)	65 (32500)	65 (42250)				

Seeretary

Government of Nepal
Ministry of Agriculture and Livestock Development

PDO Level Results Indicators	Core	Unit of Measure	Baseline	Target Values**					Frequency	Data Source/ Methodology	Responsibility for Data Collection	Description (indicator definition etc.)
				YR 1	YR 2	YR3	YR 4	YR5				
												machinery and storage facilities, employment, irrigation and drainage, and finance.
Improved seed replacement rate			BL	-	-	BL+12%	-	BL+25%	At start, mid-term, and end of project	Progress reports, annual report, Household Survey, Technical & economic monitoring	TA/PMU	Seed replacement rate for each of the four major crops (paddy, maize, wheat, and potato).
Intermediate Result (Component B) – Income Generation and Diversification												
Number of producer-based organizations supported (number) -GAFSP core indicator		Number	0	200	600	1000	1400	1590 (25 farmers per group)	Annual	Progress reports, annual report, Household Survey, Technical & economic monitoring	TA/PMU	This indicator measures the number of producer based organizations created or supported under the project. The baseline value of this indicator will be 0.
Number of post-harvest facilities constructed and/or rehabilitated (number) - GAFSP core indicator		Number	0	20	80	140	184	184	Annual	Progress reports, annual report, Household Survey, Technical & economic monitoring	TA/PMU	This indicator measures the number of facilities developed by the project that support activities such as improved storage/improved packaging house technologies, investments to comply with sanitary/phytosanitary and other food safety standards.
Number of sub-projects (business plans) financed by the project on a matching grant basis.			0	-	100	250	400	448	Annual	Progress reports, annual report, Household Survey, Technical & economic	TA/PMU	This indicator measures the cumulative number of contracts signed and sub-projects completed under the MG scheme.

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development

PDO Level Results Indicators	Core	Unit of Measure	Baseline	Target Values**					Frequency	Data Source/ Methodology	Responsibility for Data Collection	Description (indicator definition etc.)
				YR 1	YR 2	YR3	YR 4	YR5				
										monitoring		
Intermediate Result (Component C) – Improving Nutrition Security												
People receiving improved nutrition services and products, gender disaggregated, age disaggregated (number of people) -GAFSP core indicator		Number of people	0	5000	15000	30000	50000	57500	Annual	Progress reports, annual report, Household Survey, Technical & economic monitoring	TA/PMU	The indicator is calculated from the increase in the number of people with access to a defined basic package of nutrition services as a result of project investment.
Household dietary diversity score including nursing mothers and children under two years (1000 day mother target)			BL	-	-	BL+10%	-	BL+20%	At start, mid-term, and end of project	dietary diversity questionnaire	TA/PMU	Dietary diversity is aqualitative measure of food consumption that reflects household access to a variety of foods, and is also a proxy for nutrient adequacy of the diet of individuals.
Intermediate Result (Component 4) – Project Management, Communication and M&E												
Grievances registered addressed within the delay set by the project GRM		Percent	0	60	75	85	85	85	Annual	Sample Survey	TA/PMU	The indicator measures the proportion of grievances received by the Grievance Redress Mechanism system (GRM) set up by the project actually addressed within the standard period set up by the GRM system
Periodic reports submitted on time		Number (cumulative)	0	3 (3)	2 (5)	3 (8)	2 (10)	3 (13)	Semi-annual and annual	Progress reports, annual report, baseline and impact reports	PMU	

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

1.3 SCOPE OF THE PROJECT

1.3.1 Project Location

23. The project will be implemented in eight districts of Nepal (Figure 1.2). Of these eight districts, four districts namely Siraha, Saptari, Dhanusha and Mahottari are located in Province 2, three districts namely Dhading, Sindhupalchok and Dolakha in Bagmati Province, and one district namely Gorkha located in Gandkai Province.

24. Above districts have been selected based on the (a) HDI, (b) food security, (c) malnutrition status of under 5 children, (d) poverty situation, and (e) effect of earthquake on loss of crop and livestock. In terms of geography, all four districts of Province 2 are Terai districts while Dhading of Bagmati Province and Gorkha of Gandaki Province are classified as mid-hill districts, and Sindhupalchok and Dolakha of Bagmati Province are classified as mountain districts. Terai is a plain land.

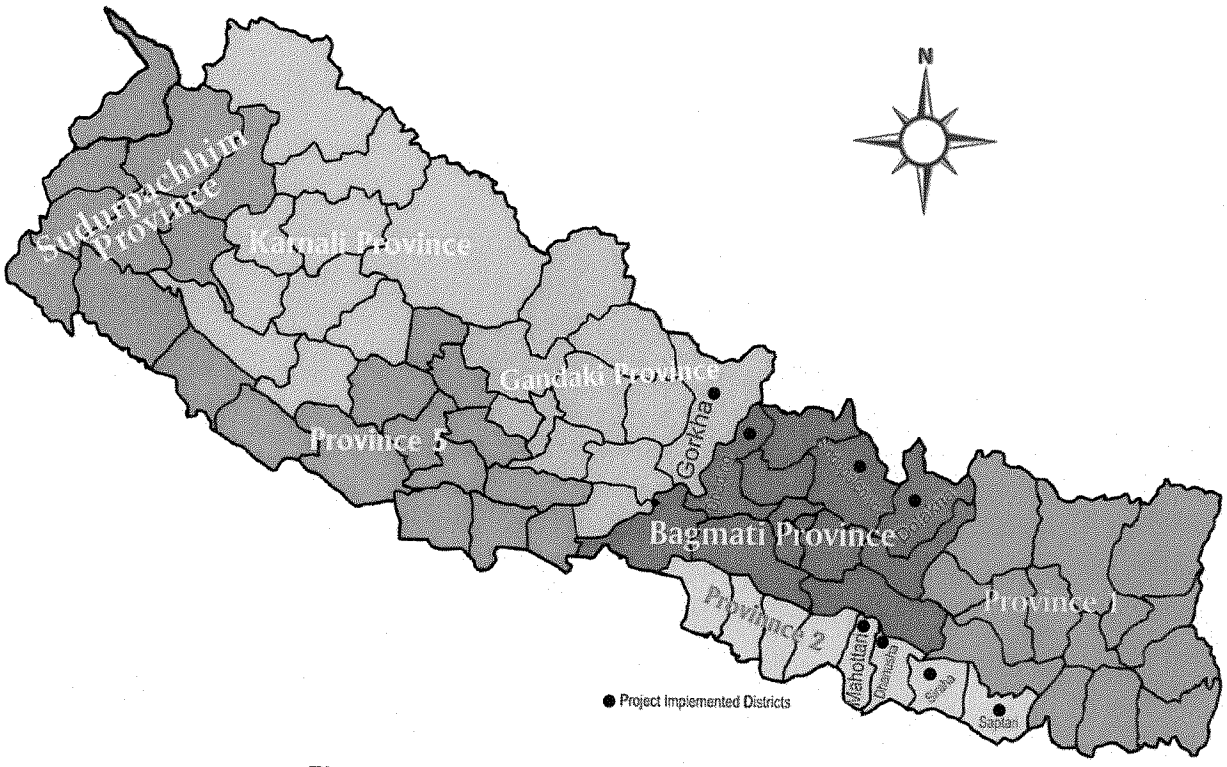


Figure 1.2: FANSEP implemented districts

Provinces	Geographic regions	Number of districts	Name of districts
Province - 2	Terai	4	Saptari, Siraha, Mahottari and Dhanusha
Bagmati Province	Mountain	2	Sindhupalchok and Dolakha
	Hill	1	Dhading
Gandaki Province	Hill	1	Gorkha
Total	3	8	-

25. Considering the availability of resources, particularly the level of funding, socio-economic conditions of the districts selected and level of development governed by the need to provide

intensive technical support and services, this project will not cover entire district but two rural municipalities (RMs) of each of the eight districts mentioned above. Thus, the project will cover 16 RMs.

26. The Proxy Means Test (PMT) methodology will be applied to select project beneficiaries in collaboration with the World Bank's (WB's) Development Impact Evaluation (DIME). This methodology uses multivariate regression to correlate certain proxies such as assets and HH characteristics with poverty and income.

27. The PMT uses a set of proxies (usually between 10 and 30) that best explain welfare. Each proxy is given a weight based on its estimated impact on HH expenditure. This methodology is proven to work particularly well in countries with high levels of informality such as Nepal where personal and HH income is difficult to verify with any degree of precision.

1.3.1.1 Situation Analysis of the Project Areas

28. Out of eight project districts four are in *Terai* and four in highly earthquake affected mid-hill and mountain districts of Bagmati and Gandaki Provinces. The socio-economic condition of four Terai districts is exceptionally poor. Until recent past, *Terai* region was considered cereal grain baskets of Nepal owing to large area suitable for cereal grain production. But hundreds of hectares of such fertile land in *Terai* is getting inundated and washed away almost every year due to frequent flash floods. This is the manifestation of increasing deforestation and land degradation in siwalik or *Chure* area which links *Terai* and mid-hills or Mahabharat range of Nepal. Furthermore, *Terai* is experiencing excessively high temperature and hot wave (commonly called "Loo") together with extreme cold during winter time which is known as cold-wave or *Sheet Lahar*. In addition, *Terai* is also witnessing several high temperatures induced mosquito-borne maladies, dengue disease, and fires in the forests and settlements. In terms of incidence of poverty, the most recent multi-dimensional poverty study reported one of highest level of multidimensional poverty[11] and incidence of the poverty with every second person being multi-dimensionally poor (50%).

29. Average edible food balance during the last five years (2011-2016) is negative in five districts and positive in Gorkha, Sindhupalchok and Dhanusha districts (Table 1.2 with details in Annex 1.1). This has also been presented in Figure 1.3 which shows per capita edible food availability vis-à-vis national average for five years (2011-2016) and in Province 2, Bagmati and Gandaki Provinces. This indicates need for project initiatives to increase food security situation in the project districts.

Table 1.2: Food balance situation in project districts (2011-2016)

District	Edible food (cereals) in 5 years (2011-2016				Per capita availability, kg	
	Average production, mt	Average requirement, mt	Average balance, mt	Average balance, %	5 year average	2015/16
A. Mountain and hill districts						
Dolakha	18204.8	34863.6	-16658.8	-47.8	**116.8**	98.2
Sindhupalchowk	69196.6	54137.8	15058.8	27.8	**240.5**	194.9
Dhading	54848.8	67327.6	-12478.8	-18.5	**167.4**	180.7
Gorkha	63160	53200	9960	18.7	**236.0**	203.0
B. Terai districts						
Dhanusa	161551.2	143292.6	18258.6	12.7	**204.2**	190.9

[11] Measure of multidimensional poverty includes 10 indicators related to health, education and living standard. The indicators included in health are no other than nutrition and child mortality (Nepal's Multidimensional Poverty Index 2018, GoN, NPC in Partnership with OPHI and University of Oxford.

District	Edible food (cereals) in 5 years (2011-2016				Per capita availability, kg	
	Average production, mt	Average requiremen t, mt	Average balance, mt	Average balance, %	5 year average	2015/16
Mahottari	100707.6	120509.2	-19801.6	-16.4	**154.7**	170.2
Siraha	75670.2	119845	-44174.8	-36.9	**132.6**	96.4
Saptari	85976.2	120629.2	-34653	-28.7	**145.8**	105.9

Source: SINAS, MoAD (different years).

30. Area under major cereal crops, particularly rice, is in decreasing trend in *Terai*. Availability of agricultural land per household (HH) in all project districts is lower than the national average of 0.7 Ha. It is lowest in Gorkha (0.47 Ha) and highest in Siraha (0.67 Ha).

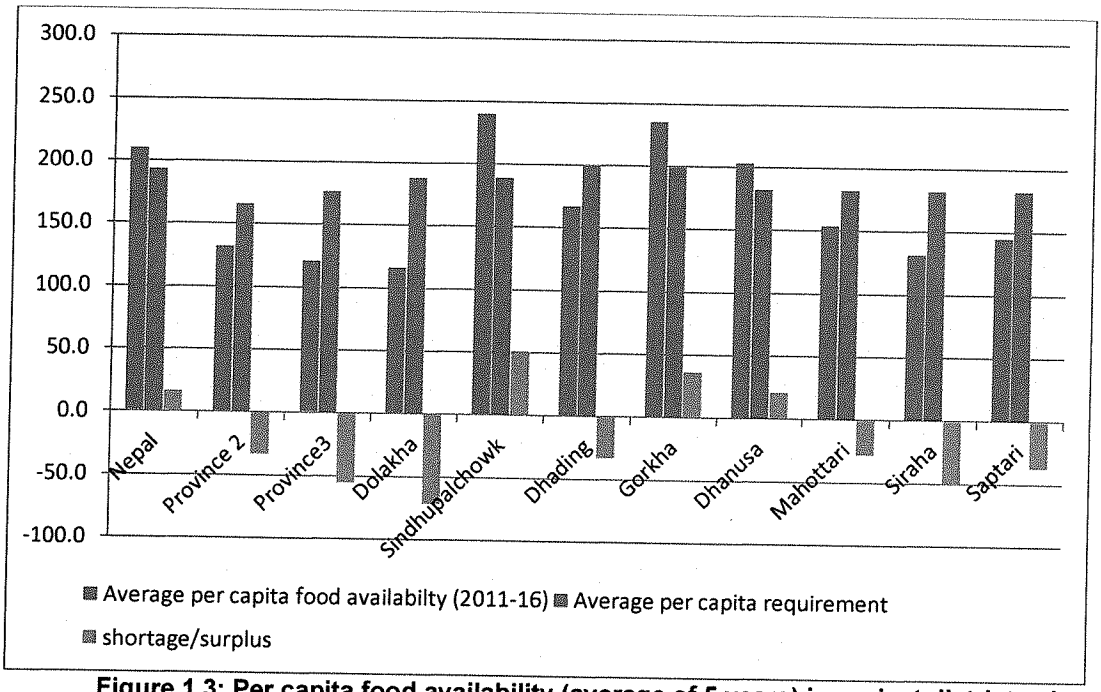


Figure 1.3: Per capita food availability (average of 5 years) in project districts vis-a vis Nepal and Provinces 2 and Bagmati.

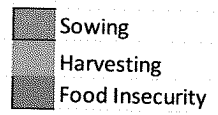
31. One of the key reasons for selecting four hilly and mountain districts of Bagmati and Gandaki Provinces is due to the damage and loss caused by the devastating great earthquake of 25 April 2015 and frequent aftershocks thereafter. These four project districts were among 14 districts having highest impact of earthquake bearing not only heavy loss of human lives and livestock but also massive damage to natural resources, agricultural lands, and tourists trekking routes. Socio-economic conditions of these districts were also not so much better than other hilly and mountain districts.

32. Food insecurity situation in four hill and mountain and four *Terai* districts as MoALD and WFP recent report has been presented in Tables 1.3(a) and 1.3(b) respectively. Annex 1.2 further details socio-economic conditions of each of 8 project districts. Annex 1.3 presents crop and livestock production situation in 8 project districts over the last ten years. Annex 1.4 gives HH and population structure including arable land per HH in the project districts.

Table 1.3(a): Food insecurity by month in four hilly and mountain districts

Seasonal calender of Hill and mountain districts

Districts	Months	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Dhading	Rice												
	Maize												
	Wheat												
	Millet												
	Barley												
	Food insecurity												
Dolakha	Rice												
	Maize												
	Wheat												
	Millet												
	Barley												
	Food insecurity												
Sindhupalchowk	Rice												
	Maize												
	Wheat												
	Millet												
	Barley												
	Food insecurity												
Gorkha	Rice												
	Maize												
	Wheat												
	Millet												
	Barley												
	Food insecurity												

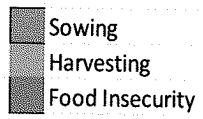


Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

Table 1.3(b): Food insecurity by month in four Terai districts

Districts	Seasonal calender of Terai districts Months	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Siraha	Rice												
	Maize												
	Wheat												
	Food insecurity												
Saptari	Rice												
	Maize												
	Wheat												
	Food insecurity												
Dhanusa	Rice												
	Maize												
	Wheat												
	Food insecurity												
Mahottari	Rice												
	Maize												
	Wheat												
	Food insecurity												



Source : IPC Choronic Food Insecurity (CFI) Situation in Nepal, 2014.

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

1.3.2 Project Beneficiaries

33. Out of the total population living in the selected 16 RMs, the project's direct beneficiaries will be approximately 65,000 vulnerable HHs. The primary target group of this project will thus be food insecure HHs - small and marginal farmers, landless HHs, Dalits, indigenous and other vulnerable groups of population like infant, adolescent girl, pregnant women and young mother and HHs severely affected by the earthquake and floods. Specifically, the nutrition interventions will mainly target HHs with young children, adolescent girls, pregnant and lactating women of golden 1000 days (*sunalua hazar din*).

34. Of the total direct beneficiaries, the project will ensure participation of at least 65% female.

1.3.3 Project Components

1.3.3.1 Overall Project Design

35. In order to achieve the PDO, the project will seek to address interrelated problems of food insecurity, sustainable livelihoods improvement, poverty reduction, impact of climate change, poor nutritional practices and behaviors, and associated shocks and stress through synergistic and coordinated efforts of federal, provincial and local governments. However, targeted RMs will remain at the centre of project implementation.

36. The project design is based on two key pillars - food security and nutrition security. In food security, the project fousses on all four components viz. availability, access, utilization and stability. Likewise, the project underscores the importance of balanced human nutrition. A balanced human nutrition, particularly during the early years of life, is important to the poor not only because of its contribution to human development outcomes but also because of its economic contribution further down the line, as malnutrition has additional economic costs through cognitive delays in children and lower economic productivity in adults. In addition to specific nutrition interventions, the anticipated increased productivity and income levels of the targeted beneficiaries would enable them to diversify their food intake.

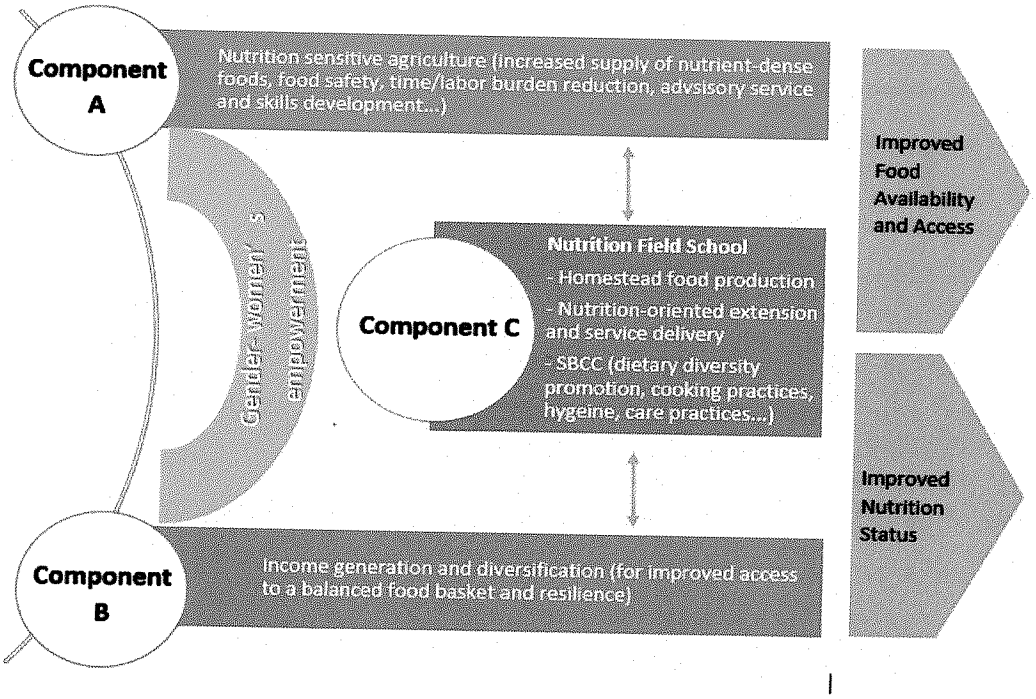
37. The project design emphasizes on community participation and social development outcomes including inclusion, empowerment, equity, participation, and accountability. More specifically, the project is expected to benefit the communities, including vulnerable groups through community mobilization and extension support, vulnerability reduction strategies, support to producer/enterprise groups through technical assistance on business development to marketing extension, skills training to enhance employability and returns to labor, promotion of diversified diets, increased nutrient intakes and improved feeding and caring practices for pregnant and nursing women, and children up to 2 years of age.

38. The theory of change underpinning this project is described below.

39. **Theory of change:** The project seeks to address the availability, access and utilization of food in support of the PDO. The project's components, notwithstanding their distinct and separate functions, are closely intertwined and have been designed to complement each other to address the key challenges that need to be overcome to spur agricultural productivity and attain the desired nutrition outcomes in the targeted areas. Lessons learned from AFSP and other similar projects has shown that positively influencing nutritional behavior change is more effective if agriculture-related and income enhancing activities are integrally linked with the nutrition and health related awareness raising and training through Behavior Change and Communication (BCC) interventions, particularly with mother groups. The increased food availability and access to more diverse nutritious food will thus be enabled by Components A and B, while Component C has been designed to capitalize on these gains to elicit changes in consumption patterns and improved nutrition outcomes. In sum, the combined effect of the project's interventions across the three components add to more than the sum of the individual parts to ensure that key aspects of

food security and nutrition, tackling synergistically issues of food availability, access, and utilization, thus, allowing the project beneficiaries to improve their food security status and nutritional outcomes.

40. The project's theory of change is based on UNICEF's conceptual framework of malnutrition which helps to classify causes of malnutrition: (i) immediate causes (inadequate food intake and diseases); (ii) underlying causes (household food security, adequate care and feeding practices, WASH and access to health services); and (iii) basic causes (including economic assets, social capital, environmental conditions and political issues). Given differing manifestations and underlying causes of malnutrition, the PDO and targets can only be attained through a convergence of activities envisaged under Component A, B and C that will support (i) household access to a balanced food basket through crop and animal productivity (building up asset base) and income generation through agricultural activities, (ii) improved access to services particularly quality agriculture extension and health services through demand-driven approaches, and (iii) skills-based community-driven nutrition education following a BCC approach. The project will, therefore, support the following key impact pathways: income generation; climate and nutrition smart crop and livestock productivity (including improving food safety); and nutrition knowledge whilst promoting gender equality and women empowerment throughout. Project interventions will be delivered to leverage the impact of these pathways by providing additional support to ensure nutrition-sensitive technical backstopping and access to quality services, strengthened animal and crop productivity at household level depending on dietary needs and agro-ecological zone, and nutrition-promoting behaviors. The flow chart below depicts these complementarities.



41. The key elements underpinning the project's theory of change are as follows:

42. **Nutrition-sensitive agriculture**: Studies demonstrate that an optimal diet is widely unaffordable and physically inaccessible due to long distances and poorly functioning markets, and not always preferred in Nepal. The Enhanced Homestead Food Production

Secretary
Government of Nepal
Ministry of Agriculture and Livestock Development
Singhdurbar, Kathmandu

project spearheaded by Helen Keller International showed that a combination of nutrition-sensitive interventions can help reduce anemia and underweight in hill areas through the production of nutrient-rich foods (particularly eggs and vegetables) at household level, providing infant and young child feeding counselling and encouraging pregnant and lactating mothers to seek health services. Household-level agriculture diversification may be more important in areas characterized by difficult terrain where improved income cannot guarantee access to a balanced food basket or health care services. However, this does not mean that such an approach is irrelevant to *Terai.* In fact, due to high levels of anemia and inadequate access to animal-based and iron-rich plant food, Heifer International implemented a livestock support program, which has shown some success in distributing a pair of goats to each beneficiary after one year of participation in the program, increasing household income, dietary diversity and consumption of animal-source foods among 6–59 months old children. The overall project will encourage nutrition sensitive agriculture, i.e. bio-fortified crops, livestock raising, and iron and vitamin A-rich fruits and vegetables and more targeted nutrition activities will complement these efforts to support homestead crop production and livestock raising as well as processing to reduce seasonalities. In the hills, crop diversification accompanied by some livestock may be most relevant whereas in *Terai*, livestock raising and income generation may be more relevant. All packages will be demand-driven and part of a comprehensive package (Nutrition Field School - NFC).

(a) **Income:** Findings derived from PoSHAN (Policy of Science, Health and Nutrition) community studies confirm results from a Cost of the Diet Survey conducted in 2016 across all three zones that shows that the household common diet lacks sufficient calcium and iron in the hills and vitamin A, calcium, and iron in *Terai.* Adding fish to the mountain and hill diets and increasing dark green leafy vegetable consumption in all zones yielded nutritional adequacy. Optimal diets are more expensive than the common diet in the mountains and hills but less expensive in *Terai*". A wide range of foods are consumed in the *Terai* at a lower price (possibly facilitated by cross-border trade and relatively good infrastructure) but this diet is not adequate (hardly includes egg and limited amount of meat, fruits and vegetables), as evidenced by sustained rates of malnutrition (particularly anemia) and perhaps further confounded by inadequate WASH and other practices. Authors conclude that improved diets may not always be a function of income or agriculture diversification in *Terai* and instead require extensive social behavior change to accompany livestock raising and income generation. In the hill areas, even though optimal diets are widely unaffordable, it is not guaranteed that income alone can ensure access to a balanced food basket and therefore may require a convergence of household level food production, processing and social BCC.

(b) **Gender:** Decisions on what to produce, buy and eat are often mediated by gender roles and as women are usually the primary caretakers in the household (though often eating last and least amounts of nutrient-rich foods), gender cannot be ignored as a fundamental impact pathway. The Suaahara program heavily focuses on women's empowerment, specifically labor and time burden, access to credit, and autonomy in production. A randomized controlled trials of the program found that women's empowerment was positively associated with length-for-age z-scores among children less than 2 years of age. "Women's empowerment was also identified as an effect modifier of the association between production and consumption diversity in Nepal". These activities were largely delivered through Female Community Health Volunteers (FCHVs) and mother's groups. The AFSP was successful in contributing to a 200% increase in mother's health group membership indicating the need to support and strengthen the capacities of FCHVs and social mobilizers to help promote women's empowerment through community groups.

(c) **Nutrition Field School (NFS):** The NFS, pioneered by USAID's SPRING/Feed the Future program in Bangladesh, combines three evidenced-based strategies:

Secretary

Government of Nepal
Agriculture and Livestock Development

essential nutrition and hygiene actions; homestead food production; and farmer field school (FFS). This learning-by-doing approach has had demonstrable effects on women's dietary diversity (increasing from 3.9 to 6 out of 10 food groups over the project period). Consumption of egg increased from 28 to 62% and diet inadequacy dropped from 72 to 16%[12]. While elements of NFS in Nepal are not novel, they have not always been implemented as a full package. Under the FANSEP, NFS activities will follow a theory of behavior change over the course of a two year period including sessions on the identification of locally-available nutrient-dense foods (e.g. in *Terai* particularly iron-rich foods), nutrition-sensitive agriculture, food safety, HNG, hygiene and WASH education, improved cooking techniques, complementary feeding practices, and promoting HHs to avail government services, particularly health services for deworming, supplementation, institutional delivery, antenatal and post-natal consultations, vaccinations etc. In short, NFS are an adaptive approach to facilitate communities to identify relevant actions for improved nutrition behaviors. For effective delivery, the project will support agriculture and health service delivery including technical backstopping and strengthened coordination.

43. In overall, this project will have the following four components:
COMPONENT A: Climate and Nutrition Smart Agriculture Technology Adaptation and Dissemination;
COMPONENT B: Income Generation and Diversification;
COMPONENT C: Improving Nutrition Security; and
COMPONENT D: Project Management, Communication and M&E
COMPONENT E: Contingency Emergency Response

1.3.3.2 Component A: Climate and Nutrition Smart Technology Adaptation and Dissemination (GAFSP US$ 7 million, GoN-0.22)

44. The main objective of this component is to introduce and promote climate smart and nutrition sensitive agricultural practices by availing adapted technologies, better performing plant and animal genetic resources, and capacitating farmers to master skills for improved agronomic and animal husbandry practices. This component intends to address underlying causes of low agricultural productivity in Nepal such as (a) lack of access to quality inputs (improved varieties, breeds, seeds and fertilizers), (b) inefficient production and farming practices and disease related losses, (c) insufficient and unreliable irrigation supporting crop production, and (d) high post-harvest losses, estimated at 25 to 30%. This is further compounded by the impacts of climate change. This component will consist of two sub-components viz. A1: Technology adaptation and testing, and Sub-component A2: Technology dissemination and farmer skills development.

45. While agriculture remains Nepal's principal economic activity, employing over 60% of the population, recurring climate related natural hazards often undermine agriculture productivity causing poverty and food insecurity, and agriculture dependent livelihoods activities which are frequently exposed to a variety of recurring natural disasters such as floods, landslides, hailstorms, thunderstorms, cold waves, heat waves, drought, epidemics and earthquake. Therefore, enhancing food security requires the transition to agricultural production systems that are more productive, use inputs more efficiently, has less variability and greater stability in their outputs, and are more resilient to risks, shocks and long-term climate variability. Nepal has already practiced and adopted several technologies that are climate smart and sustainable such as Integrated Pest Management (IPM), Integrated Nutrients Management System (INMS), multiple water use system (MUS), drip irrigation etc. This component will focus on these types of technologies.

[12]https://www.spring-nutrition.org/sites/default/files/countries/factsheets/spring_bangladesh_fact_sheet.pdf

Secretary

46. The main expected results from this component are development of promising technologies through on-farm adaptation trials, increase in access of farmers to technologies through dissemination services delivered by the project, adoption of improved and climate resilient nutrition sensitive agricultural and livestock technologies by farmers, particularly women and vulnerable groups, improvement in seed replacement rate, enhanced availability of good quality seeds and breeds for farmers at the local level. In addition, this component expects farmers to master the management skills of good agricultural practices (GAPs) required for sustainable production diversification and intensification of agricultural practices and post-harvest processing.

1.3.3.3 Component B: Income Generation and Diversification (GAFSP US$,7 million, GoN 1.47 million)

47. The objective of this component is to improve and diversify the income generating capacity of targeted beneficiaries by reducing transaction costs through investments in critical business skills and productive assets, supporting value-added activities, and building market linkages. This component will consist of two sub-components, i.e. Sub-component B1: Strengthening Producer Groups, and Sub-component B2: Market Linkages through Productive Alliances.

48. Related production groups in the project areas will be organized, mobilized and strengthened around commodities of common interest, and their capacity will be enhanced concomitantly in areas like good governance, leadership skills, group dynamics, decision-making, problem-solving and risk management, book-keeping, meeting organization, agricultural seasonal planning, marketing, value addition, food safety, preparation of simple business plans, and simple monitoring and evaluation. Central to these activities are to enable them to form and participate in broader productive alliances and negotiate effectively in their favour/welfare.

49. As part of this component, a MG Scheme will be implemented to finance eligible business plans (BPs) that demonstrate real potential for marketing and income generation for the target beneficiaries, contribute to building climate resilience, and including investments to enhance food safety.

50. Key results expected from this component are - engagement of the producer groups/collectivities in market-oriented enterprises, support to producer based organizations, construction and support to rehabilitate post-harvest facilities establishment of community managed food security initiatives.

1.3.3.4 Component C: Improving Nutrition Security (GAFSP: US$ 5 million, GoN 1.13 million)

51. This component aims to help address the underlying causes of malnutrition by making the food system responsive to these causes with the view to providing adequate, safe, diversified and nutrient-rich food. Under the new federalized context, the project will support an enabling environment for improved service delivery including technical backstopping and strengthened coordination. Building extensively on the experience gained from ASFP and the WB supported Social Safety Nets-Poverty Alleviation Fund (SSNP-PAF) pilot on nutrition interventions, the project will work directly with communities including FCHVs using a community-driven, skill-based learning approach known as 'NFS' to remove barriers for improved dietary and care practices by supporting a package of inputs and services complemented by BCC for improved utilization of available foods, care practices, food safety, access to public health services etc. This component will consist of 2 sub-components, i.e. Institutional Capacity Strengthening, and NFS and HNG. Sub-national government nutrition and food security coordination networks and public outreach delivery in the project areas will be supported based on a capacity needs assessment and a participatory diagnostic of the causes of malnutrition.

52. Under this component, a skill-based learning approach, known as NFS, will be supported in each target community, following behavior change theory in order to remove barriers and identify catalysts for improved food-based nutrition practices. Building on Nepal's long tradition of users' group formation and social mobilization, the project will work with and strengthen current community institutions, particularly women's groups through the FCHV.

53. Key results expected from this component includes increase in number of people receiving improved nutrition services and products and increase in household dietary diversity among nursing mothers and children under two years (1000 day mother target).

1.3.3.5 Component D: Project Management, Communication and M&E (GAFSP: US$ 3.7 million, GoN 3.18 million)

54. The main objectives of this component are to: (i) ensure effective strategic and operational planning, implementation, and monitoring & evaluation of project activities, and attendant efficient use of funds, as well as coordination of interventions across components A, B and C implemented by participating stakeholders and strategic partners (e.g. FAO); (ii) evaluate the Project's outcomes and impacts on beneficiary groups, with special focus on mid-term and final results; and (iii) communicate efficiently to various public and private entities on project activities, outcomes, best practices and lessons learnt.

55. Activities to be financed under this component includes (i) establishing and supporting project units at the federal, provincial and local levels, and (ii) specialized support services relating to key activities such as baseline surveys, external audits, financial accounting, establishment of geo-referencing system. As a result of this component, the project will be able to address grievances timely and prepare and submit periodic reports timely to the key stakeholders, which among others, include the MoALD, the WB, and Provincial and concerned executive offices of the RMs.

1.3.3.6 Component E: Contingency Emergency Response (US$0 million)

56. In accordance with the World Bank's operational policy (OP10.00, paragraphs 12–14), for situations of urgent need of assistance that may arise during the life of this project, this component will allow for rapid reallocation of project proceeds in the event of a natural or man-made disaster or crisis that has caused or is likely to imminently cause a major adverse economic and/or social impact.

57. To trigger this component, the government must declare an emergency or provide a statement of fact justifying the request for the activation of the use of emergency funding.

58. To allocate funds to this component, the government may request the Bank to reallocate project funds to support response and reconstruction. If the World Bank Group agrees with the determination of the disaster and associated response needs, this proposed component would allow the government to request the Bank to re-categorize and reallocate financing from other project components to cover emergency response and recovery costs. This component could also be used to channel additional funds should they become available because of an emergency.

1.4 PROJECT PRINCIPLES

59. The key principles underlying this project are as follows.

1.4.1 Participatory Development Approach

60. The project will adopt a bottom-up, participatory approach rather than a top-down, prescriptive approach to support investment decision making. In all components, the project will empower HHs and communities to enable them identify their priority demands and

investments, and prepare and implement activities aimed at securing access to CSA technologies and practices. The project will build on established participatory processes, successfully implemented by the ongoing WB projects and other development partners in the country. Needs assessment and consultation processes will be important/central elements of the interventions aiming at improving productivity and nutrition status of the targeted beneficiaries. Producer groups (PGs) will receive targeted training and technical advice to enable them to develop viable business plans that will be eligible for financing through the MG system. In addition, these PGs will also benefit from the project activities geared towards establishing enduring productive partnerships with other actors in the value chain, particularly the buyers and Financial Institutions (FIs).

1.4.2 Knowledge-Based

61. Knowledge management will remain at the central to this project. Research results and innovations for building climate resilience in the crop and livestock production systems, improved dietary practices, etc., developed by Nepal Agricultural Research Council (NARC), Food and Agriculture Organization of the United Nations (FAO), and International Maize and Wheat Improvement Center (CIMMYT), and other institutions will be explored and scaled up. The project will facilitate knowledge transfer, and build capacities of the targeted HHs and their communities. This will include, *inter alia*, activities to expose the beneficiary communities to experiences and best practices from other areas in the region and/beyond.

1.4.3 Gender Inclusive

62. The project has been designed to integrate issues and the needs particular to that of women. Special care will be taken to ensure that interventions do not contribute to increased drudgery and burden for women. All interventions undertaken under FANSEP must demonstrate that gender issues have been considered whenever possible. A gender assessment will be conducted as part of the mid-term review, and its results will be used to adjust and improve the project's design as necessary. It is expected that gender facilitators and social mobilizers will be engaged to ensure that women are able to actively participate in the decision-making process. Capacity building activities will specifically include gender criteria for short and long-term training to achieve an equitable balance. In addition, the criteria for the selection of business plan to be financed under component B2 will take into account gender composition of the PGs submitting the business plans.

1.4.4 Transparency

63. The selection of project sites as well as beneficiaries will adhere to the principle of transparency and follow third-party verifiable criteria and an open and objective selection process. In addition to this, the project will maintain transparency at all levels of project cycle and implementation. Citizens' Right to Information enshrined by the Constitution of Nepal 2015 will be honoured and practiced. Therefore, all grievances will be registered and addressed within the time period set by the Project Grievances Redressal Mechanisms (GRM).

1.4.5 Integrity

64. Project interventions will meet high standards of technical quality as well as social, environmental and fiduciary considerations.

1.4.6 Sustainability

65. Investment in group and community level institutions, capacities and productive assets provides a strong and sustainable basis for livelihoods enhancement by allowing beneficiaries to collectively learn more, achieve scale and better transactions terms and organize more effectively to benefit from public services.

CHAPTER 2

2 INSTITUTIONAL ARRANGEMENT, TA SUPPORT AND IMPLEMENTATION ARRANGEMENTS

2.1 INSTITUTIONAL ARRANGEMENT

66. The FANSEP implementation arrangements have been built on the existing arrangements of AFSP with sufficient flexibility to accommodate the changed institutional setup of governance structures pursuant to the Constitution of Nepal 2015.

67. The federal MoALD will be the executing ministry and will work closely with the federal MoHP to implement the project. At the central level, the project will consist of: i) the Project Steering Committee (PSC); ii) a Technical Coordination Committee (TCC); and iii) a PMU.

68. At the sub-national level, the project will have: i) a State Level Coordination Committee (SLCC) in each of the three project provinces; and ii) four PCUs to look after eight project districts.

2.1.1 Project Steering Committee

69. A PSC chaired by Secretary of MoALD has been established through a minister level decision made on 27 December 2018. It is an apex body for the project governance and to provide direction for policy and guidelines formulation, endorsement of the annual work program, and overseeing project implementation.

70. The PSC comprises the following members:

Secretary, MoALD	Chairperson
Executive Director, NARC	Member
Joint Secretary, PDCCD, MoALD	Member
Joint Secretary, NPC	Member
Joint Secretary, MoF	Member
Joint Secretary, MoHP	Member
Joint Secretary, MoFAGA	Member
Director General, DoA	Member
Director General, DLS	Member
Director General, DFTQC	Member
Member Secretary, National Farmer Commission	Member
Representative, National Peasant Coalition	Member
Project Director, FANSEP	Member Secretary

71. The PSC will meet once in a trimester. The committee may invite officials as per requirement relevant to the subject of the discussion agenda to the meeting. The member secretary will, in consultation with the chairperson, will fix the date, time and venue for the meeting, and send invitations on the chair's behalf to the members. S/He will keep the records of the meetings and circulate among the members and the related agencies for action.

72. Broadly, the first trimester meeting will focus on the annual progress against the targets set for the preceding FY and endorsement of the annual program and budget of the current FY, the second on the policy and program for the succeeding FY, and the third on the approval of necessary technical guidelines for program implementation and program discussion for succeeding FY. If needed, additional meetings can be called as required and necessary.

73. The PSC will endorse the project's annual work plan and budget, monitor FANSEP progress, provide oversight and policy guidance, and resolve any outstanding issues. A primary focus of the PSC will be to facilitate inter-agency cooperation to ensure achievement of the project's development objectives.

74. Specific responsibility of PSC are as follows:

(a) provide oversight of the project implementation;
(b) issue policy and operational directives as needed;
(c) address the constraints-; financial, technical, administrative, procurement and donor coordination as and when they emerge;
(d) review the overall progress status of the project and provide guidance as per required;
(e) facilitate and coordinate among inter-ministerial agencies and provide guidance on the issues faced;
(f) keep special track on sub-projects financed under small and matching grant program to determine the effectiveness and ensure whether anticipated results are achieved; and
(g) any other tasks as needed.

2.1.2 Technical Coordination Committee

75. A TCC chaired by the Joint Secretary of PDCCD, MoALD has been established through a minister level decision made on 27 December 2018. It is a main body for the project governance. It will mainly be responsible for implementation oversight and provide technical advice and necessary recommendations to PSC.

76. The composition of TCC is as follows:

Joint Secretary, PDCCD, MoALD	Chairperson
Deputy Director General, DoA	Member
Deputy Director General, DLS	Member
Deputy Director General, DFTQC	Member
Chief, Child Health Division, MoHP	Member
Director, Planning Division, NARC	Member
Chief, Development Cooperation and Coordination Section, MoALD	Member
Chief, Food and Nutrition Security Section, MoALD	Member
Project Director, FANSEP	Member Secretary

77. The TCC will meet once in a trimester. The committee may invite officials as per requirement relevant to the subject of the discussion agenda to the meeting. The member secretary will, in consultation with the chairperson, will fix the date, time and venue for the meeting, and send invitations on the chair's behalf to the members. S/He will keep the records; of the meetings and circulate among the members and the related agencies for action. Broadly, the TCC is mainly focused to provide technical guidance to the project and make necessary recommendations to the PSC. If needed, additional meetings can be called as required and necessary.

Secretary
Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

78. Specific responsibility of TCC are as follows:

(a) review technical aspects of progress on implementation and provide technical guidance and suggestions as required;
(b) provide technical guidance on Annual Work Program Budget (AWPB), guidance on the preparation of technical guidelines for the implementation of project activities;
(c) provide technical advice to PMU and PCUs and technical solution in the effective implementation of the project activities;
(d) help to maintain coordination between the project and other technical departments for effective project implementation and service delivery;
(e) provide re commendation to PSC for approval; and
(f) any other tasks as required.

2.1.3 Project Management Unit (PMU)

79. MoALD has established PMU in Lalitpur. It has been established as the lead implementing agency to oversee the implementation of the project activities. Day-to-day project administration and management will be carried out by this central unit.

80. The PMU will be headed by a Project Director (PD) deputed by the MoALD/GoN.The PD will be a gazetted class I level position (Joint Secretary level of the agriculture service of the GoN). He/she would be operationally and managerially in-charge of the organizations established at the central, regional and local levels for implementing the project. The PD will have the authority to make decisions related to the project administration as well as financial management. The PD will be supported by three gazetted class II level (Under Secretary level of the agriculture service) officers (two from agriculture background and another from livestock background) designated as Senior Planning Officer, Senior Monitoring and Evaluation Officer and Senior Agriculture Officer. These senior officers will also be deputed from MoALD for the entire project period. There will be four gazetted class III level (with crop science, livestock and agri-economics background) Technical Officers to assist in the smooth functioning of the project's management, along with Account Officer, Accountant and Administrative Assistant deputed as core staff as per GoN regulation. Computer operators, office assistants and drivers will be hired for the project period on service contracts.

81. The PMU led by the PD will perform the following activities:

(a) prepare annual work plans and budgets, and get the approval of the National Planning Commission (NPC);
(b) serve as secretariat for PSC and assist PSC to carry out their respective roles and responsibilities;
(c) coodrinate and collaborate with all the concerened stakeholders at central, provincial and project RMs
(d) ensure the technical assistance and support services from FAO-TA in project implementation at central, PCUs and RMs;
(e) ensure adequate and timely supervision, monitoring and evaluation of project activitiesfrom PCUs
(f) implement project's HRD plan with concurrence from the World Bank (WB);
(g) prepare and issue trimester and annual progress reports;
(h) participate, support, and be involved with the Project Implementation Review and support missions dispatched by the GAFSP/WB and implement agreed action plans prepared by the WB missions in consultation with the PMU/PD;
(i) coordinate project activities among the implementing agencies;
(j) ensure appropriate governance and accountability including thorough management of a suitable grievance redressal system

(k) respond to complaints or grievences against project's activities and performance and handle them in a fair and timely manner;
(l) maintain and ensure regular updating of project web-portal including Project Management Information System (PMIS)and websites;
(m) mrepare knowledge documents, resource materials, guidelines, norms, manuals and curriculums etc. for project implementation; and
(n) ensure that cross cutting issues are embedded in the project activities, namely: (i) women's participation and gender equity; (ii) environment and social safeguards; and (iii) good governance.

82. For the implementation of specific interventions, the Project Management Unit (PMU) and PCUs will collaborate closely with specialized technical departments of federal Department of Agriculture (DoA), Department of Livestock Services (DLS), Department of Irrigation (DoI), Department of Health Services (DoHS), Department of Food Technology and Quality Control (DFTQC), etc., and provincial related ministries and agencies, and other relevant public agencies such as NARC, Seed Quality Control Centre, National Seed Board, and non-governmental organizations (NGOs). All requisite short or long term national/international consultants will be appointed to support the project units at various levels.

83. PMU will appoint all requisite short or long term national/international consultants following approved processes and procurement methodologies to support the project units at various levels.

84. Staffing details of PMU including FAO-TA has been given in Annex 2.1.

2.1.4 State Level Coordination Committee (SLCC)

85. The Secretary level decision of MoALD made on 12 May 2019 has been sent to all Ministry of Land Management, Agriculture and Cooperatives (MoLMAC) of Provinces 2, 3 and Gandaki Provice to form SLCC to be chaired by the Secretary of MoLMAC. It has been established to ensure cross-sectoral coordination and quality assurance at the province level. It is mainly responsible for project planning, implementation, coordination, reporting, monitoring and supervision at the provincial level.

86. The composition of SLCC is as follows:

Secretary, MoLMAC (Provincial)	Chairperson
Chief, Agriculture Development Directorate	Member
Director, Directorate of Livestock and Fisheries Development	Member
Chief, Provincial level office of NARC	Member
Director, Provincial level Directorate of Health	Member
Chief, Provincial level office of DFTQC	Member
Chief, PCU (respective province), FANSEP	Member Secretary

87. The committee may also include related agencies and projects present in the province as invitee members.

88. The SLCC will meet once in a trimester. The committee may invite officials as per requirement relevant to the subject of the discussion agenda to the meeting. The member secretary will, in consultation with the chairperson, will fix the date, time and venue for the meeting, and send invitations on the chair's behalf to the members. S/He will keep the records of the meetings and circulate among the members and the related agencies for action. Broadly, the SLCC is responsible for project planning, implementation, coordination,

reporting, monitoring and supervision at the provincial level and make necessary recommendations to upper level committees. If needed, additional meetings can be called as required and necessary.

89. SLCCs will be supported by a project M&E officer and a technical officer of the directorate will be designated as the counterparts (or nodal officer) for carrying out SLCC functions smoothly.

90. Operating under the overall guidance of the PMU, the SLCCs will be responsible for:

(a) facilitating provincial level program planning and implementation of all project activities within their respective provinces;
(b) coordinating with relevant implementing line departments and agencies and stakeholders;
(c) organizing periodic progress review;
(d) guiding municipality cluster level implementation offices to work in accordance with the spirit and principles of the project;
(e) monitoring and supervising the work being done in the field;
(f) maintaining appropriate records, financial and project progress reporting;
(g) ensuring due attnetion to safeguards issues; and
(h) ensuring appropriate governance and accountability including through management of a suitable grievance redressal system.

2.1.3 Project Cluster Unit (PCU)

91. The Project will establish four PCUs in target districts in such a way that two districts will be supported by each PCU to oversee the implementation of project activities in four RMs (Gaun Palikas) as given below.

SN	PCU	Districts	Rural Municipalities (Gaun Palikas)
1	Saptari	Siraha and Saptari	4
2	Dhanusha	Dhanusha and Mahottari	4
3	Gorkha	Gorkha and Dhading	4
4	Sindhupalchok	Sindhupalchok and Dolakha	4
Total	**4**	**8**	**16**

92. PCUs will work in close coordination with and support of the Agricultural Knowledge Centres (AKCs) established under the provincial government. PCUs will coordinate with all RMs for smooth implementation of the project activities and service delivery to the project beneficiaries. The PCUs will also provide technical backstopping at the RM level, ensure effective program delivery, and implementation and timely progress reporting.

93. PCUs will represent PMU at the district and SLCCs. The PCUs led by a coordinator/chief will tentatively perform the following activities:

(a) prepare and submit annual work plans and budgets for PCUs and get the approval of PSC via PMU;
(b) serve as secretariat for the SLCCs and assist PMU to carry out their respective roles and responsibilities;
(c) screen business plans submitted by eligible entrepreneurs, FGs and cooperatives to award the project matching and small grants TA;
(d) ensure that agreements between PMU and grant recipients are effectively implemented;

(e) ensure adequate and timely supervision, monitoring and evaluation of matching and small grant projects;
(f) prepare monthly, trimester and annual progress reports;
(g) participate, support, and be involved with the GAFSP/WB Project Implementation Review at the cluster level;
(h) coordinate project activities among the implementing agencies at the cluste, provincial and RMs level;
(i) encourage participation of farmers' organization (FGs, farmer cooperatives), and NGO federation and other relevant stakeholders;
(j) facilitate planning and inter-agency coordination at municipal level;
(k) assist in selection of project sites and beneficiaries and participatory monitoring (ensuring involvement of different stakeholders such as CSO, media as part of the team);
(l) organize public hearing, media briefing/media trip and stakeholder monitoring activities;
(m) orginize/mobilize, supervise and monitor FFSs, OFDs, NFSs, HNGs, FBSs, PAs and MSPs at the RMs levels;
(n) ensure appropriate governance and accountability including thorough management of a suitable grievance redressal system;
(o) respond to complaints and grievences against project's activities and performance and handle them in a fair and timely manner at the cluster level;
(p) assist PMU to regular updating of project web-portal including PMIS;
(q) assist PMU TAto prepare knowledge documents and resource materials;
(r) ensure that crosscutting issues are embedded at the cluster level, particularly, (i) women's participation and gender equity, (ii) prepare and regularly update direct beneficiaries list at the cluster level, (ii) environment and social safeguards, and (iii) good governance; and
(s) undertake any other related activities reasonably requested by the PMU/PD.

2.2 FAO-TA SERVICES FOR PROJECT IMPLEMENTATION

94. The GoN has identified FAO as the main provider of TA to this project, building on the successful collaboration under AFSP. The aggrement for TA services from FAO to FANSEP was signed between GON (MOALD) and FAO on July 18, 2019 with a budgetary provision of USD four million six hundred thousand (USD 4,600,000). The TA from FAO is geared towards improving project performance, incorporating best practices and document lessons learnt. Three specific areas have been identified for FAO TA based on their comparative advantage and experience and these inlcude: (i) support to the further strengthening of the extension services and dissemination of improved technology packages through FFSs, on-farm testing of technologies, NFSs and HNGs etc.; (ii) assist targeted smallholder farmers and their organizations to develop and strengthen market linkages; (iii) support the rollout of the NFSs; and (iv) quality assurance of the service delivery including operation of the web-based PMIS. The TA activities are designed to strengthen the capacities of the public service providers and targeted beneficiaries of the project and to enhance the effectiveness of the project interventions.

95. TA will also be provided to the implementation of the interventions related to the nutrition improvement at household level, including the scaling up of improved kitchen garden models, introducing backyard poultry, and the establishment of NFSs. Building on ongoing efforts, the TA will thus support the practical application of dietary guidelines in conjunction with the DoHS and DFTQC, promoting nutrition education and creating menus based on the locally available seasonal food items. The TA aims to increase dietary diversity as well as the coping mechanisms for food deficit periods by promoting new ways of preserving and processing nutrition dense food. Project management support will be provided for implementation and monitoring of nutrition outcomes at household level.

96. With respect to quality assurance, FAO is expected to support needs assessment (human resource gaps and training needs), development and integration of monitoring and reporting systems, and other technical support services as requested. Annex 2.2 presents the roles and responsibilities of the FAO-TA. Similarly, FAO will also prepare detailed work plan for providing TA services to FANSEP in its inception report.

97. FAO has provisioned 26 personnel to assist implementation of FANSEP activities, 12 at the center and 14 at the cluster level. Central level FAO-TA staffs will comprise of a project Team Leader (TL) who will support planning, implementation and management of FAO TA activities. TL will be supported by seven experts (each on monitoring and evaluation, capacity development, crop production, livestock production, nutrition cum behavior change communication, environment and social safeguard and agribusiness and market linkage). These experts will provide technical backstopping support in the planning, implementation and management of activities related to their expertise and guide cluster technical officers, SPs and relevant field technicians to implement FANSEP activities. An admin finance officer and admin finance assistant will assist in day to day admin and finance activities.

98. At a cluster level, FAO provisioned 14 technical officers (M&E - 2, Crop value chain - 4, Livestock value chain -4, nutrition cum behavior change communication -4). Two Cluster Technical Officer-M&E cum TA cluster team facilitator, each will look after four mid-hills and four terai districts; they support effective planning and quality monitoring of FANSEP activities and provide guidance to the field-based project staff and coordinate with stakeholders at municipality and cluster level for timely recording and reporting. Four cluster technical officers each for nutrition cum behavior change communications, livestock value chain, and crop value chain will support effective planning and quality implementation of nutrition, livestock and crop related interventions respectively.

99. In each district there will be 12 field technicians to look after two RMs i.e six in each RM (two field technicians each for crop, livestock and nutrition). These field technicians are mobilized at the RM level to support implementation of FANSEP activities, support to form and mobilize producer groups, mother/nutrition groups and document data, information and report accordingly through the district focal point to the respective technical officers at PCU. Altogether, FAO will mobilize 122 personnel for FAO TA to FANSEP including 96 field technicians (crop, livestock and nutrition) in 8 districts through the service providers. FAO will provide the detailed description of responsibilities of each project personnel deputed under TA through their TOR mentioned in the inception report. The provision of human resource for FAO TA to assist FANSEP in its implementation is given below:

Human Resources for TA services	**Number of persons**
A. At PMU level	**12**
1. Consultants	**8**
Team Leader	1
Monitoring and Evaluation Specialist	1
Capacity Development Specialist	1
Crop Production Specialist	1
Livestock Production Specialist	1
Nutrition cum Behavior Change -Communication (BCC) Specialist	1
Environment and Social Safeguard Specialist	1
Agribusiness and Market Linkage Specialist	1

2. Adminstration and Finance:	**4**
Admin and Finance Officer	1
Admin assistant	1
Drivers	2
B. Project Cluster level based in cluster office	**14**
Cluster Technical Officer-M&E cum TA cluster team facilitator	2
Cluster Technical Officer-Nutrition cum BCC officer	4
Cluster Technical Officer- (Livestock Value Chain)	4
Cluster Technical Officer- (Crop Value chain)	4
C. RM level	**96**
Crop Technician	32
Livestock Technician	32
Project Facilitator	32

100. Implementation activities at the farm level, will be mainly supported by technicians (Crop and Livestock) and project facilitators as shown in above table. The technicians will provide technical services and will devote most of their time to implementing field level activities related to crop and livestock while the project facilitators will perfom activities related to nutrition. These staffs will be hired only for the lifetime of the project and positioned at the RM offices. Hiring this cadre of staff will enhance the capacity of implementing agencies – by providing both an adequate number of staff to handle the increased workflow and the relevant skill mix to execute the technical tasks – to adequately support and backstop project activities at the farm level.

2.3 IMPLEMENTATION ARRANGEMENT

101. The project will be implemented over a period of five years from the FY 2018/19 to 2022/23. The approach of the project is to involve the farmer and the local communities in planning, implementing, and evaluation of project interventions so as to improve the design and relevance of activities, enhance adoption of improved climate smart and nutritionally sensitive technologies and practices, and enhance the sustainability prospect of the project outcomes. Farmer and community activities will be technically guided and backstopped primarily by two sources: (i) relevant research institutes (NARC) and line departments of GoN (DoA, DLS, DFTQC and DoHS) involved in this project ("the implementing agencies"); (ii) PMU will engage TA at central level; and (iii) PCUs will engage TA at cluster level and service provider at RM level. The technical staff hired for the project activity through service providers will assist the implementing units PMU and 4 PCUs by working with FGs/PGs and health mother/nutrition groups through the entire project activity cycle. In addition, technical specialists, service providers, CSOs and other stakeholders may be contracted by the project to serve in specific roles and contexts.

2.3.1 Implementing Agencies

102. The cost centers for the implementation of FANSEP programs and interventions are PMU at cental level and 4 PCUs at cluster level. The NARC and government departments (DoA, DLS, DFTQC, and DOHs) or agencies under it will extend necessary support to PMU and PCUs in the implementation of project activities. The implementation units PMU and 4 PCUs shall be technically guided and backstopped by NARC, DoA, DLS, DFTQC and NHEICC in implementation of the project activities under Components A, B, and C. The FAO will work in close coordination and consultation with PMU at central and PCUs at cluster level for providing technical assistance in implementation of project activities. The project is supposed to meet technological and services needs of the poor and disadvantaged farmers

living in selected RMs of Province 2, Bagmati Province andGandaki Province. This approach is dictated by the need to target the small and marginal farmers whose agricultural production is particularly low and variable and their capacity to cope food insecurity is vulnerable.

a. Five public agencies (NARC, DoA, DLS, DFTQC and DoHS) will be involved in the implementation with limited responsibilities and for facilitation only. NARC has the national mandate for organizing and carrying out research in their respective areas. It also has a recognized role in breeder seed production and in brood stock maintenance. Since the constitution has delegated agricultural extension responsibility to the local government, this project will work closely with the targeted RMs in harmony with the constitution. Likewise, the project will also coordinate and work closely with the AKCs and Veterinary Hospital and Livestock Services Expert Centers. Role of the DoA and DLS will be limited to coordination and facilitatation. Hence, they will have no direct roles in implementation like in the earlier AFSP. The nutrition programs will be implemented by project facilltators from service providers in coordination with PCUs and RMs and through grassroots level structures of health facilities of respective provinces and RMs [Health Office (HO), Health Posts (HPs) and Primary Health Center (PHC)].

b. Project components and sub-components are organized around activities being led by an implementing agency. MoALD will depute technical officers from among the implementing agencies in the PMU.The technical officers will work with the PD, on the one hand, and with colleagues in his/her agency, on the other, to help develop, implement and monitor the execution of annual plans.

c. PMU will prepare and update project implementation manual (PIM), program implementation guidelines and manuals which clearly specifies the set of activities to be carried out, the key steps in each activity, beneficiary groups to be involved at different steps, and processes to be used as per the selection criteria defined, and type of work and reporting norms.

d. The TA team will work in close coordination and consultation with PMU at central and PCUs at cluster level for providing technical assistance in implementation of project activities. The TA team will assist project in providing trainings to famers, project beneficiary selection, farmer group formation & mobilization, conduting FBS, FFS, NFS, HNGs; preparation of extension materials, guidelines and manuals; implementation of matching & small grants; and other required technical assistance in all the FANSEP interventions.

e. A capacity assessment of the implementing agencies involved has been undertaken and the project will support the operation of these agencies in the various ways as appropriate. The research stations at project locations under NARC will be provided with the programs for testing and validation of climate and nutrition smart technologies.

f. The working conditions at agriculture and livestock sections under the RMs are very poor and it has been one of the reasons for low motivation among field staff. The project will finance to equip these technical sections with basic tools and equipment, office equipment and logistics.

g. The capacity building of technicians engaged in service delivery will be addressed through various training and exposure programs with due priority. There is a need to finance incremental staffing and operational costs for wider service coverage.

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

Secretary

103. The following figure shows the institutional and implementation arrangement of FANSEP.

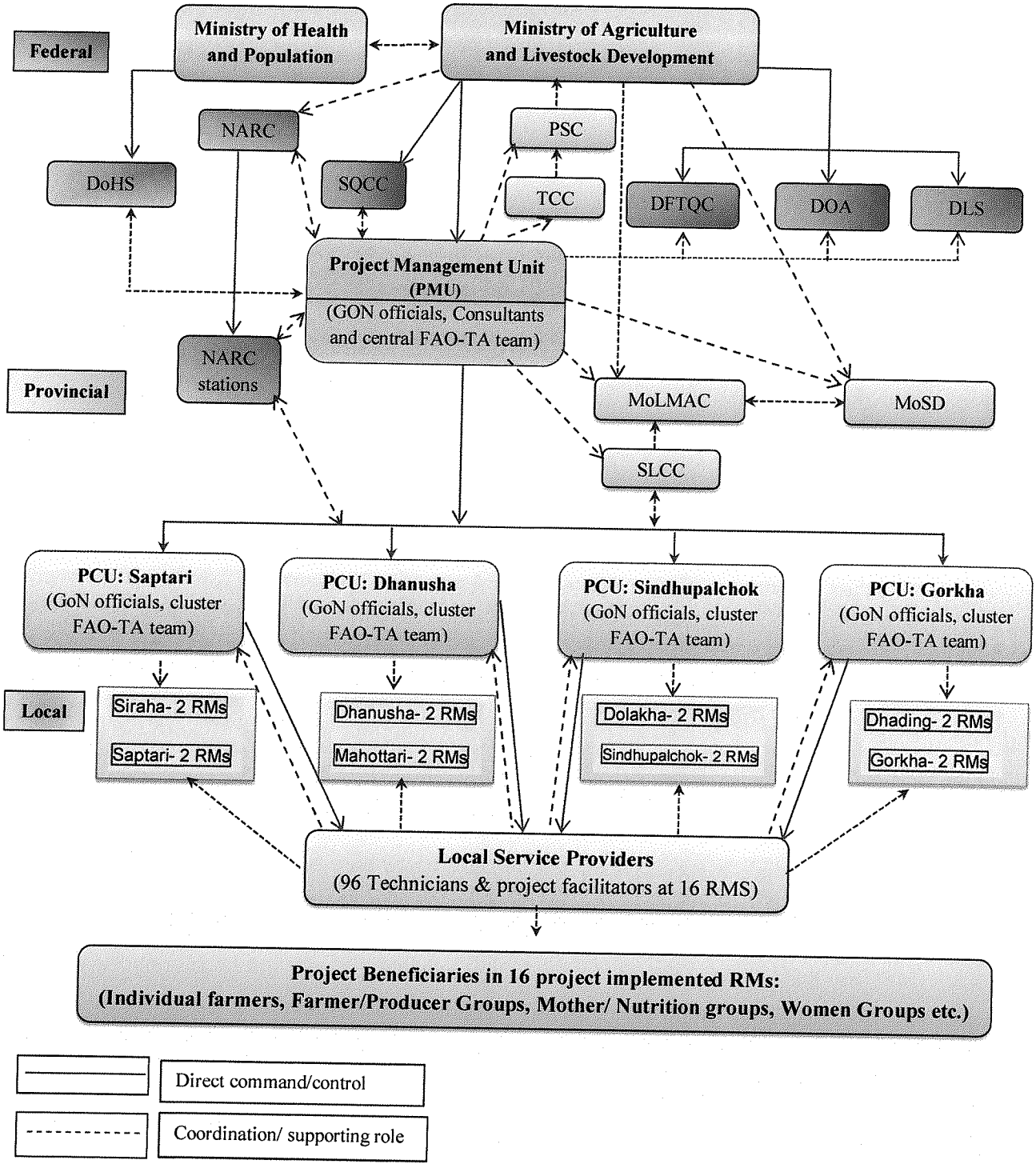


Figure 3.1: Instutional and implementation arrangements of FANSEP

Secretary

2.3.2 Role of Community Organizations/Project Facilitators

104. **Farmer/Producer Groups:** The project will primarily work with FGs/PGs – each organized for specific purposes. These FGs/PGs will be the entry point for project activities in a village (a village may comprise one settlement or more than one settlements). Groups will be organized by project facilitator and technicians from Service Providers as per the agreed criteria and in consultation with the PCUs, agricultural and livestock sections functioning under the targeted RMs, and Primary Health Centres (PHCs)/HPs/SHPs.

105. With regard to FGs, if there are existing groups in the selected RMs that satisfy the project set criteria, then they would also be used for project implementation. It is important to verify at the field level whether or not there are already existing eligible groups to be selected as project beneficiaries. Once the eligibility critera are confirmed, it is important to understand their existing level of social mobilization or maturity and to build on the existing level. In a situation when there is a need for new group formation, it will be important to ensure that each group will have to comply with the defined terms of engagement including the purpose and scope of the group's activities, criteria for selection of group members/beneficiary farmers, roles and responsibilities of the specific group members who will receive any project support in kind, group management and governance arrangements (especially for handling group funds and community-owned assets) and arrangements for ensuring sustainability.

2.3.3 Demonstration and Adoption in Groups

106. A specific feature of this project is to go beyond the standard activities of demonstrations and trainings with a clear objective of widespread testing and adoption of technologies by farmers. In view of the resource poor, vulnerables, women and small and marginal farmers that are the primary target of the project, technical and in-kind support will be provided to the target group but clearly based on a declining basis, to subsequent cohorts of farmers who are interested in adopting a technology or practice after it has been demonstrated. FGs will be internally organized in a way that enables this phased demonstration-to-adoption effect to occur.

2.4 SELECTION OF PROJECT LOCATION

107. The objective of the project is to enhance food and nutritional security in vulnerable communities which include Dalits, indigenous people (Janjatis), women, marginal farmers, landless HHs and remote area population. They are generally resource poor, food insecure, socially excluded and hence they lack access to basic public services. Therefore, the main basis for the selection of project location and beneficiaries will be guided by these realities/elements.

2.4.1 Selection of Project Rural Municipalities (RMs)

108. The following six criteria (as far as possible and applicable) were used for the selection of RMs in targeted project districts. During selection, vulnerable (earthquake affected, acute food insecure, disadvantaged, marginalized and women headed) households were targeted and prioritized to constitute the smallholder, marginal and landless farmers. With respect to nutrition, the number of pregnant and lactating women and the population under malnutrition were considered as major indicator in the selection of RMs.

- Earthquake affected (losses)
- Climate Change Vulnerability ranking
- HDI ranking
- Incidence of malnutrition
- Food security status
- Poverty status

109. For implementing FANSEP activities, the PMU has selected two RMs from each of aforementioned eight districts based on the selection criteria as mentioned above. In short, the project will cover 16 RMs and following are the list of selected RMs of project shown in table 2.2.

Table 2.2: Selected RMs for project implementation

S.N.	District	Rural Municipality	Remarks
1	Gorkha	Barpak sulikot	Project Cluster Unit will be situated at **Gorkha**.
		Gandaki	
2	Dhading	Benighat Rorang	
		Gajuri	
3	Sindhupalchok	Lisankhu pakhar	Project Cluster Unit will be situated at **Sindhupalchok**.
		Indrawati	
4	Dolakha	Kalinchok	
		Tamakoshi	
5	Dhanusha	Mukhiapatti Musharniya	Project Cluster Unit will be situated at **Dhanusha**.
		Dhanauji	
6	Mahottari	Pipara	
		Ekdara	
7	Saptari	Rajgadh	Project Cluster Unit will be situated at **Saptari**.
		Bishnupur	
8	Siraha	Aurahi	
		Bariyarpatti	

2.4.2 Selection of Beneficiaries

110. The project will primarily target vulnerable (earthquake affected, acute food insecure, disadvantaged, marginalized, and women headed) households and aims to reach approximately 65,000 direct beneficiaries as mentined in PAD. In general, as stated earlier, food insecure HHs – marginal farmers, landless HHs, Dalits, indigenous people, women, landless HHs, and other vulnerable groups of population will be the targetedbeneficiaries, of which at least 65% will be female. Smallholder and marginal farmers who constitute the majority of the poor in Nepal will be prime beneficiaries. The nutrition interventions will mainly target households with young children, adolescent girls, and pregnant and lactating women. In addition, farmers from adjacent communities are expected to be indirect beneficiaries as they will learn from project-supported farmers, adapt the technologies through farmer-to-farmer extension, and benefit from information delivered by the project. Similarly, rural agricultural laborers, for whom both demand for labor and income generation are expected to go up, will indirectly benefit from the project as farm-level productivity increases. The beneficiary targeting methodology will be done in collaboration with the World Bank's Development Impact Evaluation (DIME) team based on a set of criteria to be identified using a Proxy Means Test to ensure that the set of variables chosen are the best possible ones for beneficiary targeting.

111. The project in collaboration with WB's DIME team will identify the project beneficiaries. The DIME team in collaboration with project should work to put in place a Proxy Means Test to efficiently target the households that fall into category as targeted by

the project. The beneficiary selection survey is carried out at HH level with small number of questions (around 15) identified by a classification and regression tree (CART) algorithm that accurately statistically predicts the vulnerability status of the population. The project in collaboration with DIME has developed some program interest questions and some questions to gather information about the status of farmer in the project implemented areas so that it would ease in implementation of the FANSEP project activities.

112. The set questionnaire was at first pre-tested among 190 HHs residing at road corridor of Balephi Rural Municipality of Sindhupalchok district. The pre-testing was carried using the android tablets through surveyCTO software. The training was provided to enumerators for using surveyCTO software in android tablets for data collection at HH level. After pre-testing, the necessary editing and modifications was made on the questionnaire to finalize it. The beneficiary selection survey is carried out by the PCU using the human resource working at RMs level initially and later the field level technicians under the FAO TA were mobilized in the survey. The total of 56,221 beneficiaries were selected using 70 and 80 percent cutoffs[13] until the 3rd Implementation Review and Support of the project. The WB's DIME is taking responsibility to carry out the project baseline and endline survey and for impact evaluation of the project, the randomization at village level is done to identify the treatment and control villages for the program implementation. The village randomization as early and late starter among the selected beneficiaries is done and the group formation process including the project eligible beneficiaries resulted from the beneficiary selection survey has been started at all PCUs by mobilizing the field level technicians.

113. After the completion of project beneficiaries' selection in collaboration with WB's DIME team, the project will identify the project target areas, beneficiaries and FGs by sub-component and components for implementation of programs and start group selection process. Similarly, project will develop guidelines, manuals and strategies for implementation of different programs and activities of project. Beneficiaries for crop and livestock related interventions will be selected avoiding overlap as far as possible.

2.5 ORGANIZATION OF BENEFICIARIES

114. The project will be primarily implemented through purposive beneficiary groups organized in accordance with the nature and purpose of the intervention under each of the project components. Therefore, the main approach will be to organize beneficiaries into homogeneous groups and sub-groups at the grassroots level. The beneficiaries are proposed to organise based on the specific considerations (socio-economic characteristics, technical considerations) and criteria as well as the processes (needs assessment, participatory community targeting/identification) by which potential members of a group will be identified. FFSs organized with these groups will be the main platform for technology verification and testing at the grassroots levels and for dissemination as well.

115. In case of the presence of already organized group by other institutions/project which are among the selected beneficiaries and fulfil the criteria set by the FANSEP, project can serve such group rather than forming new groups. There might be situations where poor and disadvantaged HHs that the project wants to target might be out of the existing groups.

[13] For detail, refer the Impact Evaluation Concept Note for FANSEP prepared by DIME.

Therefore, new groups targeting these beneficiaries may need to be formed or the existing groups encouraged.

116. Once mobilized and trained, each group will typically receive some form of input support to undertake the intended activity. The norms regarding the contribution as well as other roles and responsibilities (e.g., farmer to farmer extension) that the group members will agree to as part of the groups' selection and formation process should be defined. The inputs will be managed by the group members as far as possible. Use of inputs as well as the resulting outputs (performance) of the group will be monitored, on behalf of the project, by the project facilitators and technicans from service providers.

2.5.1 Social Mobilization and Capacity Building of Beneficiaries

117. As stated, the Project will deliver services through participatory approach where the farmers and the local community will be proactively involved in planning, implementing, and evaluation of project interventions. Key to this approach is to ensure their access and accountability in decision making. Nevertheless, direct beneficiaries will be technically guided and backstopped by PMU, PCUs and FAO TA team under the FANSEP. Role of the federal departments (DoA, DLS, DFTQC and DoHS) will be limited to facilitation and coordination as necessary. PMU will engage FAO TA central team at central level while PCUs will engage FAO TA cluster team at cluster level and technicians under service provider at RMs. The SPs will deploy local project facilitators and technicians for social mobilization, community preparedness and capacity building. The technical staffs hired for the project activity through service providers will assist PCUs by working with FGs/PGs and health mother/nutrition groups in implementation of project interventions through the entire project activity cycle. In addition, technical specialists, service providers, PCUs and other stakeholders may be contracted by the project to serve in specific roles and contexts.

CHAPTER 3

3 COMPONENT A: CLIMATE AND NUTRITION SMART AGRICULTURE TECHNOLOGY ADAPTATION AND DISSEMINATION

3.1 INTRODUCTION

118. Primarily this component includes activities related to the identification, adaptation and dissemination of climate and nutrition smart technology. Central to this component is to focus on the promotion of climate and nutrition smart crops and livestock technologies for improving productivity and post-harvest management. There are two sub-components of this component, namely i) Technology Adaptation and Testing, and ii) Technology Dissemination and Farmer Skills Development. Both the sub-components encompass crops and livestock technologies.

119. This component aims to improve productivity and post-harvest management of crops and livestock by promoting the introduction of appropriate climate smart technologies through improved extension and research services and efficient dissemination to producer groups. The component also helps to increase the supply of quality resources particularly seeds and breeding animals to the farmers. The component will specially focus on testing technologies which could be utilized and give results within the project period. Particular attention will be given to ensure inclusion of women and youth, and other vulnerable segments of the rural population, in addition to strengthening the decentralized government structures to ensure effective service delivery at the local level. This component bridges the gap between research and farmers through proactive extension services, bringing researchers, extension service providers and farmers together. This sub-component requires active collaboration with NARC, DFTQC, and private seed and breed multiplier FGs.

> **Climate Smart Agriculture** (CSA)' is an approach that aims to build climate resilience by integrating climate change into the planning and implementation of sustainable agricultural strategies. The project will identify and promote locally appropriate solutions to increase climate resilience by addressing three interrelated elements of CSA, namely (i) sustainably increasing productivity, (ii) building and enhancing resilience (adaptation), and (iii) identifying opportunities to reduce/remove emission of green house gases (GHGs) (mitigation).
>
> Since all technologies may not necessarily be climate smart and nutrition sensitive simultaneously, it is important to assess the technologies on the basis of climate smart and responsiveness to nutreints composition. Sometimes, locally available indigenous crops are more nutritious than exotic/improved varieties and crops, specifically this applies to indigenous food crops like buck wheat and finger millet.

3.2 SUB-COMPONENT A1: TECHNOLOGY ADAPTATION AND TESTING

120. **Testing of climate smart and nutrition sensitive crop and livestock production technologies:** The project will build upon the achievements of its predecessor[14], the AFSP, which has identified and successfully tested 16 new cultivars[15], Boer cross-bred goats, dual - purpose scavenger type backyard poultry and improved management practices in the mid- and far-western regions of Nepal. In addition, the project draws from the 2017 CSA country profile[16] which outlined potential CSA practices, including short duration drought tolerant cultivars, and adapted agronomic practices for crops (minimum tillage, intercropping, time of sowing, spacing, fertilizer placement, cropping patterns, soil moisture management, disease and nutrient management), and livestock (animal health, feed and breed management, stall feeding and improved sheds). To narrow down the research-extension-farmer gap, the validation, testing of new technologies, cultivars (including high nutritional value crops), and performance recording and maintenance of breeds will be done in conjunction with the project supported FFS under sub-component A2. There will be at least two validation trials in each FFS group in the project area. Accepted technologies will be further promoted through "demonstrations and adoption support" to the members of FFS who will showcase the new technologies in their field during the following season. This sub-component will test the newly released and promising varieties and technologies from the NARC and National Seed Board (NSB) for further multiplication in the project area. The project aims to test and identify at least 12 varieties and 10 technologies suitable to the targeted project areas. NARC will identify high performing staple and non-staple crop varieties which are potentially suitable to the specific needs of the project area and which are at an advanced stage of research station evaluation. The project will support participatory evaluation and variety selection in the targeted areas to confirm their adaptability and local acceptance. Selection criteria will include, inter alia tolerance to drought, pests and diseases, higher yield, nutritional value, and organoleptic qualities.

121. **Development of improved package of practices:** To support the adoption of new cultivars, improved breeds and technologies, the project will develop package of practices for target crops, breeds by agro-ecologies and beneficiary typologies. These packages will be prepared in such a way that they are simple and easy to understand and adapted to the farmers' circumstances. The packages will include Integrated Crop Management (ICM), Integrated Disease Management (IDM) and IPM models, including weed management, soil health management, pest and disease management, conservation agriculture, cropping systems (rotation, intercropping), post-harvest management, seed treatment, and soil moisture/water harvesting techniques. Special attention will be given to packages which entail a reduction of women's drudgery and work/time burden. An assessment carried out by Irrigation and Water Resources Management Project (IWRMP) reported up to 50% savings in cost and labor by using power tillers, threshers, mini tractors and winnowing machines[17]. The packages will also include information on required investments and return, sources of inputs and market for targeted crops, improved breeds and commodities to allow farmers to make informed decision. This will help to validate cost-effective practices for the targeted beneficiaries, to increase productivity, cropping intensity and crop diversification. For the

[14]It should be noted that the packages of technologies developed, tested and validated during AFSP in its project districts will not be appropriate to the FANSEP districts for several reasons. These, among others, include different agricultural production environment, geography, socio-economic contexts, level of farmers' development, development opportunities, level of agricultural modernization, topography and so forth. Therefore, it will be an important task in the baseline survey to identify record and list technologies (crop production and livestock technologies) available in FANSEP districts. Even crop varieties widely adopted in mid- and far-western regions (AFSP districts) will not work in FANSEP districts.

[15]For rice (5), potato (2), wheat (2), buckwheat (2), maize (3), and finger millet (2).

[16]Climate Smart Agriculture in Nepal (2017). CIAT, CGIAR, CCAFS, Li-BIRD and World Bank.

[17]Spreading the gains from mechanization: Learning from IWRMP; (2017). Irrigation and Water Resources Management Project, Department of Agriculture, Nepal.

livestock packages, the focus will be on the refinement of feeding packages for goats and dairy animals (stall feeding, silvi-pasture management, feed supplementation and storage) and poultry (low cost feed mix, shelters), by developing an inventory of locally available feed resources, and ethno-veterinary practices in the project area and supporting community seed banks for forage, agroforestry, and pasture germplasm. Animal health will be further supported with simple diagnostics tools for disease targeting and treatment, particularly for parasitic diseases, vaccination for priority infectious diseases, and promoting responsible use of antibiotics to reduce resistance risks and crop storage and management practices to reduce aflatoxin risk and associated food safety risks.

122. **Improving seed and breed replacement rate for crops and livestock (goats and poultry):** One of the key reasons for low productivity of agriculture in Nepal is the continued use of old degenerated seed stock, inbreeding, and local breeds. To increase the use of quality seeds, including drought-tolerant varieties and breeds, the project will support seed multiplication and breed improvement/distribution programs locally through selected FGs. The project will support for community based seed production system under an output based contract, with technical backstopping by NARC, and quality assurance and control through the Seed Quality Control Centre (SQCC) under the MoALD. It is expected that the project will cover at least 10% of the targeted crop area under improved rice, wheat, maize and potato varieties through such mechanism. Similarly, livestock breeds, particularly Boer goats and improved New Hampshire and Black Australorp poultry, will be propagated through livestock farmer multiplier herds/units following the successful approach followed under AFSP, with technical backstopping by NARC and DLS. The project will support a breed improvement program to meet the high demand for improved Boer bucks, crossbreeding local cow and bufalo with Jersey and Holstein Friesian and Murrah breed respectively besides New Hampshire and Black Australorp poultry. Particular focus on establishment of farmer managed multiplier herds under open nucleus breeding scheme for the supply of quality breeding bucks of Boer breed will be implemented in all project municipalities. For poultry, day old chicks will be sourced from the government farms (NARC and DLS) and raised by smaller scale out-grower units established by small scale entrepreneurs who will in-turn supply to target beneficiaries.

123. **Training and capacity building:** In coordination with sub-component A2, the project will build the capacity of outreach and extension agents at all levels, from the ward, municipality to state and federal government levels. To pursue this, a comprehensive "capacity needs assessment" will be carried out based on which an appropriate training and capacity development plan will be developed. The assessment process will be highly consultative to include farmers, agro-vets and other service providers to ensure that project supported training and activities addresses farmer priorities and needs. Particular attention will be paid to ensure that training needs for women are well addressed. To speed up the transfer of new knowledge and skills, the project will promote the use of Information Communication Technology (ICT) for distance learning, and adopt a Training of Trainers (ToT) model to ensure that the trained facilitators go back to their respective locations and train/facilitate other groups.

124. This sub-component focuses on appropriate CSA and nutrition sensitive technologies, improved inputs (foundation seeds and animal breeds) and improved agronomic, husbandry and post-harvest practices, taking into account nutrition value and food safety considerations, including responsible use of antibiotics to reduce resistance risks and crop storage and management practices to reduce aflatoxin risk.

3.2.1 Objective

125. The main objective of this sub-component is to support adaptation and testing of climate smart and nutrition sensitive crop production and livestock technologies that best fit the local context and farmer needs.

3.2.2 Expected Outputs

126. The main expected outputs of this sub-component are:

- 22 number of promising climate smart and nutrition sensitive crops and livestock technologies tested and adopted by the 31,800 farmers;
- Seed replacement rate (SRR) for four major crops (paddy, maize, wheat and potato) increased by 25% than the baseline;
- Productivity of food grains, vegetables, meat and milk increased by 25%, 30%, 40% and 35% respectively.
- Increased availability (supply) of improved inputs (foundation seeds, improved seeds and animal breeds) and improved agronomic, husbandry and post-harvest practices,
- Extension agents and private service providers of agriculture at RMs level trained and their capacity strengthened.

3.2.3 Activities

127. Activities to be supported under this sub-component include (a) On farm testing and validation trial of CS and nutrition sensitive crops technologies, (b) On farm testing and validation trial of CS and nutrition senstive livestock technologies, (c) Development and dessimation of crop packages, (d) Development and dessimation of livestock packages, (e) Distribution of foundation seeds for Seed Producer Groups (SPGs), (f) Distribution of improved seeds of crops to farmers, (g) Support to SPGs for the seed production with technical backstopping and quality assurances and control through SQCC/cental agriculture lab/ provincial seed labs, (h) breed improvement of livestock, and (i) Trainings to extension agents and private agriculture service providers.

3.2.3.1 Technology Adaptation and Testing of Production Technologies

128. This entails activities leading to the adaptation and testing of appropriate climate smart and nutrition sensitive crop production technologies and efficient farming practices based on ICM, IDM and IPM models. This project will not focus on the development of technologies but remain focused on conducting on-station and on-farm trials and validation before availing them to farmers. The package will touch upon efficient use of fertilizers and promote improved cropping pattern and other crop production technologies including minimization of post-harvest losses. Field days, minikit or farmer acceptance trials (FATs), demonstrations, and cross learning visits will be organized to promote learning and sharing amongst and between farmers and researchers. This involves testing of 12 crop varieties and 10 production technologies.

Activity 1: On farm testing and validation trial of climate smart and nutrition sensitive crops technologies

129. This will include testing and identification of short duration and water stress tolerant two rice cultivars, two short duration and climate smart maize cultivars, one each climate smart cultivar of wheat and potato, and testing and identification of one cultivar each of fingermillet, buckwheat, pulses and beans and two cultivar of vegetables with the involvement of NARC. Similarly, field trials will be conducted for crop and vegetable on

agronomic practices, pest and disease management, nutrient management, and post-harvest management together with trials on vegetable nursery management. Table 3.1 details the number of crops and varieties and management technologies to be tested and validated while the cost details are given in **Annex 7.1**

Table 3.1: On farm testing and validation trial of CS and nutrition sensitive crops technologies

S. N.	Details of activities	Unit	Target					
			Year 1	Year 2	Year 3	Year 4	Year 5	Total
1	Varietal/FAT/PVS testing and identification of short duration and water stress tolerant rice cultivars (2 varieties)	Number of trials		25	25			50
2	Varietal/FAT/PVS testing and identification of short duration and climate smart maize cultivars (2 varieties)	Number of trials		20	20			40
3	Varietal/FAT/PVS testing and identification of CS wheat (1) and potato (1) cultivars	Number of trials		35	35			70
4	Varietal/FAT/PVS testing and identification of fingermillet (1) buckwheat (1), pulses (1), beans (1) and vegetable (2)	Number of trials		30	30			60
5	Agronomic practices (crop and vegetable)	Number of trials		40	40			80
6	Pest and disease management (crop and vegetable)	Number of trials		20	20			40
7	Crop Nutrient management	Number of trials		15	15			30
8	Post-harvest management (crops and vegetables)	Number of trials		20	20			40
9	Vegetable nursery management	Number of trials		10	10			20

Activity 2: On farm testing and validation trial of CS and nutrition sensitive livestock technologies

130. This involves testing of suitable forage varieties, post production management of meat and milk, feed management practices for Boer cross goats and dairy animals, low cost feed mix technology for backyard poultry, and study on use of traditional herbs in animal treatment with the involvement of NARC. Yearwise and total targets are given in Table 3.2 while the cost details are given in the **Annex 7.1.**

Table 3.2: On farm testing and validation trial of CS and nutrition sensitive livestock technologies

S N	Details of activities	Unit	Target					
			Year 1	Year 2	Year 3	Year 4	Year 5	Total
1	Testing of suitable forage varieties	Number of trials		10	16	16		42
2	Post production management (meat and milk)	Number of trials			16			16

SN	Details of activities	Unit	Target					
			Year 1	Year 2	Year 3	Year 4	Year 5	Total
3	Feed management practices for boer crossbred goats and dairy animals	Number of trials			16	16		32
4	Low cost feed mix technology for backyard poultry	Number of trials			16	16		32
5	Study on use of traditional herbs in animal treatment	Number			1			1

131. **Packaging of component technologies based on on-farm testing/validation:** This activity will be undertaken particularly for packaging the component technologies validated through on-farm testing. Since the farmers in project area vary tremendously in terms of geography (mountain, hill and Terai), gender (male and female), ethnicity (Dalit, disadvantaged and Janjatis), income level (poor and ultra-poor), nutrition level (malnourished and undernourished), the single package of technologies will not be suitable to all, different technology packages will have to be tested for suitability to a particular socio-economic and geographic domain. This activity will contribute to increased availability and access to wide range of technology packages for farmer's choice. Many agencies outside the government have also established standard methodology of testing and developing packages. The project will establish strong linkage with such agencies to achieve the objective. The most appropriate platform for validation and development of technology packages will be the FFS established for specific sub-sector intervention. This approach is very crucial for IPM, IDM, Post-harvest Management (PHM), water management, CSA, nutrition-sensitive farming etc. To facilitate the task, it is necessary to establish strong linkage among farmer organizations, NARC, DoA, I/NGOs, academic institutions, traders and the project beneficiaries. Development and packaging of improved practices will be done on crop and livestock and brief about these are presented below.

Activity 3: Development and dissemination of crop packages

132. Packaging simplifies the process of dissemination, implementation and adoption of technology. Development and dissemination of agronomic/cultivation practices, pest and disease, nutrient, post-harvest and soil moisture management technologies together with water harvesting techniques and farm machineries for drudgery reduction for crops and vegetables have been included for this purpose. Details on annual and total targets are presented in Table 3.3 and its cost details are given in **Annex 7.1.**

Table 3.3: Development and dissemination of crop packages

SN	Details of activities	Unit	Target					
			Year 1	Year 2	Year 3	Year 4	Year 5	Total
1	Agronomic practices of crop (pre-harvest)	Number			2	1		3
2	Cultivation practices of vegetable (pre-harvest)	Number			1	1		2
3	Pest and disease management (crop and vegetable)	Number			1	1		2
4	Nutrient management (crops and vegetables)	Number			1	1		2
5	Post-harvest management (crops and vegetables)	Number			1	1		2
6	Soil moisture management and water harvesting techniques	Number				1		1

SN	Details of activities	Unit	Target					
			Year 1	Year 2	Year 3	Year 4	Year 5	Total
7	Farm machineries for drudgery reduction	Number			1			1

Activity 4: Development and dissemination of livestock packages

133. This activity mainly involves development, packaging and dissemination of low cost feed formulation, identification of nutritious fodder trees, best feed storage technique, herbal dewormer assessment, post-production technology related to fresh milk and fresh meat, management practices to reduce risk of aflatoxin, and improved shed technology. Table 3.4 presents details about these activities while its detail cost is provided in **Annex 7.1**

Table 3.4: Development and dissemination of livestock packages

SN	Details of activities	Unit	Target					
			Year 1	Year 2	Year 3	Year 4	Year 5	Total
1	Livestock production (low cost feed formulation, identification of nutritious fodder trees, best feed storage technique, herbal dewormer assessment)	Number			1	1		2
2	Post production management for hygienic milk production	Number			1			1
3	Post production management of hygienic fresh meat production	Number			1			1
4	Management practices to reduce aflatoxin risk	Number				1		1
5	Technology on improved shed for livestock	Number				1		1

134. **Improving seed and breed replacement rate:** This will be a complimentary activity of the project where NARC will produce source seeds (breeder and foundation) of rice, wheat, maize, potato and other minor crops. The importance of quality seeds cannot be ignored in view of the fact that provision of improved seeds alone can increase the yield by 15-20%. This is significant. Thus, this project will provide quality seeds through NARC. Breeder seeds will be produced at NARCs commodity research programs and respective disciplinary divisions. These seeds will be produced under the close supervision of concerned breeders. From these breeder seeds, foundations seeds will be produced at NARC's research stations and by members of SPGs under the supervision of seed laboratories under provinces and AKCs. Similarly, livestock breeds, particularly Boer goats and improved New Hampshire and Black Australorp poultry, will be distributed through **goat, poultry and dairy promotion programs** with technical backstopping from NARC and DLS. The project will support a breed improvement program to meet the high demand for improved Boer bucks by establishing an **open nucleus breeding scheme for Boer goat,** with a particular focus on establishing **farmer managed multiplier herds**. Similarly, project will support establishment of **AI units in each RMs** for breed improvement of dairy animals (cattle and buffaloes).

135. SPGs are carefully selected farmers who have demonstrated entrepreneurial skills, interest and commitment to be engaged in seed production program. SPGs should be selected from the locality where there is irrigation (preferably year round) facility for obtaining higher quality seed and hedging against uncertainy due to water supply. They will be trained and their plots inspected before they are engaged in seed production. In addition to four priority crops (rice, wheat, maize and potato) NARC will also consider nutritionally important minor crops such

as fingermillet buckwheat, lentil, and beans for seed production and technology development. Despite their nutritional value the yields and performance of minor crops remain low. This is because of unavailability of appropriate technology and quality seeds. Thus, NARC will also work on minor crops which are vital for improving cropping pattern and increasing overall crop production. A total of 58.32 metric tons of foundation seeds and 222 thousand pre-basic seed tubers will be produced. Through increased availability of quality seeds and appropriate technology it is expected that seed replacement ratio will increase to 25% by the end of the project. Table 3.5 provides a summary of foundation seed production and distribution to the farmers and the cost details are as per the **Annex 7.1.** The foundation seeds will be provided to the SPGs from the project at **85% subsidy.**

Table 3.5: Distribution of foundation seeds for SPG's

SN	Details of activities	Unit	Target					
			Year 1	Year 2	Year 3	Year 4	Year 5	Total
1	Rice	MT		6	2.88	2.88	2.88	14.64
2	Maize	MT		3	1	1	1	6
3	Wheat	MT			10.56	10.56	10.56	31.68
4	Fingermillet	MT			0.08	0.08	0.08	0.24
5	Buckwheat	MT			0.32	0.32	0.32	0.96
6	Lentil	MT			1.44	1.44	1.44	4.32
7	Beans	MT			0.16	0.16	0.16	0.48
8	Distribution of potato (pre-basic seed tubers)	Nos.			74000	74000	74000	222000

Activity 6: Distribution of improved seeds to farmers

136. Certified or truthful labelled seeds will be produced from foundations seeds through SPGs. These seeds will be tested and duly labeled by concerned seed laboratory under the province before they are distributed to other farmers. About 351 MT such seeds of rice, maize, wheat, fingermillet, buckwheat, lentil, beans, mungbean, and black gram will be produced together with 840 MT of 4th generation basic seed of potato. The improved seeds will be provided to the farmers and FGs at **85% subsidy**. Activity details are given in Table 3.6 while the cost details are as per the **Annex 7.1**

Table 3.6: Distribution of improved crop seeds to farmers

SN	Details of activities	Unit	Target					
			Year 1	Year 2	Year 3	Year 4	Year 5	Total
1	Rice	MT			24	24	24	72
2	Maize	MT			30	30	30	90
3	Wheat	MT			42	42	42	126
4	Fingermillet	MT			3	3	3	9
5	Buckwheat	MT			2	2	2	6
6	Lentil	MT			10	10	10	30
7	Beans	MT			3	3	3	9
8	Mungbean	MT			2	2	2	6
9	Black Gram	MT			1	1	1	3
10	Potato (basic seed, 4th generation)	MT			280	280	280	840

137. For producing above seeds, there will be a need to provide support to other complementary activities and related stakeholders who will participate in training as resource persons, check the quality of seed production in field through SQCC/cental agriculture

lab/provincial seed labs, and provide technical services to SPGs and their members. There will be 32 SPGs which will receive such supports including material supports and certification fees.

3.2.3.2 Technology Adaptation and Testing of Livestock Technologies

138. Like the crop production technologies, the project will support the technology adaptation and testing of climate smart livestock technologies as well. Needless to emphasize, livestock play several roles for food security and nutrition: as a rich source of micronutrients and protein, supporting crop production through fertilizer and drought power, and income supporting diet diversity and poverty reduction. Livestock keeping enables year round food access, is an important climate adaptation strategy and for the most vulnerable and landless - one of the few livelihoods options. The following activities have been proposed for the adaptation and testing of livestock technologies in collaboration with NARC:

a) Testing of suitable forage varieties;
b) Post production management (meat and milk);
c) Feed management practices for Boer cross goats and dairy animals;
d) Low cost feed mix technology for backyard poultry; and
e) Use of traditional herbs in animal treatment.

Activity 7: Breed improvement of livestock

139. The goat multiplier herds managed by the farmers will be developed in each project rural municipalities. The purebred Boer buck from NARC Goat Reasearch Center will be distributed and based on performance evalaution by the Animal Breeding Division of NARC, the crossbred bucks will be selected and made available to goat producer groups for genetic improvement of native goats both in hills and Terai. The number and schedule for distribution and associated budget is reflected in the **Annex 3.1 and 7.1.** Similarly, for the genetic improvement of dairy animal mainly cattle and buffaloes, the project will promote artificial insemination (AI) technology. For this each project municipality will be supported to strengthen or establsih the AI unit for improving the access to service to the beneficiaries. The livestock technicians of the municipalities will be provided training on aritificail insemination to enhace or refresh their skills and National Breeding Center of the DLS will be coordinated for regular supply of liquid nitrogen and frozen semen (Jersey and Holstein Friesian for cattle and Murrah breed for buffalo).

140. Given the poor socio-economic background of the target beneficiaries and predominance of traditional smallholder production system being practiced by them, it will be imperative to improve the productivity of local breed through crossbreeding with recommended exotic breeds of cattle, buffalo and goat. It is also important to safeguard the the diversity in livestock farming by maintaining species diversification to generate supplementary income, promote dietary diversity and improve family nutrition. The project will support farmers for crossbreeding with Boer goats and continuous selection within their flock for higher productivity and improvement in reproductive efficiency such as reduced kidding interval, age at first kidding and increase twining percentage. Twining is very important trait as it directly contributes to increaseed productivity per doe and will help to attain objectives of improving meat productivity. In cattle, exotic breeds such as Jersey and Holstein Friesian are well adopted to production environment in hills and terai and thier first generation crossbreds (F1 generation or 50 % crossbred) have nearly 4 times higher productivity of milk per lactation. Similarly, in buffaflo, Murrah breed and thier crossbred are well adopted and demonstrated higher productivity than the native breeds. The project will encourage farmers for improving productivity through improvement of existing local breeds maintaned by the farmers, improving the feed resources to exhibit the superior genetic potentials of the crossbred progenies and improved access to better animal health care for the prevention and control of infectious diseases and improved

husbandry practices. Prevention from diseases and parasites is much more important in the case of crossbred progenies as they are more sensitive to diseases and management.

141. The project will support activities like **establishment/strengthening of AI Units** in project RMs for breed improvement of local cow and buffaloes, establishment of **famer managed Boer goat multiplier herds/units** under open nucelus breeding scheme, performance evaluation and follow-up support for Boer & local goats in project RMs by NARC, goat & dairy production and rural poultry promotion program & follow-up supports. The budget ceiling/cost, subsidy rate and expenditure details of these programs will be as per the **Annex 3.1.** Project will develop **separate guidelines** for implementation of **i) goat production promotion program ii) dairy production promotion program and iii) rural poultry promotion program.** The activities mentioned in Table 3.7 will be specifically undertaken for breed improvement that contribute to improved productivity of milk and meat and nutritional benefits of beneficiaries while cost of activities details are given in **Annex 7.1.**

Table 3.7: Breed improvement programs for livestock

SN	Details of activities	Unit	Target					
			Year 1	Year 2	Year 3	Year 4	Year 5	Total
1	Establishing/strengthening AI Units in project rural municipalities for breed improvement (dairy)	Number			4	6	6	16
2	Establishment of famer managed Boer goat multiplier herds/units (under open nucleus breeding scheme)	Number			8	8		16
3	Follow up support to established farmer managed Boer goat multiplier herds/units	Number				8	8	16
4	Performance evaluation of Boer and local goats in project RMs (from NARC)	Number			1			1
5	Follow up support for performance evaluation of Boer and local goats in project RMs (from NARC)	Number				1	1	2
6	Goat production promotion program	Number			150	150		300
7	Follow up support to goat production promotion program	Number				150	150	300
8	Dairy production promotion program	Number			50	50		100
9	Follow up support to dairy production promotion program	Number				50	50	100
10	Rural poultry promotion program*	Number			75	75		150
11	Follow up support to rural poultry promotion program	Number				75	75	150

Note: * For improving nutrition and household income

Activity 8: Trainings to extension agents and private agriculture service providers

142. Testing and validation of technology requires specialized training and capacity building activities. Farmers, project staffs, technicians, extension agents and private agriculture service providers participating in these activities will be provided on various kinds of training to let them learn, internalize and understand how to integrate climate smart and nutrition technologies, establish trials properly, and record observations in order that they would be able to adapt them to the local conditions. Trial is neither distribution nor it to be equated to the demonstration. Demonstration follows trial. Number of participants per training will be around 20 to 25. The important activities will include two days training for trial establishment and implementation to

field project staffs, two weeks' duration training for technicians on AI, one-week refresher training for technicians on AI, and three days long cluster level training to extension agents and private agriculture service provider based on need assessment. Activities details are given in Table 3.8 and cost details in **Annex 7.1**

Table 3.8: Trainings to extension agents and private agriculture service providers

SN	Details of activities	Unit	Target					
			Year 1	Year 2	Year 3	Year 4	Year 5	Total
1	Training for trial establishment and implementation to field project staffs (2 days)	Number			8	8		16
2	Training for technicians on AI (2 weeks)	Number		2	1	1		4
3	Refresher training for technicians on AI (1 week)	Number			1		1	2
4	Trainings to extension agents and private agriculture service provider based on need assessment (cluster level) (3 days)	Number			4	4	4	12

3.3 SUB-COMPONENT A2: TECHNOLOGY DISSEMINATION AND FARMER SKILLS DEVELOPMENT

143. This sub-component is basically an extension support which will help to increase the productivity of crops and livestock by enabling farmers in the project area to adopt improved agricultural production technologies and management practices (especially those developed and promoted under sub-somponent A1).

144. This sub-component will engage TA for technology dissemination and farmer skill development. TA will review FFS curricula, cost of FFS, select and train FFS facilitators, scale up the adoption support, implement block demonstrations and develop leader farmers who will also work as Farmer Facilitators. Promotion and dissemination of the new technologies will be guided by an assessment of types of services required and available at the local level, typology of farmers, cropping patterns and markets. This will help the project in identifying the best way to reach farmers and in speeding up the dissemination of improved cultivars and technology packages, complementing the activities under sub-component A1.

3.3.1 Objectives;

145. The main objective of this sub-component is to enable farmers to master the management skills [CSA, Good Agricultural Practices (GAPs)] required for sustainable production diversification and intensification of agriculture practices and post-harvest processing. It aims to give farmers the practical skills required for informed; decision-making based on accurate problem analysis in their local contexts.

146. The project expects that 39,750 farmers, of which at least 65% will be female, will have accessed different technologies through the participation in different technology dissemination services delivered by the project over the project period.

147. Experience has shown that until farmers are provided opportunity to access technologies through different mechanisms and processes (participatory extension services), a large majority would not be able to adopt and benefit from the technologies tested and validated. Therefore, it is crucial for farmers to increase their access to tested and validated technologies through participatory extension methodologies such as FFSs. Piloted initially for IPM technologies, FFS system has now become a brand to promote and adopt complex

technologies such as Integrated Plant Nutrient Management System (IPNMS), and Improved Goat Management, Improved Cattle Shed Management practices.

3.3.2 Expected Outputs;

148. The expected outputs from this sub-component are:

- Increased number of farmers accessing CSA technology on crops and livestock through engagement in 806 FFS (616 crops and 190 livestock);
- 39,750 farmers accessed with technology dissemination services delivered by the project (of which female 65%);
- Increased adoption of improved crop and livestock production technologies; and
- Farmers, FGs, technical officers and field techicians trained and capacity strengthened at RMs level.

149. **Streamlined FFS and adoption support:** The project will promote participatory learning, skills development and dissemination through FFS. To contextualize FFS the existing AFSP curriculum will be revised to suit the project area and farmers' needs. FFS is a well-established extension approach focused on 'learning by doing' which builds upon principles of adult education and experiential participatory learning and will be used to implement the package of practices and demonstrate climate and nutrition smart agricultural and livestock husbandry practices and deliver targeted training programs and integrated extension services to the targeted farmers for field and horticultural crops, including pulses, oilseeds, rice, maize, potatoes, beans, and vegetables. FGs will, thus, be enabled to see and assess the benefits first-hand and make informed decisions as to which technologies and practices are most suitable to their farming systems. The FFS will also disseminate best practices on food safety, nutrition and post-harvest management to minimize storage losses. Following the rollout of FFS, the members will be provided with adoption support which includes seeds, breeds, fodder resources, fertilizers, and basic tools to promote the newly acquired skills in their fields in the following season. Particular attention will be given to women's participation and prioritize their empowerment and meaningful engagement not just as a participant but also ensure their active role in decision making processes, including the selection of topics of experiential learning as per their needs and choice.

150. **Demonstrations and field days:** Demonstrations have been found to be one of the best ways to disseminate tested information and technologies to a large group of farmers at affordable cost in a short period of time. Thus, in addition to FFS, this sub-component will establish demonstration plots for proven technologies and varieties. Lead farmers will be identified and trained in each community following pre-agreed selection criteria to establish demonstration plots of promising and relevant CSA technologies and practices (including drought-resistant high value crop varieties, more efficient micro-irrigation techniques, integrated soil fertility and crop & livestock management techniques, fodder nurseries, etc.). These farmers will be provided with basic inputs such as seeds, fertilizers, pesticides at free of cost. Field days will be organized where farmers will be invited to demonstration and/or FFS sites where they will have an opportunity to observe the performance of recommended technologies on the ground as well as allowing the farmers to interact with fellow farmers. To promote season and off-season vegetable cultivation, which are important for both cash income and household nutrition, the project will replicate the use of poly-house farming systems already tested in AFSP districts, in conjunction with the use of more efficient micro-irrigation systems, which has been reported to increase the yield of vegetables by 30% in addition to conserving water.

151. **Strengthening advisory services and skill development:** Under the new federal governance structure, the agriculture and livestock service centers, sub-centers and contact points, previously managed by the district agriculture and livestock offices, are transformed to Agriculture and Livestock Section of RMs. The project will, therefore, provide support to strengthen the capacity of extension services at the municipality level to ensure effective

service delivery during this transition. The project will carry out a comprehensive training needs assessment to ensure effective delivery of extension and outreach services. In addition to the government staff, the training will also include agro-vet dealers, leader farmers and social mobilizers who play important role in the extension system. While such needs assessment will identify specific training needs, some of the pre-identified topics include (a) IPM, (b) off-season vegetable cultivation linking with market, (c) grain storage management, (d) FYM management and soil fertility improvement, (e) social mobilization including group strengthening and household level planning of FGs, and (f) field data recording and reporting from the field. In addition, this project will strengthen the capacity of the DFTQC to ensure regular monitoring and enforce required minimum standards in food safety and in certifying the food and food products developed through the project activities. Related to this, the project will also train the extension agents, agro-vet dealers and farmers in safe use of pesticides and chemicals in addition to promoting IPM practices in the project areas. Given good network coverage in the project areas, the project will introduce and utilize ICT innovations. Extension services centers will be equipped with basic internet facilities, and extension staff will be trained to use digital tablets to provide extension and outreach services, beneficiary monitoring, and facilitate access to information and service providers.;

3.3.3 Activities

152. Most of the activities to be carried out for crop production and livestock management technologies will be similar with differences in the technologies and commodities. Nevertheless, this section has described them separately.

Activity 9: Farmer field school and adoption support

153. This will include the activities like establishing FFSs for crop, oilseeds, pulses, potatoes, vegetable, goat, poultry, and dairy, distribution of seasonal seeds of vegetable and forage crops for wider adoption, group support for drudgery reduction on farm machineries and equipment, preparation of guidelines, manuals and learning materials for FFS, and inter-FFS exposure trip to farmers. It will also involve model FFS on crops, livestock, farm business and nutrition by FAO-TA. The budget ceiling/cost, subsidy rate and expenditure details for FFS (crops and Livestock) will be as per **Annex 3.1.** Project will distribute seasonal vegetables and provide machinery & equipment support to farmers at **85 % subsidy.** Details are presented in Table 3.9 and **Annex 7.1.**

Table 3.9: Streamlined FFS and adoption support

SN	Details of activities	Unit	Target					
			Year 1	Year 2	Year 3	Year 4	Year 5	Total
1	Model FFS (crops 16, livestock 40, business 8, nutrition 16) by FAO-TA	Number			80			80
2	Establishing FFSs (crop, oilseeds, pulses, potatoes, vegetable)	Number			220	220	160	600
3	Establishing FFSs (goat, poultry, dairy)	Number			50	50	50	150
4	Distribution of seasonal seeds (vegetable and forage) for wider adoption	Times		12	12	12	12	48
5	Group Support for drudgery reduction on farm machineries and equipment	Number		80	80			160
6	Preparation of guidelines, manuals and learning materials for FFS	Number		1	1			2
7	Inter-FFS exposure trip to farmers	Number			4	4	4	12

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

Activity 10: Demonstrations and field days

154. Activities under this include a three days' district level training to leader farmers on seasonal and offseason vegetable farming and a three days' subject specific trainings for farmers at RM level. In addition, activities under on-farm demonstrations include on farm production demonstrations like plastic mulching, zero tillage, pheromone and other traps, vegetable/fruit problem diagnosis and solving and internal/external parasite management in poultry and livestock, mineral block, ration formulation, roughage improvement, permanent poly-house farming techniques with drip irrigation, animal shed improvement and FYM management, and forage production, and conservation and supplement livestock feeding. The budget ceiling/cost, subsidy rate and expenditure details for each de monstration will be as per **Annex 3.1.** It will also support adoption of poly-house farming system in hills clusters at **85% subsidy** from the project. Details are presented in Table 3.10 and **Annex 7.1.**

Table 3.10: Demonstrations and field days

SN	Details of Activities	Unit	Target					
			Year 1	Year 2	Year 3	Year 4	Year 5	Total
1	District level training to leader farmers (seasonal and offseason vegetable farming) (district level) (3 days)	Number		7	8	8	8	31
2	Subject specific trainings for farmers (RM Level) (3 days)	Number		16	16	16	6	54
3	On-farm demonstrations:							
	3.1 Production (Plastic mulching, zero tillage, Pheromone and other traps, vegetable/fruit problem diagnosis and solving and internal/external parasite management in poultry and livestock, mineral block, ration formulation, roughage improvement etc.)	Number			300	300	300	900
	3.2 Permanent poly-house farming techniques (with drip irrigation)	Number			16	16	16	48
	3.3. Animal shed improvement and FYM management program	Number			100	100	90	290
	3.4 Forage production, conservation and Supplement livestock feeding	Number			40	30	10	80
4	Adoption support for poly-house farming system in hills	Number			100	100	100	300

Activity 11: Strengthening advisory services and skill development

155. The importance of capacity building of the target groups, farmers, grassroots extension workers, professional staffs and local leaders is very much important for the success of the project. Therefore, as part of technology dissemination and farmer skills development, several types and levels of training and observation tours have been provisioned which include from one day on the spot training to inter district observation to a few weeks of training and observation tour. The activities under this include: capacity need assessment (CNAA) of extension agents, private service providers, social mobilizers and farmers; one day RM level skill enhancement training to technical staffs under local municipalities, agro-vet dealers, lead farmers and social mobilizers based on need assessment; two week long FFS ToF to project staffs; three days cluster level training on food safety and quality; three days cluster level training on safe use of pesticides and chemicals for technicians/facilitators; two days district level awareness training on safe use of pesticides and chemicals for leader farmers; training for

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

VAHW; and vet kits for the VAHW. This will also include TA services from FAO-TA. Details of these activities are given in Table 3.11 and **Annex 7.1.**

Table 3.11: Strengthening advisory services and skill development

SN	Details of ctivities	Unit	Target					
			Year 1	Year 2	Year 3	Year 4	Year 5	Total
1	Capacity need assessment (CNAA) of extension agents, private service providers, social mobilizers, farmers	Number				1		1
2	RM level skill enhancement training to technical staffs under local municipalities, agro-vet dealers, lead farmers and social mobilizers based on need assessment (1 day)	Number			16	16	16	48
3	FFS ToF to project staffs (two weeks long)	Number			1			1
4	Cluster level training on food safety and quality (3 days)	Number			4	4		8
5	Cluster level training on safe use of pesticides and chemicals for technicians/facilitators (3 days)	Number			4	4		8
6	District level awareness training on safe use of pesticides and chemicals for leader farmers (2 days)	Number			8	8		16
7	Training for VAHW (new)	Number			2			2
8	Vet kits for the VAHW (new)	Times			2			2

3.4 IMPLEMENTATION STRATEGY

156. Implementation strategy for this component has been designed considering the current institutional arrangement, government policy, and Constitution of Nepal. Although the overall institutional and implementation aspects have already been depicted in previous Chapter 2, this reinforces them and highlights on those which need further emphasis while implementing activities in this component. This component will apply the following underlying strategies for implementation.

3.4.1 Coordination with Rural Municipalities (RMs)

157. Targeted RMs shall be engaged in planning, implementing, monitoring and evaluation of all activities indicated in this component. Additional activities suggested by the targeted RMs would be taken up with appropriate justification and approval of the PMU if found crucial to achieve PDO. Key to project activities will be strengthening the capacity of the RMs. Targets and activities will be annually reviewed and revised based on the recommendations of Annual Project Review Workshop.

3.4.2 Coordination with Province Governments

158. Project will coordinate with the MoLMAC of each of the three Provinces (Province 2, Bagmati and Gandaki) through the respective State Level Coordination Committees (SLCC) and keep them aware and updated on the project activities, avoid duplications and make best use of the available resources. The project will perform in coordination with Agricultural Resource Centres/Institutions established by the Province Governments. Wherever, possible and applicable, concerned competitive officials will be invited as resource persons and included in the capacity development programs and activities run by the project.

3.4.4 Technology Testing, Validation, Adaptation and Dissemination through Farmers Field Schools

159. As seen from the above, this component envisages using FFS as a platform for technology testing, validation, adaptation and dissemination. This also means that the role and performance of the FFSs would be crucial to this project. Therefore, it is very important to know where are they, how they formed and organized, and their dynamism and leadership. Instead of forming a new FFS, the project will assess if the existing FFS is active and contribute to the PDO and the component and sub-component objectives. Wherever possible, the existing FFSs will be mobilized with or without change in the composition keeping in mind that 65% of the direct beneficiaries will be female in this project, and that the participants of the FFS would be member of PGs.

3.4.5 Farmer to Farmer Extension

160. The component aims to enhance the capacity of the leader farmers and FFSs to promote farmer to farmer technology extension and dissemination. Not only AFSP, several projects have already demonstrated effectively that farmer to farmer extension is often more effective than through new graduate or young frontline extension workers. Considering this reality, this component emphasizes on training of trainers (ToT) for the leader farmers in order that they could effectively train their counterparts in the field supervised and guided by senior professionals/consultants/SMSs.

161. Aforementioned activities are tentative, there could be several other training programs based on the training needs assessment which will be carried out in the course of implementation of this component.

3.4.6 Mobilization of Technical Assistance Service Provider

162. The project will focus on cost-effective and best utilization of the TA services acquired by the project through the FAO. The TA will review training manuals, course curricula, FFS methodologies, other manuals, identify technologies (climate smart and nutrition sensitive) for teasing and validation, and provide technical assistance services to ensure the quality and timeliness of the training and other services, particularly undertaking on-farm technology testing, validation and dissemination through the FFSs.

3.4.7 Other Miscellaneous Activities

163. Other detail activities to be undertaken under this Component A are provided in the activity plan and cost-tables in **Annex 7.1.**

CHAPTER 4

4 COMPONENT B: INCOME GENERATION AND DIVERSIFICATION

4.1 INTRODUCTION

164. This component will contribute to the achievement of the PDO by strengthening household and community capacities in managing their productive assets more efficiently, stimulate market linkages, raising their income and build their resilience to climate risk. The objective of Component B is to improve and diversify the income generating capacity of targeted beneficiaries by reducing transaction costs through investments in critical business skills and productive assets, supporting value-added activities, and building market linkages. This component will consist of two sub-components viz. Sub-component B1: Strengthening Producer Groups (PGs) and Sub-component B2: Market linkages through Productive Alliances (PAs).

165. Based on the current available data, the gap between production and market access is huge for small farmers. This component will narrow down this gap.

4.2 SUB-COMPONENT B1: STRENGTHENING PRODUCER GROUPS (PGs)

4.2.1 Objective

166. This sub-component aims to organize and strengthen PGs representing the targeted smallholder farmers by organizing them around commodities of common interest, and enhance their capacity in terms of good governance and leadership skills, group dynamics, decision-making, problem-solving and risk management, book-keeping, meeting organization, agricultural seasonal planning, marketing, value addition, preparation of simple business plans, and simple M&E.

167. The component will build on Component A by working with the PGs to increase their market orientation and complementing the productivity enhancing skills acquired through the FFS approach.

4.2.2 Expected Results

168. The main expected output of this sub-component is strengthened capacity of PGs to prepare and submit saleable BP.

4.2.3 Key Activities

Activity 1: Organizing & capacity strengthening of PGs in crops and livestock

169. The key activities to be supported in this sub-component include: organizing/formation of PGs; three days RM level training to PGs on leadership, governance and group dynamics; three days RM level training to PGs on business management; organizing one day RM level training to PGs on agriculture seasonal planning; organizing two days RM level training on gender mainstreaming; organizing three days district level training to PGs representatives on preparation of simple business plan and entrepreneurship development; organizing one day RM level training to PGs representatives on negotiation skills with buyers and input suppliers; preparation and distribution of training manuals on farm business school and strengthening PGs; one day RM level orientation program for PGs about PAs; and implementation of Farm Business School (FBS). The budget ceiling/cost and expenditure details of FBS will be as per **Annex 4.2.** The project will prepare separate

guideline, curriculum and manual to implement the FBS. Details are given in Table 4.1 and **Annex 7.1**

Table 4.1: Organizing & capacity strengthening of PGs in crops and livestock

SN	Details of activities	Unit	Target					
			Year 1	Year 2	Year 3	Year 4	Year 5	Total
1	Organizing/formation of PGs	Number			1200	390		1590
2	Training to PGs on leadership, governance and group dynamics (RM level) (3 days)	Number			16	16	16	48
3	Training to PGs on business management (RM level) (3 days)	Number			16	16	16	48
4	Providing training to PGs on agriculture seasonal planning (RM level) (1 day)	Number			16	16	16	48
5	Providing training on gender mainstreaming (RM level) (2 days)	Number			16	16	16	48
6	Providing district level training to PGs representatives on preparation of simple business plan and entrepreneurship development (3 days)	Number			32	32	16	80
7	Training PGs representatives on negotiation skills with buyers and input suppliers (RM level) (1 day)	Number			16	16	16	48
8	Preparation and distribution of training manuals on farm business school and strengthening PGs	Number			2			2
9	Orientation program to PGs about PAs (RM level) (1 day)	Number			16	16		32
10	Implementation of Farm Business School (FBS)	Number				8	8	16

Organizing/Formation of Producer Groups

170. PG is formed with approximately 20 to 25 household members. It will be a common platform for the producers and entrepreneurs in ensuring access to multiple services. The members will be brought together in view of their solidarity around their common needs, economic activities and development potentials. While forming the group, the potential member HHs will be familiarized with the scope and benefit of their united action as producers collectively.

171. In order to establish common leveling of PGs understanding about the activities to be pursued, they will be briefed on the following aspects as a part of FFS approach inbuilt within the project.

- Name of the PG,
- Objectives and activities,

- Membership norms and the fee structure (as applicable),
- Functional committee/sub-committees,
- Office bearers in each committee (e.g. Chairperson, Secretary, Treasurer),
- Roles and responsibilities of the officer bearers and members,
- Resource mobilization strategy,
- Book keeping arrangements,
- Frequency of meetings,
- Investment and benefit sharing strategies, and
- BP preparation.

Governance Structure of Producer Groups

172. The governance structure of the PG will comprise General Assembly, Management Committee and Functional Sub-committees (as necessary). The General Assembly will be the policy making body represented by all members, while the Management Committee and the Functional Sub-committees will be the executive body formed for specific tasks or responsibilities. At least one third members in the PG management committee will be female and that two key positions (Chairperson, Treasurer and Secretary) will be held by women.

173. Setting goals and objectives of the PG will be the responsibility of General Assembly. The General Assembly will meet at least once a year with a quorum of at least 51% members as the minimum. The frequency of meeting can be more than once per year depending upon the need at the initial stage for designing rules and procedures for the PG.

174. The Management Committee will be the executing body for the decisions taken by the General Assembly. It will take business decisions for the benefit of group members as given below.

- Linking credit and other inputs supply,
- Supporting productivity enhancement process with greater value additions,
- Better-priced marketing of products,
- Procurement, storage and transfer of goods, and
- Reporting progress to the members.

175. The Committee will be formed with three office bearers (Chairperson, Secretary and Treasurer). They will be the members selected by the General Assembly for a fixed tenure of two years. In order to assist the work of the Management Committee, an Accounts Sub-committee will be formed. The Management Committee will be responsible for planning, implementing and monitoring of the group activities, while the Sub-committee will maintain accounting standards and verify compliance to the fiduciary norms, values and procedures approved by the General Assembly. It also examines the investments made and returns generated from such investments.

176. The members of the Management Committee and Accounts Sub-committee will be selected with consensus of the members in the General Assembly. Of the total members selected, at least 33% officer bearers will be women.

177. Tables 4.1, 4.2 and 4.3 below present tentative activities to strengthen PGs which are disaggregated by (a) direct support or intervention to PGs, and (b) capacity enhancement related activities to enable the technical staff, and frontline extension workers (FLEWs) of the grassroots agencies such as RMs and PCUs to enhance their capacity to support PGs and complementary activities to be undertaken by PCUs or RMs as part of activities to strengthen their capacities. These complementary activities will need to be undertaken in order that they would be able to support PGs effectively as envisaged by the project.

Capacity Building of Producer Groups

178. Strengthening capacities of PGs or the members of PGs to undertake crop and livestock related business activities to generate income and improve farmers' livelihoods. These mainly include capacity building of PGs on agriculture seasonal planning, preparation of simple BPs and entrepreneurship development and business management, and negotiation skills with buyers and input suppliers. Capacity building of PGs also includes imparting knowledge and skills on leadership, governance, group dynamics, gender mainstreaming, PAs, and and distribution of training manuals on farm business school and strengthening PGs.

4.3 SUB-COMPONENT B2: MARKET LINKAGES THROUGH PRODUCTIVE ALLIANCES (PAs)

179. Production is important aspect but it does not guarantee income generation unless it is linked with the market. Hence, this sub-component of the project will put effort on building producers' institutions like PAs in order to link production with the market. The five major areas to be focused on in this sub-component include: carrying out studies on value chain and market as well as mapping of potential buyers and sellers at RM cluster; establishment of a multi-stakeholder dialogue platform among key actors in value chains; and financing simple BPs through MGs andsupporting the development of critical market infrastructure.

4.3.1 Objective

180. This sub-component aims to consolidate the linkages between PGs and market actors, including micro, small and mid-size enterprises, traders, and Microfinance Institutions (MFIs) by: i) deepening the understanding of agriculture value chains and markets in the targeted areas; ii) developing a multi-stakeholder dialogue platform bringing together the producer base and market actors; iii) the provision of financing for simple BPs developed under Sub-Component B1 through a MG scheme; and iv) financing the upgrade/rehabilitation of critical market infrastructure.

4.3.2 Expected Results

181. The expected results of this sub-component are:

- 1,590 number of PGs supported with the major project interventions inter-linked with Component A:
- 448 numbers of simple BPs financed by the project through MGs;
- 106 numbers of critical market infrastructure constructed/rehabilitated; and
- Market linkage through Productive Allainces and multi-stakeholder dialogue platform among key actors in value chains established.

4.3.3 Activities

182. To facilitate the inclusive development of the targeted value chains, this sub-component will finance the following activities.

Activity 2: Market linkages through multi-stakeholder dialogue platform

183. This will include formation of RM level multi-stakeholder dialogue platform involving key actors of value chain, organization of meetings of the platform at RM level, and oneweek long knowledge sharing and exposure trips for selected PGs representative for dissemination and replication of good practices. The project will develop **guidelines** for establishing multi-stakeholder dialogue platform and Productive Allainces. Details of these activities are presented in Table 4.2 and cost in **Annex 7.1.**

Table 4.2: Details of activities for market linkage development

SN	Details of activities	Unit	Target					
			Year 1	Year 2	Year 3	Year 4	Year 5	Total
1	Formation of RM level multi-stakeholder dialogue platform (involving key actors of value chain)	Number			16			16
2	Meeting of RM level multi-stakeholder dialogue platform	Times			48	48	48	144
3	Knowledge sharing and exposure trips for selected PGs representative for dissemination and replication of good practices (1 week)	Number			4	4	4	12

Activity 3: Financing simple BPs through MGs

184. MG scheme will be implemented to finance eligible BPs that demonstrate real potential for marketing and income generation for the target beneficiaries, contribute to building climate resilience, and make investments to enhance food safety. This will be accessible to eligible smallholder producers in groups to finance the simple BPs developed under Sub-component B1.

185. For this the project will support: development and publication of matching and small grant guidelines and manuals; organization of one day workshop for identification of potential MFIs to fund BPs at project RMs; formation of project cluster level selection committee for selection of BPs; making provision of MG to fund BPs; organization of two days orientation on ESMF to project staffs; organization of cluster level five days training on ESMF to municipal level technicians and local service providers; and organization of one day orientation on ESMF to beneficiaries of the matching and small grant and other project activities at RM level. The details of these activities are presented in Table 4.3 and **Annex 7.1.** The budget ceiling/cost, subsidy and expenditure dertails for matching grants will be as per **Annex 4.2.**

Table 4.3: Financing simple BPs

SN	Details of activities	Unit	Target					
			Year 1	Year 2	Year 3	Year 4	Year 5	Total
1	Development and publication of matching & small grant guidelines and manuals	Number		1				1
2	Workshop for identification of potential MFIs to fund BPs at project RMs (1 day)	Number			16			16
3	Formation of project cluster level selection committee for selection of BPs	Number			4			4
4	Provision of MG to fund BPs	Number			150	150	148	448
5	Orientation on ESMF to project staffs (2 days)	Number			2	2		4
6	Cluster level training on ESMF to municipal level technicians and local service providers (5 days)	Number			4	4		8
7	Orientation on ESMF to	Events			16	16	16	48

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

SN	Details of activities	Unit	Target					
			Year 1	Year 2	Year 3	Year 4	Year 5	Total
	beneficiaries of the matching and small grant and other project activities (RM level) (1 day)							

186. The mobilization of the grant element will be subjected to the mobilization of the PGs own resources and the credit extended by the MFIs (where applicable).

187. A separate MG and small grant implementation guideline/manual will be developed and included as an annex to this PIM **(Annex 4.1)** after the completion of the following three tasks (a) official establishment of the PMU, (b) recruitment of the TA, and (c) completion of the baseline study. Inputs of the baseline study was important to develop the grant operating manual and discussions with key stakeholders including PSC and SLCCs and target RMs. Neverthless, a conditionality mechanism has been built into the MG to ensure that the sub-projects do not generate negative externalities, and will be screened for potential adverse effects on the environment and public health, as well as to ensure minimum gender participation within the grant recipients **(65% of all grant recipients will need to be female).**

188. In order to guide MFIs involvement, the MG mechanism will adhere to the following principles: i) participating MFIs will need to pass due diligence as prescribed by the GoN and the WB; ii) MFIs will be pre-screened to ascertain solvability; iii) MoU needs to be signed between PMU (GoN) and participating MFIs, specifying the service fee and joint monitoring and supervision by PMU and MFI; iv) Interest rate will be the market rate to avoid distortionary effects; and v) In case of failure/default, MFIs can pursue loan recovery through first charge over beneficiary assets. MG and Small Grant implementation guideline has prescribed due diligence to be complied by the PGs as minimum conditions to qualify for the MG.

189. The eligibility criteria will include a financially and technically sound PG business plan detailing the investment costs and financing; the operational and general costs; technologies considered; targeted markets and input/output price assumptions; organizational and capacity-building needs and proposed activities; and operational, environmental and social risks and mitigation measures. A key objective of the MG scheme is to consolidate the productive partnerships with buyers and agri-business, for that reason, project resources earmarked for MGs will be allocated contingent on the existence of (in-) formal off-take arrangements with buyers, as the MGs should be allocated to match existing demand of buyers and not be based on market forecasts or speculation. The project envisages establish Cluster Level Selection Committee (CLSC) to undertake the screening of ideas of Sub-Projects/BPs from the beneficiary PGs. The selection committee will comprise of members from the PCU, municipalities, local farmers' association, and MFIs that will provide financial support to fund eligible proposals. The project will provide **matching grant** to the PGs to **finance BPs at 85% subsidy.** It is expected that the **beneficiaries will contribute** matching fund of around **15% of the total cost** of the scheme either on **cash or kind or both.** This cost sharing (cash or kind or both) strategy is proposed considering the poverty and vulnerability level of the target groups. The MG provision will be maximum **NPR 600,000** to enhance participation of a greater number of PGs.

190. The following flow diagram shows process/steps of financning simple BPs through MGs scheme under component B.

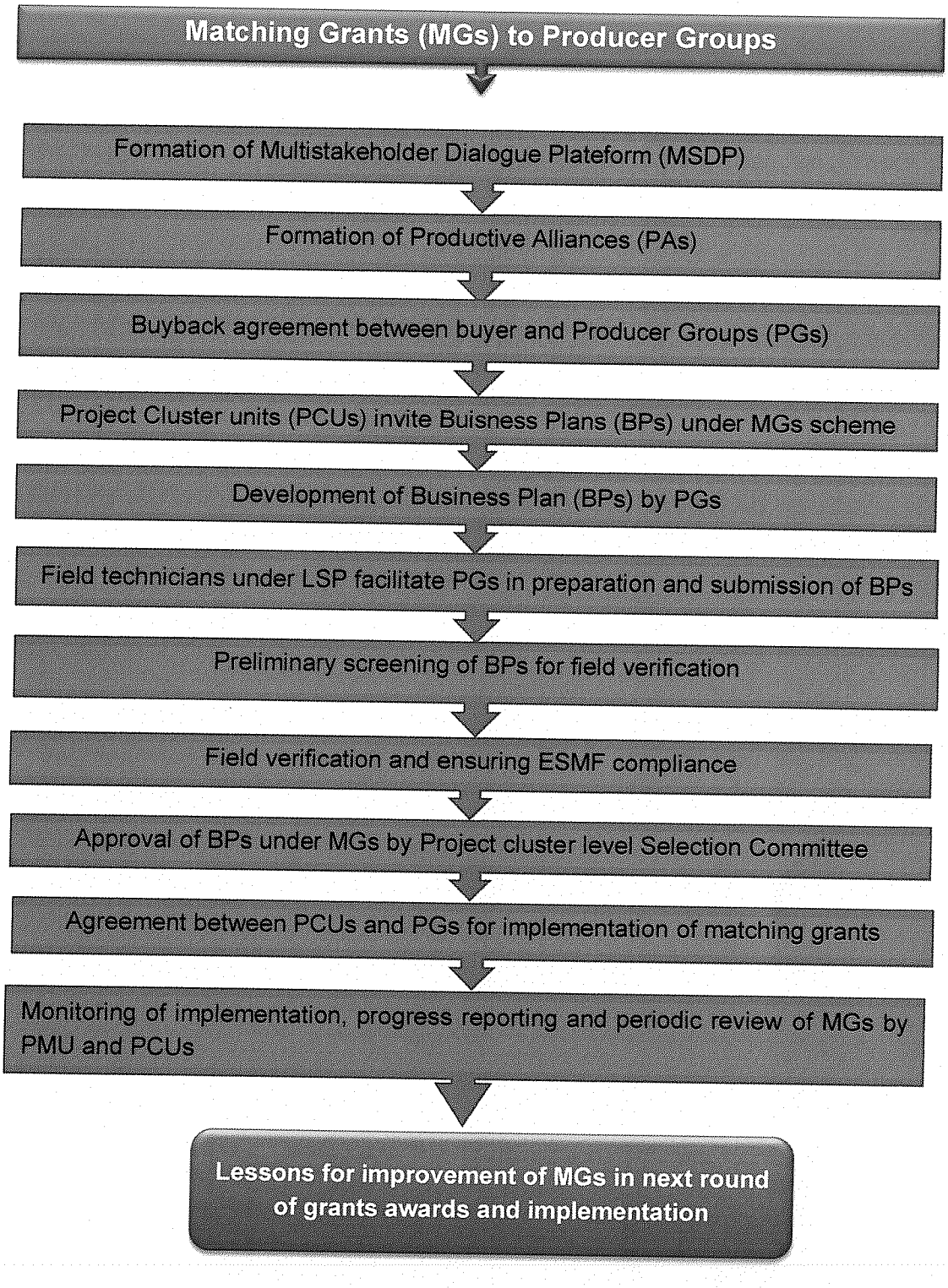


Figure 4.1: Flow Diagram for Implementation of Matching Grants in FANSEP

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

Activity 4: Development of critical market infrastructure

191. The exact locations of the investments will be based on a market infrastructure inventory and needs assessment to ascertain a clear need or public good requirement which is not being met by other infrastructure projects currently under implementation. These investments will particularly focus on market rehabilitation which complements the BPs funded under the MG scheme. Operation and maintenance (O&M) activities and related capacity building will be provided for the rehabilitated market infrastructure. The project will train FGs to manage these facilities to ensure their profitability and sustainability. In addition, the project will facilitate the quality control and certification of the above infrastructure per relevant standards and requirements. The provision of this market infrastructure will be done through grant agreements taking into account contributions from farmers and FGs. It is expected that these investments will also promote the adoption of advanced quality management systems by exposing the PGs to model markets, handling and processing facilities. This will improve the overall food safety and hygiene conditions across the commodity chain through demonstration effects. These investments in different locations across the project area will, thus, serve as learning centers for different stakeholders to work together in improving basic market infrastructure and marketing management practices and replicate the successful lessons.

192. The important activities to be supported for the development of critical market infrastructure include: conducting feasibility study for establishment of new village market and collection centers including market infrastructure inventory and market need assessment for rehabilitation, handling and processing structures; support to village markets, collection centers, Hat Bazar infrastructure rehabilitation/improvement; support to establish handling and processing structures; organization of one day capacity building training for rehabilitated market staffs, PGs, relevant stakeholders, etc. on O&M, overall market management at RM level; organization of international exposure visit to expand knowledge on productive alliances and market management; organization of one week training to project staffs for adoption of GAP/GMP/GHP/GVP/HACCP; organization of two days district level training to PGs for adoption of GAP/GMP/GHP/GVP/HACCP; and organization of one day district level capacity building training of agro-vet, VAHW and others PAs actors for quality control, certification, food safety and hygiene etc. The project will provide **85 % subsidy** on establishing/rehabilitation of critical market strucutrues mentioned in Table 4.4. The construction cost for these infrastructures shall follow the **district cost rate & technical cost estimate** of the construction/scheme. It is expected that the beneficiaries will contribute counterpart/matching fund of **around 15% of the total cost** either **on cash or kind or both**. Activity details are given in Table 4.4 and cost details on **Annex 7.1.**

Table 4.4: Critical market infrastructures

SN	Details of activities	Unit	Target					
			Year 1	Year 2	Year 3	Year 4	Year 5	Total
1	Feasibility study for establishment of new village market and collection centers (including market infrastructure inventory and market need assessment for rehabilitation, handling and processing structures)	Number		4				4
2	Support to village markets, collection centers, Hat Bazar infrastructure rehabilitation/improvement	Number			16	16	8	40
3	Support to establish handling and processing structures	Number			26	26	14	66

SN	Details of activities	Unit	Target					
			Year 1	Year 2	Year 3	Year 4	Year 5	Total
4	Capacity building for rehabilitated market staffs, PGs, relevant stakeholders, etc. (O&M, overall market management (RM level) (1 day)	Number			4	6	6	16
5	International exposure visit to expand knowledge on productive alliances and market management	Number			1	1		2
6	Training to project staffs for adoption of GAP/GMP/GHP/GVP/HACCP (1 week)	Number		1	1			2
7	District level training to PGs for adoption of GAP/GMP/GHP/GVP/HACCP (2 days)	Number			8	8	8	24
8	Capacity building of agro-vet, VAHW and others PAs actors for quality control, certification, food safety and hygiene etc. (district level) (1 day)	Number			8	8	8	24

193. Apart from the activities mentioned above, the project will support for TA service from FAO-TA together with conducting studies on value chain analysis, market and mapping of potential buyers and sellers at rural municipality cluster.

4.4 IMPLEMENTATION STRATEGY

4.4.1 Establishment of a multi-stakeholder dialogue platform among key actors in value chains

194. A multi-stakeholder dialogue platform will be developed to provide a mechanism for identifying key issues, setting priorities, and coordinating actions along agriculture commodity chains. This activity will also support knowledge sharing and exposure trips for selected PG representatives to disseminate information related to good practices that can be replicated, market opportunities, and results. This platform will be established with the concept of one value chain one platform. The participants in the platform could be producers, entrepreneurs, financers, traders (exporters, wholesale traders and retailers), processors, regulators, service providers (public, private and non-government) and so forth. Membership in the platform will be open and voluntary. Initially, TA will trigger the process and assist to organize value chain round table meeting (VCRTM) through the platform.

195. FANSEP expects to enhance market linkages through this innovative platform among the producers and entrepreneurs with improved transactional information services. For this, support will be provided for ICT facilities development at the central location of the service centers at the cluster levels.

4.4.2 Partial Financing of BPs through MG Assistance Scheme

196. Selected BPs of the PGs that clearly demonstrate market potential will be financed through a combination of project financing (grant element), a contribution from the PGs (in cash or kind or both), and, where feasible, short to medium-term credit provided by participating MFIs. **A separate small and MG implementation guideline** will be developed and included in an **Annex 4.1 of this PIM.** The MG instrument is included in the project based on indications that market failures limit credit access to small-scale emerging farmers

who are willing to invest some of their own capital in productive on-farm investments in crop and livestock. In addition, the grants provide a unique opportunity to support and incentivize access to privately provided technical services where needed. Eligible BPs may include, inter alia, group infrastructure (e.g., crop and livestock commodities storage facilities, collection centers, produce cooling and processing equipment, packaging equipment, etc.), improved crop varieties and breeds (e.g. drought resistant crop varieties, breeds and technologies tested and validated under Component A, etc. A conditionality mechanism will be built into the MG to ensure that the sub-projects do not generate negative externalities, and will be screened for potential adverse effects on the environment and public health, as well as to ensure minimum gender participation within the grant recipients **(65% of all grant recipients will need to be female).**

4.4.3 Arrangement for the Allocation of MG Fund

197. The PGs will be supported with MG funds upon assessment of their BPs. The extent of support provided will not exceed 85% of the total cost of the selected scheme. Such support will be provided to the enterprises under three different categories in view of the nature of the proposed scheme, its scale of operation and the capacity to provide the enterprise owned fund.

198. The project will support (through TA) market and value chain studies for the identification of potential areas requiring matching grant support covering the activities such as dairy, poultry, goat, seeds and post-harvest infrastructures through PA in the PGs. Such studies will be followed by the advertisement of eligibility criteria for the selection of the BPs for competitive grants. Attempts will be made to fund the possibilities for viable activity gaps where applicable. Studies will be outsourced for the assessment of potential value chains covering some agriculture and livestock based commodities (e.g. fruits, vegetables, poultry and dairy). Emphasis will be given for the promotion of value chains on high value but low volume commodities to generate higher margins of profit with smaller transport costs.

199. Commodity production, processing and marketing linkages will be developed by establishing contacts with the related industries and traders and through promotion of improved market access and linkages. Learning opportunities will be provided to the collectors and processors about the value chain activities and their associated benefits by organizing inter-cluster/inter-district exposure visits.

200. The project will keep rooms open for new initiatives with MGs for innovative technologies. It will provide opportunity for the PGs to pilot new activities emerging out of their experiences as relevant to the project objectives, based on the evaluation of their business plans. Support will also be extended for storage, quality control and packaging facilities for the development of commodity value chains.

201. Grant will be provided based on the BP submitted by the eligible PG or its members. The BP will be very simple, to be exclusively prepared in Nepali languge by the interested and eligible applicants after the training provided by PCUs in collaboration or support of the TA. The grant will be delivered on rolling basis, till the fund exhaustion. The details for implementation of MGs will be given in small and matching grant implementation guideline **(Annex 4.1)** while the cost details and expenditure details are given in **Annex 4.2 and 7.1.**

4.4.4 Provision of Community Infrastructure Development through Producer Groups

202. The project will support small community infrastructure such as irrigation systems, storage facilities, post-harvest infrastructural requirements, farm machinery, etc. development activities through MG mechanism. Such support will be provided to selected PGs. The project will also assist the PGs in establishing link with other agencies and project

supported community infrastructure work by signing MoU wherever possible. It also contributes to creation of community infrastructures desired for utilization in promoting productive activities in the village. Depending upon the priorities decided by the PGs, emphasis will be given for supporting the construction and rehabilitation works that directly or indirectly contributes to production, post-harvest and marketing processes. In this regard, the selected activities for support might cover development of the micro-irrigation, gravity ropeway, post-harvest infrastructure, storage facilities and marketing sheds. In view of the possibilities of construction and rehabilitation works of the community infrastructure being expensive, the project will encourage effort of the PGs for joint ventures with other agencies (e.g. RMs, District Coordination Committees (DCCs) and other projects) wherever possible.

4.4.5 Support to Critical Market Infrastructure

203. The project will invest in market infrastructure rehabilitation ("Haat Bazaars") to support a better integration of smallholders in agriculture value chains and facilitate their access to market opportunities. The exact locations of these investments will be based on a market infrastructure inventory and needs assessment to ascertain a clear need or public good requirement which is not being met by other infrastructure projects currently under implementation. These investments will particularly focus on market rehabilitation which complement the BPs funded under the MG scheme. O&M activities and related capacity building will be provided for the rehabilitated market infrastructure. The project will train FGs/PGs to manage these facilities to ensure their profitability and sustainability. The provision of this market infrastructure will be done through grant agreements taking into account contributions from farmers and FGs/PGs. It is expected that these investments will also promote the adoption of advanced quality management systems by exposing the PGs to model markets, handling and processing facilities. This will improve the overall food safety and hygiene conditions across the commodity chain through demonstration effects. These investments in different locations across the project area will thus serve as learning centers for different stakeholders to work together in improving basic market infrastructure and marketing management practices and replicate the successful lessons.

4.4.6 Mobilization of Technical Assistance

204. TA will assist PGs to identify the commodities with the greatest market potential and improve the understanding of supply and demand by identifying, characterizing, and mapping producers, potential buyers, input and service providers, MFIs, barriers to and lessons learnt from earlier initiatives, etc. The information, thus, generated will feed into an ICT-based information system on markets, prices, services, financial products, and technology that will be open to all key value chain actors in the targeted areas. They will conduct value chain analyses, market studies, and diagnostics in the targeted rural municipality clusters.

205. TA will be used to strengthen PGs to improve their "Farming as a Business" skills and help build their knowledge and business acumen to make their farm operations more profitable. This support is expected to lead to better organizational management, business planning and making market led production decisions. Specific emphasis will be given to building women and youth leadership skills.

CHAPTER 5

5 COMPONENT C: IMPROVING NUTRITION SECURITY

5.1 INTRODUCTION

206. Many tend to equate food security with nutrition security despite a big difference between the two. While the two are closely linked, food security is necessary but not a sufficient condition of nutrition security. In Nepal, the concept of nutrition security has evolved from over time from the 'Multi-sectoral Nutrition Planning' approach in 1970s and United Nations Children's Fund (UNICEF) conceptual framework. Of the three important dimensions of the nutrition security, the two dimensions (a) care and feeding practices, and (b) sanitation and health are not adequately addressed in the food security, except the third dimension, access to adequate nutrient rich food. Therefore, this component of the project focuses on the nutrition security.

207. This component addresses the underlying causes of malnutrition and making the food system responsive to these causes with a view to providing adequate, safe, diversified and nutrient-rich food through the establishment of year round home gardening at household level, conducting nutrition awareness programs, training, demonstration of cooking nutritious food/snacks, celebrating various nutritionally important events and days and nutrition field schools (NFSs) and home nutrition gardens (HGNs).

208. While malnutrition is a condition resulting from a diet with either too little or too much nutrition, understanding underlying causes of malnutrition is important. Malnutrition ranges from severe undernutrition to overweight and obesity. Causes of malnutrition are different to different districts, different locations and different livelihoods groups. Therefore, for effectively responding to malnutrition, it is crucial first to identify underlying causes of malnutrition. Nepal has committed to the global communities to end all forms of malnutrition by 2030[18].

209. Contemporary studies show that variations in the prevalence of undernutrition are seen by age, gender, ethnicity and caste groups, socio-economic status, and region. While stunting is slightly higher among males (36%) than among females (35.7%), the opposite is true for wasting and underweight. Wasting is 9.8% among females compared to 9.5% among males and underweight is 27.4% among females compared to 26.7% among males (MoHP, 2016). From a geographic perspective, rural areas have significantly higher prevalence of stunting (40%) than urban areas (32%) (MoHP, 2016). More specifically, Nepal's mountain region has the highest prevalence of severe stunting (19%) and moderate stunting (47%) compared to the hills and Terai (MoHP, 2016). Nearly 2.3 Million People in Nepal (8.1% of the total population) are undernourished. Although average food energy uptake has increased in Nepal from 2,855 kcal/capita/day in 2011 to 2,922 kcal/capita/day in 2013, NPC reported that 41% people are undernourished[19] in Nepal.

210. According to the Nepal Demographic Health Survey 2016, in Nepal, in 2016, 27% of children under five were underweight, 36% were stunted, and 10% were wasted[20]. Likewise, nutritional status of women is also poor. The study reported that, in overall, 17% of Nepalese women are underweight [Body Mass Index (BMI) <18.5], another 17% of women are overweight (BMI 25 to 29.9) and 5% are obese (BMI >30) (MoHP, 2016). The data further revealed 41% women anemic in 2016 which was 6% increase from that of 2006 situation. However, incidence

[18]Sustainable Development Goal 2 is about ending hunger and all forms of malnutrition.

[19]Government of Nepal together with UNICEF, WB Group and the WFP has defined undernutrition in terms of average calorie intake below 2,200 kilocalories per person (Small Area Estimation of Food Insecurity and Undernutrition in Nepal, 2014).

[20] Gautam R., Suwal, R. and Shrestha, P.K. 2004. Status of home gardens of Nepal: Findings of baseline survey conducted in four sites of home garden project. Paper presented at the Second National Sharing and Learning Workshop of Home Gardens in Pokhara Nepal, 6-7 August 2004, LI-BIRD, Nepal.

of anemia among pregnant women has decreased by 2% between 2006 and 2016 due to some imporvements in diet habits.

211. Under the new federalized context, the project will support an enabling environment for improved service delivery including technical backstopping and strengthened coordination. Building extensively on the experience gained from AFSP, the WB supported SSNP-PAF pilot on nutrition interventions, and the MSNP-2, the project will work directly with communities including FCHVs using a community-driven, skill-based learning approach known as 'NFS' to remove barriers for improved dietary and care practices by supporting a package of inputs and services complemented by BCC for improved utilization of available foods, care practices, food safety, access to public health services etc.

212. Key expected results from this component are improvement on the FIES by direct beneficiaries (gender disaggregated) and improvement in dietary intake for pregnant and nursing women and children between 6-24 months.

213. This component will consist of two sub-components, i.e. Institutional Capacity Strengthening and NFS & HNGs.

5.2 SUB-COMPONENT C1: INSTITUTIONAL CAPACITY STRENGTHENING

5.2.1 Objective

214. Focused on institutional capacity strengthening, the objective of this sub-component is to support sub-national (provincial and local governments) nutrition and food security coordination networks and public outreach delivery in the project areas based on capacity needs assessment and participatory diagnosis of the underlying causes of malnutrition. Therefore, the Project will conduct those training and capacity strengthening related activities that would directly respond to causes of malnutrition.

215. The delivery of the major part of the FANSEP depends upon capacity of the government agencies, women FGs, health mother groups/nutrition groups. Field study of FANSEP and lesson learned of various projects and programs have indicated the need of training and orientation activities for them to enhance their awareness, analyze the causes of malnutrition and respond accordingly. This project will support provincial and rural municipality level government especially provincial and local level networks and public outreach delivery in the project areas through training of stakeholders on nutrition sensitive planning and actions. The FANSEP will also strengthen capacity of the DFTQC to regulate market and promote balanced, safe and nutritious foods in the project areas.

5.2.2 Expected Results

216. Expected results of this sub-component are (a) increased number of institutions (public, private, non-governmental and cooperatives) whose capacities have been strengthened for examining underlying causes of mal-nutrition, and (b) increased number of institutions delivering services related to the establishment and operation of NFSs and HNGs project.

5.2.3 Key Activities

217. This component has proposed various activities to strengthen the institutional capacity strengthening of public, non-governmental and private entities involved in improving nutrition security related activities in the project areas. These are linked to activities related to capacity building and strengthening of institutions involed in the improvement of nutrition security at province and local level. These activities among others, include programme orientation and interaction to stakeholders, assessment, development and analysis of food recipes by DFTQC, training/orientation to local school teachers and students on importance of locally produced nutritious foods, training for local government agencies particularly RM and selected CBOs.

Activity 1: Institutional capacity building and strengthening

218. For building and strengthening the capacity of institutions involved in nutrition security the project will support the activities listed in Table 5.1 and **Annex 7.1.**

Table 5.1: Activities related to institutional capacity building and strengthening

SN	Details of activities	Unit	Target					
			Year 1	Year 2	Year 3	Year 4	Year 5	Total
1	Prepare and publish training modules of officials for roles in MSNP II	Number			1			1
2	Municipality level interaction program for capacity strengthening of local food and nutrition security committee (1 day)	Events			16	16		32
3	Training to public outreach services for understanding of local nutrition impact pathways and to delineate respective roles and responsibilities (women's group, mother's group, influencers/ change agents, FCHVs, social mobilizers, Junior Technicians) (RM level) (1 day)	Events			48	48	48	144
4	Qualitative assessment of local dietary practices by DFTQC	Number			8			8
5	Development and analysis of food recipes by DFTQC (complementary food based on local dietary habits, food environment, and energy needs)	Number			8			8
6	Training/orientation to local school teachers on importance of locally produced seasonal foods, vegetables, fruits and animal products consumption (RM level) (1 day)	Number			42	42	44	128
7	Orientation to School Students on importance of locally produced seasonal foods, vegetables, fruits and animal products consumption (1 day)	Number			52	52	56	160
8	Training on improvement of local food recipes for mother groups representatives (RM level) (1 day, demonstration included)	Number			10	10	12	32
9	Participation on agriculture fair/exhibition	Number			8	8	8	24

219. **Intervention Strategies:** The basic strategies to design interventions related to institutional capacity strengthening of local agencies, mothers' groups (1000 day's targeted), women's' group and private agencies will be as follows:

- Enhancing women's empowerment through training and awareness;
- Encouraging resilience capacity of women's group, health mother/nutritiongroups and other various agencies for food security and nutrients supply;
- Imparting effective BCC messages to promote good food behaviors and practices;
- Developing effective skills for Infant and Young Child Feeding (IYCF) to reduce undernutrition especially stunting among children;
- Imparting knowledge and enhancing skills through participation in NFS; and

- Demonstration of technology introduced in HNGs and value of consumption of seasonal green leafy vegetables and fruits through HNG (linking with Components A–C).

5.3 SUB-COMPONENT C2: NUTRITION FIELD SCHOOL AND HOME GARDENS

5.3.1 Objective

220. The overall objective of this sub-component is to support, a skill-based learning approach, known as NFS in each target community, following behavior change theory in order to remove barriers and identify catalysts for improved food-based nutrition practices. Building on Nepal's long tradition of users' group formation and social mobilization, the project will work with and strengthen current community institutions, particularly women's groups through the FCHV. The experience of the AFSP has demonstrated that an integrated community-based approach is a successful model for addressing the multiple underlying causes of malnutrition faced by rural populations in diverse agro-ecological zones.

221. **Behavior Change Theory:** Changing peoples' behavoir is a challenging and complicated task. There are various models and theories to explain behaviour change such as Social Cognitive Theory, Theory of Planned Behavior, Transtheoretical (Stages of Change) Model, and so forth. While different theories have different assumptions, describe change processes differently, and may inform practices differently, nonetheless the final coutcome is the "Behavoir Change". No theory can be perfect and universal. Against this background, this sub-component will be focused on BCC. Whatever the model or theory taken into account, changing behaviour requires change in knowledge, attitude and practice (KAP). Hence, this sub-component will work with and strengthen community institutions to remove barriers and identify catalysts for improved food-based nutrition practices in the targeted RMs. Central to this sub-component is to make things visible.

222. Under this sub-component the project will support activities related to three areas namely NFS, HNG and providing small grants.

5.3.2 Expected Results

223. Expected results of this sub-component are:

- increased access of nutrition services and products to 57,500 people through NFS, small grants and HNGs ;
- number of NFS, small grants and HNGs supported and conducted during the project period will be 128, 504 and 840 respectively; and
- improved household dietary diversity (HDD), particularly among nursing mothers and children under two years (1000 day mother target) increased by 20% than the baseline.

5.3.3 Key Activities

224. This sub-component supports the establishment and operation of NFSs and HNGs and implementation of small grants.

Activity 2: Nutrition Field School (NFS)

225. Pioneered by USAID's SPRING/Feed the Future Program in Bangladesh, the NFS, combines three evidenced-based strategies to improve nutrition security: essential nutrition and hygiene actions; homestead food production; and FFS. The Banagladesh Pilot Project showed that this learning-by-doing approach has had demonstrable effects on women's dietary diversity (increasing from 3.9 to 6 out of 10 food groups over the project period). Likewise, the study reported increase in consumption of egg from 28 to 62% and drop in diet inadequacy from 72 to 16%[21].

[21] https://www.spring-nutrition.org/sites/default/files/countries/factsheets/spring_bangladesh_fact_sheet.pdf

226. While elements of NFSs in Nepal are not novel, they have not always been implemented as a full package. Under the FANSEP, NFS activities will follow a theory of behavior change over the course of a two year period including sessions on the identification of locally-available nutrient-dense foods (e.g. in Terai particularly iron-rich foods), nutrition-sensitive agriculture, food safety, HNG, hygiene and WASH education, improved cooking techniques, complementary feeding practices, and promoting HHs to avail government services, particularly health services for deworming, supplementation, institutional delivery, antenatal and post-natal consultations, vaccinations etc. In short, NFS is an adaptive approach to facilitate communities to identify relevant actions for improved nutrition behaviors. For effective delivery, the project will support agriculture and health service delivery including technical backstopping and strengthened coordination.

227. The experience of the AFSP has demonstrated that an integrated community-based approach is a successful model for addressing the multiple underlying causes of malnutrition faced by rural populations in diverse agro-ecological zones. Under this new project, a skill-based learning approach, known as NFS, will be supported in each target communities, following behavior change theory in order to remove barriers and identify catalysts for improved food-based nutrition practices. Building on Nepal's long tradition of users' group formation and social mobilization, the project will work with and strengthen current community institutions, particularly women's groups. Since 1988, each ward has been supported by a FCHV, who acts as a bridge between the community and health facilities to enhance access to health services and support family planning[22] (Cunningham et al., 2017). FCHV's, as volunteers, have served as frontline workers for many projects, mainly focused on nutrition-specific support and increasingly address to nutrition-sensitive issues. Cognizant of this workload, additional support will be required to further mobilize expertise on issues related to addressing underlying causes (including livestock, agriculture etc.).

228. The target group of the NFS will include existing mother's groups, the FCHV, and women of reproductive age, particularly those in the 1000 days as well as influencers/change agents. The budget ceiling/cost and expenditure details for NFS will be as per **Annex 5.1.**

229. **An NFS guideline, curriculum and manual** will be developed, utilizing materials and lessons learned under the AFSP. A cadre of facilitators will be trained and their first assignment will be to conduct a participatory identification of barriers faced at community level for improving women's dietary diversity and complementary feeding practices. Based on prioritized behavioral barriers and possible solutions identified, each selected community will submit a proposed plan for inputs and services (from a package similar to AFSP) such as iron and vitamin-rich seeds for HNGs, fast maturing fruit sapling material, livestock and backyard poultry to improve access to animal-based foods, small processing technologies to grind for example complementary cereal mix, or bore holes for sanitation and watering of homestead gardens. Amenities required to reduce drudgery for women may also be part of these proposals as well as child care facilities. The proposals will be financed by the project as small grant on an output-basis and will be implemented by the NFS members with technical backstopping from service providers (mobilization for these services will be supported by the community mobilizers/facilitators and TA for technical backstopping will be included in sub-component C1 as indicated above). Lastly, the project will advocate for the promotion of a balanced food plate as research is currently ongoing.

230. A separate **MG and small grant implementation guideline/manual** will be developed and attached as **Annex 4.1** for operation of small grant. Neverthless, a conditionality mechanism has been built into the small grant to ensure that the sub-projects do not generate negative externalities, and will be screened for potential adverse effects on the environment and

[22] Cunningham, K., Headey, D., Singh, A., Karmacharya, C., Pandey Rana, P. 2017. Maternal and child nutrition in Nepal: Examining drivers of progress from the mid-1990s to 2010s. ELSEVIER: Global Food Security, Volume 13, June 2017, Pages 30-37

public health. This guideline has also prescribed due diligence to be complied by the health mother/nutrition groups as minimum conditions to qualify for the small grant.

231. The screening of proposals submitted from the NFS members, health mother groups/nutrition groups will be done by Cluster Level Selection Committee (CLSC). The project will provide **small grant** to health mother/nutrition groups to **finance submitted proposals at 85% subsidy.** It is expected that the beneficiaries will contribute **counterpart/matching fund** of **around 15% of the total cost** of the scheme either **on cash or kind or both.** This cost sharing (cash or kind) strategy is proposed considering the poverty and vulnerability level of the target groups. The small grant provision will be maximum **NPR 500,000** to enhance participation of a greater number of health mother/nutirition groups.

232. The following flow diagram shows process/steps of financning small grants under component c.

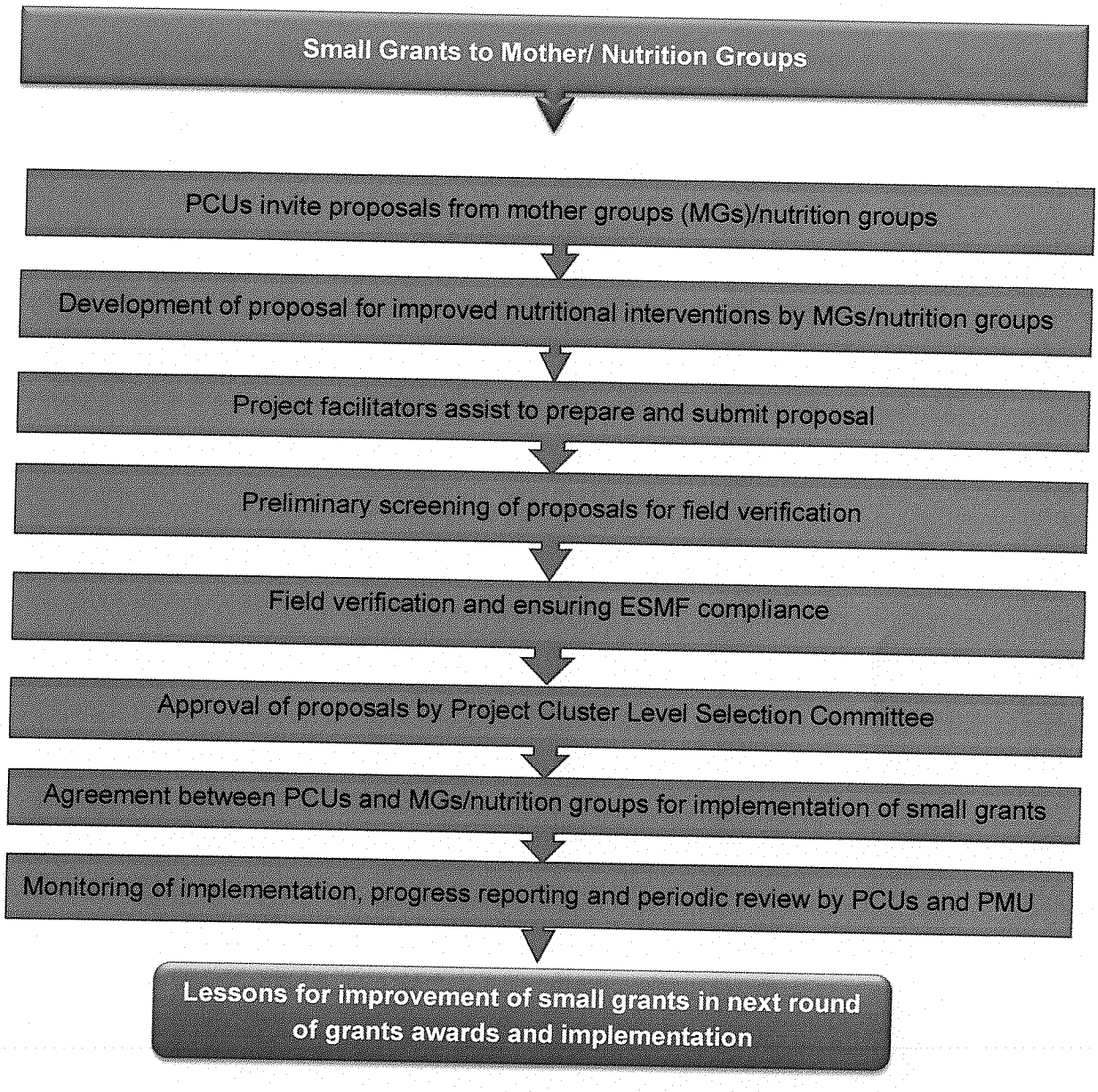


Figure 5.1: Flow Diagram for Implementation of small Grants in FANSEP

Government of Nepal Ministry of Agriculture and Livestock Development Singhdurbar, Kathmandu

Secretary

233. The NFS will follow a theory of behavior change, focusing on skill-based nutrition education over the course of a two year period including sessions on the identification of locally-available nutrient-dense foods (for example moringa in the Terai), cooking demonstrations, promoting biofortified crops as relevant, food safety, HNG, hygiene and WASH education, complementary feeding practices, and promoting HHs to avail government services, particularly health services for deworming, supplementation, preparing fortified mixes, institutional delivery, antenatal and post-natal consultations, vaccinations etc. The FCHV will play a crucial role to follow-up with house visits to ensure adoption of good practices. Due to the importance of engaging a strong cadre of frontline workers, digital M&E will be important to follow-up and cater BCC approaches accordingly, including the prioritization of key behaviors. To complement this package of interventions, Information Education Communication (IEC) materials will be further disseminated via a number of media platforms (similar to AFSP) and a pilot will be conducted on integrated school garden linked with nutrition education.

234. Table 5.2 below presents annual activities proposed for promoting NFS in the project areas and the cost details of these activities are in **Annex 7.1.**

Table 5.2: Activity schedule for promoting NFS in the project districts

SN	Details of activities	Unit	Target					
			Year 1	Year 2	Year 3	Year 4	Year 5	Total
1	Printing and distribution of curriculum, training manuals and guidelines of NFS	Number			1			1
2	Preparation of audio and audio Visual materials for NFS	Number			1			1
3	Establish NFSs (first year)	No of NFS			64	64		128
4	Follow up program of NFS (second year)	No of NFS				64	64	128
5	Providing small grants	Number			168	168	168	504
6	Inter-NFS experience sharing visit (1 day)	Event				16	16	32
7	Design & develop BCC materials for radio, FM and TV and printing materials	Number			1			1
8	Test and develop radio spots & broadcast nutrition related materials (TV as well) at central level	Number			24	24	24	72
9	Test and develop local radio spots & broadcast nutrition related materials (at PCUs)	Number		8	8	8	8	32
10	Support program for local campaign (World Food Day, Breast Feeding Week, Nutrition Day etc.)	Event			48	48	48	144
11	Street drama/cultural events on nutrition awareness (1 day)	Times			16	16	16	48

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

Activity 3: Home Nutrition Gardens (HNGs)

235. This will contribute to PDO by increasing/improving nutrition skills and practices of targeted smallholder farming communities in FANSEP areas. This will also help reducing under-nutrition by making the food system responsive to the root causes with a view to providing adequate, safe, diversified and nutrient-rich food through nutrition awareness, training, demonstration of year round home nutrition gardening to subsistence farming and cooking nutritious food/snacks, celebrating various nutritionally important events and days utilizing NFS and HNG.

236. The home garden is traditionally a very important piece of land for rural HHs covering an area of about 50 to 500 m^2. The home garden can be defined as a farming system which combines different physical, social and economic functions on the area of land around the family home. Within the typical home garden include: social areas for meetings, children's play and gardens for display; economic areas for growing food, medicinal plants and trees and for raising animals and backyard poultry; and physical areas for storage, living, washing and waste disposal. It is a place for people to live in but it also produces a variety of foods and other things for both home use and income. Project will develop **separate guideline for implemenation HNGs**. The budget ceiling/cost, subsidy and expenditure details for HNGs will be as per **Annex 5.1.**

237. This aims to help address the underlying causes of malnutrition by making the food system responsive to the causes with the view to supply adequate, safe, diversified and nutrient-rich food all the year round utilizing their own surroundings. For poor and marginalized people, household garden produce can make a critical contribution to the household diet and provide several other benefits particularly for women.

238. Experience gained from the AFSP will be directly relevant to the FANSEP as well. Hence, FANSEP will work directly with communities by technically supporting them to establish a year round HNG. This component will also be associated with Component A - Technology Adoption and Testing and Component B for selling surplus for income generation.

239. Many villages are located at some distance from towns and markets. Food supplies coming from outside are often expensive and difficult to transport, especially when heavy rain or floods or roads are damaged. A well-developed home garden can supply sufficient food for consumption on a daily basis. Growing food at home saves money and effort and ensures a regular supply of food when roads are cut off.

240. The contribution of home gardens to the household food supply is significant in rural and peri-urban areas of Nepal. A baseline study carried out in four sites of the home garden project in Nepal revealed that the contribution of fruit and vegetables to the total meal of a household is about 44%. Home gardens provide 60% of the household's total fruit and vegetable consumption (Gautam et al., 2004)[23]. So HNG is important component which ensure minimize hidden hunger and increase food security that is helpful for reducing malnutrition.

241. **The budget ceiling/cost, subsidy and expenditure details for HNGs will be as per Annex 5.1.** In addition to HNG, the project will also distribute the nutrient rich fruit saplings to the project beneficiaries **at 85% subsidy**. Table 5.3 below presents annual

[23] Gautam R., Suwal R. and Shrestha, P.K. 2004. Status of home gardens of Nepal: Findings of baseline survey conducted in four sites of home garden project. Paper presented at the Second National Sharing and Learning Workshop of Home gardens in Pokhara Nepal, 6-7 August 2004, LI-BIRD, Nepal.

activities proposed for supporting HNG in the project areas and cost details are **in Annex 7.1.**

Table 5.3: Activities under Home Nutrition Garden

SN	Details of activities	Unit	Target					
			Year 1	Year 2	Year 3	Year 4	Year 5	Total
1	District training to frontline extension workers of RMs, project cluster units and SPs on year round home gardening supporting HNG (vegetables, poultry, beekeeping etc.) (3 days)	Events			8			8
2	Formation/strengthening existing groups targeting pregnant/lactating 1000 day mothers for establishing HNG	Groups			420	420		840
3	HNG establishment training to HNG leader famers (RM level) (2 days)	No			16	16		32
4	HNG support to health mothers/nutrition groups	Groups			420	420		840
5	HNG follow-up support health mothers/nutrition groups	Groups				420	420	840
6	Distribution of nutritious fruit saplings	Times			60000			60000
7	Assist local secondary schools to establish HNGs	No			8	8	16	32
8	Preparation of extension materials and booklets for promotion of food security targeted to small and vulnerable HHs	Number		1	1	1		3
9	Inter RMs visit and experience sharing among NFSSC (MSNP II) members	Number			8	8	16	32
10	Preparation and distribution of Guidelines, Manuals and learning materials for HNGs and nutrition education	Number		1	1			2

5.4 IMPLEMENTING STRATEGIES

242. Key implementing agency for the implementation of activities of Component C in each targeted RMs will be the PCUs. However, implementing staff will be supported by TA team who in coordination with PCUs, RMs and respective Health Offices will deliver the above activities and provide a series of Training of Trainers (ToT), similar to AFSP. Likewise, PHCs, HPs and SHPs including FCHVs will be effectively utilized. This component will focus mainly on four things (a) institutional capacity strengthening, (b) Establishment and operation of NFSs, (c) implementation of small grants, and (c) Establishment and operation of HNGs.

5.4.1 Institutional Capacity Strengthening

243. This component will focus on capacity strengthening of institutions like NFSCC, LNFSSCs, PCUs, HPs and SHPs including FCHVs in order that they would be able to continuously learn and adapt to new needs and challenges. Key to the capacity strengthening activities will be training, follow-up and on-site support, particularly at NFSs and HNGs. The capacity will involve systems, facilities and resources to work with target groups of this component.

244. TA service will focus on capacity strengthening. Specifically, TA will support the delivery of the following activities:

a) Develop NFS, HNGs, small grants guidelines and technical documents building on existing materials developed under the AFSP and with inputs from agriculture, livestock, food safety, and health sectors. Simultaneously, existing IEC materials for skill based nutrition education and BCC related to the topic described above will be adopted and printed;

b) Training and capacity development related activities will be carefully planned based on needs assessment; and

c) The NFS facillitors will be trained by TA to facllitate the NFS. The facilitators will establish the NFS by registering mother's groups, the FCHV, and women of reproductive age, particularly those in the 1000 days and influencers/change agents/champions in the school. The role of the facilitators will be to:

i. engage with the NFS members, health mother/nutrition groups and identify barriers to access for diversified food and help NFS to submit proposals for package of services needed to remove those barriers from small grants; and

ii. impart skill based nutrition education for behavior change. In the second round, champions who participated in the first batch of training will be given a co-facilitator's role and offered the opportunity to share lessons in neighboring villages.

245. Before program implementation, the PCUs will conduct a workshop in each RM to orient RM based health and agriculture staffs on NFSs and HNGs including the FANSEP and its key features. Local institutions, NGOs, CBOs, youth clubs, health mothers groups/nutrition groups and village change agents such as FCHVs will be effectively mobilized.

5.4.2 Nutrition Field Schools

246. Each NFS will run for two years and each RM will have eight NFSs (i.e 128 NFS in 16 RMs) within the project period so as to engage at least two cycles of 1000 day women. Initially, 64 numbers of NFS will be conducted in first cycle while 64 NFS will be conducted in second cycle. Finally, by the end of the project periods, eight NFSs will have run in each target RM.

247. The NFS will be well conducted and facliited in all selected RMs. One social mobilizer will be responsible for 4-5 communities and deliver training in each at least once per month according to curriculum (or mobilize respective outreach staff to deliver training).

5.4.3 Home Nutrition Gardens

248. The basic strategies to design and implement interventions related to HNGs targeting small and marginalized farmers' through health mother/nutrition groups will be as follows:

- **Garden production:** Inclusion of a diverse range of nutrient-dense fruit and vegetable species, combining traditional and improved varieties, suited to prevailing environmental conditions;

- **Provision of garden management based on CSA/GAPs** *to overcome production constraints:* (a) knowledge about the importance of fruits and vegetables for nutrition and health and knowledge about good food practices that enhance the preservation, uptake and utilization of micronutrients; and (b) awareness raising about the importance of clean water, sanitation and hygiene for health and alignment of the household garden;

- **Provision of support systems:** (a) supply of high quality seeds/seedlings/saplings by commercial seed suppliers, multipurpose village nursery (MPVN) or community-based seed systems; and (b) support from community based groups, such as women's groups, or their establishment where they are absent;

- **Establishment of model farm** to supply seed, seedlings and planting materials sustainably and regularly as local resource centers

- **Community members** will be encouraged to use the food made available through the agriculture interventions to improve and diversify their diets, and provided with nutritious recipes developed by the DFTQC using locally produced and available nutritious foods, including those promoted by AFSP; and

- **Health mother/nutrition groups** will receive targeted agricultural interventions such as promotion of kitchen gardens and backyard poultry. Members of mother's groups receiving these nutrition-sensitive interventions will also likely be members of the crop and livestock FFSs. They will also be encouraged to collect local recipe and use those high valued recipes to their daily diet.

CHAPTER 6

6 COMPONENT D: PROJECT MANAGEMENT, COMMUNICATION AND MONITORING AND EVALUATION

6.1 INTRODUCTION

249. This component is very important and crucial to the project since delivery of all outcomes and outputs under the project will depend on this component. This component is related to (i) overall management and operation of project, (ii) communication with government, non-government organisations and relevant project stakeholders, and (iii) effective montoring & evaluation of project activites.

6.2 MAIN OBJECTIVES

250. The main objectives of Component D on project management, communication and M&E are to: (i) ensure effective strategic and operational planning, implementation, and M&E of project activities, and attendant efficient use of funds, as well as coordination of interventions across Components A, B and C implemented by participating stakeholders and strategic partners (e.g. FAO); (ii) evaluate the project's outcomes and impacts on beneficiary groups, with special focus on mid-term and final results; and (iii) communicate efficiently to various public and private entities on project activities, outcomes, best practices and lessons learnt.

251. This component will have two Sub-components, namely (a) Project Management (b) Communications and M&E.

6.3 EXPECTED RESULTS

252. As a result of the effective implementation of this component, the project expects the following results (a) effective management and operation of project (b) timely submission of periodic reports to the implementing agency (MoALD), supervising entity (WB) and other key stakeholders such as executive offices of the RM and MoLMAC (c) development of effecient M & E system of the project (d) timely redressal of grievances registered in project

253. Failure to submit periodic reports timely and responding to grievances will mean that the project management team and TA have not been able to perform as expected.

6.4 KEY ACTIVITIES

6.4.1 Project Management and Coordination

254. **Project Management**: The project administration and implementation arrangements are build on relevant existing institutions and capacities, and reflect the technical characteristics as well geographic location of the project's activities. As stated earlier, the MoALD will be the executing ministry and will work closely with the MoHP and other relevant stakeholders to implement the project.

255. **Provision of Project Management Unit (PMU)**: Day-to-day project administration and management will be carried out by a central PMU based in Kathmandu valley. The PMU will be established by the MoALD. The PMU will be supported by the MoLMAC of the three provinces namely Province 2, Bagmati province and Gandaki province.

Secretary

256. As part of the Project Management, Communications and M&E under component D, the project will undertake the following activities regularly.

(a) Prepare/update knowledge documents,
(b) Prepare and update projectManagemnt Information System (PMIS) and website.
(c) Record/register grievances/complaints and redress timely without delay,
(d) Prepare project reports (monthly, trimesterand annual) as required by the MoALD, GAFSP and WB requirements, and
(e) Cause to undertake beneficiary selection, baseline, and mid-line surveys.
(f) Record the number of technical and non-technical events and workshops organized by the Project in partnership with CSOs, FGs/PGs, peasant coalitions and other key stakeholder, and prepare respective proceedings as necessary,

257. **Provision of Cluster Offices**: As discussed earlier, four PCUs will support the implementation of the project activities in eight districts. They will function directly under the command of the PMU. Each PCU will implement project activities in two districts as follows:

(a) Saptari to implement project activities in Siraha and in Saptari districts;
(b) Dhanusha to implement project activities in Dhanusha and Mahottari districts;
(c) Gorkha to implement project activities in Gorkha and Dhading district; and
(d) Sindhupalchok to implement project activities in Dolakha and Sindhupalchok districts.

258. Table 6.1 below shows annual activities under project management and communication.

Table 6.1: Annual activities of the project management unit

Sub-components, Outputs and Activities		Unit	Target					
			Year 1	Year 2	Year 3	Year 4	Year 5	Total
Sub-component D1: Project management								
1	**Establishment and operation of the PMU and PCUs**							
1.1	PMU Office operation, monthly	Month	7	12	12	12	12	55
1.2	PCU Offices operation, monthly	Month	4	12	12	12	12	52
1.3	Office rent for PCUs	Month	4	12	12	12	12	52
1.4	Salary and allowances of government staff (PMU & PCUs)	Month	8	12	12	12	12	56
1.5	Salary and allowances of contract staffs (PMU & PCUs)	Month	8	12	12	12	12	56
1.6	Fuel, repair and maintenance cost (PMU & PCUs)	Month	5	12	12	12	12	53
1.7	Cost for implementation of meeting of technical, project steering and provincial level committee	Nos.	9	18	20	20	20	87
1.8	Cost for different types of office meetings (PMU & PCUs)	Nos.	14	73	80	80	80	327
1.9	Furniture and furnishing for PMU, PCUs and RMs	LS	6	6	5	5	1	23
1.10	Reconstruction and maintenance work at PMU	LS		1	2	1		4
1.11	**Procurment of Office equipment and machinery**							
1.11.1	Equipments and machinery for office and program hall of PMU and PCUs	LS		10	4			14
1.11.2	Desktop and laptops (for PMU	Nos.	40	40				80

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

Sub-components, Outputs and Activities		Unit	Target					
			Year 1	Year 2	Year 3	Year 4	Year 5	Total
	and PCUs)							
1.11.3	Projectors, printers, photocopy, camera, generator, tablets, hardisks (for PMU, PCUs and RMs)	Nos.	37	44	37			118
1.11.4	Other accessories/electrical equipments of expendible and non-expendible goods	LS			LS	LS	LS	LS
1.12	**Provision of consultants including procurement and finance**							
1.12.2	Procurement Specialist for entire project period	Person Month		4	12	12	11	39
1.12.3	Finance Specialist for entire project period	Person Month		4	12	12	11	39
1.13	Procurement of materials required for FFS implementation (PCUs)	Times			4			4
1.14	Transportation subsidy in seeds (PCUs)	Times		12	12	12	12	48

259. **Linkage and Coordination with the Executive Offices of the RMs**: Given limited capacity of the RMs, the project activities will be implemented by the PCUs for the first four years in coordination with the Agriculture Section of the target RMs with explicit target to hand over the project activities to the them by the end of fifth year. For this a MCPSUs will be established in each rural municipality with limited number of staff as described earlier. The project expects that the all project activities will be implemented by the respective RMs from the final year onwards. The project will also support the RMs to perform their duties and responsibilities vested on them by the Local Governance Act 2017 and any related legislations/laws enacted by the Provincial and Local Government pursuant to the Constitution of Nepal.

260. **Service Delivery Approach**: The project will follow a two-fold approach for the delivery of services to the target groups (a) directly and actively involve the farmers and the local communities in planning, implementing, and evaluation of project interventions so as to improve the design and relevance of activities, enhance adoption of new technologies and practices, and increase the sustainability of project outcomes, and (b) targeting representatives of local government agencies, specifically agriculture, livestock, public health and sanitation related staff of RMs to enhance their capacity to plan, implement and monitor FNS related interventions pursuant to the Local Government Act 2017. Farmer and community activities will be technically guided and backstopped primarily by two sources: (i) relevant research institutes (NARC) and line departments of the MoALD and MoHP. In short, the project will work with and through the respective RMs.

261. **Beneficiary Groups and Project Grant and program Support**: The project activities will be primarily implemented through selected project beneficiaries and beneficiary groups organized in accordance with the nature and purpose of the intervention under each of the project components as discussed above. The grant and programs operating guidelines (GPOG) will describe in detail how the matching grants as provisioned in Component B, small grants as provisioned in component C and other programs under Component A, B and C will operate. The GPOG will depict in detail about the grant and program operating process and mechanism. The GPOG will also contain norms regarding the contribution as

Government of Nepal Ministry of Agriculture and Livestock Development Singhadurbar, Kathmandu

Secretary

well as other roles and responsibilities (e.g., farmer to farmer extension) that the group members will agree to as part of the groups' selection and formation process.,

262. **Local level Nutrition and Food Security Steering Committee (LNFSSC)**. At the RM level, there will be a LFNSCC chaired by Chair of RM to facilitate the implementation of the project activities, share information and experience with regard to similar on-going projects in the area and ensure coordination with the local government agencies. The committee will comprise agricultural, livestock, health, education, technical (engineer), environment safeguard related staffs of the RM, representatives of CBO, Agro-vet, traders, and inputs suppliers. While chairperson of RM will nominate members other than ex-officio such as from agro-vets, cooperatives and so forth. Maximum number of the members in the LFNSCC will not be more than 11 members with member-secretary who will be chief of the UO.

6.5 COMMUNICATION AND MONITORING & EVALUATION

263. Table 6.2 below presents key activities to be undertaken by the project for monitoring and evaluation of the project performance. The M&E will be participatory and result oriented. The project will follow result based M&E framework.

Table 6.2: M&E related activities

Sub-components, Outputs and Activities		Unit	Targets					
			Year 1	Year 2	Year 3	Year 4	Year 5	Total
Sub-component D2: Communication and monitoring & evaluation								
2	**Communication and M&E**							
2.1	Orientation workshop of project programs at PCUs	Nos.		4				4
2.2	Upgrading Project Implementation Manual (PIM)	Nos.		1		1		2
2.3	Publication and distribution of PIM	Times			1			1
2.4	Upgrading project monitoring system (MIS), develop project website& regular upadating	Nos.		2	2	2	2	8
2.5	Independent third party environmental and social audit for 10-15% of randomly selected sub-projects	Nos.				1		1
2.6	Cordination/interaction programs and workshops with ministry, 3 provinces and other relevent project stakeholders	Nos.		15	15	15	15	60
2.7	Inter-project experinece sharing/cross learning visit programs	Nos.			2	2	2	6
2.8	Pre-planning workshop, Project progress (trimester and annual) review workshop	Nos.		2	4	4	4	14
2.9	Preparation and printing of annual implementation progress report (IPRs), Project Completion Report (PCR)	Nos.		1	1	1	2	5
2.10	PMIS training for project staffs	LS		2	2	2		6
2.11	Preparation and publication of project diary, guidelines, manuals, learning and extension materials of project	Nos.		3	3	4		10

Government of Nepal Ministry of Agriculture and Livestock Development Singhadurbar, Kathmandu

Secretary

Sub-components, Outputs and Activities		Unit	Targets					
			Year 1	Year 2	Year 3	Year 4	Year 5	Total
2.12	Preparation and publication of extension materials, agriculture technology booklets/bulletins/pamphlets on improved agriculture technology (PMU and PCUs)	Nos.		13	15	15	15	58
2.13	Study Programs on various issues of project components	Nos.				4	4	8
2.14	Documentary of project implementation, works perfomed and success stories etc.	Nos.			4	4	4	12
2.15	Support program for national campaign e.g. World Food Day, Breast Feeding Week and participation in agriculture fair/exhibition etc.	Nos.		3	6	6	6	21
2.16	Provide abroad training on procurement methods of World Bank funded projects	Nos.			1			1
2.17	Provide overseas/abroad training cum exposure visit for RM, PMU, PCUs and other related staff (1 week duration)	Nos.			1	1	1	3
2.18	Organize highlevel observation tour (overseas/abroad) for RM, PMU, PCUs and other related staff (1 week duration)	Nos.				1	1	2
2.19	Training to project stakeholders on GESI and environment	Nos.		1	1			2
2.20	Trainings to project staffs (inservice training, M&E, procurement, data analysis, FFS, skill enhancement, and others)	Nos.		1	7	6	6	20
2.21	Mission management, mid-term evaluation, project completion workshop	Nos.	1	1	2	1	2	7
2.22	Undertake mid-line project survey	Nos.				1		1
2.23	Public hearing and audit of the project (PCUs)	Times			4	4	4	12
2.24	Program monitoring cost for (PMU, PCUs, NARC)	Month	16	36	48	48	48	196
2.25	**Vehicles for monitoring programs implemented in the project districts**							
2.25.1	4 WD vehicle	Nos.	8		1			9
2.25.2	Motorbike & scooter (PMU and PCUs)	Nos.	24	20	14			58

264. The progress accomplished by the project will be measured against the Objectively Verifiable Indicators (OVIs) with information collected from the associated Means of Verification (MOV) as follows (Table 6.3).

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

Table 6.3: Results matrix

Narrative	Objectively Verifiable Indicators (OVI)	Means of Verification (MoV)	Assumptions
Outcome-1: *Increase adoption of improved agricultural technologies (including CSA and nutrition sensitive technologies)*	By the end of the project period, at least 31,800 farmers adopt climate smart and nutrition sensitive technologies, of which 65% will be female	• Baseline survey • Annual reports • Mid-term review • Mid-line survey • Endline survey • PMIS	Farmers will avail other production inputs such as credit and complimentary services. Annual budget and programs are timely approved and released.
Output 1.1:Increase in number of CS and nutrition sensitive technologies through validation and on-farm demonstration (OFD)	By the end of the project period, at least 20 promising technologies (crop and livestock) validated on farm	• Baseline survey • RM and PCUs trimester reports • Mid-term review • Midline survey • Endline survey • PMIS	Annual budget and programs are timely approved and released.
Outcome 2: *Number of beneficiaries reached with agricultural assets/services*	By the end of the project period, at least 65,000 will have access to agricultural assets or services[24]	• Trimester RM and PCUsreports • List of farmers receiving assets and services • PMIS database	Annual budget and programs are timely approved and released.
Output 2.1: Farmers accessing technology dissemination services delivered by the project	At least 39,750 farmers (direct beneficiaries) will participate in technology dissemination activities such as OFD, FFS, Field Days and training organized by the project, of which 65% will be women	• Trimester RM and cluster reports • Individual event reports such as OFD, FFS, Field Days and training • PMIS database	Annual budget and programs are timely approved and released for conducting OFD , , FFS, NFSs, HNGs,and trainings etc.
Outcome 3: *Increased crop and animal productivity by direct beneficiaries (aggregated by crop and livestock)*	By the end of the project the productivity of the following commodities will be increased in the project areas as shown below: Food grain crops- 25% Vegetable - 30% Livestock (meat)- 40% Livestock (milk)- 35%	• Baseline Survey • Mid-term Review • Midline survey • End-line Survey • PMIS database	Climate related risks such as winter drought, erratic rainfalls, cold air do not significantly affect food production. Availability of the key production inputs such as improved seeds, fertilizers, credit are timely and prices are not increased beyond majority of farmers' reach.

24 Assets include property, biological assets and farm and processing equipment, etc. Services include: research, extension, training, education, ICTs, production related services (e.g. soil testing, animal health/veterinary services), phyto-sanitary and food safety, agricultural marketing support services, access to farm and post-harvest machinery and storage facilities, employment, irrigation and drainage, and finance.

Narrative	Objectively Verifiable Indicators (OVI)	Means of Verification (MoV)	Assumptions
Output 3.1: Improvement in seed replacement rate	By the end of the project period, seed replacement rate for each of the four major food crops (rice, maize, whet and potato) will be increased at least 25%	• Baseline Survey • Mid-term Review • Midline survey • End-line Survey • PMIS database	Required amount of breeders and foundations seeds of the indicated crops are available for seed multiplication. Seed Producer Groups and entrepreneurs are able to sale seeds based on market competition. Annual budget and programs are timely approved and released.
Outcome 4: *Household income (farm and off-farm)*	By the end of the project household income (farm and off-farm) will be increased at least 25%	• Baseline Survey • Mid-term Review • Mid-line Survey • End-line Survey • PMIS database	Prices of the agricultural products do not get reduced due to factors beyond country control such as cross-border phenomena and cost of production increases significantly due to high increase in transportation cost, traders' syndicate, economic barricades, strikes and so forth.
Output 4.1: Capacity strengthening of the producer based organizations	By the end of the project period, at least 1,590 producer-based organizations will be supported/created by the project	• RM and PCUs Trimester reports • PMIS data base	Annual budget and programs are timely approved and released.
Output 4.2: Post-harvest facilities constructed/ created by the project	By the end of the project at least 106 post-harvest facilities /handling and processing structures such as improved storage/improved packaging house technologies and investments to comply sanitary/phytosanitary and other food safety standards are constructed by the project	• RM and PCUs Trimester reports • PMIS data base	Annual budget and programs are timely approved and released.
Output 4.3: Number of Sub-projects (BPs) financed by the project under its matching grant scheme	By the end of the project, at least 448 small sub-projects are financed by the project under the matching grant scheme	• RM and PCUs Trimester reports • PMIS data base	Annual budget and programs are timely approved and released. Matching grants guidelines are timley prepared.

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Kathmandu

Narrative	Objectively Verifiable Indicators (OVI)	Means of Verification (MoV)	Assumptions
Outcome 5: Improved score on the FIES (8 questions at the household level)	By the end of the project, access to food measured on FIES will be increased by 35% over the baseline value	• Baseline Survey • Mid-term Review • Mid-line Survey • End-line Survey	
Output 4.3: Number of small sub-projects financed by the project under its small grant scheme	By the end of the project, at least 504 small sub-projects are financed by the project under the small grant scheme	• RM and PCUs Trimester reports • Mid-line Survey • End-line Survey • PMIS data base	Annual budget and programs are timely approved and released. Small grants guidelines are timley prepared.
Output 5.1: Number of people receiving improved nutrition services and products	By the end of the project, at least 57000 people will have access to a defined basic package of nutrition services designed/delivered through project investment.	• RM and PCUsTrimester reports • PMIS data base • Technical and Economic Monitoring	
Outcome 6: *Improved dietary intake*	By the end of the project period, the minimum dietary diversity for women and children between 6-24 months will be increased by 20% over the baseline value.	• Baseline Survey • Mid-term Review • Mid-line Survey • End-line Survey	Peoples' access to nutritious food sources is not deteriorated.
Output 6.1: Household's access to a variety of foods	By the end of the project, Household Dietary Diversity Score (HDDS) of the nursing mothers and children under two years (1000 day mother target), measured in terms of number of food groups (out of a total of eight food groups) that a household consumes over a reference period of seven days. would have increased by 20% over the baseline value	• Dietary Diversity Questionnaire • Mid-line Survey • End-line Survey	Annual budget and programs are timely approved and released
Activities: As described in the components, activity schedules and cost tables of **Annex 7.1**			

265. Baseline survey will be conducted by DIME team of WB to establish benchmark of the before project situation. Progress will be compared against the benchmark. Qualitative changes will be examined through FGDs and interactions with the project associated functionaries. Quarterly progress reports will be produced by the cluster level officers stationed at the regional PCUs. They will be validated at the PMU and corrective measures will be taken as necessary.

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

CHAPTER 7

7 PROJECT COST AND FINANCING

7.1 OVERALL PROJECT COST

266. As indicated earlier, this project will be jointly financed by the GAFSP and the GoN where GAFSP's contribution will be of US$ 22.7 million to the Government of Nepal (GoN), and prepared project following an Investment Project Financing (IPF) process. The GoN and beneficiaries are expected to contribute to the Project. The GoN will contribute US$ 6 million (about 21% of total project cost as a counterpart funding)

267. While direct beneficiaries will be contributing a part of the project activities through cost sharing in project interventions such as matching & small grant and related project activities which include, HNGs, livestock promotion programs, market infrastructures, procesinga & handling structures and so forth. However, these have not been taken into account.

268. Given the World Bank as the supervising entity for this project, the project will comply to the financing rules and regulations of the World Bank. Figure 7.1 below shows GAFSP and GoN contribution.

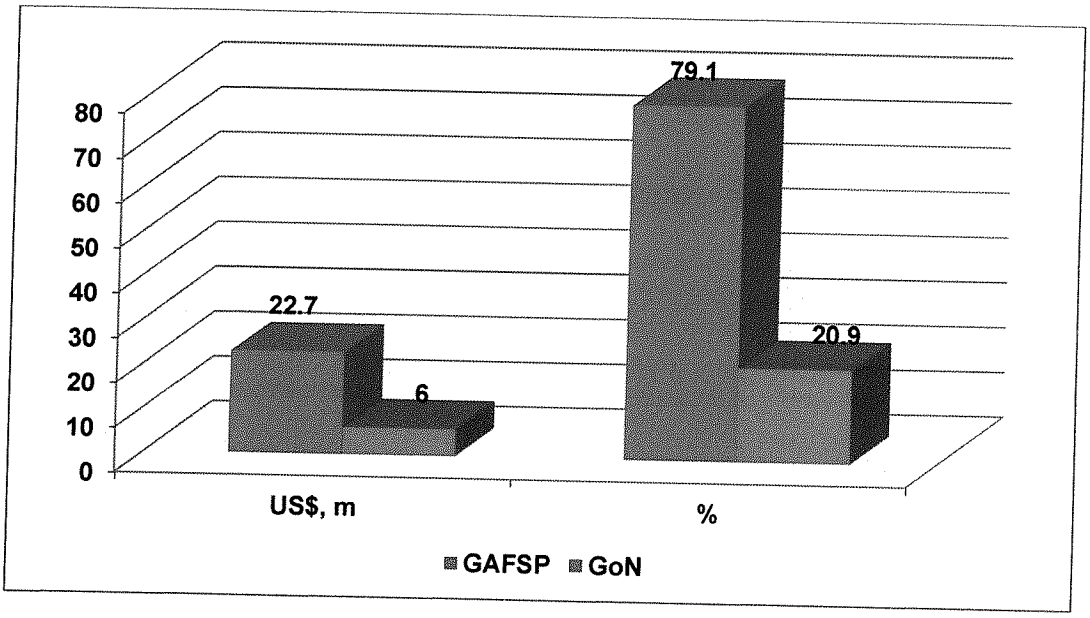


Figure 7.1: Project financing by source

7.2 DISTRIBUTION OF PROJECT COST BY COMPONENTS

269. Table 7.1 below shows financing scheme/project cost by components. This has been prepared based on detail activity schedule and unit cost estimation as presented in **Annex 7.1.**

Secretary

Ministry of Agriculture and Livestock Development, Government of Nepal, Singhdurbar, Kathmandu

Table 7.1: Financing by components and source

Components	Source		Total, US$ million	Weitage (%)
	GAFSP	GoN		
Component A: Climate and Nutrition Smart Agriculture Technology Adaptation and Dissemination	7.00	0.22	7.22	25.2
Component B: Income Generation and Diversification	7.00	1.47	8.47	29.5
Component C: Improving Nutrition Security	5.00	1.13	6.13	21.3
Component D: Project Management, Communication and M&E	3.70	3.18	6.88	24
Component E: Contingency Emergency Response	-	-	-	0
Total	22.70	6.00	28.70	100.0

Note: Exchange rate: 1 US$ = NPR 109.04

270. As seen in above table, of the total project cost, more than 29.5% is allocated to component B on income generation and diversification followed by Component A on climate and nutrition smart agriculture technology adaptation and dissemination (25.2%), and 21.3% in component C on improving nutrition security. Likewise, 24% of the total project cost is allocated to the component D on project management, communication and M&E.

271. Annual project cost breakdown by component is earmarked in Table 7.2 below with details of project annual cost distribution by component and activities in **Annex 7.1** for components A, B, C and D respectively. These are tentative and may subject to change based on annual approval of program and budget. Limited inter-component transfer may also be allowed after detail baseline survey and mid-term review with no objection approval from the GAFSP.

Table 7.2: Annual project cost by components

Details	Year1	Year 2	Year 3	Year 4	Year 5	Total
Component A	0	64565	276799	283565	162874	787803
Component B	0	88680	318640	297670	218258	923248
Component C	0	35790	228040	245265	158815	667910
Component D	102304	135221	176224	171770	165062	750581
Total, NPR '000	**102304**	**324256**	**999703**	**998270**	**705009**	**3129542**
Total, US$ '000	938.225	2973.734	9168.223	9155.081	6465.600	28700.862
Total, US$ millions	**0.94**	**2.97**	**9.17**	**9.16**	**6.47**	**28.70**
Percent	**3.27**	**10.36**	**31.94**	**31.90**	**22.53**	**100**

Note: Exchange rate: 1 US$ = NPR 109.04

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

272. Table 7.3 below further distributes indicative cost by project key activities with details in cost tables **(see annexes 7.1 to 7.3).** Major cost of project is on technology dissemination and capacity building.

Table 7.3: Project cost by key activities and components, US$ million

SN	Key functions	Component A	Component B	Component C	Component D	Total
1	Technology	5.92		1.67		7.59
2	Capacity	0.31	0.81	0.70	0.64	2.47
3	Infrastructure		1.27			1.27
4	Knowledge management	0.08	0.03	0.11	0.25	0.48
5	Workshop and meeting		0.10	0.08	0.15	0.32
6	Matching grant		3.64			3.64
7	Small grant			2.52		2.52
8	Office management				4.34	4.34
9	Technicial assistance	0.92	2.61	1.04	0.04	4.60
10	M&E				1.33	1.33
11	Communications				0.14	0.14
	Total, USD million	7.22	8.47	6.13	6.88	28.70
	GAFSP, US$ million	7	7	5	3.7	22.7
	GoN, US$ million	0.22	1.47	1.13	3.18	6

Note: Exchange rate: 1 US$ = NPR 109.04

CHAPTER 8

8 FINANCIAL MANAGEMENT

8.1 PROGRAMMING AND BUDGETING

273. The PMU, in close coordination with MoALD and relevant stakeholders, will prepare annual work programs and budgets based on Project Appraisal Document (PAD), PIM and related cost tables. PMU will submit annual workplan and budget to the MoALD, NPC and the MoF for approval and to include subsequently in the government annual program and budget (red book). The approved annual program and budget will be endorsed by PSC and shared with WB.

274. The PMU will adequately consult with the respective Provincial MoLMAC, WB and target RMs prior to the submission of the annual programm and budget.

8.2 FUNDS FLOW ARRANGEMENT

8.2.1 Funds Flow from Donors to GoN Freign Exchange Account

275. The project activities are largely financed through the GAFSP grant proceeds, with counterpart funds from the GoN. The GAFSP grant proceeds will be used to pay out project expenditures belonging to various components and expenditure categories. These expenditures firstly done by GoN fund and will be reimbursed by Designated Account on submission and approval of withdrawal application submitted by PMU. Key activities under each component will be traced and linked with an appropriate expenditure category. Project expenditures will be administered within the budget appropriation limits.

276. Statement of Expenditure (SOE) based disbursement system will be followed in this project. As per this system, GoN will establish a Designated Account (DA) in Nepal Rasta Bank to which the donor will contribute funds to be utilized for the Project. The donor will advance into the DA, its share of expenditure for the first two trimesters. For each trimester thereafter, donor will replenish the DA based on the SOE. At the end of the fiscal year, GoN will carry out a reconciliation of the funds deposited into and withdrawn from the DA.

277. For reimbursement of GAFSP share of expenditures to GoN's consolidated fund and for executing any payments under the project requiring to be made in foreign currencies, a Special Designated Accounts will be established at Nepal Rastra Bank, Thapathali, Kathmandu. The PD and the Account Officer will be authorized to operate these accounts with approval of the MoF via MoALD.

278. The MoALD and Financial Comptroller General Office (FCGO) will be responsible for certifying the relevant financial reports produced by the respective subordinate offices. MoF and FCGO shall delegate to the PMU for submitting the request for disbursement in writing to the donor. Funds from DA will be transferred to GoN's consolidated fund following certification of actual expenditures. There will be no direct payment from the DA for expenditures on imported goods and services. All the payments as per bill amount can be done from the designated Account if the mode of payment in the approved annual program and budget is under direct payment. However, the unsettled advances will not be paid from DA.

279. But, in case of TA part, donor will provide the direct payment to FAO. FAO will submit the statement of expenditure of this direct payment to PMU which will be included in the project's financial statements (FMR and Audited Report) and GoN consolidated financial statement.

8.2.1 Funds Flow from the Central Level (MoF) to Operating Level Offices/Cost Centers

280. PMU and the four PCUs will be cost centres for the FANSEP. The proposed authority and fund flow process is presented in Figure 8.1 below.

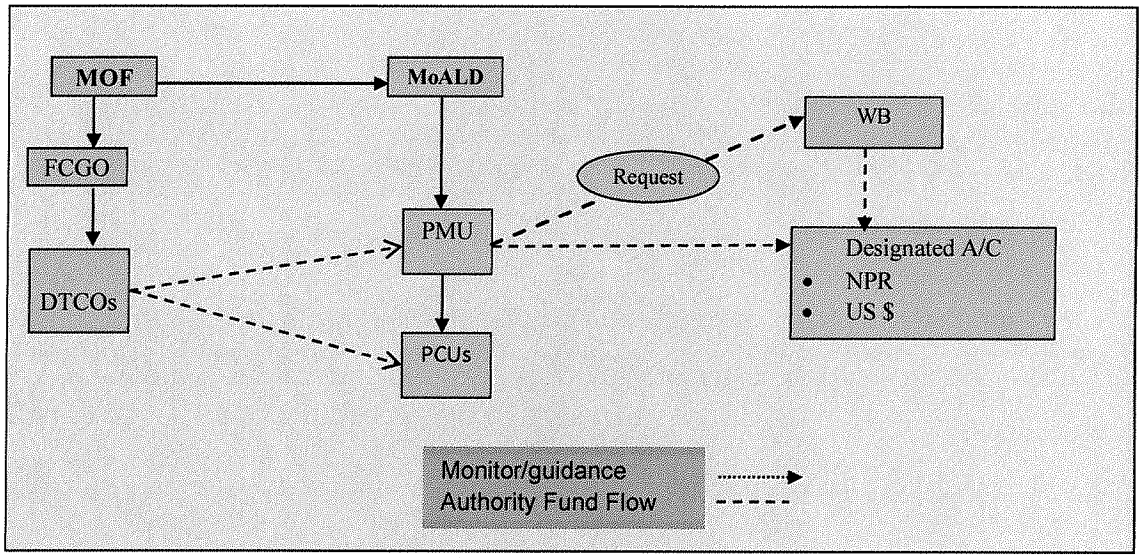


Figure 8.1: Fund flow

281. The GoN will notify the approval of annual work program and budget submitted by the project through the Red Book and Line Ministry Budget Information System (LMBIS). After the approval of annual work program and budget all cost centers will have access to the approved programs in LMBIS through respective District Treasury Controller Offices (DTCOs).

282. According to above mentioned procedure, MoF and MoALD will send the spending guidance to PMU and PCUs which will thereafter pass to respective to obtain funds or get payment from the respective DTCOs.

283. The DTCOs will get guidance from the FCGO to release funds or make payment to the cost centers. As the GoN is expected to identify this project as a priority (PI) program, fund release in the first trimester is based on expenditure statements. The second and third trimester releases are contingent upon performance, and submission of physical progress reports. If performance achieved is at least 80% of the target, funds are released or payments are made automatically to the cost centers. For performance between 50 to 80%, fund release or payment is only made after the DTCO obtains authorization from the Secretary of respective Ministry. Regarding the performance relating to financial management key indicators will be developed. The indicators will be regarding the planning and budgeting, realization of budget, expenditures, accounting and record keeping and reporting and budgeting as well as release of budget will be tied up with defined indicators.

For example, the third trimester budget may not be released or the payment of third trimester expenditure may not be made if performance is less than 50%.

284. PMU and PCUs will get financial authority of each fiscal year (beginning from mid-July), after the approval of annual budget and programs from the parliament of Nepal. Fund release for the GAFSP's share of expenditures will be pre-financed through GoN's funds and later reimbursed by the GAFSP/WB The financial management procedure for FANSEP will be aligned with the WB financial management guidelines although the project will also comply with GoN financial rules and regulations.

8.3 FINANCIAL CONTROL

285. The funds that are released to PMU will be operated under the joint signatures of the PD and the Account Officer. Similarly, the funds that are released to PCUs will be operated under the joint signatures of the PCUs chief and the Accountant.The funds will be used to pay for incremental operating costs, office equipment and consultancy services and costs towards the cost of payment under the project components.

286. The PMU and PCUs will administer expenditures, maintain records, prepare monthly financial reports, and arrange for auditing, including internal and external audit. The PCUs shall submit monthly financial report to PMU for compiling and reimbursement claim from GAFSP/WB.

287. The MoALD will periodically monitor both financial and physical progress of the project. The PMU will periodically monitor both financial and physical progress of the PCUs.The PMU is required to provide necessary records and SOE to WB/GAFSP with each application for withdrawal of financing proceeds as per the financing agreements.

288. The PMU will be responsible for consolidating the accounts, and submitting withdrawal applications to the WB for replenishment to the Special Designated Accounts, opened at the Nepal Rastra Bank, Thapathali, Kathmandu. The PMU will maintain all required ledgers and records required by the GoN. The PMU will prepare implementation progress report on a trimester basis. The report will include on the physical, financial and procurement progress.

289. GON's internal control system will be applied to monitor the progress of the Project in accordance with sound accounting practices. The PMU as well as financial Management and procurement Specialist will have the key responsibilities in project expenditure tracking, assets management, monitoring fiduciary aspects and procurement management of PCUs.

8.4 STAFFING

290. The Finance Section of PMU will be headed by a Account officer. Each PCUs will be staffed by at least one accountant who will be responsible for maintaining the accounts in accordance with government procedures, and for submitting monthly statements of expenditures to PMU.

8.5 AUDIT

291. **Internal Audit:** The respective District Treasury Controller Office (DTCO), is responsible to carry out the internal audits of both PMU and PCUs. Internal audits will be carried out on trimester basis. Each cost center is responsible to maintain its accounts as per the requirement of GON and WB.

292. **External Audit:** The external audit of the project will be carried-out by the Auditor General's Office of Nepal in accordance with the covenants of Financing Agreement.

Government of Nepal
Ministry of Agriculture and Livestock Development

Secretary

CHAPTER 9

9 PROCUREMENT MANAGEMENT

9.1 GENERAL

293. FANSEP will carry out procurements in accordance with the World Bank Procurement Regulations for IPF Borrowers dated July, 2016 (Revised Novemeber, 2017) for the procurement of Goods, Works, Non-consulting & Consulting Services.

294. Besides above, the project will also attempt to adhere to the GoN Public Procurement Act, Public ProcurementRegulation and Financial Procedures Act and its regulations as well.

295. A simplified set of procedures for all types of procurement shall be elaborated in the separate procurement handbook. In the case of the first procurement of Goods, Works, Consulting Services and Non-consulting Services to be procured under applicable national procedures using a model bid document shall be satisfactory to and agreed by the WB. And rest of the procurement of Goods, Works, Consulting Services and Non-consulting Services, shall follow same procedures.

296. The general description of various items under different expenditure category for each contract to be financed by the Grant, the different procurement methods or consultant selection methods, the need for pre-qualification, estimated costs, prior review requirements, and time-frame are agreed between the Borrower and the WB project team in the Procurement Plan.

297. The Procurement Plan will be updated at least annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

298. With respect to all contracts, which are subject to the WB's prior review as specified in the grant agreement, the contract shall be executed only after the WB has given its step by step approval. The Procurement Plan shall set forth those contracts which shall be subjected to prior review of the World Bank.

9.2 PROCUREMENT ARRANGMENT

299. For each contract to be executed by the project, there will be a need to follow adopt different procurement methods subject to the type of procurement such as Goods, Works, Consulting/Non-consulting Services or consultant selection methods, adhere to the need for pre-qualification, carry out cost estimation, receive prior review no objection as necessary and comply timeframe.

300. Different methods of procurement will be applied to different types of procurement which will be defined in the procurement plan. All International Competitive Bidding (ICB) shall follow WB procedures using Bank's Standard Bidding Document (SBD). National Competitive Bidding (NCB) shall be as per Public Procurement Act and Public Procurement Regulation of the GoN but the project will receive no objection as per Prior/Post- review and financing agreement between the GoN and GAFSP.

301. The project will use Systematic Tracking of Exchanges in Procurement (STEP) in implementation of project procurement by uploading, updating and modifying the procurement plan.

302. Institutionally, PD will provide overall supervision of the management of the procurement, and undertake procurement and manage contracts. Procurement Specialist and Procurement Officer will assist the PD and work on behalf of the PD.

303. Services of both national and international consultants will be required for the different assignments. These include recruitment of TA packaged with the local service provider, baseline survey, mid-term and end-line survey, recruitment of procurement specialist, finance management specialists, annual independent environmental and social safeguard assessment and so forth. The project will use WB Guidelines and receive no objection from the Bank as required.

304. Other details regarding procurement methodology and contract management issues will be provided in Project Procurement Strategy for Development (PPSD) which is an attachment to this PIM.

305. **Procurement of Works**: For packages estimated to cost of less than equivalent of US$ 1,000,000.00 and above per contract will be procured following GoN Public Procurement Act, and Public Procurement Regulations. Below equivalent of US$ 10,000.00 per contract may be procured through direct procurement and below threshold of equivalent US$ 20,000.00 per contract through international/national shopping.

306. **Procurement of Goods:** Procurement of vehicles (i.e. Pick-up truck, Jeep,Car,Motor cycle, etc.) and IT equipments (i.e. still/video cameras, multi-media equipment, computer, printer, photocopier, fax, etc.) and needed for all of the components shall be procured by PMU.However, small procurements of goods upto the limit of US$ 5000 shall be carried out by PCUs. Similarly, other procurement of goods than aforementioned shall be done by the PCUs themselves.

307. For packages estimated to cost equivalent of US$ 1 million and above per contract for goods, ICB shall be applied. All ICBs shall be followed Bank procedures using Bank's SBD and prior review shall be needed.

308. For packages estimated to cost of less than US$ 1 million per contract for goods NCB/ WB procurement methods shall be applied. All NCBs shall be as per GoN Public Procurement Act and Public Procurement Regulations, using documents satisfactory to and agreed with the Bank.

309. **Procuremnt of Consulting Services**.The procurement of consulting services will follow the WB Procurment Regulations.

310. **Procurement of Non-Consulting Services**: These will include services for organizing workshops for information dissemination under Components A, B, C and D, trade fairs and exhibitions, data collection for baseline surveys and development of website portal and media coverage etc.

311. For packages estimated to cost of less than US$ 1 million per contract for Non-Consulting Services, NCB/WB procurement methods shall be applied. NCB shall be as per Public Procurement Act and Public Procurement Regulations, using documents satisfactory to and agreed with the Bank.

312. Others: PMU and PCUs shall carry out the small procurements of all kinds upto the limit of US $ 5000 for each packages without uploading in STEP.Procurement of those small packages shall follow the Public Procurement Act and Public Procurement Regulations of GON.

CHAPTER 10

10 ENVIRONMENTAL AND SOCIAL SAFEGUARD

313. The nature of project activities designed for FANSEP seems to have very limited impacts on environmental, social and cultural aspects due to the pro-small holder and pro-poor interventions designed to be climate resilient and nutrient rich. Nevertheless, there will be a need to undertake site specific assessment of social and environmental implications of any project activities, particularly related to project's interventions under small and matching grant during the implementation of the project.

314. Project activities under FANSEP components, particularly Component A, B and C may trigger ESMF screening requirements and subsequent documents. Under component B and C, implementation of small and matching grant sub-projects ESMF screening is required and the ESMF screening checklist of sub-projects will be prepared to assess the implications of sub-projects to environment. The Environment and Social Management Framework (ESMF) has been prepared for the FANSEP. This framework would help in integrating and harmonizing the environment and social management principles at the various stages of project preparation and execution.

10.1 PURPOSE AND OBJECTIVES OF THE ESMF

315. The ESMF seeks to:

(a) Establish clear procedures and methodologies for screening, reviewing and managing environmental and social safeguards for the components to be financed under the FANSEP;

(b) Consolidate and facilitate understanding of all essential policies and regulations of the GoN as well as the World Bank's environmental and social safeguards regime that are applicable to the Project; and

(c) Provide practical guidance on the implementation of the environmental and social safeguard measures.

316. Hence, the application and implementation of the ESMF will:

(a) Support the integration of environmental aspects into the decision making process at all stages related to planning, design, execution, operation and maintenance of FANSEP investments, by identifying, avoiding and/or minimizing adverse environmental impacts early-on in the project cycle;

(b) Minimize environmental degradation to the extent possible resulting from either directly FANSEP component activities or through indirect, induced and cumulative effects of project activities;

(c) Enhance the positive/sustainable environmental and social outcomes through improved/appropriate planning, design and implementation of sub-activities of the project components;

(d) Consider the level of environmental and social risk of each type of FANSEP component demands in allocating time and resources to be dedicated for stakeholder consultation;

(e) Build the capacity of the MoALD to take-up and coordinate responsibilities related to the application and implementation of the ESMF, including the

preparation of the FANSEP Component Specific Environmental Assessment and Management Plans (if required);

(f) Provide guidelines and procedures for further consultations during project implementation, in particular in defining and designing FANSEP component specific works;

(g) Provide a systematic guidance to address potential risks and to enhance quality, targeting, and benefits to the surrounding communities;

(h) Ensure that those stakeholders, irrespective of whether they benefit from or are adversely affected by the project interventions, are well informed and are able to participate in the decision-making process; and

(i) Support compliance with applicable legal/regulatory requirements of GoN as well as with the requirements set forth in the relevant Bank policies.

10.2 Plan, Policies, Legislations and Directives Applicable to ESMF

317. The key policy, legislation and directive relevant to ESMF are (i) Constitution of Nepal, 2015[25] particularly the articles related to fundamental rights including the right to food and food sovereignty, state's directive principles, governance, agriculture and land reform, natural resource conservation, (ii) Environment Protection Act and Rule (iii) Pesticide Management Act and Rule, (iv) National Seed Policy and Seed Act and Rule, (v) Bio-diversity Conservation Policy, (vi) Animal Slaughter Act and Rule, (vii) Veterinary Act and Rule, (vii) Local Governance Operation Act 2017, and (viii) several operational guidelines issued by MoALD and MoHP. In addition, several WB policies related to ESMF also prevail to guide the implementation of ESMF in FANSEP.

318. WB's environmental and social safeguard policies are highly relevant and crucial for sustainable poverty reduction. The policies are developed to prevent and mitigate negative implications to the people and environment in the development process and provide guidelines for the identification, preparation, and implementation of programs and projects. The following operational policies of the World Bank (described in Annex 10.1) are relevant to FANSEP from environmental and social viewpoint:

Safeguard policies triggered by the FANSEP	Relevant	Not relevant
Environmental Assessment OP/BP 4.01	X	
Natural Habitats OP/BP 4.04	X	
Forests OP/BP 4.36	X	
Pest Management 4.09	X	
Physical Cultural Resources OP/BP 4.11		X
Indigenous Peoples OP/BP 4.10	X	
Involuntary Resettlement OP/BP 4.12	X	
Safety of Dams OP/BP 4.37		X
Projects on International Waters OP/BP 7.50		X
Projects in Disputed Areas OP/BP 7.60		X

[25] Any law inconsistent with this Constitution shall, to the extent of such inconsistency, be void.

319. This ESMF forms part of the comprehensive environmental and social management approach that has been adopted for addressing the potential environmental and social impacts even when these are considered minor in nature. Reconnaissance visits to the proposed project districts show that there will be a need to assess the environment and social impact of the project interventions/activities even it is well known at this stage that the impacts could be minimal.

320. This ESMF defines (a) the approach for identifying the environmental and social issues associated with the FANSEP activities, (b) the requirements for conducting environmental and social screening and environment and social assessment studies, and (c) measures to prevent, mitigate and manage adverse impacts and enhance positive ones. This ESMF includes an exclusion list and a simplified environmental and social screening checklists, which will be used to determine what types of environmental and social assessment required for the proposed initiatives. Environmental and social safeguards technical document in line with ESMF will be developed for ensuring the environmental and social safeguards during the implementation of project activities. Environment and social safeguard technical document elaborates the step, processes and responsibilities including tools such as Environmental and Social Code of Practice (ESCoP)/ESMP to be used during project activity implementation for ensuring environmental and social integration in the planning, implementation and monitoring of project activities.

321. The eligible project activities that are not under the IEE or EIA requirements, but their implementation could still have no or minimal adverse environmental and social impacts fall under Category III of World Bank Safeguard Policy of Environmental Assessment OP/BP 4. 01. These activities will be recommended for FANSEP funding with contractual agreements to fully adopt ESCoPs. The screening should specify the environmental and social code of practices to be adhered to in the respective
activity.

322. The Environment and Social Management Plan (ESMP) of a sub-project consists of "the set of mitigation, monitoring, and institutional measures to be taken during implementation and operation to eliminate adverse environmental and social impacts, offset them, or reduce them to acceptable levels. Sub-projects with small size infrastructure work, irrigation scheme, Haat Bazaar and Market centers establishment, etc. would be required to prepare environment and social management plans.

323. The ESMF has included a resettlement policy framework describing mechanisms for addressing the possible temporary disruption of services and income (e.g., temporary displacement of informal vendors), and temporary restrictions on access to facilities while the construction work is ongoing in the project area through the preparation and implementation of resettlement action plan.

324. The ESMF has included a Vulnerable Community Development Plan (VCDP) which is often interchangeable to Indigenous Peoples Development Plan (IPDP). Key objectives of the World Bank OP 4.10 Indigenous Peoples Policy are to: i) ensure that indigenous peoples affected by World Bank funded projects have a voice in project design and implementation ii) ensure that adverse impacts on indigenous peoples are avoided, minimized or mitigated and iii) that benefits intended for indigenous peoples are culturally appropriate. The policy is triggered when there is presence of indigenous peoples in the project area and there are likely potential adverse impacts on the intended beneficiaries of these groups. When this policy is triggered, an IPDP is prepared to mitigate the potential adverse impacts or maximize the positive benefits of the project intervention. Social screening will help assess the potential impacts of sub-projects on VCs. If the activities, during social screening, are found to have

adverse impacts on VCs, a Vulnerable Community Development Plan (VCDP) would be needed.

325. Activities under FANSEP are not expected to require resettlement action plan and vulnerable community development plan however as part of ESMF these policies frameworks have been developed in case some adverse impacts are identified.

326. The ESMF outlines the areas where women need specialized supports/ assistances as adequate support in technical knowledge, access to resources and markets and opportunities for capacity building programs and decision making process. Provisions will be made whereby women's participation would be enhanced in gender responsive manner. Purposefully, the project will ensure that women workload will not be substantially increase due to FANSEP activities. The Gender Development Policy Framework spells out gender development plan with the specific issues linking with the corresponding strategies and activities which will be given due consideration in FANSEP. This will ensure women's participation to benefit from project activities.

327. The project will conduct environmental and social safeguards related orientation programs/trainings at different level to strengthen the capacity of project's staffs, field technicians and stakeholders of rural municiapality for streamlining environment and social safeguards compliances on FANSEP activities. Orientation and training will be conducted through project on ESMF implementation at project management level and cluster level and field level during the preparation phase of ESCoPs/ESMPs. Environment and Social Safeguard Specialist at TA team will prepare technical document, training booklet and environment and social screening checklists and other documents as required.

328. Grievance Redress Mechanism (GRM) will be established at the PMU and cluster levels. This will ensure attending peoples concern at various level. Any type of grievances related to environmental and social safeguards received will be handled by PCU and any unsolved issues will be forwarded to PMU with all the required information.

329. The institutional mechanism for implementation of ESMF is integral to the overall FANSEP implementation mechanism. Environment and Social Safeguard Desk will be assigned at Project Management Unit and Cluster Unit level for implementing ESMF requirements. During the preparation phase, the proposal received from the beneficiary /entity/stakeholder for FANSEP supported activities will be screened by cluster office as per the requirement of ESMF. The screening will determine whether there is need for further activities like ESCoPs/ ESMPs. The responsibility of preparing ESCoPs/ESMP will be with the beneficiary institution/entity. During the implementation phase, the grant recipients /entity/stakeholders will be responsible for implementing environmental mitigations, obtaining necessary permits (if needed), implementing the ESCoPs/ESMPs etc. The grant recipient will conduct regular monitoring of the environmental and social issues and the report will be submitted to FANSEP as part of the periodic progress report. The TA team will have an Environment and Social Safeguard Specialist (ESSS) position. The ESSS would assist PMU and PCUs in coordination and implementation of all environment related activities of the project. ESSS prepares technical documents/ booklets and environment and social screening checklists for implementation of environment and social safeguard measures. ESSS will

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development

assist overall technical support/guidance to FANSEP team to ensure the compliances of environmental and social safeguard measures and capacity building programs.

330. The ESMF requires detailed supervision, monitoring, reporting and evaluation of the impact of the subproject on the environment and social aspects. For this purpose, a Monitoring & Evaluation (M&E) system will be established at the FANSEP. PMU will be responsible for implementing ESMF for periodic internal monitoring to ensure ESMF implementation. Internal monitoring will be carried out focusing on outcomes, outputs and implementation progress for each sub-grant. FANSEP along with other concerned stakeholders will be responsible for regular monitoring on need basis. In addition, PMU will recruit an independent third party to undertake environment and social safeguard study in order to ensure that environment and social safeguard measures are adequately complied with.

10.3 MAIN OUTPUTS OF ESMF

331. The main outputs of the ESMF are:

i) to identify the potential environmental and social issues /risks related to the project activities.
Ii) to establish procedures and methodologies for screening, reviewing and managing environmental and social safeguards for the interventions to be financed under the FANSEP
iii) to provide clear guidance regarding preparation and implementation of environmental and social management plan, pest management plan, resettlement action plan and vulnerable community development plan etc. as relevant.

332. Wherever necessary, the existing guidelines of World Bank and the government regulatory Framework will guide the application of the ESMF in FANSEP activities.

10.4 REVISION/MODIFICATION OF THE ESMF

333. The ESMF will be an 'up-to-date' or live document enabling revision, when and where necessary. Unexpected situations and/or changes in the project or components design would, therefore, be assessed and appropriate management measures will be incorporated by updating this ESMF. Such revisions will also cover and update any change/modification introduced in the legal/regulatory regime of the country. Also, based on the experience of application and implementation of this framework, the provisions and procedures would be updated, as appropriate.

Secretary
Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

CHAPTER 11

11 MONITORING & EVALUATION ARRANGEMENT

11.1 BACKGROUND

334. This chapter describes the approach, methods and tools for monitoring of the project. It makes clear about the role of difference agencies and outlines the accountabilities to be coordinated in implementing the project activities with expected output, outcomes and impacts to achieve the PDO level indicators. In addition, it outlines what steps to be taken while conducting these activities. Contrary to conventional M&E system, the project subscribes to the evidence based M&E putting beneficiaries and their welfare at the center and "making things visible" as a key strategy. The existing M&E system of recently closed AFSP will be strenghthened and implemented to track progress on a continuous basis.

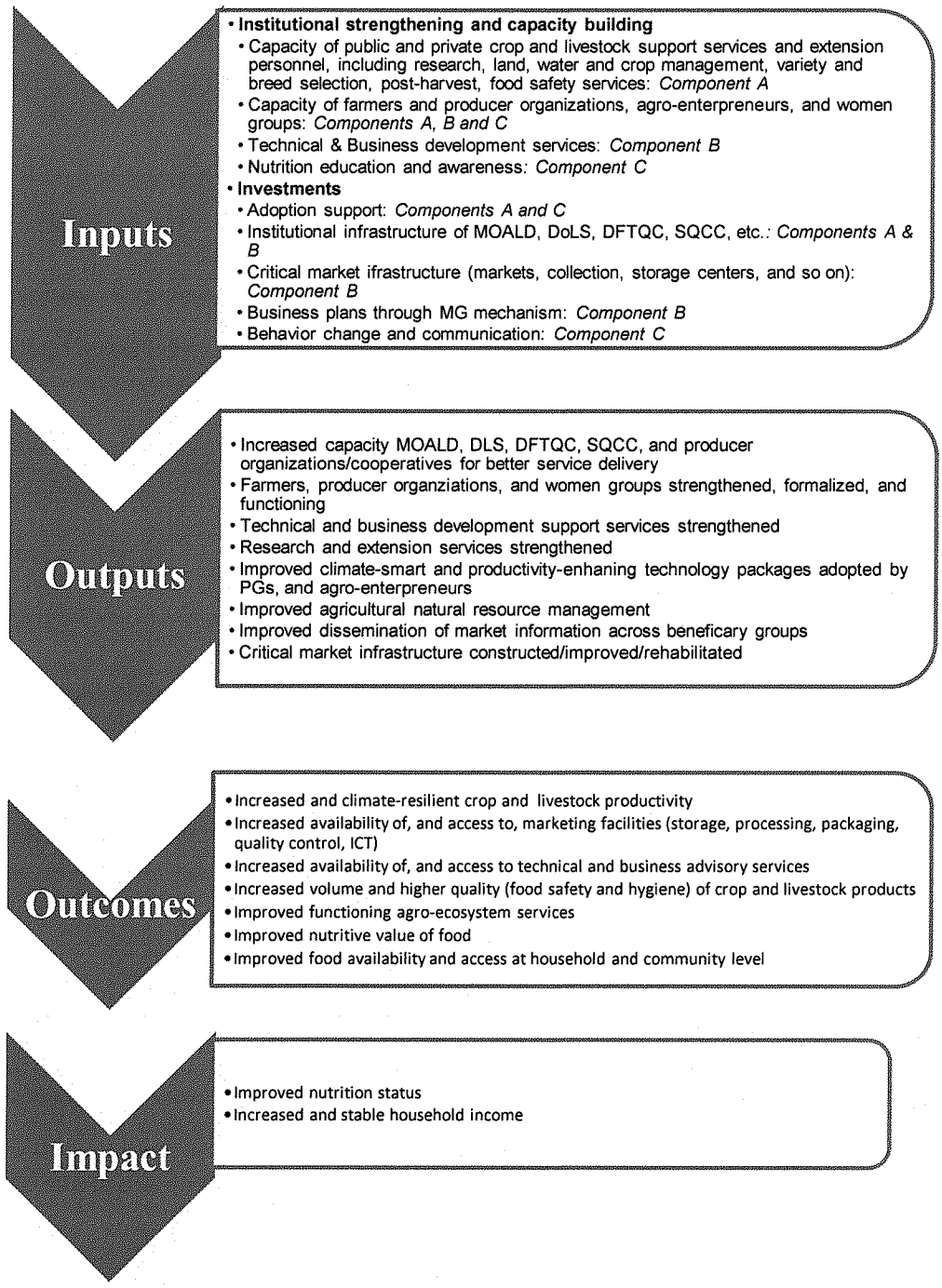
335. Specific objectives of FANSEP's M&E system are to:

(a) Assess whether implementation of project activities is going as planned and corrective action is needed to improve the delivery;
(b) Ensure the achievement of the PDO and component objectives and results envisaged by the project as indicated in RF; and
(c) Assess project's compliance to environment and social safeguard measures including by Grant Recipients (GRs).
(d) Ensure the gender inclusion project direct beneficiaries envisioned by the project.

336. A schematic depiction of the project's results chain is provided in Figure 2 below. As seen in this figure, project's components, notwithstanding their distinct and separate functions, are closely intertwined and have been designed to complement each other to address the key challenges that need to be overcome to spur agricultural productivity and attain the desired nutrition outcomes in the targeted areas by: i) inducing the Nepal agriculture research system to adapt relevant technologies and practices for use by the targeted beneficiaries in their socio-economic and bio-physical environment; ii) aligning extension efforts and targeted TA to support the dissemina;tion of these technologies; iii) ensuring adequate supply of quality seed and breed stock at smallholder farmers' level to promote effective adoption by farmers; iv) supporting investments in productive and market assets at the beneficiary level to enhance resource use efficiency and profitability; and v) ensuring that production and profitability gains translate into consumption of a more diverse diet and improved nutrition outcomes.

337. Lessons learned from AFSP and other similar projects has shown that positively influencing nutritional behavior change is more effective if agriculture-related and income enhancing activities are integrally linked with the nutrition and health related awareness raising and training through BCC interventions, particularly with mother groups. The increase in productivity of agricultural crops and livestock commodities leads to increased food availability and access to market enabled by the components A and B whereas access to more diverse nutritious food will thus be enabled and Component C is designed to capitalize on these gains to elicit changes in consumption patterns and improved nutrition outcomes of pregnant and nursing women and children between 6 and 24 months. In sum, the combined effect of the project's interventions across the three components add to more than the sum of the individual parts to ensure that key aspects of food security and nutrition, tackling synergistically issues of food availability, access, and utilization, thus allowing the project beneficiaries to improve their food security and nutritional status.

338. **Figure 2: Results chain FANSEP**



339. Table below shows key activities to be carried out as part of M&E related activities.

Table 11.1 Key activities to be carried out as part of M&E

M&E type	Period	Key responsibility	Assisting agency/collaborator	Reporting frequency	Remark
Baseline Survey	At the Beginning of the project implementation	DIME	PMU, PCU, WB, TA,	Once	
Progress reporting	Monthly, Trimester, Annual	PMU, PCU	TA	Regular	
Mid line project survey	Fourth year/First Trimester	PMU	PCU, WB, DIME, TA	Once	Outsourcing
Project Mid-term Evaluation	Third year	PMU	PCU, WB, TA	Once	
Final/End Line Survey	Fifth year/Third Trimester	DIME	PMU, PCU, WB, TA	Once	

11.2 BASICS OF M & E

340. Project M&E starts from project design and ends with completion of the project and its impact study and suggesting measure for future course of action with a complete project cycle (socio-eco-fina-envi-tech analysis and preparation, implementation – supervision, review and reporting, completion and appraising for next phase). Taking this fact in centre point, to conduct M&E system in effective way, a proper communicating and reporting system will be developed to provide constant feedback on the extent to which the project and its components are achieving their goals and potential problems will be identified in due time and possible solutions will be proposed. The accessibility of project to all target beneficiaries will be monitored on the basis of component and sub-component wise activities, outputs and outcomes defined and fixed for a given time duration. Therefore, for each and every activity and sub-activity output, intermediate outcome and expected outcome indicators, responsible agency (lead and support) and tentative deadline (timeframe) will be clearly defined. In all components and sub-components of the project, the level of efficiency and effectiveness will be monitored and suggested for improvements, if any required. In addition to provisions outlined, the following activities are proposed to intervene.

(a) Ensuring the project is able to achieve the PDO level objective.
(b) Ensuring the project is able to achieve the year-wise target as per PDO level indicators mentioned in RF.
(c) Mange to conduct the analysis to influence sector assistance strategy since the relevant analysis from project and policy evaluation will able to highlight the outcomes of previous interventions and the strengths and weaknesses of their implementation.
(d) Update the improvement of the project design and mange to use of project design tools such as the logical frame results in systematic selection of indicators for monitoring project performance since the process of selecting indicators for

monitoring is a test of the soundness of project objectives and it helps to improve in project design.

(e) Incorporate views of stakeholders by managing the participation of project beneficiaries in design and implementation for greater ownership of project objectives. It encourages the sustainability of project benefits and brings accountability.

(f) A mid course correction will be conducted since a reliable flow of information during implementation enables managers to keep track of progress and adjust operations to take account of experience.

(g) In every level of Project Implementation (from PMU to PCU), a project monitoring system will be strenghthened and one M&E specialist at PMU and two cluster level M&E specialists will be deputed with clear TOR and job description.

11.3 PRINCIPLES AND APPROACHES OF M&E IN FANSEP

341. The major objectives of M&E is to provide better means for learning from experience, improving service delivery to the beneficiaries, planning and prioritizing resources, demonstrating results to ensure accountability and ensure judicial and proper use of resources. The project measures the inputs, processes, outputs, outcomes and impacts as performance indicators to monitor and evaluate the project interventions. This approach will be supported by sound data collection, analysis and reporting system. The project will set performance target as given in result framework (Sub-chapter 1.2.3) and regularly assess the progress toward achieving them. Problems in the project implementation process will be identified through PMIS, periodic progress review workshops, Mid term evaluation and Mid line project survey and mechanism for corrective action will be established. Similarly, the project will establish a robust and dynamic web-based PMIS to support planning, implementation, monitoring and evaluation of project interventions. The baseline value of PDO level indicators indicated in RF will be captured and updated by baseline survey and monitoring and evaluation of the project will be carried out as regular operations. The mid term evaluation, mid line project survey and endline survey assessments will be made taking in consideration of baseline value captured at baseline survey. Project staffs involved in data collection, analysis, reporting and set up and execution of PMIS will be adequately trained to implement this performance monitoring system. Separate login access to PMIS for data entry will be made available to PCUs and as per necessary to other field level staffs for effective data collection mechanism and data will be validated at PCU and then at PMU.

11.4 M&E STRATEGY

342. The M&E strategy of the project will be developed to establish procedures and processes of building a project M&E system capable of producing reliable data to support evidence-based management decision making, promote transparency and accountability, and facilitate learning. The M&E strategy outlines how the project M&E will be designed and managed. It will be designed to inform project management of whether implementation is going as planned both in terms of physical and financial targets and results and if not, whether and what corrective actions are needed. It integrates mechanisms for progress and results data and information collection, processing, and reporting and documentation and dissemination of best practices and lessons.

343. M&E strategy comprises the roles and responsibilities and methodologies to facilitate PMU and PCUs for efficient and effective monitoring and reporting as per GoN rules and WB requirement and periodic reporting of the project activities, output and outcomes based on the result chain.

344. The M&E section of the project will be responsible for the overall project monitoring and evaluation and ensure in the collection of reliable data based on all four project components and periodic progress reporting should be made to MoALD. Various M&E tools

will be developed to ease in the collection of data which will be guided by M&E strategy of the project. The project will also document lessons learned, best practices, success stories and disseminate these knowledge products to the relevant stakeholders which helps the policy makers to develop future policies and programmes.

11.5 MONITORING

345. Monitoring is a kind of ongoing and intermediate evaluation. This type of evaluation is performed while a project is being implemented, with the aim of improving the project design and functioning while in action. Monitoring is an internal project activity designed to provide constant feedback on the progress of a project, the problems it is facing, and the efficiency with which it is being implemented. Monitoring activity examines where the targeted people or in our case how many beneficiary groups are involved in the project, if lower than estimated, it tries to find potential reasons and measures to be taken in near future. Monitoring will be conducted on the basis of input and output projected and expected. Under input indicator budgetary (fund management, budget release and other financial management related), deputation and mobilisation of human resources, provisions and procurement of physical resources and arrangement of other logistics will be considered. Similarly, component-wise interventions and output indicators will be considered as the basics for output monitoring. The basics of M&E will be predetermined interventions, maintenance of relevant fiduciary and safeguards policies, procedures and standards, project implementation and the resulting outputs and outcomes.

346. Monitoring will assess linkages between the activities implemented along with inputs, outputs, outcomes and impacts. The other exogenous factors affecting the project results will also be documented during results monitoring to inform overall attribution of project interventions to outcomes. In addition, the project will collect data to support GHG emission accounting as stated in the PAD.

347. The existing PMIS will be upgraded and operated to support planning, implementation, monitoring and evaluation of overall project interventions. The M&E section will develop several M&E formats in line with project RF and result chain which helps to achieve PDO. The FLTs deployed by SPs will be more responsible in field to collect the data and all the information will be gathered at PCU level and finally at PMU and disseminate it to relevant stakeholders and make access to this data via project website linked to the PMIS.

11.6 EVALUATION

348. An evaluation studies the outcome of a project (changes in income, housing quality, benefits distribution, cost-effectiveness, etc.). In case of FANSEP under evaluation, adoption of CSA technologies increased, productivity of agriculture and livestock products increased, Increase in HH income and access to market and ICT, level of food security improved, food change in livelihoods and food behavior and nutritious status and nutritive value of food with the aim of informing the design of future projects will be evaluated. A perfect evaluator can assess the extent to which the project produced the intended impacts etc. and the distribution of the benefits between different groups as well as the cost-effectiveness of the project as compared with other options.

349. For the project evaluation, at first the baseline survey will be carried out by DIME and evaluation intermediate evaluations i.e., mid term evaluation and project mid line survey will be carried out and finally the endline survey to assess the over all project impacts. The overall impact evaluation will be conducted by DIME. The data captured during the baseline study will provide the benchmark or base value for the project indicators such as household income (farm and off-farm), crop and livestock productivity, seed replacement rate, score on the food insecurity experience scale and dietary intake diversity for pregnant/nursing women

and children under age of two years and final independent impact study (endline) will be assessed on the base of pre-defined PDO and aforementioned result indicators.

11.7 M&E RESPONSIBILITIES

350. The M&E section at PMU is mainly responsible for the overall project monitoring and evaluation under the supervision of project director. The M&E section at PMU will be supported by PCUs for efficient and effective M&E of the implemented activities. The PMU and PCUs will be technically supported by TA and FLTs in data entry, collection, analysing, interpreting and in preparing project progress report as per requirement of GoN rules and WB. There will be FLTs at the rural municipality level from TA and will be responsible for initial data entry and collection and ensure the quality.

351. NARC is mainly responsible for identifying the improved CSA varieties and technologies under component A and conduct validation trials and monitor the performance at farmers' fields and develop improved package of practices for its adoption and further dissemination.

11.8 OVERALL COORDINATION OF M&E ACTIVITIES

352. A broader exercise of M&E will be done as per the indicators developed for the project. Basically the PDOs is followed by five PDO level indicators and component wise intermediate results. The description of indicators and responsibility of data collection are clearly mentioned in RF and the M&E measurement methodology is specified with the data source for M&E assessment. The component wise intermediate indicators are stated clearly in measurable norms.

353. A set of M&E tools for measuring indicators will be clearly defined and structured covering outputs of goods and services generated by the project and their impact on beneficiaries. The monitoring activities will be carried out with proper coordination between the predefined indicators and information collected and gathered. PMIS will be developed which facilitates in collecting data, its management, analysis and generate reports as per requirement in compliance with the developed formats. The institutional arrangements for gathering, analyzing, and reporting project data and for investing in capacity building have been made accordingly. An appropriate provision will made for the ways in which M&E findings will be fedback into decision making.

11.9 M&E LEVELS

354. The M&E of the project and its components will be carried out in following levels with distinct and joint efforts.

(a) Concurrent monitoring will be the responsibility of the PD assisted by a project M&E section at PMU and M&E specialist (consultant who will be charged with the responsibilities of day-to-day M&E operations).
(b) Two cluster level project M&E specialists at PCUs who will regularly monitor and report on the sub-project's physical and financial inputs and outputs.
(c) An independent entity will be charged to carry out comprehensive outcome-focused impact evaluations of the FANSEP at three stages: baseline, mid line survey during project implementation and final endlilne survey after the project completion.

11.10 INSTITUTIONAL STRUCTURE OF M&E

355. The institutional structure of the M&E process follows the overall organizational and governance structure of the FANSEP. The primary responsibility for M&E will be with the PMU, led by the PD and assisted by the officials from M&E section of PMU and by other section of PMU along with M&E specialists and other specialists from TA. The PMU will

prepare report related on M&E issues put in discussion at TCC, PSC level meeting and make report tosupervising entity (WB).

a) management in its day-to-day operations;
b) developing a PMIS and link to all the project direct beneficiaries;
c) development of information networks;
d) provide support to the overall FANSEP communication dissemination effort;
e) business development and planning; and
f) learning and capacity building.

356. The M&E system will identify problem areas at the national and project implementation levels, help management to administer project processes, aid in project designing and implementation, help make mid-course corrections, and help the project achieve its overall development objective.

357. Major indicators are component wise output, outcomes and results of FANSEP have been shown in Sub-section 1.2.3. Budgetary part (allocation and utilization) is another indicator which may also be the indicators to be used.

358. The M&E will help to ensure to attain the PDO. The basics of M&E are predetermined interventions, maintenance of relevant fiduciary and safeguards policies, procedures and standards, project implementation and the resulting outputs and outcomes. Considering the PDO the project will apply the mechanism of joint planning and participatory monitoring involving stakeholder. The approach of the project is to involve the farmer and the local community in planning, implementing, and evaluation of project interventions so as to improve the design and relevance of activities, enhance adoption of new technologies and practices, and increase the sustainability of project outcomes.

11.11 Role of PMU in M&E

359. The PMU will monitor the whole activities of the project implemented by PCUs and FAO TA. As per project implementation arrangement, the service provider under TA will deploy FLTs at field level to support implementation of all the project activities under the close coordination, consultation and guidance from PCUs. The technical staff hired for the project activity through service providers and attached with PCUs will assist the PCU in implementing the project activities by working with FGs through the entire project activity cycle. In addition, technical specialists, service providersand other stakeholders may be contracted by the project to serve in specific roles and contexts. Two project facilitators under SP is deployed at each RMs level and are liable to perform majorly three kinds of works (a) social mobilisation, (b) community preparedness, and (c) capacity building to assist implementation of activities under component C. The effort of these persons will in reality shows the picture of farmers and women's participation in project activities. So, PMU will cover all these individuals and entities while conducting the monitoring activities, since the project will be primarily implemented through purposive beneficiary groups, organized in accordance with the nature and purpose of the intervention under each of the project components. While monitoring, the PMU and other units will examine whether proper numbers of farmers are mobilised and trained or not; what types of input support have been provided them; what type of activities are intended; the norms regarding the con-contribution as well as other roles and responsibilities are properly maintained. It also will assess the group members are selected timely and the groups are formed under given norms and time duration as well as the group members is able to manage the input received properly or not? Thus, the use of inputs as well as the resulting outputs (performance) of the group will be monitored at FGs levelby FLTs as well as staff from relevant technical departments who will be backstopping the specific interventions.

11.12 METHODS AND TOOLS

360. Finally, M&E activities will be arranged as per activities and interventions, output and outcome indicators defined. The PDO level and intermediate results indicators will be monitored and evaluated through the following methods and tools:

a. strategy specifying priorities, information requirements, and tools and methodologies for data collection, analysis and reporting;
b. a comprehensive M&E strategy with clear roles and responsibilities as they relate to indicators tracking with respect to data gathering and reporting;
c. PMIS which will be a computerized information system that caters to the project level information needs;
d. internal and external periodic assessment and evaluations which would include baseline surveys, studies, impact evaluations, mid-term evaluation, and end-line project evaluation; and
e. participatory community monitoring and accountability approaches and systems using Community Score Cards. The PMU will have the overall responsibility for the M&E function although the implementation of the M&E function will take place mainly at the beneficiaryFG & community levels.

11.12.1 Baseline Data Collection

361. As major need of M&E, a baseline data will be collected within given timeframe. The DIME is mainly responsible for the baseline data collection and will have a well-defined strategy for collection of baseline data using strucutures questionnaire. As part of the detailed preparation work, considerable information has already been gathered about baseline conditions in the project area, including through a specially commissioned study. This will be augmented through further baseline work in the early phase of implementation. As part of the start up of project activities in any location, baseline information on a core set of indicators will be gathered. Data collection responsibility will vary with the type of data being gathered. Most of the data required for project supervision and mid-course corrections will, by its nature, arise – and hence be collectible – in the course of project implementation (e.g., adoption rate) through the PMIS system.

11.12.2 Mechanism for Output Monitoring

362. To facilitate the output monitoring for four components project result matrix (Table 6.3) will be used. The result matrix will specify the results of each of the intervention financed underfour project components. The result matrix will incorporate performance targets (impact, outcome, output and input), performance indicators, data sources and reporting mechanism and assumptions as well as risks. The result matrix will also indicate the activities and activity wise inputs required. Separate result matrix may be prepared for each component linking with the project RF.

11.12.3 Process Monitoring

363. On the basis of designed framework, monitoring process will be specified that will have the responsibility for oversight and monitoring of relevant implementing agency involved, and what indicators/variables they must specifically monitor and report on.

11.12.4 Impact Evaluation

364. Impact evaluation will be conducted from other than the regular team. This will be done by DIME initiative. Therefore, impact assessment data, relating to project outputs and outcomes (and their implicit comparisons with non-project, "control" sites) will be done through a third-party, ensuring due quality reliability as well as comparability of data.

CHAPTER 12

12 COMPLAINTS REDRESSAL

365. Communities, individuals, project beneficiaries and any personnel who believe that they are adversely affected by WB supported projects may submit complaints to the project level Grievance Redress Mechanisms (GRM) or through WB's Greivance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project related concerns. Any individuals who feels that they are affected by the project implementation activities may submit their complaint to the WB's independent inspection panel which determines whether harm occurred or could occur as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the WB's attention and bank management has been given an opportunity to respond. The information how to submit complaints to WB's GRS can be retrieved from http://www.worldbank.org/en/projects-operations/products-and-services/grievance-redress-service and information about how to submit complaints to WB's inspection panel can be obtained from www.inspectionpanel.org. In addition to this, the project will develop GRM guidelines and establish GRM units atthe PMU and PCUs. This will ensure attending peoples concern at various level.

366. Initially, the PCUs will collect grievances and organize a meeting to address and settle all the issues at PCU. The PCU shall notify about the received complaints and its settlement from PCU level GRM committee. Any unsolved grievances at PCU level should be forwarded to the PMU with all the required information. There will be PMU will GRM committee which will respond to these grievances and direct the PCUs to undertake appropriate measures.

367. For effectively handling grievances, two stage committees will be established- one at the PMU and other at the PCU level. These committees will be constituted with representation from related agencies from various sectors including the representation from GR. There will be delineation of the authorities at these levels in terms of addressing the issues. The effort will be to sort out issues at local level and if not that will be referred to the PMU level.

368. Disputes are expected to be minimal and it is expected that through a participatory process, acceptance of the projects and grievances can be minimized. However, it is necessary to establish an effective grievance redressed mechanism to address complaints/grievances related to environmental and social issues that may arise. The PMU and PCU level GRM committees are formed as per approved FANSEP Grievance Management Guideline, 2020 with the following team composition to address any complaints received.

At PMU level, the central Grievance Redress Management Committee is as follow:

1.	Joint Secretary, Planning and Development Cooperation Coordination Division, MoALD	Coordinator
2.	Project Director, FANSEP	Member
3.	Undersecretary (Administration), MoALD	Member
4.	Undersecretary (Law), MoALD	Member
5.	Section Chief, Development Cooperation Coordination Section, MoALD	Member
6.	Complaints Hearing Officer, FANSEP (To be nominated by FANSEP PMU)	Member Secretary

At PCU level, the Project Cluster Unit Grievance Redress Management Committee is as follow:

1. Chief, Project Cluster Unit, FANSEP	Coordinator
2. Chief, Agriculture Knowledge Center	Member
3. Chief, Veterinary Hospital and Livestock Service Expert Centre	Member
4. Officer level representative, District Coordination Committee	Member
5. Representative, From grant receipient, Nominated by PCU	Member
6. Complaints Hearing Officer, PCU(To be nominated by PCU)	Member Secretary

369. Any grievances and objections regarding the environmental concerns of the project will be referred to the project Grievances Redress Committee (GRC).

370. Any grievances received at PCU level should be handled, discussed and should be solved by the PCU level GRM committee. Any unsolved complaints should be sent to central level GRM committee for handling. Central level GRM committee will solve the received grievance from PCU. It will be the responsibility of PMU to inform PSC about the status of the grievances received at PMU and PCU level and about the settlement progress.

371. Project Implementation Progress Reports should provide information on complaints and grievances, and actions taken by the PMU/PCUs.

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

CHAPTER 13

13 GOVERNANCE AND ACCOUNTABILITY

13.1 CORPORATE GOVERNANCE

372. Project Steering Committee (PSC) will be the main governing body. It will be chaired by the Secretary, MoALD. The PSC will consist of Joint Secretaries of MoALD, NPC, MoF, MoFAGA, MoPH, Director Generals of DoA, DLS, DFTQC, DoC, ED of NARC, one representative from national farmers' alliance. The PD of FANSEP will be member secretary of the PSC. The PSC will meet in quadrimester basis and will approve the project's annual work plan and budget, monitor FANSEP progress, provide oversight and policy guidance, and resolve any outstanding issues. A primary focus of the PSC will be to facilitate inter-agency cooperation to ensure achievement of the PDOs.

373. Another important body is TCC chaired by the Joint Secretary, PDCCD, MoALD. The TCC will consist Deputy Director General of DoA, DLS, DFTQC, Chief of Child Health Division, MoHP, Director of Planning Division of NARC and related section chiefs of MoALD and PD of FANSEP will be member Secretary and invitee members as per required. The TCC will be responsible for resolving technical guidelines and norms and guiding project management and implementation on a regular basis. It will also support in facilitating inter-agency corporation/coordination; clearing annual work plans and budget for approval by the PSC. PMU will be the secretariat for the TCC and TCC will also meet on quadrimester basis.

374. Three SLCCs will be formed, one in each Provinces (Province 2, Bagmati and Gandaki) to provide the technical assistance and coordinate the project implementation activities. The SLCC will be headed by the Secretary of the MoLMAC of the province and will be responsible for ensuring that there is strong intra-state and interagency cooperation, coordination and integrated implementation at the province levels. The Chief of the PCU will work as member secretary. The SLCC will meet on quadrimester basis. In implementation level at rural municipality level, coordination with Food and Nutrition Security Coordination/Technical Committee will be done during project activities implementation as per necessary.

375. The PMU will be a main implementing line agency at central level while PCUs will be implementing agencies at cluster level. The PMU will be responsible for overseeing the implementation activities, coordination of financial, procurement and administrative management, development and implementation of PMIS to facilitate performance monitoring of all project activities, organization of evaluation and impact assessments, acquisition of technical assistance services, implement capacity building activities, review and compilation of relevant reports and other materials, submitting biannual and annual progress reports to the WB and PSC, submitting the audit reports within six months of the close of every fiscal year, and liaising with the WB concerning operation and management of the project. PCUs will implement all the project activities and interventions at field level and submit the progress report to PMU on time.

376. FAO will work as technical service provider and it will select local NGO/service provider partners and later will deploy field level technicians and project facitlitator at RM level for the

implementation of project activities. The technical and project facilitators staff hired for the project through service providers works under the guidance of PCUs.

13.2 GENERAL PROVISIONS

13.2.1 Citizen's Charter

377. In addition the component wise governance, the project will maintain the citizen's charter in form prescribed by Good Governance (Management and Operation) Act 2008 and locate it in the visible place. To maintain transparency, the decision making authority may pay due attention to the opinion and advice of the subordinate staffs on the subject to be decided. If the process of decision of the subject has to be initiated from one level and subsequently decided from the higher level, the authority involved in each level will present the subject to the deciding authority enclosing his/her clear opinion. The decision making authority, while making decision, shall address the questions, if any, raised in the opinion submitted by authority of all level involved in the process of decision making.

13.2.2 Complaint and Grievance Management

378. A complaint box will be maintained at the visible places at PMU and PCUs and the box will be opened in every three days. Any grievance about the agency and office for the management as well as relating to quality, effectiveness of the work carried, and possible irregularities will be collected and handled. The grievances and suggestions are found to be reasonable, necessary step will be taken for proper management of such inputs. A grievance management procedure will be developed considering the legal provisions under the Governance Act and Regulation. The information of action taken will be published in concerned notice board. In case the complaint is irrelevant to the function of concerned entities its information will be given to the concerned person if identified. In case the complaint is not identified the complaint will be posted in notice board.

13.2.3 Public Hearing

379. For the purpose of making the activities of the office fair, transparent, and objective and addressing the lawful concerns of general people and stakeholders, the mechanism of public hearing will be developed and implemented. While conducting public hearing the expert of the related subject, stakeholder, and representatives of civil society and officials of the local government (rural municipality and ward level) shall be invited.

13.2.4 Governance and Inclusion

380. The project has been designed and implemented in participatory and inclusive approach. So the approach of the project is to involve the farmer and the local community in planning, implementing, and evaluation of project interventions so as to improve the design and relevance of activities, enhance adoption of new technologies and practices, and increase the sustainability of project outcomes. The project has primarly targeted the vulnerable (earthquake affected, acute food insecure, disadvantaged, marginalized and women headed) households including landless families and agricultural wage laborers as project direct beneficiaries. As per the approach, the design of the project emphasizes community participation and social

development outcomes including inclusion, empowerment, equity, participation, and accountability.

381. More specifically, the project is expected to benefit the communities, including vulnerable groups through community mobilization and extension support, vulnerability reduction strategies, support to Producer/Enterprise Groups through technical assistance on business development to marketing extension, skills training to enhance employability and returns to labor, promotion of diversified diets, increased nutrient intakes and improved feeding and caring practices for pregnant and nursing women, and children up to 2 years of age.

382. Since Dalits, indigenous people (*Janjatis*), women, marginal farmers, landless households tend to be more resource poor, food insecure, socially excluded and lack access to public services than others, project's Social Management Framework (SMF) will integrate the measures for addressing them during project implementation. However, given the nature of interventions, the scale of adverse impact is likely to be minimal. The given SMF includes a Resettlement Policy Framework too, which specifies the procedures, eligibility, grievance redress and other measures to be followed in the event that resettlement or land taking is required for any intervention. Therefore, the SMF includes gender specific measures to identify gender issues in the project and identify options to maximize benefits and minimize adverse effects of project interventions, and to ensure the participation of women in all phases of project cycle.

383. The Gender Development Plan includes specific measures to address women's workload especially in the context of outmigration of male members of the household, enhancing skills and capabilities and improving gender sensitization.

384. Finally, in order to promote social accountability, the M&E framework developed for the project includes a system for 'Participatory Community Monitoring and Accountability'. It is expected that through the application of gender community score cards, all stakeholders will be able to take part in the monitoring of project processes according to defined roles and responsibilities, and project implementation processes are executed in a satisfactory manner and those benefits are sustainable. To ensure the accountability the project will have a results-based M&E system that will monitor project processes using the Participatory Community Monitoring and Accountability approach and system based methods and tools. In addition, the project will also ensure that all stakeholders are taking part in monitoring of project processes according to defined roles and responsibilities based on specific performance indicators. It will also promote participatory community monitoring tools such as community score cards to ensure that project implementation processes are executed in a satisfactory manner and those benefits are sustainable.

385. For better understanding and making the accountability more implementation friendly, the financial cost for the implementation of major productivity promotion programs, grants will be developed in the respective guidelines for making more accountable and effective monitoring and evaluation.

CHAPTER 14

14 COMMUNICATION AND REPORTING

386. For the betterment of transparency, accountability and timely decision making purpose a practical communication and reporting mechanism will be arranged. The reporting communication system will establish the proper linkage between PDOs, activities, outputs/outcomes, institutional and implementation arrangements. Reporting and communication related responsibilities will be clearly defined.

14.1 COMMUNICATION

387. For the effective implementation the project, communication about the project and its implementation to the target groups and other stakeholders is very significance and vital work. For better communication activities, communicating activities should be performed timely and it should be practical and adaptable. So to make the communicating function effective various methods will be applied such as food security campaign, website development and providing training for the use and operating of the same, advertisement through local technology, meetings and interaction activities. The project will provide the required value-added information support for the sustainable transformation of livelihood of the target groups of project area through food security and nutritious status improvement. Both electronic and print media as well as audios and videos will be used and language of communication will be local as per immediate needs.

388. The awareness related information and knowledge and project progress activities as well as achievements will be communicated through local FMs (radio) and phone in radio (and if possible TV) with the active participation of farmer and women groups. Local news papers also will be a part of communicating about the implementation. More picture based pamphlets will be developed and distributed and presented in local public gathering places. While communicating about the project implementation, besides providing information on use and production of high value and newly developed seeds and breeds, food security, income generating and nutritious food behaviour and technologies, a periodic basis dialogue will be initiated with target groups where queries of target groups on the implementation issues of project will be answered by responsible persons of the project.

389. Similarly, quadrimester progress reporting from PCU to PMU should incorporate the following information:

a) Contributions of the FANSEP regarding development of technologies, seeds, breeds and value-added products, income generation activities, livelihoods improvement related activities and improvement of nutritious food behaviour;
b) Trainings provided by the project and its intermediate outcomes;
c) A list of technologies, seeds and breeds ready for adoption; and
d) Expert speaks and success stories.

390. The above information should be incorporated in the quadriester progress reporting keeping in view the latest requirements of the target groups as well as input required to policymakers regarding the implementation and its ongoing improvement. It will highlight the information on resource availability, packages of practices, value-addition, marketing information, financing/loan facilities, market/export avenues, development of infrastructure for training and contacts, and success stories. To make the communication activities more effective and result oriented a communication strategy and manual will be developed. A brief outline of such strategy is given below.The mechanism for coordination and reporting is given below;

391. Figure 14.1 below shows the Coordination, monitoring & reporting arrangements of FANSEP.

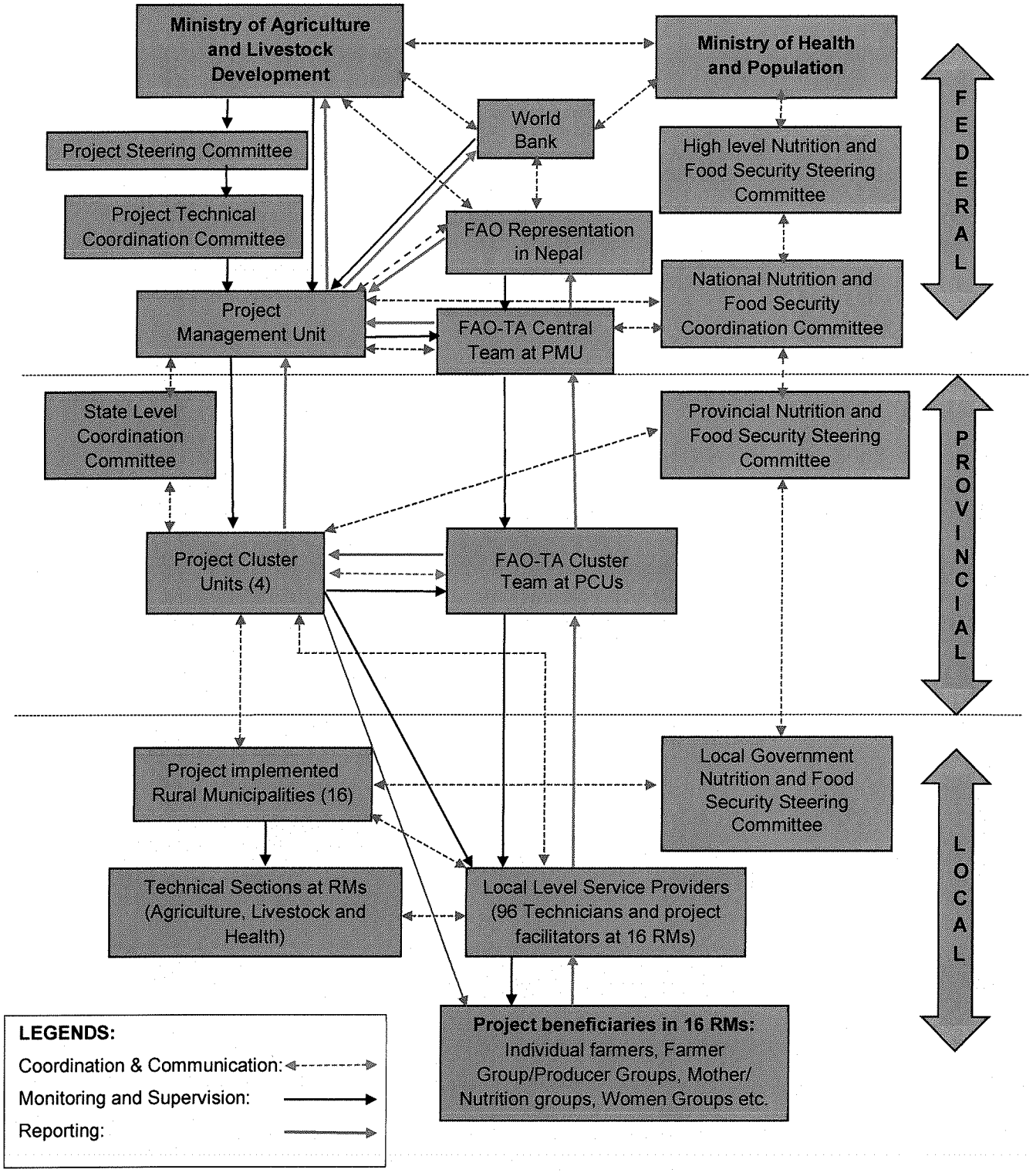


Figure 14.1: Coordination, monitoring & reporting arrangements of FANSEP

14.1.1 Communication Strategy and Manual

392. The project will set out the methodology and procedures for participation and communication at province, district and rural municipality level for all project activities including:

- Formation of selection of subprojects by RM level stakeholders;
- Decisions on the system design, financial contributions, mode of group/social mobilisation, participation in the project activities and representation from disadvantaged subgroups; and
- Meaningful participation in all meetings, groups and activities referred to above.

393. Since this is a community driven project, RM-based field teams will be used as community mobilizers and facilitators to build capacity at the user level to design, implement and raise awareness about project activities themselves. TA team will prepare a detail communication strategy and manual and formulated during project implementation period.

394. To perform above said activities under proposed communication strategy and manual at least the following information will be outlined:

1. Theme of communication strategy and manual including communication aims and target groups, the strategy and content of the measures to be taken, budget, responsibilities, evaluation and coordination between the communication activities;
2. Methods and measures of communication including press release and events, news bulletins, technologies to be used (e.g. audio, visual and print) and other possibilities; and
3. Internal communication such as language to be used, internal meetings and workshops, circular and reports, tools and equipment to be used.

14.2 REPORTING

395. The origin of the project implementation will be the munipality level project support units; the cluster level offices of the project will be primarily responsible for the implementation of project activities. The designed reporting system will cover the reporting in vertical and horizontal basis. Under vertical reporting system, the reporting will be in periodical basis such as monthly, trimester, and annual. The horizontal reporting is used to communicate among same and similar levels of project units on specific case and events. The reporting system will incorporate both financial management and project implementation reporting. The reporting process, procedures and methods will as per the rule of GoN following by WB guidelines. In most of the time, the reporting will be based on data generated under PMIS designed and used. Internal and external periodic assessment and evaluations including village baseline surveys, baseline studies, impact evaluations, mid-term evaluation, and end-of-project evaluation also will be the part of reports and reporting.

396. All cluster level PCUs will submit monthly, trimester, and annual progress report to province government and PMU under given formats. Similarly, the PCU level will receive the reports; it reviews and after compilation and re-organisation (as required) will forward to PMU. PCUs will be responsible to organize periodic progress review, monitoring and supervising the work being done in the field, and maintaining appropriate records, financial and project progress reporting.

397. The PMU will be responsible for submitting IPR, annual progress reports to the World Bank and PSC. Likewise, it will submit the audit reports within six months of the close of fiscal year, and liaising with the World Bank concerning operation and management of the project.

ANNEXES

Secretary

Annex1.1 Food balance situation in project districts (2011-2016)

Nepal, provinces & project districts	2011/12				2012/13				2013/14				2014/15				2015/16				Avg (2011-2016)	
	Per capita food availability, kg	Per capita requirement, kg	Population (census 2011)	Shortage /Surplus	Per capita food availability, kg	Per capita requirement, kg	Population (census 2011)	Shortage/Surplus	Per capita food availability, kg	Per capita requirement, kg	Population (census 2011)	Shortage/Surplus	Per capita food availability, kg	Per capita requirement, kg	Population (census 2011)	Shortage/Surplus	Per capita food availability, kg	Per capita requirement, kg	Population (census 2011)	Shortage/Surplus	AV per capita food availability, kg	Avg per capita requirement, kg
Nepal	226.8	193.5	26620809	33.3	212	197	26620809	15	228.6	198.9	26620809	29.7	193	187.4	28518789	5	187.7	190.2	28535085	-2.5	210.1	193.4
Province 2	123.7	93.7	5471803	29.9	171.8	188.0	5471803	-16	18.79	190.30	5471803	-171.5	166	176.8	5902134	-11	161.9	181.0	5859052	-19.1	132.3	166.0
Province 3	140.0	203.3	5531285	-63.3	113.0	208.9	5531285	-96	144.03	213.31	5531285	-69.3	16.13	63.84	34420923	-48	112	194.6	6187998	-83.0	121.5	176.8
A. Mountain project districts																						
Dolakha	139.1	189.5	188186	-50.4	84.7	188	188186	-103.3	98.9	185.3	188186	-86.4	70.2	188.4	182339	-118.2	98.2	191	178259	-92.8	116.8	188.4
Sindhupalchowk	282.4	190.0	289455	92.4	267.6	189	289455	78.6	277.3	186.7	289455	90.6	184.0	189.4	283299	-5.4	194.9	191	279153	3.9	240.5	189.2
Dhading	144.2	200.9	336250	-56.7	137.2	201	336250	-63.5	229.2	199.2	336250	30.0	125.5	200.8	335296	-75.3	180.7	201	334725	-20.3	167.4	200.5
Gorkha	244.2	199.7	269388	44.5	270.4	198	269388	72.0	280.9	195.8	269388	85.1	183.4	202.6	262441	-19.2	203.0	201	262918	2.0	236.0	199.5
B. Terai project districts																						
Dhanusa	228.3	183.6	768404	44.7	204.4	186	768404	18.1	194.9	187.7	768404	7.2	212.3	175.9	813790	36.3	190.9	181	800249	9.9	204.2	182.9
Mahottari	166.3	184.0	646405	-17.8	145.7	187	646405	-41.4	124.9	189.0	646405	-64.1	155.3	172.9	690923	-17.6	170.2	181	668390	-10.8	154.7	182.8
Siraha	183.2	183.2	643136	-0.1	73.1	186	643136	-112.4	114.7	186.6	643136	-71.8	110.9	178.2	675527	-67.3	96.4	181	672354	-84.6	132.6	182.9
Saptari	206.7	183.4	646250	23.3	100.2	186	646250	-85.7	125.7	187.1	646250	-61.4	115.4	177.7	681376	-62.4	105.9	181	676782	-75.1	145.8	183.0

Nepal, provinces & project districts	Total food availability and requirement of cereals in 5 yrs		
	Average per capita food availabilty, kg (2011-16)	Average per capita requirement, kg	shortage/surplus, kg
Nepal	210.1	193.4	16.8
Province 2	132.3	166.0	-33.7
Province 3	121.5	176.8	-55.2
Dolakha	116.8	188.4	-71.7
Sindhupalchowk	240.5	189.2	51.3
Dhading	167.4	200.5	-33.1
Gorkha	236.0	199.5	36.5
Dhanusa	204.2	182.9	21.3
Mahottari	154.7	182.8	-28.2
Siraha	132.6	182.9	-50.3
Saptari	145.8	183.0	-37.2

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

Annex 1.3: Crop and livestock production sitation in 8 project districts over the last five years (2006-2016)

Siraha

Crops	Cereal crops									Pulse crops					
Year	Paddy			Maize			Wheat			Lentil			Pigeon pea		
	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha
2006/07	57400	117670	2050	2000	5000	2500	16250	34760	2139	5450	3815	700	1000	640	640
2007/08	70750	156358	2210	2100	5040	2400	16250	34760	2139	5450	3815	700	1000	640	640
2008/09	70750	164176	2321	2100	5040	2400	16000	31284	1955	5240	3668	700	950	600	632
2009/10	63000	107100	1700	2150	4800	2233	16000	33280	2080	5344	3769	705	969	616	636
2010/11	45570	95697	2100	1800	3600	2000	17500	31350	1791	9758	8007	821	2350	1410	600
2011/12	61000	175150	2871	3100	6820	2200	15725	29877	1900	9758	8007	821	2350	1410	600
2012/13	31175	53814	1726	1750	3150	1800	15675	29800	1901	15500	14400	929	2400	2220	925
2013/14	38788	98303	2534	2000	4000	2000	14750	32350	2193	15500	14400	929	2340	2199	940
2014/15	36000	95300	2647	1730	3460	2000	15715	37500	2386	15500	14400	929	2340	2199	940
2015/16	33,500	85,000	2,537	1,700	5,400	3,176	17,000	30,420	2,000	15,500	18,400	1,187	2,340	2,199	940
Average	**50,793**	**114,857**	**2,270**	**2,043**	**4,631**	**2,271**	**16,087**	**32,538**	**2,048**	**10,300**	**9,268**	**842**	**1,804**	**1,413**	**749**

Livestock	Meat prod., Mt			Milk prod., Mt		Egg prod., '000 No.		Livestock popn., No.				
Year	Buff	Chevon	Chicken	Cow	Buff	Hen	Duck	Cattle	Buffaloes	Goat	Pig	Poultry
2006/07	2285	1100	205	4505	19394	12208	384	93311	76660	165716	8020	402900
2007/08	2297	1100	231	4507	19503	13986	384	93350	77075	165716	8060	453600
2008/09	2554	1133	227	4519	21688	13739	356	93600	85708	170700	10616	445605
2009/10	2852	1140	281	6614	24221	16234	448	132857	95717	171700	16876	550746
2010/11	2942	1186	620	7075	24988	11649	394	103908	98750	178663	18417	699280
2011/12	3035	1209	713	7989	25780	13432	393	106740	101879	182054	20098	802680
2012/13	3119	1231	761	8718	26579	14068	394	110037	105039	185384	20561	851369
2013/14	3141	1291	796	9398	26644	15799	418	109361	105297	190775	21035	879311
2014/15	3141	1291	796	9920	26650	15799	418	109328	105076	190775	21266	918616
2015/16	3221	1286	809	8125	25624	17231	248	87935	89943	221793	5130	1091314
Average	**2859**	**1196.7**	**543.9**	**7137**	**24107**	**14414.5**	**383.7**	**104043**	**94114.4**	**182328**	**15007.9**	**709542**

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhdurbar, Kathmandu

Fruits	Mango			Banana			Papaya			Pineapple			Mandarin			Sweet orange		
Year	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha
2006/07	976	10248	10.5	113	1695	15	81	1094	13.5	18	288	16	0	0	0	0	0	0
2007/08	990	8316	8.4	113	1752	15.5	81	1094	13.5	18	288	16	0	0	0	0	0	0
2008/09	935	8419	9	105	1630	15.52	78	1063	13.6	16	259	16.1	0	0	0	0	0	0
2009/10	942	8485	9	105.2	1630.2	15.49	81.2	1104.5	13.6	61.1	259.2	4.24	0	0	0	0	0	0
2010/11	1400	8064	5.76	100	960	9.6	50	544	10.88	22	258	16.13	0	0	0	0	0	0
2011/12	5400	92625	19.5	100	3500	35	51	563	13.73	22	258	16.13	0	0	0	0	0	0
2012/13	5570	35000	7	110	3540	32.18	51	563	13.73	22	258	16.13	0	0	0	0	0	0
2013/14	5570	35000	7	110	3540	32.18	51	563	13.73	22	258	16.13	0	0	0	0	0	0
2014/15	5650	32,214	6.51	116.5	4060	35	0.6	9.6	16	22	258	16.13	0	0	0	0	0	0
2015/16	5,650	32,214	7	117	4,060	35	1	10	16	22	258	16.13	0	0	0	0	0	0
Average	**3,308**	**27,059**	**9**	**109**	**2,637**	**24**	**53**	**661**	**14**	**25**	**264**	**15**	0	0	0	0	0	0

Vegetables	Cruciferous			Legumes											
	Cauliflower			Pea			Cowpea			French beans			Broad beans		
Year	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha
2006/07															
2007/08															
2008/09															
2009/10															
2010/11	815	13172	16.2	11	44	4	0	0	0	0	0	0	0	0	0
2011/12	1024	16384	16	11	44	4	70	560	8	0	0	0	25	188	8
2012/13	1150	8351	16	15	60	4	0	0	0	0	0	0	10	150	15
2013/14	1153	18398	16	16	64	4	0	0	0	0	0	0	11	165	15
2014/15	1153	18398	16	16	64	4	0	0	0	0	0	0	10	150	15
2015/16	1,150	17,250	15	30	162	5	20	174	9	15	98	6.5	20	143	7.2
Average	**1,059**	**14,941**	**16**	**14**	**55**	**4**	**14**	**112**	**2**	**0**	**0**	**0**	**11**	**131**	**11**

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

Cash crops	Cash crop								
	Oilseed crop			Sugarcane			Potato		
Year	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha
2006/07	1400	700	500	1825	82125	45000	1500	16500	11000
2007/08	1400	700	500	1825	82125	45000	1500	16500	11000
2008/09	1400	700	500	1825	82125	45000	1515	18180	12000
2009/10	1400	700	500	1825	83125	45548	1515	18180	12000
2010/11	6655	2500	376	1800	81000	45000	1515	18180	12000
2011/12	6655	2361	354	1850	83250	45000	1615	19380	12000
2012/13	6595	1719	261	1900	87845	46234	1900	24700	13000
2013/14	6520	2076	318	2100	95590	45519	1900	24700	13000
2014/15	7046	2763	392	2200	100100	45500	1900	24700	13000
2015/16	6545	2312	353	2200	120100	54591	1950	23790	12200
Average	**4562**	**1653.1**	**405.4**	**1935**	**89739**	**46239.2**	**1681**	**20481**	**12120**

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

Annex 1.3: Crop and livestock production sitation in 8 project districts over the last five years (2006-2016) contd.

Saptari

Crops	Cereal crops									Pulse crops					
	Paddy			Maize			Wheat			Lentil			Pigeon pea		
Year	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha
2006/07	52000	95680	1840	4000	8000	2000	15500	35650	2300	6250	4375	700	550	440	800
2007/08	68000	153000	2250	4100	8250	2012	15500	35650	2300	5700	3850	675	560	336	600
2008/09	68400	173500	2537	4000	8800	2200	15000	32085	2139	5500	3550	645	560	336	600
2009/10	59903	150724	2516	4000	8000	2000	15000	35080	2339	5609	3647	650	571	345	604
2010/11	37691	116842	3100	4000	8000	2000	20000	48000	2400	7125	8776	1232	571	345	604
2011/12	60000	177000	2950	4000	8000	2000	18000	45600	2533	7125	8676	1218	571	430	753
2012/13	30219	60388	1998	300	750	2500	15500	40000	2581	7700	7550	981	572	345	603
2013/14	35000	90500	2586	3500	7800	2229	16000	44000	2750	7590	7550	995	540	355	657
2014/15	35000	95000	2714	3000	7000	2333	15000	40000	2667	7590	7550	995	540	355	657
2015/16	31,900	82,250	2,578	2,500	6,500	2,600	17,000	41,000	2,412	7,590	8,550	1,126	540	355	657
Average	**47,811**	**119,488**	**2,507**	**3,340**	**7,110**	**2,187**	**16,250**	**39,707**	**2,442**	**6,778**	**6,407**	**922**	**558**	**364**	**654**

Livestock	Meat prod., Mt			Milk prod., Mt		Egg prod., '000 No.		Livestock popn., No.				
Year	Buff	Chevon	Chicken	Cow	Buff	Hen	Duck	Cattle	Buffaloes	Goat	Pig	Poultry
2006/07	1922	1853	155	7080	18521	5381	660	149700	80177	152505	9405	255250
2007/08	1971	1877	213	7003	20178	7422	658	148070	87350	154500	9429	350200
2008/09	2040	1930	176	6850	20885	6148	580	144824	90409	158900	11743	290100
2009/10	2330	2029	443	8095	23858	9515	721	167368	103279	167036	17399	729851
2010/11	2330	2077	653	8589	23858	9398	562	159763	103279	170954	17510	729851
2011/12	2377	2106	744	8730	24343	10909	544	162383	105380	174963	17622	831735
2012/13	2446	2124	891	9732	25051	11584	555	165712	108441	176489	18404	915842
2013/14	2461	2199	855	10352	25114	12667	579	164896	109099	182180	19021	944454
2014/15	2461	2199	855	10927	25119	12667	579	164847	108870	182180	19230	986671
2015/16	3867	2200	1301	16654	25228	18082	1060	224252	179010	199697	21966	883064
Average	2420.5	2059.4	628.6	9401.2	23215.5	10377.3	649.8	165182	107529	171940	16173	691702

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

Fruits	Mango			Banana			Papaya			Pineapple			Mandarin			Sweet orange		
Year	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha
2006/07	772	8106		77	1155	15	88	1188	13.5	15	240	16	0	0	0	0	0	0
2007/08	775	6510		77	1194	15.5	88	1188	13.5	15	240	16	0	0	0	0	0	0
2008/09	629	5664		72	1113	15.45	84	1147	13.65	14	219	15.64	0	0	0	0	0	0
2009/10	663	5968		71.8	1112.7	15.49	87.6	1197.5	13.67	13.6	219.2	16.11	0	0	0	0	0	0
2010/11	5300	23192		52	505	9.71	50	400	8.89	18	217	15.5	0	0	0	0	0	0
2011/12	5450	27715	6.28	1000	7910	9.89	55	400	8.89	18	217	15.5	0	0	0	0	0	0
2012/13	6000	20000	4	1200	22000	20	5	27	6	12	120	12	0	0	0	0	0	0
2013/14	6283	19250	3.5	1700	37500	25	5	27	6	12.25	126	12	0	0	0	0	0	0
2014/15	6,530	22,556	4	1,750	38,750	25	5	27	6	12.3	126	12	0	0	0	0	0	0
2015/16	6,530	22,556	4	1,750	38,750	25	5	27	6	12	126	12	0	0	0	0	0	0
Average	**3,893**	**16,152**	**4**	**775**	**14,999**	**18**	**47**	**563**	**10**	**14**	**185**	**14**						

Vegetables	Cruciferous			Leguminous											
	Cauliflower			Pea			Cowpea			French bean			Broad beans		
Year	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha
2006/07															
2007/08															
2008/09															
2009/10															
2010/11	2105	25260	12	60	282	4.7	470	4582	9.7	27	211	7.8	0	0	0
2011/12	2100	25200	12	45	212	5	435	4220	70	21	160	8	0	0	0
2012/13	2100	29820	14	40	192	5	400	3640	9	0	0	0	0	0	0
2013/14	2100	29820	14	40	192	5	400	3640	9	0	0	0	0	0	0
2014/15	2300	34040	15	46	189	4	405	4131	10	25	195	8	0	0	0
2015/16	2,350	35,250	15	50	250	5	200	20,000	100	0	0	0	25	250	10
Average	**2,176**	**29,898**	**14**	**47**	**220**	**5**	**385**	**6,702**	**35**	**12**	**94**	**4**	**4**	**42**	**2**

Secretary

Ministry of Agriculture and Livestock Development
Government of Nepal
Singhadurbar, Kathmandu

Cash crops	Oilseed crop			Sugarcane			Potato		
Year	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha
2006/07	5900	3250	551	60	2500	41667	4775	64463	13500
2007/08	5900	3230	547	60	2500	14667	5020	65200	12988
2008/09	5900	3230	547	60	5200	41667	5500	88000	16000
2009/10	5900	3230	547	60	2500	41667	5550	88245	15900
2010/11	4000	3140	785	50	1500	30000	5550	88245	15900
2011/12	4200	3440	819	40	1600	40000	5150	62904	12214
2012/13	4200	3100	738	0	0	0	5150	62904	12214
2013/14	4250	3135	738	50	1000	20000	5565	71757	12894.3
2014/15	4200	3925	935	150	3300	22000	5565	47303	8500
2015/16	4277	3303	772	200	8000	40000	5570	69380	12456
Average	**4872.7**	**3298.3**	**697.9**	**73**	**2810**	**29166.8**	**5339.5**	**70840.1**	**13256.6**

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

Secretary

Annex 1.3: Crop and livestock production sitation in 8 project districts over the last five years (2006-2016) contd.

Dhanusha

Crops	Cereal crops									Pulse crops					
Year	Paddy			Maize			Wheat			Lentil			Pigeon pea		
	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha
2006/07	52700	110143	2090	1180	3068	2600	26200	60889	2324	2100	1450	690	800	560	700
2007/08	54790	161630	2950	1250	2850	2280	27700	64500	2329	2100	1450	690	800	560	700
2008/09	55000	176000	3200	1555	3850	2476	27500	57405	2087	2100	1450	690	800	560	700
2009/10	54462	164124	3014	2065	4085	1978	27500	62400	2269	2142	1490	696	816	575	705
2010/11	61972	173521	2800	2365	4967	2100	38450	96119	2500	2565	1961	765	816	575	705
2011/12	65000	185250	2850	2019	6460.8	3200	38450	90357	2350	2565	1961	765	816	575	705
2012/13	45790	125054	2731	2019	6662	3300	40000	108000	2700	1719	1647	958	1326	1140	860
2013/14	40635	116647	2871	2019	6663	3300	39500	105000	2658	1719	1711	995	1326	1203	907
2014/15	44200	141440	3200	2465	7700	3124	38000	114994	3026	1719	1711	995	1326	1203	907
2015/16	35,200	121,100	3,440	2,465	7,800	3,164	40,000	105,000	2,625	1,719	2,111	1,228	1,326	1,203	907
Average	**50,975**	**147,491**	**2,915**	**1,940**	**5,411**	**2,752**	**34,330**	**86,466**	**2,487**	**2,045**	**1,694**	**847**	**1,015**	**815**	**780**

Livestock	Meat prod., Mt			Milk prod., Mt		Egg prod., '000 No.		Livestock popn., No.				
Year	Buff	Chevon	Chicken	Cow	Buff	Hen	Duck	Cattle	Buffaloes	Goat	Pig	Poultry
2006/07	2289	1574	107	6214	9180	3222	345	82600	60072	162758	5859	182988
2007/08	2289	1574	107	6216	10989	3230	345	82600	60072	162758	5859	182988
2008/09	2546	1595	123	6217	12223	3896	346	82615	66817	164915	6254	211180
2009/10	2489	1625	164	6219	15641	4974	331	82645	65334	168040	6782	281832
2010/11	2451	1722	336	6698	15401	2732	348	89012	64334	178114	6782	368045
2011/12	2628	1751	400	6824	16513	3253	349	90691	68979	182174	5796	438299
2012/13	2703	1791	431	7059	17346	3466	360	92435	71705	186380	5825	466963
2013/14	2651	1853	486	7691	17073	3778	369	91813	70577	190683	6722	483502
2014/15	2651	1853	486	8118	17077	3778	369	91785	70429	190683	6796	505115
2015/16	2538	1566	514	14056	22710	8650	295	139786	75103	200733	5796	577645
Average	2523.5	1690.4	315.4	7531.2	15415.3	4097.9	345.7	92598.2	67342.2	178724	6247.1	369856

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

Fruits	Mango			Banana			Papaya			Pineapple			Mandarin			Sweet orange		
Year	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha
2006/07	856	8320	9.7	160	2336	14.6	89	1335	15	17	255	15	0	0	0	0	0	0
2007/08	866	6737	7.77	160	2400	15	89	1335	15	17	255	15	0	0	0	0	0	0
2008/09	795	6518	8.19	165	2476	15	90	1355	15	15	231	15.4	0	0	0	0	0	0
2009/10	807	6618	8.2	165	2475.6	15	93.2	1407.3	15	15.3	231.2	15.11	0	0	0	0	0	0
2010/11	1922	5922	3.08	100	1040	13	117	1409	15.15	21	229	10.9	0	0	0	0	0	0
2011/12	2150	19000	9.5	100	1040	13	117	1409	15.15	25	264	14.67	0	0	0	0	0	0
2012/13	2150	19000	9.5	100	1040	13	117	1409	15.15	25	264	14.67	0	0	0	0	0	0
2013/14	2821	5330.4	2.4	204	1500	12	10.6	53.69	5.9	25	264	14.67	0	0	0	0	0	0
2014/15	3086	5473	2.41	204.5	1506	12	11	54.28	5.9	25	264	14.67	0	0	0	0	0	0
2015/16	3,086	5,473	2	205	1,506	12	11	54	5.9	25	264	14.67	0	0	0	0	0	0
Average	**1,854**	**8,839**	**6**	**156**	**1,732**	**13**	**74**	**982**	**12**	**21**	**252**	**14**						

Vegetables	Cruciferous			Leguminous											
	Cauliflower			Pea			Cowpea			French bean			Broad beans		
Year	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha
2006/07															
2007/08															
2008/09															
2009/10															
2010/11	855	9320	10.9	85	289	3.4	162	912	5.6	0	0	0	30	121	4
2011/12	855	9320	11	76	76	76	162	912	6	0	0	0	30	121	4
2012/13	912	9745	11	92	504	5	170	1265	7	0	0	0	42	336	8
2013/14	950	10159	11	95	518	5	235	1724	7	0	0	0	40	324	8
2014/15	950	10160	11	0	0	0	235	1724	7	0	0	0	40	324	8
2015/16	951	10,160	11	95	518	6	235	1,724	7	0	0	0	40	324	8.1
Average	**912**	**9,811**	**11**	**74**	**317**	**16**	**200**	**1,377**	**7**	**0**	**0**	**0**	**37**	**258**	**7**

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhdurbar, Kathmandu

Cash crops	Oilseed crop			Sugarcane			Potato		
Year	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha
2006/07	2450	2175	888	3300	119700	36273	2000	25000	12500
2007/08	2975	2200	739	3405	119700	35154	2070	25800	12464
2008/09	2975	2200	739	3100	120800	38968	2075	20750	10000
2009/10	3000	2100	700	3400	137150	40338	2275	32532	14300
2010/11	2885	4425	1534	3590	136420	38000	2275	32532	14300
2011/12	3402	2006	0.59	3605	151410	42000	2325	30225	13000
2012/13	3055	2180	714	3605	152320	42252	2325	30225	13000
2013/14	3373	2006	595	3605	151410	42000	2325	28330	12185
2014/15	3373	2006	595	3605	151410	42000	2320	30383	13096
2015/16	2475	16862	948	318	10618	33390	31199	513220	16450
Average	**2996.3**	**3816**	**745.259**	**3153.3**	**125094**	**39037.5**	**5118.9**	**76899.7**	**13129.50**

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

Annex 1.3: Crop and livestock production sitation in 8 project districts over the last five years (2006-2016) contd.

Mahottari

Crops	Cereal crops									Pulse crops					
	Paddy			Maize			Wheat			Lentil			Pigeon pea		
Year	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha
2006/07	33499	66998	2000	2930	5895	2012	21037	37867	1800	3163	3084	975	1030	515	500
2007/08	46000	115000	2500	2930	5860	2000	22140	46494	2100	3163	3084	975	1030	515	500
2008/09	40250	95500	2373	2930	5860	2000	21540	41380	1921	3163	3084	975	1030	515	500
2009/10	36195	67791	1873	2585	5785	2238	21540	45250	2101	3226	3168	982	1050	529	504
2010/11	34776	78440	2256	1935	4050	2093	21540	45250	2101	4125	3659	887	1050	529	504
2011/12	34776	97373	2800	2435	6451.5	2649	26785	64820	2420	4125	3659	887	1050	529	504
2012/13	28160	83584	2968	750	1500	2000	26815	63312	2361	3226	3168	982	1050	925	906
2013/14	36144	65060	1800	700	1400	2000	26800	62312	2325	3226	3203	993	1050	1010	962
2014/15	29400	90500	3078	2465	7700	3124	38000	114994	3026	3226	3203	993	1050	1010	962
2015/16	25,400	83,500	3,287	9,200	26,700	2,902	29,000	63,800	2,200	3,226	4,103	1,272	1,050	1,010	962
Average	**34,460**	**84,375**	**2,494**	**2,886**	**7,120**	**2,302**	**25,520**	**58,548**	**2,236**	**3,387**	**3,342**	**992**	**1,044**	**709**	**680**

Livestock	Meat prod., Mt			Milk prod., Mt		Egg prod., '000 No.		Livestock popn., No.				
Year	Buff	Chevon	Chicken	Cow	Buff	Hen	Duck	Cattle	Buffaloes	Goat	Pig	Poultry
2006/07	2012	488	194	4124	16250	7126	189	80900	45177	108510	2500	293250
2007/08	2012	488	194	4115	16250	7130	189	80900	45177	108510	2500	293250
2008/09	2098	511	209	4121	16943	7672	210	81019	47102	113522	2806	315528
2009/10	2560	533	195	5747	18768	7143	189	92044	57481	118370	5490	293761
2010/11	2782	576	397	5925	20396	3152	192	86033	62467	128010	5748	432000
2011/12	2904	600	437	6017	21290	3472	195	87366	65205	133410	7078	475932
2012/13	2975	614	471	6248	22305	3765	199	88312	67931	136481	7581	502331
2013/14	2975	614	471	6858	22101	4282	215	87627	66702	139623	7986	515149
2014/15	2937	637	493	7239	22105	4282	215	87601	66562	139623	8074	538176
2015/16	2578	781	561	9661	18447	9850	234	119233	70190	154703	12703	677748
Average	**2583**	**584.2**	**362.2**	**6005.5**	**19485.5**	**5787.4**	**202.7**	**89104**	**59399.4**	**128076**	**6246.6**	**433713**

Secretary

Ministry of Agriculture and Livestock Development
Government of Nepal
Singhadurbar, Kathmandu

Fruits	Mango			Banana			Papaya			Pineapple			Mandarin			Sweet orange		
Year	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha
2006/07	894	8690	9.7	137	2000	14.59	96	1440	15	17	255	15	0	0	0	0	0	0
2007/08	909	7072	8.77	137	2000	14.59	96	1440	15	17	255	15	0	0	0	0	0	0
2008/09	862	7070	8.2	158	2313	14.63	96	1448	15	16	246	15.375	0	0	0	0	0	0
2009/10	854	7005	8.2	159.2	2325.3	14.6	99.6	1504	15.1	16.3	246.2	15.1	0	0	0	0	0	0
2010/11	1300	6822	5.24	110	968	8.8	90	1080	15	22	244	15.25	0	0	0	0	0	0
2011/12	1500	11000	11	88	1330	15.11	90	1080	15	22	244	15.25	0	0	0	0	0	0
2012/13	2532	17832	7.14	90	1320	15	90	1080	15	22	244	15.25	0	0	0	0	0	0
2013/14	2532	17832	7.41	90	1320	15	90	1080	15	22	244	15.25	0	0	0	0	0	0
2014/15	2600	10,860	6	40	551	14.5	15	224	16	22	244	15.25	0	0	0	0	0	0
2015/16	2,600	10,860	6	40	551	15	15	224	16	22	244	15.25	0	0	0	0	0	0
Average	**1,658**	**10,504**	**8**	**105**	**1,468**	**14**	**78**	**1,060**	**15**	**20**	**247**	**15**						

Vegetables	Cruciferous			Leguminous											
	Cauliflower			Pea			Cowpea			French bean			Broad beans		
Year	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha
2006/07															
2007/08															
2008/09															
2009/10															
2010/11	1845	21598	11.7	275	1698	6.2	0	0	0	0	0	0	12	48	4
2011/12	1935	24381	13	76	76	76	45	0	0	0	0	0	497	298	1
2012/13	1935	24321	13	709	535	1	45	360	8	0	0	0	497	298	1
2013/14	1935	24321	13	709	535	1	5	0	0	0	0	0	497	298	1
2014/15	1505	18211	12	0	0	0	220	1830	8	0	0	0	0	0	0
2015/16	1,576	19,272	12	0	0	0	150	1,515	10	0	0	0	0	0	0
Average	**1,789**	**22,017**	**12**	**295**	**474**	**14**	**78**	**618**	**4**	**0**	**0**	**0**	**251**	**157**	**1**

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

Cash crops	Cash crop								
	Oilseed crop			Sugarcane			Potato		
Year	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha
2006/07	2500	2300	920	3400	108800	32000	3100	39500	12742
2007/08	2900	2550	879	3500	112000	32000	3420	43605	12750
2008/09	2900	2550	879	3000	118280	39427	4862	51051	10500
2009/10	3000	2000	667	5000	217995	43599	3467	38137	11000
2010/11	2967	2078	700	5600	210000	37500	3467	38137	11000
2011/12	3115	2676	0.86	6500	260250	400385	3550	41180	11600
2012/13	3115	2676	859	6500	275350	42360	3550	41180	11600
2013/14	3135	2314	738	7000	268800	38400	3550	41180	12293
2014/15	8435	6128	726	7500	288750	38500	3350	41180	12293
2015/16	6981	5080	728	7500	388750	51833	3650	40880	11200
Average	**3905**	**3035.2**	**709.686**	**5550**	**224898**	**75600.4**	**3596.6**	**41603**	**11697.8**

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

Annex 1.3: Crop and livestock production sitation in 8 project districts over the last five years (2006-2016) contd.

Sindhupalchowk

Crops	Cereal crops									Pulse crops												
	Paddy			Maize			Wheat			Lentil			Pigeon pea			Black gram			Soyabean		
Year	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha
2006/07	13155	32888	2500	21000	47250	2250	19500	19500	1000	9530	18500	1941	530	480	906	1400	1680	1200	610	670	1098
2007/08	13155	32888	2500	21000	47250	2250	19500	19500	1000	9530	18500	1941	530	480	906	1400	1680	1200	610	670	1098
2008/09	13920	36439	2618	21895	51490	2352	19295	21070	1092	9030	12100	1340	430	450	1047	1450	1780	1228	610	670	1098
2009/10	13020	28800	2212	21800	46500	2133	19295	22000	1140	9030	12100	1340	439	462	1054	1479	1829	1237	622	688	1106
2010/11	12924	27002	2089	23920	52624	2200	19330	19330	1000	7000	6650	950	400	385	963	1479	1829	1237	622	688	1106
2011/12	12300	28290	2300	24925	57078.3	2290	19330	21263	1100	7010	7010	1000	400	385	963	1479	1829	1237	622	688	1106
2012/13	12220	26486	2167	24900	50833	2041	19320	21252	1100	7020	9336	1330	439	462	1054	1479	1829	1237	622	688	1106
2013/14	12235	28446	2325	24907	53958	2166	19320	21252	1100	7010	7862	1122	439	462	1054	1479	1799	1217	627	709	1131
2014/15	12200	28217	2313	24900	53301	2141	19320	22252	1152	7008	7819	1116	439	462	1054	1479	1799	1217	314	338	1076
2015/16	8,750	20,125	2,300	18,590	40,890	2,200	18,445	20,270	1,099	6,815	7,074	1,038	439	462	1,054	1,479	1,799	1,217	745	879	1,180
Average	**12,388**	**28,958**	**2,332**	**22,784**	**50,117**	**2,202**	**19,266**	**20,769**	**1,078**	**7,898**	**10,695**	**1,312**	**449**	**449**	**1,006**	**1,460**	**1,785**	**1,223**	**600**	**669**	**1,111**

Livestock	Meat prod., Mt			Milk prod., Mt		Egg prod., '000 No.		Livestock popn., No.				
Year	Buff	Chevon	Chicken	Cow	Buff	Hen	Duck	Cattle	Buffaloes	Goat	Pig	Poultry
2006/07	1430	361	172	4500	10888	7864	9	85446	59220	151785	9258	291231
2007/08	1430	361	172	4800	11236	7936	9	85446	39220	151785	9258	291231
2008/09	1334	363	172	4801	10888	7936	10	85473	36583	152420	9282	291231
2009/10	2399	368	186	5517	13501	8587	8	85527	65800	154536	6440	315125
2010/11	2946	372	402	5941	16578	7013	13	80500	80800	156040	12952	454505
2011/12	3033	376	449	6291	17705	7934	14	79309	81808	157559	14086	508000
2012/13	3076	379	464	6591	18181	8196	15	78912	82958	159093	14200	524791
2013/14	3036	455	480	7120	17834	8640	15	78552	81790	164642	14315	542137
2014/15	3036	455	480	7516	17837	8640	15	78528	81618	164642	14472	566371
2015/16	2457	1047	784	6567	18456	7500	90	50797	64020	180443	8233	841890
Average	**2417.7**	**453.7**	**376.1**	**5964.4**	**15310.4**	**8024.6**	**19.8**	**78849**	**67381.7**	**159295**	**11250**	**462651**

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

Fruits	Mango			Banana			Papaya			Pineapple			Mandarin			Sweet orange		
Year	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha
2006/07	96	744	7.75	17	194	11.41	5	50	10	1	12	12	153	1484	9.6	24	257	10.7
2007/08	101	626	9.19	17	194	11.41	5	50	10	1	12	12	106	1080	10.1	21	243	11.51
2008/09	123	761	6.18	16	179	11.18	20	197	9.85	8	97	12.125	132	1362	10.31	22	244	11.09
2009/10	125	780	6.24	15.7	178.8	11.38	20.5	204.9	10	8	97	12.125	133	1374	10.33	23	254	11.04
2010/11	150	536	5.47	125	910	13	26	205	10.25	55	935	17	143	1559	10.9	29	296	10.2
2011/12	150	536	5.47	125	910	13	26	205	10.25	70	1077	15.39	210	1435	9.9	38.8	293	10.1
2012/13	150	536	5.47	125	910	13	26	205	10.25	70	1,077	15	210	1435	9.9	38.8	293	10.1
2013/14	150	656	6.07	125	1130	15.69	26	205	10.25	15	221	14.73	215	1455	9.7	30	293	10.1
2014/15	160	661	6.01	130	1135	15.13	26	205	10.25	15	221	14.73	220	1455	9.7	39	293	10.1
2015/16	165	661	6	130	1,135	15	26	205	10	15	221	14.73	231	1493	9.7	44	293	10.1
Average	**137**	**650**	**6**	**83**	**688**	**13**	**21**	**173**	**10**	**26**	**397**	**14**	**175**	**1,413**	**10**	**31**	**276**	**11**

Vegetables	Cauliflower			Pea			Cowpea			French bean			Broad beans		
Year	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha
2006/07															
2007/08															
2008/09															
2009/10															
2010/11	750	10615	14.2	74	208	2.8	13	27	2.1	0	0	0	11	38	3.5
2011/12	752	10635	14	75	212	3	13	27	2	0	0	0	12	41	3
2012/13	772	11035	14	78	264	3	13	27	2	57	144	3	12	44	4
2013/14	774	11099	14	78	220	3	13	27	2	57	131		12	41	3
2014/15	319	3692	12	78	220	3	13	27	2	57	131	2	12	41	3
2015/16	785	13,256	17	78	220	3	13	27	2	57	131	2.3	12	41	3.4
Average	**692**	**10,055**	**14**	**77**	**224**	**3**	**13**	**27**	**2**	**38**	**90**	**1**	**12**	**41**	**3**

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

Cash crops	Oilseed crop			Sugarcane			Potato		
Year	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha
2006/07	1638	1100	672	10	320	32000	3000	40500	13500
2007/08	1638	1100	672	10	320	32000	3000	40500	13500
2008/09	1638	1100	672	10	320	32000	4900	58800	12000
2009/10	850	600	706	0	0	0	4900	58800	12000
2010/11	850	600	706	4	55	13750	4900	58800	12000
2011/12	477	438	910	10	190	19000	5033	62154	12349
2012/13	1224	955	780	10	350	35000	5035	60420	12000
2013/14	2500	850	340	0	0	0	5040	60480	12000
2014/15	827	741	896	0	0	0	5035	63492	12610
2015/16	830	766	923	10	350	35000	6035	91291	15127
Average	**1247.2**	**825**	**727.7**	**6.4**	**190.5**	**19875**	**4687.8**	**59524**	**12708.6**

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

Secretary

Annex 1.3: Crop and livestock production sitation in 8 project districts over the last five years (2006-2016) contd.

Dolakha

Crops	Cereal crops												Pulse crops					
	Paddy			Maize			Millet			Wheat			Soyabean			Black gram		
Year	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha
2006/07	3125	6318	2022	5390	10800	2004	3575	3540	990	4603	7500	1629	308	329	1068	136	122	897
2007/08	3125	6318	2022	5390	10800	2004	3575	3540	990	4603	7500	1629	308	329	1098	136	122	897
2008/09	3125	6318	2022	5390	10800	2004	3575	3580	1001	4400	5105	1160	308	329	1068	136	122	897
2009/10	3133	6250	1995	5387	12336	2290	3555	4159	1170	4400	5105	1160	314	338	1076	139	125	904
2010/11	3133	6304	2012	5387	12336	2290	3555	4094	1152	4400	5105	1160	314	338	1076	139	125	904
2011/12	3135	9248	2950	8454	21135	2500	3562	4630.6	1300	4398	4837	1100	314	338	1076	139	125	904
2012/13	3150	5625	1786	5009	10485	2093	3568	4200	1177	4650	6278	1350	314	338	1076	139	125	904
2013/14	3175	5874	1850	5450	11718	2150	3600	4250	1181	4650	6280	1351	314	338	1076	139	125	904
2014/15	3180	6996	2200	5700	12825	2250	3600	4250	1181	4700	7050	1500	314	338	1076	139	125	904
2015/16	3,090	6,500	2,104	5,500	12,650	2,300	3,600	4,250	1,181	4,230	6,979	1,650	326	387	1,187	139	125	904

Livestock	Meat prod., Mt			Milk prod., Mt		Egg prod., '000 No.		Livestock popn., No.				
Year	Buff	Chevon	Chicken	Cow	Buff	Hen	Duck	Cattle	Buffaloes	Goat	Pig	Poultry
2006/07	1432	482	180	5050	8663	10569	80	93114	46721	178409	8719	354723
2007/08	1432	482	180	5100	8034	10712	80	93114	40721	178409	8719	354723
2008/09	1369	487	180	5135	7682	10912	81	93752	38938	180287	9295	354723
2009/10	1638	391	163	5353	9190	9690	81	76632	46579	144619	6369	320892
2010/11	1649	398	324	5390	9251	4899	80	77164	46892	147300	10500	359219
2011/12	1780	394	330	5530	9985	5415	82	79170	50613	145780	10999	360352
2012/13	1872	135	339	5880	10504	5494	82	80375	53241	146767	11185	361489
2013/14	1842	443	351	6686	10200	6048	84	79840	52207	152760	11374	368630
2014/15	1842	443	351	7057	10202	6048	84	79816	52097	152760	11499	385108
2015/16	1704	576	210	5544	10155	8040	155	81777	52293	155992	12436	374798
Average	**1656**	**423.1**	**260.8**	**5673**	**9386.6**	**7782.7**	**88.9**	**83475**	**48030.2**	**158308**	**10110**	**359466**

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

Secretary

Fruits	Mango			Banana			Papaya			Pineapple			Mandarin			Sweet orange		
Year	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha
2006/07	16	123	7.6875	2	23	11.5	2	20	10	1	12	12	125	1219	9.7	26	277	10.6
2007/08	16	99	6.1875	2	23	11.5	2	20	10	0	0	0	95	973	10.24	57	590	10.35
2008/09	19	118	6.2	2	22	11	16	160	10	1	0	0	177	1822	10.29	58	591	10.18
2009/10	19	119	6.2	1.9	21.9	11.52	16.6	165.8	9.76	1	0	0	181	1869	10.3	60	613	10.21
2010/11	20	81	6.23	10	30	6	21	166	9.76	1	0	0	187	2001	10.7	63	611	9.68
2011/12	20	81	6.23	10	30	6	21	166	9.76	1	0	0	283	1767	9.3	82	617	9.79
2012/13	6	8	4	10	30	6	21	166	9.76	1	0	0	411	1700	8.5	8	68	8.5
2013/14	7.7	15	6	10	30	6	21	166	9.76	1	0	0	277	2074	8	33	217	8
2014/15	4	21	7	35	372	12	2	24	12	0	0	0	300	2228	8.9	30	222	8.9
2015/16	4	21	7	40	420	12	2	24	12	0	0	0	300	2228	8.9	30	222	8.9
Average	**13**	**69**	**6**	**12**	**100**	**9**	**12**	**108**	**10**	**1**	**1**	**1**	**234**	**1,788**	**9**	**45**	**403**	**10**

Vegetables	Cauliflower			Pea			Cowpea			French bean			Broad beans		
Year	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha
2006/07															
2007/08															
2008/09															
2009/10															
2010/11	185	2130	11.5	38	266	7	62	409	6.6	34	266	7.8	36	270	7.5
2011/12	200	2400	12	20	40	2	0	0	0	20	40	2	25	75	3
2012/13	250	3125	13	25	55	2	0	0	0	25	50	2	25	75	3
2013/14	275	3438	12.5	28	61	2	0	0	0	28	61	2	28	83	3
2014/15	319	3692	12	6	24	156	9	21	105	7	92	1150	7	28	218
2015/16	325	3,770	12	30	195	7	21	105	5	0	0	0	6	46	7.7
Average	**259**	**3,093**	**12**	**25**	**107**	**29**	**15**	**89**	**19**	**19**	**85**	**194**	**21**	**96**	**40**

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

Cash crops	Oilseed crop			Sugarcane			Potato		
Year	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha
2006/07	275	242	880	11	154	14000	2445	26550	10859
2007/08	275	242	880	11	154	14000	2445	26550	10859
2008/09	275	242	880	11	154	14000	2505	27004	10780
2009/10	295	267	905	4	57	14250	2505	27004	10780
2010/11	291	255	876	4	60	15000	2550	28600	11216
2011/12	300	260	867	5	203	40600	2505	27004	10780
2012/13	305	265	869	5	60	12000	2850	32775	11500
2013/14	317	254	804	0	0	0	3000	36000	12000
2014/15	323	259	804	0	0	0	3000	36150	12050
2015/16	332	267	804	5	60	12000	4500	59000	13111
Average	**298.8**	**255.3**	**856.9**	**5.6**	**90.2**	**13585**	**2830.5**	**32664**	**11393.5**

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

Annex 1.3: Crop and livestock production sitation in 8 project districts over the last five years (2006-2016) contd.

Gorkha

Crops	Cereal crops												Pulse crops					
	Paddy			Maize			Millet			Wheat			Soyabean			Black gram		
Year	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha
2006/07	17735	44116	2488	19350	48375	2500	11679	13781	1180	4155	8725	2100	270	180	667	3950	2975	753
2007/08	17900	48100	2687	19350	49150	2540	11670	13800	1183	4155	7479	1800	270	180	667	3950	2975	753
2008/09	17900	48500	2709	19350	47212	2440	11680	13821	1183	4155	6157	1482	300	180	600	3950	2975	753
2009/10	17785	43996	2474	19350	41602	2150	11679	12679	1086	4155	7230	1740	306	185	604	4028	3056	759
2010/11	17785	49276	2771	19350	43537	2250	11605	11605	1000	4120	7240	1757	793	658	830	2380	1080	454
2011/12	12085	36859	3050	17028	39692	2331	11605	11605	1000	4115	7592	1845	793	658	830	2380	1080	454
2012/13	12661	37555	2966	19353	45471	2350	11605	13926	1200	3910	7234	1850	794	661	832	2920	1489	510
2013/14	12765	41250	3231	19353	45480	2350	11605	13928	1200	3900	7334	1881	794	661	832	2920	1789	510
2014/15	12192	38587	3165	17033	45480	2670	11605	15929	1373	3910	7850	2008	794	661	832	2920	1489	510
2015/16	9,756	20,292	2,080	17,036	40,887	2,400	11,505	13,780	1,198	3,910	7,234	1,850	794	687	865	2,920	1,489	510
Average	14,856	40,853	2,762	18,655	44,689	2,398	11,624	13,485	1,160	4,049	7,408	1,831	591	471	756	3,232	2,040	597

Livestock	Meat prod., Mt			Milk prod., Mt		gg prod., '000 Nc		Livestock popn., No.				
Year	Buff	Chevon	Chicken	Cow	Buff	Hen	Duck	Cattle	Buffaloes	Goat	Pig	Poultry
2006/07	2719	548	160	4080	13104	6339	32	102710	78730	116270	7749	299876
2007/08	2719	548	160	4100	13805	6339	32	102710	78730	116270	7749	299876
2008/09	2709	564	160	4121	13753	6334	31	103236	78436	119636	8380	299671
2009/10	2693	610	174	3857	10953	6909	31	105358	77949	139310	9104	326696
2010/11	2793	581	296	3800	11366	4112	31	103790	80886	123126	9089	331060
2011/12	2876	589	300	4345	11794	4167	32	102245	83934	124903	9075	335483
2012/13	2917	598	305	4628	12388	4284	35	101620	86288	126705	9441	341664
2013/14	2903	664	320	5267	11899	4369	33	101048	85165	130533	10088	348459
2014/15	2903	664	320	5560	11901	4369	33	101018	84986	132498	10199	364035
2015/16	3147	815	691	7653	10468	4598	32	88508	80560	140508	12025	436320
Average	**2838**	**618.1**	**288.6**	**4741.1**	**12143**	**5182**	**32.2**	**101224**	**81566.4**	**126976**	**9290**	**338314**

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

Fruits	Mango			Banana			Papaya			Pineapple			Mandarin			Sweet orange		
Year	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha
2006/07	109	895	8.2	57	817	14.3	26	354	13.6	13	163	12.53	351	3923	11.17	39	396	1.015
2007/08	111	733	6.6	57	817	14.33	26	354	13.6	13	163	12.53	434	5642	13	16	198	12.3
2008/09	121	812	6.71	65	937	14.14	25	346	13.84	13	167	12.84	535	7011	13.1	17	198	11.64
2009/10	125	843	6.744	73	1046.2	14.33	26.4	359	13.5	13.3	167.7	12.6	540	7131	13.2	18	215	11.94
2010/11	191	830	4.34	91	876	9.62	33	317	9.6	18	168	9.33	547	7220	13.19	19	207	10.89
2011/12	191	992	7.94	718	9047	13.27	64	832	13	132	1389	10.94	876	6870	12.47	29	188	9.89
2012/13	191	992	7.94	718	9047	13.27	64	832	13	132	1389	10.94	876	6870	12.47	29	188	9.89
2013/14	160	991.8	6.84	725	9047	12.6	10	130	13	132	1389	10.52	988	7821	8.9	35	187	5.8
2014/15	100	513	6.84	500	5040	12.6	10	130	10	50	400	10	988	7821	8.9	35	187	5.8
2015/16	100	513	7	500	5,040	13	10	130	13	50	400	10	988	7821	8.9	35	187	5.8
Average	**140**	**811**	**7**	**350**	**4,171**	**13**	**29**	**378**	**13**	**57**	**580**	**11**	**712**	**6,813**	**12**	**27**	**215**	**8**

Vegetables	Cauliflower			Pea			Cowpea			French bean			Broad beans		
Year	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha
2006/07															
2007/08															
2008/09															
2009/10															
2010/11	142	1420	10	5	60	12	73	730	10	0	0	0	0	0	0
2011/12	160	1600	10	13	156	12	76	722	10	5	50	10	15	15	1
2012/13	163	1753	11	6	73	12	103	1093	11	0	0	0	0	0	0
2013/14	243	2673	11	7	84	12	13	108	8	8	64	8	3	30	10
2014/15	249	2673	11	7	84	12	13	108	8	8	64	8	3	30	10
2015/16	249	2,672	11	7	84	12	13	108	8	20	200	10	3	30	10
Average	**201**	**2,132**	**11**	**8**	**90**	**12**	**49**	**478**	**9**	**7**	**63**	**6**	**4**	**18**	**5**

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

Cash crops	Cash crop								
	Oilseed crop			Sugarcane			Potato		
Year	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha
2006/07	375	225	600	55	797	14491	2435	27759	11400
2007/08	506	352	696	55	767	13945	2435	27759	11400
2008/09	50	35	700	55	767	13945	2460	27552	11200
2009/10	607	592	975	58	845	14626	2460	26519	10780
2010/11	612	606	990	60	877	14617	2460	26519	10780
2011/12	716	720	1.01	62	1200	193548	2462	32672	13271
2012/13	712	694	975	60	877	14617	2512	25434	10125
2013/14	625	770	1232	60	889	14817	2500	29924	11970
2014/15	627	622	992	61	890	14590	2500	25924	10370
2015/16	714	715	101	60	877	14617	2500	25924	10370
Average	**554.4**	**533.1**	**726.2**	**58.6**	**878.6**	**32381**	**2472.4**	**27598.6**	**11166.6**

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

Annex 1.3: Crop and livestock production sitation in 8 project districts over the last five years (2006-2016) contd.

Dhading

Crops	Cereal crops												Pulse crops								
	Paddy			Maize			Millet			Wheat			Lentil			Black gram			Soyabean		
Year	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha
2006/07	15800	37713	2387	19453	30736	1580	7590	7590	1000	4741	9600	2025	207	166	802	628	380	605	332	213	642
2007/08	16100	42000	2609	19480	33500	1720	7585	7615	1004	4785	9472	1980	205	182	888	675	530	785	332	213	642
2008/09	16720	42500	2542	19465	33950	1744	7540	7540	1000	4680	7914	1691	205	182	888	675	530	785	350	213	609
2009/10	14010	34605	2470	15343	23171	1510	7520	7540	1003	4680	7914	1691	209	187	894	688	544	791	357	219	613
2010/11	16670	40882	2452	17468	43670	2500	7140	7160	1003	4680	7914	1691	251	205	817	688	544	791	357	219	613
2011/12	14750	38187	2589	15342	26081	1700	6930	6930	1000	4800	9600	2000	251	205	817	688	544	791	357	220	616
2012/13	12262	33349	2720	14873	24383	1639	6930	6445	930	4810	12101	2516	209	187	894	688	544	791	357	219	613
2013/14	12645	48100	3804	19445	48613	2500	6930	6953	1003	4800	10100	2104	209	200	957	688	544	791	357	232	650
2014/15	12545	50369	4015	19445	37538	1930	6930	6594	952	4790	10298	2150	209	200	957	688	544	791	357	232	650
2015/16	11,545	41,369	3,583	19,445	37,538	1,930	6,930	7,095	1,024	4,798	10,220	2,130	209	250	1,196	688	544	791	458	589	1,286
Average	**14,305**	**40,907**	**2,917**	**17,976**	**33,918**	**1,875**	**7,203**	**7,146**	**992**	**4,756**	**9,513**	**1,998**	**216**	**196**	**911**	**679**	**525**	**771**	**361**	**257**	**693**

Livestock	Meat prod., Mt			Milk prod., Mt		Egg prod., '000 No.		Livestock popn., No.				
Year	Buff	Chevon	Chicken	Cow	Buff	Hen	Duck	Cattle	Buffaloes	Goat	Pig	Poultry
2006/07	2333	436	600	7580	20502	16091	57	136227	88010	128772	23148	475693
2007/08	2333	436	600	7800	20502	16179	57	136227	88010	128772	23148	475693
2008/09	2333	439	569	8175	21714	15329	58	136251	88010	129803	23953	450725
2009/10	2492	472	613	8928	22184	19207	58	133799	94010	139603	20586	564756
2010/11	2798	478	1094	8963	24909	21562	137	134318	105558	141236	21033	1008146
2011/12	2887	483	1110	9402	25703	20172	163	133594	108924	142817	21513	943154
2012/13	2933	486	1062	9759	26504	19984	172	132806	111887	143487	21858	902352
2013/14	2913	522	1095	10356	25924	20426	174	131976	111136	147128	21964	922315
2014/15	2913	522	1095	10931	25929	20426	174	131936	110903	149343	22206	963542
2015/16	3105	314	2965	13791	24416	28205	272	138882	124591	181620	23671	3359437
Average	**2704**	**458.8**	**1080.3**	**9568.5**	**23828.7**	**19758.1**	**132.2**	**134602**	**103103.9**	**143258**	**22308**	**1006581**

Secretary

Fruits	Mango			Banana			Papaya			Pineapple			Mandarin			Sweet orange		
Year	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha
2006/07	187	1627	8.7	36	509	14.13	17	241	14.17	23	294	12.78	366	4611	12.59	118	1355	11.48
2007/08	190	1330	7	36	509	14.13	17	241	14.17	23	294	12.78	706	8634	12.22	23	254	11
2008/09	222	1555	7	34	474	13.94	14	199	14.21	23	288	12.5	519	6341	12.21	23	254	11
2009/10	225	1578	7	33.5	474.5	14.16	14.5	206.9	14.26	22.4	293.3	13	522	6387	12.23	24	259	10.79
2010/11	230	1575	7	115	1378	14.51	18	207	14.79	30	291	13.23	532	6756	12.6	25	270	10.8
2011/12	230	1575	7	115	1378	14.51	18	207	14.79	30	291	13.23	785	6121	11.4	30	285	11.4
2012/13	230	1575	7	115	1378	14.51	18	207	14.79	30	291	13.23	509	3050	10	30	285	11.4
2013/14	236	1596	7	115	1378	14.51	18	207	14.79	30	291	13.23	509	3050	10	28	256	9.5
2014/15	240	1670	7.2	120	1050	10.5	18	207	14.79	30	291	13.23	530	3051	10	29	257	9.5
2015/16	240	1,670	7	120	1,050	11	18	207	15	30	291	13.23	540	3074	10	29	376	12.9

Vegetabke	Cauliflower			Pea			Cowpea			French bean			Broad beans		
Year	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha
2006/07															
2007/08															
2008/09															
2009/10															
2010/11	495	8562	17.3	80	785	9.8	25	98	3.9	0	0	0	32	290	9.1
2011/12	495	7054	14	76	76	76	23	186	8	35	284	8	30	270	9
2012/13	497	7082	14	76	750	10	23	186	8	35	284	8	30	270	9
2013/14	497	7082	14	77	761	10	23	186	8	35	284	8	30	270	9
2014/15	497	7082	14	77	761	10	23	186	8	35	284	8	30	270	9
2015/16	497	10,082	20	77	461	6	23	186	8	0	0	0	30	270	9

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

Cash crops	Oilseed crop			Sugarcane			Potato		
Year	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha	Area, Ha	Prod., Mt	Yield, kg/Ha
2006/07	395	277	701	300	1000	33333	1560	19032	12000
2007/08	562	385	685	152	3664	24105	1853	20500	11063
2008/09	660	52	788	152	3664	24105	1628	19980	12273
2009/10	660	521	789	160	4034	25281	1633	20118	12320
2010/11	665	529	795	150	4000	26667	1633	20118	12320
2011/12	665	530	797	50	2575	51500	1660	23672	14260
2012/13	665	529	795	50	1500	30000	1641	23466	14300
2013/14	665	506	761	28	1450	51786	1660	25487	14811
2014/15	665	511	768	50	1500	30000	1643	23514	14311
2015/16	665	530	797	50	1500	30000	2643	41707	15780

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

Annex 1.4: Number of houseHolds, area and population by districts

Project districts	Household number	Population as per 2011 census			Total popn, 2015/16	Total area, sq.km.	Agriculture land, Ha	Ag. land per HH, ha	Holdings without land, No.	HHs without land, %
		Male	Female	Total						
A. Mountain & hill districts										
Dolakha	45688	87003	99554	186557	178259	2191	26,842.70	0.59	106	0
Sindhupalchowk	66688	138351	149447	287798	279153	2542	34779.6	0.52	63	0
Dhading	73851	157834	178233	336067	334725	1926	35,385.30	0.48	392	1
Gorkha	66506	121041	150020	271061	262918	3610	31,484.40	0.47	462	1
B. Terai districts										
Dhanusa	138249	378538	376239	754777	800249	1180	72,165.1	0.52	8,431	6
Mahottari	111316	311016	316564	627580	668390	1002	67853	0.61	9,327	8
Siraha	117,962	310101	327227	637328	672354	1188	78,642.00	0.67	8,376	7
Saptari	121,098	313846	325438	639284	676782	1363	73,685.30	0.61	8,756	7

Source: Central Bureau of Statistics, Kathmandu, Nepal.

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

Secretary

Annex 2.1: Staffing at Central, Cluster and RM levels

A. Project Management Unit (PMU)
Deputation from MoALD:
Project Director (Joint Secretary,I Gazetted Class I Officer) – 1
Senior Planning Officer (Under Secretary, Gazetted Class II Officer) – 1
Senior Monitoring and Evaluation Officer (Under Secretary, Gazetted Class II Officer) -1
Senior Agriculture Officer (Under Secretary, Gazetted Class II Officer) – 1
Planning Officer (Gazetted Class III Officer) – 1
Agriculture Officer (Gazetted Class III Officer) – 3
Account Officer (Gazetted Class III Officer) – 1
Sub-Accountant (Non-Gazetted Class II Level) – 1
Kharidar (Non-Gazetted Class II Level) – 1
Consultants:
Procurement Specialist – 1
Financial Specialist – 1
Contract Staffs:
Computer Operator – 2
Driver – 5
Office Assistant – 4
B. Project Cluster Units (PCUs) - 4
Deputation from MoALD:
Senior Agriculture Officer (Under Secretary, Gazetted Class II Officer, 1 in each PCU) – 4
Agriculture Officer (Gazetted Class III Officer, 2 in each PCU) - 8
Junior Technician (Non-Gazetted Class I level, 2 in each PCU) - 8
Accountant (Non-Gazetted Class I level, 1 in each PCU)
Contract Staffs:
Computer Operator (1 in each PCU) - 4
Driver (1 in each PCU) – 4
Office Assistant (2 in each PCU) – 8
Staffing from FAO for TA to FANSEP
At PMU:
Team Leader – 1
Monitoring and Evaluation Specialist – 1
Livestock Production Specialist – 1

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

Secretary

Crop Production Specialist – 1
Agribusiness and Market Linkage Specialist – 1
Nutrition cum Behavior Change Communication (BCC) Specialist - 1
Capacity Development Specialist – 1
Environment and Social Safeguard Specialist – 1
Admin and Finance Officer – 1
Admin Assistant – 1
Driver – 2
At PCUs:
Cluster Technical Officer (M&E) – 2 (each M&E officer looks after two PCUs)
Cluster Technical Officer (Crop Value Chain) – 4 (1 per PCU)
Cluster Technical Officer (Livestock Value Chain) – 4 (1 per PCU)
Cluster Technical Officer (Nutrition cum Behavior Change Communication (BCC)) – 4 (1 per PCU)
At RMs:
Crop Technician (2 per RM) – 32
Livestock Technician (2 per RM) – 32
Project Facilitator (2 per RM) – 32

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhdurbar, Kathmandu

Annex 2.2: Roles and responsibilities of FAO Technical Assistance

1. Background and Rationale

Guided by the PDO and the subsequent component interventions, Technical Assistance (TA), as an integral part of the Project Management Team will provide the required TA and implementation support towards the achievement of FANSEP objectives, outcomes and outputs indicated in result monitoring & evaluation framework. The project components are diverse and involve a number of implementing and collaborating partners. In order to implement these activities in a coordinated and harmonized manner at federal, cluster and RM levels, the GoN has identified FAO to provide TA. TA will provide technical inputs, primarily across Components A, B and C in undertaking the activities under them. TA will be attached to a central level PMU (1) and PCU (4), and mobilize at RMs (16).

2. Statement of Work

The PIM designed for FANSEP envisages TA support in the implementation of the project as follows.

Component A: Climate and Nutrition Smart Agriculture Technology Adaptation and Dissemination

- Assist in trainings (of various types) indicated in the Activity Schedule designed to capacitate the farmers for participation in on-farm technology testing, validation and packaging including climate smart practices.
- Assist in on-farm trial and FFS (by subsectors) design, monitoring the status of trial and FFS.
- Assist in curricula design or modification required to undertake various types of trainings indicated in the Activity Schedule.
- Assist PMU/PCU in facilitating the workshops designed to prepare packages of technologies in crops, vegetables and livestock.
- Assist PMU/PCUs to develop facilitators for conducting Crop FFS and Livestock FFS.
- Any other tasks, as deemed necessary.

Component B: Income Generation and Diversification

- Assist the project to establish multi-stakeholder dialogue platform among key actors in value chains as envisaged by the project.
- Assist PMU/PCUs in organizing/strengthening existing producer groups, self-help marketing groups and cooperatives in crops, vegetables and livestock businesses and market analysis.
- Assist PGs to identify the commodities with the greatest market potential and help them to prepare marketable BPs.
- Assist PMU/PCUs to select business plans under its matching grant scheme.
- Assist grant recipients to implement BPs.
- Assist PMUs to develop/rehabilitate post-harvest and rural market centers.
- Assist PMU/PCUs to develop facilitators for conducting on-site FBS.

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu
Secretary

Component C: Improving Nutrition Security

- Assist PMU for institutional capacity building of agencies involved in improvement of nutrition status of the targeted beneficiaries of the project.
- Assist PCUs to establish NFSs and HNGs.
- Assist PMU/PCUs to develop facilitators for conducting NFS.
- Enhance the capacity of the project implementing agencies (PMU, PCUs) to undertake and oversee activities related to improve nutritional status of the targeted groups.

Component D: Project Management, Communication and Monitoring and Evaluation

- Keep PMU updated on the status of achievement against result framework indicators.
- Assist the PMU and PCUs in preparing periodic reports and organizational level reviews.
- Assist PMU in the establishment and operationalization of PMIS.
- Assist in development of project M&E strategy.
- Assist PMU and PCUs to undertake annual project survey.
- Assist project to undertake baseline, mid-line and end-line surveys.
- Assist PMU and PCUs to organize workshops and seminars.
- Any other activities as requested by the PD and cluster chiefs at cluster levels.

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

Annex 3.1

Cost, subsidy and expenditure details of major programs under component A

I. Cost, subsidy and expenditure details of dairy production promotion program:

- Budget ceiling or **Cost: NPR 380,000** (In words: Three Hundred Eighty Thousand Only)
- Subsidy rate: 85 % from Project, 15% of farmers' contribution in form of cash or kind or both
- Program will be implemented in two years: **First year cost** (Program initiation): **NPR 233,000** and **Second year cost** (Follow up support): **NPR 147,000**.
- Expenditure details for implementing this program will be as follows;

S. N.	Activities	Unit	First year		Second year		Rate	Total (NPR)
			Quantity	Amount	Quantity	Amount		
1	Farmer group mobilization and orientation	Nos.	1	5000			5000	**5000**
2	Distribution of forage seeds, saplings and sets	Ropani	25	17000	25	17000	680	**34000**
3	Distribution of stainless steel cans (3-5 liters)	Nos.	25	65000			2600	**65000**
4	Distribution of stainless steel cans (40 - 50 liters) to producer groups	Nos.	2	36000			18000	**36000**
5	Vaccination and medical expenses for animal disease treatment, prevention and parasite control	Nos.	100	40000	100	40000	400	**80000**
6	Testing and demonstration of teat dipping technology for control of mastitis	Nos.	5	10000	5	10000	2000	**20000**
7	Cattle and buffalo rearing training (3 days)	Times	1	40000	1	40000	40000	**80000**
8	On-site training / orientation to farmers (1 day)	Times	1	20000	2	40000	20000	**60000**
	Total			**233000**		**147000**		**380000**

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

II. Cost and expenditure details of rural poultry promotion program:

- Budget ceiling or **Cost: NPR 355,000** (In words: Three Hundred Fifty-five Thousand Only)
- Subsidy rate: 85 % from Project, 15% of farmers' contribution in form of cash or kind or both
- Program will be implemented in two years: **First year cost** (Program initiation): **NPR 301,000** and **Second year** (Follow up support): **NPR 54,000**.
- Expenditure details for this program will be as follows;

S. N.	Activities	Unit	First year		Second Year		Rate	Total (NPR)
			Quantity	Amount	Quantity	Amount		
1	Farmer group mobilization and orientation	Nos.	1	5000			5000	**5000**
2	Coop/Pen construction of Poultry	Nos.	25	150000			6000	**150000**
3	Purchase of Dual Purpose breed chickens (8 weeks)	Nos.	150	52000			347	**52000**
4	Transportation cost for Dual Purpose Chicken (8 weeks)	Times	1	20000			20000	**20000**
5	Disease treatment, parasite control, vaccination and drug expenses	Times	1	12000	1	12000	12000	**24000**
6	Rural Poultry Production Training (3 days)	Times	1	40000			40000	**40000**
7	On-site training /Orientation to farmer (1 day)	Times	1	20000	2	40000	20000	**60000**
8	Distribution of nutritious forage seed/sets/saplings	Times	1	2000	1	2000	2000	**4000**
	Total			**301000**		**54000**		**355000**

Secretary

Government of
Ministry of Agriculture and Livestock
Singhadurbar, Kathmandu

III. Cost and expenditure details of goat production promotion program:

- Budget ceiling or Cost:
  a) **Establishment of Farmer managed boer goat multiplier herd:** NPR 899,000 (In words: Eight Hundred Ninety-nine Thousand Only)
  b) **Implementation of Goat Production Promotion Program:** NPR 500,000 (In words: Five Hundred Thousand Only)
- Subsidy rate: 85 % from Project, 15% of farmers or FGs contribution in form of cash or kind or both
- Program will be implemented in two years:
  - ✓ **Establishment of Farmer managed multiplier herd**: First year cost (Program initiation): NPR 647,000 and Second year (Follow up support): NPR 252,000.
  - ✓ **Goat Production Promotion Program:** First year cost (Program initiation): NPR 328,000 and Second year (Follow up support): NPR 172,000.
- Expenditure details for this program will be as follows;

a) Establishment of Farmer managed boer goat multiplier herd:

S. N.	Activities	Unit	First year		Second year		Rate	Total (NPR)
			Quantity	Amount	Quantity	Amount		
1	Farmer group mobilization and orientation	Nos.	1	5000			5000	**5000**
2	Boer goat distribution	Nos.	2	100000	1	50000	50000	**150000**
3	Construction of goat pens/shed	Nos.	25	200000			8000	**200000**
4	Microscope distribution	Nos.	1	40000			40000	**40000**
5	Distribution of Burdizzo Castrator	Nos.	1	15000			15000	**15000**
6	Distribution of goat weighing machines	Nos.	2	16000			8000	**16000**
7	Distribution of forage seed saplings	Ropani	12	17000	12	17000	1410	**34000**
8	Goat rearing training (3 days)	Times	1	40000			40000	**40000**
9	Demonstration of low cost feed formulation methods using local raw material	Times	1	9000			9000	**9000**
10	On-site orientation / training	Times	2	40000	2	40000	20000	**80000**

Secretary

S. N.	Activities	Unit	First year		Second year		Rate	Total (NPR)
			Quantity	Amount	Quantity	Amount		
11	Vaccination and medical expenses for animal disease treatment, prevention and parasite control	Times	1	60000	1	60000	60000	**120000**
12	Distribution of Chaff-Cutter	Times	1	20000			20000	**20000**
13	Purchasing of tag machine and tags	Times	1	25000	1	25000	25000	**50000**
14	Expenditure for data collection and documentation	Month	12	60000	12	60000	5000	**120000**
	Total			**647000**		**252000**		**899000**

b) Goat Production Promotion Program expenditure details

S. N.	Activities	Unit	First year		Second year		Rate	Total (NPR)
			Quantity	Amount	Quantity	Amount		
1	Farmer group mobilization and orientation	Nos.	1	5000			5000	**5000**
2	Distribution of Boer goat of 50 % blood level	Nos.			2	100	50000	**100000**
3	Construction of goat pens/shed	Nos.	25	200000			8000	**200000**
4	Distribution of goat weighing machines	Nos.	2	16000			8000	**16000**
5	Distribution of grass seeds, saplings and sets	ropani	12	15000	12	15000	1250	**30000**
6	Goat rearing training (3 days)	Times	1	40000			40000	**40000**
7	On-site training / orientation	Times	1	20000	2	40000	20000	**60000**
8	Distribution of Burdizzo Castrator	Nos.	1	15000			15000	**15000**
9	Vaccination and medical expenses for animal disease treatment, prevention and parasite control	Times	1	17000	1	17000	17000	**34000**
	Total			**328000**		**172000**		**500000**

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

IV. Cost and expenditure details of crop production Farmer Field school (FFS):

- Budget celling or **Cost: NPR 194,000** (In words: One Hundred Ninety-four Thousand Only)
- FFS (Crops) will be implemented by Project.
- Expenditure details of crop production FFS to be operated during the cropping period of various crops will be as follows;

A) Expenditure details for FFS Preparation meetings

S.N	Activities	Unit	Quantity	Rate (NPR)	Amount (NPR)
1	First preparatory meeting	To be done through regular group formation program of PCUs.			
2	Snack expenses for second preparatory meeting (Interaction workshop)	Nos	25	200	5000
3	Snack expenses for the participants of the third preparatory meeting	Nos	25	200	5000
4	Stationery for the participants of second and third preparation mee ting (one time)	Nos	25	100	2500
5	Other Stationery (register , scale , marker pens , pencil , brown pap er , sign pen , masking tape , glue stick , dot pen , duster , files , eraser , thum b pin , etc.)	Times	1	1000	1000
6	Facilitation and report allowance of 4 days to 2 facilitators/ resource person of the preparation meeting.	Person s/days	4	1000	4,000
7	Snack expenses of 2 days to 2 facilitators/ resource person of the preparation meeting.	Person s/days	4	200	800
8	Transport expense for 2 facilitator / resource person (per day @ NPR 200 for 2 days)	Person s/days	4	200	800
	Total for preparatory meeting (A)				**19,100**

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

Secretary

B) Expenditure details for conducting the FFS (16 sessions days, 4.5 hour per sessions a day)

S.N	Activities	Unit	Quantity	Rate (NPR)	Amount (NPR)
1	Snack expenses for 16 times for 27 people (including 25 farmers and 2 facilitators)	Persons	432	200	86,400
2	Purchase of materials for operation of FFS (seed, seedlings, compost, fertilizers, irrigation, board and other materials, plastic drums, sign boards , pesticides , bio- pesticides , micro nutrients , hormones , peg , plywood boards , colored pens , brown paper , pot , large scales , polythene bags , rubber band , mesh fabric , marker pens , scissors , thread , photocopy paper , masking tape, files, gum, etc.)	Times	1	11,050	11,050
3	Purchase of weighing machine	Nos.	1	5000	5000
4	Remuneration of Special Class to resource Person (External instructor 2000, internal instructor 1200)	Nos	4	1600	6400
5	Facilitation and report allowance of 16 times to facilitator / resource person for conducting the FFS.	Person/day	32	1000	32,000
6	Transportation expense of 16 days for 2 facilitator / resource persons.	Person/day	32	200	6400
	Total for conducting FFS sessions (B)				**147,250**

Note: The operation of crop FFS for selected crops will fixed as per session days mentioned in the FFS manual and for the FFS with session less than 16 or more sessions the expenses for snacks, facilitator facilitation allowance and transportation expenses will be as per approved session days. In addition, facilitation and reporting allowances will be given at the rate of Rs.1600 and 1200 respectively in the FFS run by officer and assistant level facilitators.

C) Expenditure details for Farmers' Day (for 1 day):

S.N	Activities	Unit	Quantity	Rate (NPR)	Amount (NPR)
1	Expenses for snacks to invitees, participant farmers and 2 facilitators	Persons	90	200	18,000
2	Management expenses (sound system & chair on stage, table, graph, chart paper, cultural program, flags, invitation card, photo etc.)	Times	1	3000	3000
3	Prize distribution (First Rs.1500;	Times	1	3250	3250

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

Secretary

S.N	Activities	Unit	Quantity	Rate (NPR)	Amount (NPR)
	Second Rs.1000;Third Rs.750)				
4	Transportation cost of one day to 2 resource person or facilitators	Persons	2	200	400
5	Report preparation	Times	1	1000	1000
6	Facilitation allowance for 2 facilitators / resource persons for facilitation on the Farmers' Day	Person/ day	2	1000	2000
	Total expenditure for conducting Farmers' Day (C)				**27,650**
Total cost FFS (Crop) for 16 seasons (A+B+C)					**194,000**
Note: In conducting FFS of Potato additional amount will be provided for purchase of Potato seeds equal to:					**10,000**

V. Livestock FFS cost and expenditure details:

- Budget celling or Cost: NPR **286,000** (In words: Two Hundred Eighty-six Thousand Only)
- FFS (Livestock) will be implemented by Project.
- Expenditure details for implementing Livestock FFS will be as follows;

A) Expenditure details for livestock FFS preparatory meeting

S. N	Activities	Unit	Quantity	Rate (NPR)	Amount (NPR)
1	First preparatory meeting	To be done through regular group formation program of PCUs.			
2	Snack expenses for second preparatory meeting (Interaction w orkshop)	Nos	25	200	5000
3	Snack expenses for the participants of the third preparatory meeting	Nos	25	200	5000
4	Stationery for the participants of second and third preparation meeti ng (one time)	Nos	25	100	2500
5	Other Stationery (register, scale, m arker pens, pencil, brown paper, si gn pen, masking tape, glue stick, d otpen, duster, files, eraser, thumb p in, etc.)	times	1	1000	1000

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

Secretary

S. N	Activities	Unit	Quantity	Rate (NPR)	Amount (NPR)
6	Facilitation and report allowance of 4 days to 2 facilitators/ resource person of the preparation meeting.	Person/days	4	1000	4,000
7	Snack expenses of 2 days to 2 facilitators/ resource person of the preparation meeting.	Person/days	4	200	800
8	Transport expense for 2 facilitator / resource person (per day @ NPR 200 for 2 days)	Person/days	4	200	800
	Total for preparatory meeting (A)				**19,100**

B) Expenditure details of dairy FFS (15 session days, about 4.5 hours per session per day)

S.N.	Activities	Unit	Quantity	Rate (NPR)	Amount (NPR)
1	Snack expenses for 15 times for 27 people (including 25 farmers and 2 facilitators)	Persons	405	200	**81,000**
2	Expenses for medicine, vaccination, flex print and other materials, color pens, brown paper, scale, rubber pad, marker, scissors, thread, photocopy paper, thread, masking tape, gum, thermos-meters, file, tag and tagging, printing of socio-economic survey forms etc.	Times	1	18,550	**18,550**
3	Shed improvement	Number	5	5,000	**25,000**
4	Expenses for concentrate feed (1.5 kg of feed per animal per day for 4 animals for 240 days)	Kg	1440	45	**64800**
5	Purchasing of grain weighing scales	Nos.	1	5,000	**5000**
6	Remuneration of Special Class to resource Person (External instructor 2000, internal instructor 1200)	Nos.	4	1,600	**6400**
7	Facilitation and report allowance of 15 times to facilitator / resource person for conducting the FFS.	Person/ days	30	1,000	**30,000**
8	Transportation expense of 15 days for 2 facilitator / resource persons.	Person/ days	30	200	**6,000**
Total for conducting sessions of cattle FFS (B)					**2,36,750**

Government of ... Ministry of Agriculture and ... Development Singhadurbar, Kathmandu

Secretary

C) Expenditure details of goat FFS (15 session days, about 4.5 hours per session per day)

S.N.	Activities	Unit	Quantity	Rate (NPR)	Amount (NPR)
1	Snack expenses for 15 times for 27 people (including 25 farmers and 2 facilitators)	Persons	405	200	81,000
2	Expenses for medicine, vaccination, flexprint and other materials, color pens, brown paper, scale, rubber pad, marker, scissors, thread, photocopy paper, thread, masking tape, gum, thermometers, file, tag and tagging, printing of socio-economic survey forms etc.	Times	1	14,150	14,150
3	Construction of chicken coop/pen	Nos.	5	5,000	25,000
4	Expenses for concentrate feeds (325 gms of feed per animal per day for 10 animals for 240 days)	kg	780	40	31200
5	Purchasing feed weighing scales	Nos.	1	5,000	5,000
6	Purchasing microscope	Nos.	1	38,000	38,000
7	Remuneration of Special Class to resource Person (External instructor 2000, internal instructor 1200)	Nos.	4	1600	6400
8	Facilitation and report allowance of 15 times to facilitator / resource person for conducting the FFS.	Person/ days	30	1000	30,000
9	Transportation expense of 15 days for 2 facilitator / resource persons.	Person/ days	30	200	6,000
Total for conducting sessions of goat FFS (C)					**236,750**

D) Expenditure details of Poultry FFS (18 session days, about 4.5 hours per session per day)

S.N.	Activities	Unit	Quantity	Rate (NPR)	Amount (NPR)
1	Snack expenses for 18 times for 27 people (including 25 farmers and 2 facilitators)	Persons	486	200	97,200
2	Expenses for medicine, vaccination, flex print and other materials, color	Times	1	19,400	19,400

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

Secretary

S.N.	Activities	Unit	Quantity	Rate (NPR)	Amount (NPR)
	pens, brown paper, scale , rubber pad, marker , scissors, thread, photocopy paper , thread , masking tape , gum , thermometers , file , tag and tagging, printing of socio-economic survey forms etc.				
3	Construction of chicken coop/shed	Number	5	5,000	25,000
4	Purchasing chicks of poultry and transportation	Number	20	400	8,000
5	Expenses for grain feeds (110 gms per chicken per day for 20 chickens for 238 days)	Kg	525	62	32,550
6	Purchasing grain weighing scales	Number	1	5000	5000
7	Remuneration of Special Class to resource Person (External instructor 2000, internal instructor 1200)	Class	4	1600	6400
8	Facilitation and report allowance of 18 times to facilitator / resource person for conducting the FFS.	Person/ days	36	1000	36,000
9	Transportation expense of 18 days for 2 facilitator / resource persons.	Person/ days	36	200	7200
Total for conducting sessions of poultry FFS					**2,36,750**

Note: Facilitation and Reporting Allowance will be at the rate of NPR. 1600 and 1200 respectively in the farmer's school run by the officer and assistant level facilitator.

E) Cost for Conducting Farmers' Day (for 1 day)

S.N	Activities	Unit	Quantity	Rate (NPR)	Amount (NPR)
1	Expenses for snacks to invited, participant farmers and 2 facilitators	Persons	100	200	20000
2	Management expenses (sound system, & chair on stage, table, graph, chart paper, cultural program, flags, invitation card, photo etc.)	Times	1	3000	3000
3	Prize distribution (First Rs.1500; Second Rs.1000; Third Rs.750)	Times	1	3250	3250
4	Transportation cost of one day to 2	Persons	2	200	400

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

Secretary

S.N	Activities	Unit	Quantity	Rate (NPR)	Amount (NPR)
	resource person or facilitators				
5	Report preparation (including printing , photocopying and binding)	Times	1	1500	1500
6	Facilitation allowance of 2 facilitators / resource persons for facilitation on the Farmers' Day	Persons	2	1000	2000
	Total for conducting Farmers' Day (E)				**30,150**
Total cost of cattle FFS (A+B+E)					**2,86,000**
Total cost of goat FFS (A+C+E)					**2,86,000**
Total cost of poultry FFS (A+D+E)					**2,86,000**

Note: Project will prepare separate guidelines of above mentioned programs. These guidelines will remain as annexes to this Project Implementation Manual (PIM).

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhdurbar, Kathmandu

Annex 4.2

Cost, subsidy and expenditure details of major programs under component B

I. Farm Business School (FBS) cost and expenditure details:

- Budget celling or Cost: NPR **300,000** (In words: Three Hundred Thousand Only)
- FBS will be implemented by the Project
- Expenditure details for conducting on-site FBS will be as follows;

1.1 Cost of FBS Preparation (3 Interaction workshops)

S. N	Activities	Unit	Quantity	Rate (NRS)	Amount
	A. Cost for Preparatory meetings				
1	Snack expenses for the first preparatory meeting (general meeting)	Nos	40	200	**8000**
2	Snack expenses of the participants of the second preparatory meeting (interaction seminar)	Nos	30	200	**6000**
3	Lunch expenses of the participants of the third preparatory meeting	Nos	25	200	**5000**
4	Stationery expenses for the participants of the preparatory meeting	Nos	25	100	**2500**
5	Other Stationery (register, scale, marker pens, p encil, brown paper, sign pen, masking tape, glue stick, dot pen, duster, files, eraser, thumb pin, etc.)	times	1	1000	**1000**
6	Facilitation and report allowance of 3 days to 2 facilitators/ resource person of the preparation meeting.	Person/ days	6	1000	**6000**
7	Lunch expenses of 3 days to 2 facilitators/ resource person of the preparation meeting.	Person/ days	6	200	**1200**
8	Transport expense for 2 facilitator / resource person (per day @ NPR 200 for 3 days)	Person/ days	6	200	**1200**
	Total of Preparatory meeting (A)				**30,900**
B. Cost for Conduction of FBS (27 session days , about 4.5 hours per session per day)					
S. N	**Activities**	**Unit**	**Quantity**	**Rate (NRS)**	**Amount**
1	Snack expenses for 27 times for 27 people (including 25 farmers and 2 facilitators)	persons	729	200	**145800**

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

Secretary

2	Purchase of materials for operation of FBS (board and other materials, sign boards, plywood boards , colored pens , brown paper, large scales, marker pens, scissors, thread, photocopy paper, masking tape, files, gum, etc.)	Times	1	14500	**14500**
3	Calculator to the participant	Nos.	5	510	**2550**
4	Remuneration of Special Class to resource Person (External instructor 2000, internal instructor 1200)	Nos.	8	1600	**12800**
5	Facilitation and report allowance of 27 times to facilitator / resource person for conducting the FFS.	Person/ days	54	1000	**54000**
6	Transportation expense of 27 days for 2 facilitator / resource persons.	Person/ days	54	200	**10800**
	Total for conducting FBS sessions (B)				**240,450**
C. Cost for conducting Farmer's Day of FBS (for 1 day)					
S. N	**Activities**	**Unit**	**Quantity**	**Rate (NRS)**	**Amount**
1	Expenses for snacks to invited, participant farmers and 2 facilitators	persons	90	200	**18000**
2	Management expenses (sound system, & chair on stage, table, graph, chart paper, cultural program, flags, invitation card, photo etc.)	times	1	3000	**3000**
3	Prize distribution (First Rs.1500; Second Rs.1000; Third Rs.750)	times	1	3250	**3250**
4	Transportation cost of one day to 2 resource person or facilitators	persons	2	200	**400**
5	Preparation of FBS report (including print and binding)	Times	1	1000	**1000**
6	FBS Technical Report (including photocopy and binding)	set	2	500	**1000**
7	Facilitation allowance of 2 facilitators / resource persons for facilitation on the Farmers' Day	Person / day	2	1000	**2000**
	Total cost for celebrating Farmers' Day (C)				**28,650**
The total cost for conducting FBS (A+B+C)					**300,000**

Note: Project will prepare separate guideline of Farm Business School and this will remain as annexes to this Project Implementation Manual (PIM).

Secretary

II. Cost and expenditure details for implementing Matching grants and small grants:

- Project will provide 448 matching grants to fund simple business plans (BPs) under component B.

- Project will provide 504 small grants to fund proposal submitted by health mother/nutrition groups under component C to ensure the enhancement of nutrition status of those groups involving 1000 days lactating mother, pregnant women and children under age of 2 years

- Budget celling or Cost:
  a. **Matching grant: NPR 600,000** (In words: Six Hundred Thousand Only)
  b. **Small grant: NPR 500,000** (In words: Five Hundred Thousand Only)

- Subsidy rate: **85 % from Project, 15% of farmers or FGs contribution in form of cash or kind or both** (for both matching and small grants)

- The fund flow will be in three tranches as follows:

S.N	Tranches	Percentage
1	First	30
2	Second	40
3	Third	30
Total		**100**

- MG and Small grant implementation guideline will prescribe due diligence to be complied by the PGs as minimum conditions to qualify for the MG.

- A conditionality mechanism will be built into the matching and small grant to ensure that the sub-projects do not generate negative externalities, and will be screened for potential adverse effects on the environment and public health, as well as to ensure minimum gender participation within the grant recipients (65% of all grant recipients will need to be female).

- The project envisages to establish Cluster Level Selection Committee (CLSC) to undertake the screening of ideas of BPs submitted by PGs and proposals submitted by health mother/nutrition groups.

- Project will develop matching and small grant implementation manual for providing details and implementing modality of operating matching grant under component A and Small grant under component C. **This guideline will remain as annex 4.1 to his PIM** and will be based on above financial details and **as per Annex 7.1.**

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

Secretary

Annex 5.1

Cost, subsidy and expenditure details of major programs under component C

I. Home Nutrition Garden (HNG) cost and expenditure details:

- Budget celling or Cost: **NPR 206,000** (In words: Two Hundred Six Thousand Only)
- Subsidy rate: **85% from Project, 15% of farmers or FGs contribution** in the form of **cash or kind or both.**
- HNG will be implemented in two years: Fist year operating cost: **NPR 145,000** and second year follow up support: **NPR 61,000.**
- Expenditure details for implementing HNG will be as follows;

A) Cost for establishment of Model Farm for HNG

SN	Details	Unit	First year		Second year		Rate per unit (NPR)	Total (NPR)
			Quantity	Amount	Quantity	Amount		
1	Mobilization and orientation of groups	Nos.	1	5000			5000	**5000**
2	Purchase of seeds of nutritious vegetables (at least 5 vegetables per season)	Packets	15	6,000	15	6,000	400	**12,000**
3	Purchase of at least two types of fruit saplings	Nos.	6	600			100	**600**
4	Purchase of dual purpose 8-week-old chickens	Nos.	6	2100			350	**2100**
5	Purchase of pipes for irrigation and materials for fencing including watering can, sprayer, etc.	Lump sum	1	10,000			10,000	**10,000**
6	Construction of chicken coop/shed	Nos.	1	6,000			6,000	**6,000**
7	Purchase of plastic, green net & required materials for construction of small plastic house or net house.	Lump sum	1	10,000			10,000	**10,000**
8	Preparation of compost and Jholmol.	Lump sum	1	2000			2000	**2000**
	Total			**41,700**		**6,000**		**47,700**

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

Secretary

B) Cost for establishment and operation of HNG

S.N.	Details	Units	First year		Second year		Rate per unit (NPR)	Total (NPR)
			Quantity	Amount	Quantity	Amount		
1	On-site training (1 day)	Times	1	20,000	1	20,000	20,000	**40,000**
2	Distribution of vegetable seeds (Kits)	Nos.	25	30,000	25	30,000	1200	**60,000**
3	Distribution of at least two types of fruit saplings (6 fruits saplings per house)	Lump sum	100	10,000	50	5000	100	**15,000**
4	Distribution of dual purpose 8 weeks old chickens for raising at domestic level.	Nos.	125	43,300			346.5	**43,300**
Total for establishment of HNG (B)				**1,03,300**		**61,000**		**1,58,300**
Total cost for HNG (A+B)				**1,45,000**		**61,000**		**2,06,000**

II. Nutrition Field School (NFS) cost and expenditure details:

- Budget celling or Cost: NPR **280,000** (In words: NPR Two Hundred Eighty Thousand Only)
- NFS will be implemented by Project.
- NFS will be implemented in two years: First year operating cost: **NPR 150,000**; Second year operating cost: **NPR 130,000.**
- Expenditure details for implementing NFS will be as follows;

S. N.	Activities	Unit	First year		Second year		Rate per unit	Total (NPR)
			Quantity	Amount	Quantity	Amount		
	A. Cost for Preparatory meetings							
1	First preparatory meeting	To be done through regular group formation program of clusters and units						
2	Snack expenses for participants of the second preparatory meeting	Nos.	30	6000			200	6000
3	Snack expenses for participants of the third preparatory meeting	Nos.	25	5000			200	5000
4	Stationery for the participants of	Nos.	25	2500			100	2500

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

Secretary

S. N.	Activities	Unit	First year		Second year		Rate per unit	Total (NPR)
			Quantity	Amount	Quantity	Amount		
	the preparatory meeting							
5	Other Stationery (register, scale, marker pens, pencil, brown paper , sign pen , masking tape , glue stick , dot pen, duster, files , eraser, thumb pin , etc.)	Times	1	900			900	900
6	Facilitation and report allowance of 4 days to 2 facilitators/ resource person of the preparation meeting.	Person/day	4	4000			1000	4000
7	Lunch expenses of 2 days to 2 facilitators/ resource person of the preparation meeting.	Person/day	4	800			200	800
8	Transport expense for 2 facilitator / resource person (per day @ NPR 200 for 2 days)	Person/day	4	800			200	800
	Total of Preparatory meeting (A)			**20,000**				**20,000**
	A) Cost for conducting sessions of NFS (24 sessions day , about 4.5- hour session a da							
1	Snack expenses for 24 times for 27 people (including 25 farmers and 2 facilitators)	Persons	324	64800	324	64800	200	129600
2	Material expenses for conducting NFS (child nutrition assessment tools,dma sign boards, gas stove andcooking utensils, food stuff, brown paper, scale, polythene bags, rubber band, mesh fabric, marker pen, scissors, thread, masking tape , etc.)	Times	1	20000			20000	20000
3	Purchase Child height/length board and weighing scale	Nos.	2	10000			5000	10000
4	Remuneration of Special Class to resource Person (External instructor 2000, internal instructor 1200)	Nos.	4	6400	4	6400	1600	12800
5	Facilitation and report allowance for facilitator conducting the NFS.	Person/ day	24	24000	24	24000	1000	48000

Ministry of Agriculture and

Secretary

S. N.	Activities	Unit	First year		Second year		Rate per unit	Total (NPR)
			Quantity	Amount	Quantity	Amount		
6	Transportation expense 2 facilitators.	Person/ day	24	4800	24	4800	200	9600
Deposit expenses of training operation session				**130000**		**100000**		**230000**
B) Cost for conducting Nutrition Day (1 day)								
1	Expenses for snacks to invited, participant farmers and 2 facilitators	Nos.			100	20000	200	20000
2	Management expenses (sound system & chair on stage, table, graph, chart paper, cultural program, flags, invitation card , photo etc.)	Times			1	2850	2850	2850
3	Prize distribution (First Rs.1500; Second Rs.1000;Third Rs.750)	Times			1	3250	3250	3250
4	Transportation cost of one day to resource person or facilitators	Nos.			2	400	200	400
5	Report preparation (including printing, binding and photocopy)	Times			1	1500	1500	1500
6	Facilitation allowance for 2 facilitators / resource persons for facilitation on the Nutrition Day	Nos.			2	2000	1000	2000
Total for conducting Nutrition day (C)					**30,000**			**30,000**
Total cost to conduct NFS (A+B+C)			**150000**		**130000**			**280000**

Note: Project will prepare separate guidelines of above mentioned programs. These guidelines will remain as annexes to this Project Implementation Manual (PIM).

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

Secretary

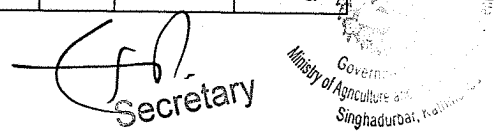
Food and Nutrition Security Enhancement Project
Annex 7.1: Proposed Activity and Cost (2018/19-2022/23)

COMPONENT A: CLIMATE AND NUTRITION SMART AGRICULTURE TECHNOLOGY ADAPTATION AND DISSEMINATION

Component A: Cost Estimate

Cost in NPR '000

Subcomponents, Outputs and Activities		Unit	FY 2018/19 (Year-1)		FY 2019/20 (Year-2)		FY 2020/21 (Year-3)		FY 2021/22 (Year-4)		FY 2022/23 (Year-5)		Total Cost	Source		Project Target				Remarks	Cost Category
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost		Grant	GoN	Quantity	Unit Cost	Total Cost	Target Year		
Subcomponent A1: Technology adaptation and testing																					
1	**Testing of CS and Nutrition sensitive crops and livestock technologies (12 varieties and 10 technologies)**																			12 varieties and 10 Technologies	Technology
1.1	**On farm testing and validation trial of CS and nutrition sensitive crops technologies**																				
1.1.1	Varietal/FAT/PVS testing and identification of short duration and water stress tolerant rice cultivars (2 varieties)	Number of trials			25	1250	25	1250					2500	2500		50	50	2,500	2019/20 - 2021/22		Technology
1.1.2	Varietal/FAT/PVS testing and identification of short duration and climate smart maize cultivars (2 varieties)	Number of trials			20	1000	20	1000					2000	2000		40	50	2,000	2019/20 - 2021/22		Technology
1.1.3	Varietal/FAT/PVS testing and identification of CS wheat (1) and potato (1) cultivars	Number of trials			35	1750	35	1750					3500	3500		70	50	3,500	2019/20 - 2021/22		Technology
1.1.4	Varietal/FAT/PVS testing and identification of fingermillet (1) buckwheat (1), pulses (1), beans (1) and vegetable (2)	Number of trials			30	1500	30	1500					3000	3000		60	50	3,000	2019/20 - 2021/22		Technology
1.1.5	Agronomic practices (crop and vegetable)	Number of trials			40	2000	40	2000					4000	4000		80	50	4,000	2019/20 - 2021/22		Technology
1.1.6	Pest and disease management (crop and vegetable)	Number of trials			20	1000	20	1000					2000	2000		40	50	2,000	2019/20 - 2021/22		Technology
1.1.7	Crop Nutrient management	Number of trials			15	750	15	750					1500	1500		30	50	1,500	2019/20 - 2021/22		Technology
1.1.8	Post-harvest management (crops and vegetables)	Number of trials			20	1000	20	1000					2000	2000		40	50	2,000	2019/20 - 2021/22		Technology
1.1.9	Vegetable nursery management	Number of trials			10	500	10	500					1000	1000		20	50	1,000	2019/20 - 2021/22		Technology
1.2	**On farm testing and validation trial of CS and nutrition sensitive livestock technologies**																				Technology
1.2.1	Testing of suitable forage varieties	Number of trials			10	500	16	800	16	800			2100	2100		42	50	2,100	2018/19 - 2021/22		Technology
1.2.2	Post production management (meat and milk)	Number of trials					16	800					800	800		16	50	800	2019/20		Technology
1.2.3	Feed management practices for boer crossbred goats and dairy animals	Number of trials					16	800	16	800			1600	1600		32	50	1,600	2019/20-2021/22		Technology
1.2.4	Low cost feed mix technology for backyard poultry	Number of trials					16	800	16	800			1600	1600		32	50	1,600	2019/20-2021/22		Technology
1.2.5	Study on use of traditional herbs in animal treatment	Number					1	500					500	500		1	500	500	2019/20		Technology



			FY 2018/19 (Year-1)		FY 2019/20 (Year-2)		FY 2020/21 (Year-3)		FY 2021/22 (Year-4)		FY 2022/23 (Year-5)			Source		Project Target					
2	**Development of improved packages of practices (crops and livestock)**																				
2.1	**Development and dissemination of crop packages**																				
2.1.1	Agronomic practices of crop (pre-harvest)	Number					2	400	1	200			600	600		3	200	600	2019/20-2020/21		Technology
2.1.2	Cultivation practices of vegetable (pre-harvest)	Number					1	200	1	200			400	400		2	200	400	2019/20-2020/21		Technology
2.1.3	Pest and disease management (crop and vegetable)	Number					1	200	1	200			400	400		2	200	400	2019/20-2020/21		Technology
2.1.4	Nutrient Management (crops and vegetables)	Number					1	200	1	200			400	400		2	200	400	2020/21		Technology
2.1.5	Post-harvest management (crops and vegetables)	Number					1	200	1	200			400	400		2	200	400	2020/21		Technology
2.1.6	Soil moisture management and water harvesting techniques	Number							1	200			200	200		1	200	200	2020/21		Technology
2.1.7	Farm machineries for drudgery reduction	Number					1	200					200	200		1	200	200	2020/21		Technology
2.2	**Development and dessimation of livestock packages**																				
2.2.1	Livestock production (low cost feed formulation, identification of nutritious fodder trees, best feed storage technique, herbal dewormer assessment)	Number					1	200	1	200			400	400		2	200	400	2019/20-2020/21		Technology
2.2.2	Post production management for hygienic milk production	Number					1	200					200	200		1	200	200	2020/21		Technology
2.2.3	Post production management of hygienic fresh meat production	Number					1	200					200	200		1	200	200	2020/21		Technology
2.2.4	Management practices to reduce aflatoxin risk	Number							1	200			200	200		1	200	200	2020/21		Technology
2.2.5	Technology on improved shed for livestock	Number							1	200			200	200		1	200	200	2020/21		Technology
3	Improving seed and breed replacement rate for crops and livestock																				
3.1	**Distribution of foundation seeds for SPG's**																				
3.1.1	Rice	MT			6	510	2.88	244.8	2.88	244.8	2.88	244.8	1244.4	1244.4		14.64	85	1,244	2019/20 - 2022/23		Technology
3.1.2	Maize	MT			3	375	1	125	1	125	1	125	750	750		6	125	750	2019/20 - 2022/23		Technology
3.1.3	Wheat	MT					10.56	1003.2	10.56	1003.2	10.56	1003.2	3009.6	3009.6		31.68	95	3,010	2020/21 - 2022/23		Technology
3.1.4	Finger millet	MT					0.08	8	0.08	8	0.08	8	24	24		0.24	100	24	2020/21 - 2022/23		Technology
3.1.5	Buckwheat	MT					0.32	32	0.32	32	0.32	32	96	96		0.96	100	96	2020/21 - 2022/23		Technology
3.1.6	Lentil	MT					1.44	180	1.44	180	1.44	180	540	540		4.32	125	540	2020/21 - 2022/23		Technology
3.1.6	Beans	MT					0.16	68	0.16	68	0.16	68	204	204		0.48	425	204	2020/21 - 2022/23		Technology
3.1.7	Distribution of potato (pre-basic seed tubers)	Number					74000	1332	74000	1332	74000	1332	3996	3996		222000	0.018	3,996	2020/21 - 2022/23		Technology
3.2	**Distribution of improved seeds to farmers**																				

Secretary

Ministry of

			FY 2018/19 (Year-1)		FY 2019/20 (Year-2)		FY 2020/21 (Year-3)		FY 2021/22 (Year-4)		FY 2022/23 (Year-5)			Source		Project Target					
3.2.1	Rice	MT					24	1320	24	1320	24	1320	3960	3960		72	55	3,960	2020/21 - 2022/23		Technology
3.2.2	Maize	MT					30	2100	30	2100	30	2100	6300	6300		90	70	6,300	2020/21 - 2022/23		Technology
3.2.3	Wheat	MT					42	2100	42	2100	42	2100	6300	6300		126	50	6,300	2020/21 - 2022/23		Technology
3.2.4	Finger millet	MT					3	240	3	240	3	240	720	720		9	80	720	2020/21 - 2022/23		Technology
3.2.5	Buckwheat	MT					2	160	2	160	2	160	480	480		6	80	480	2020/21 - 2022/23		Technology
3.2.6	Lentil	MT					10	1050	10	1050	10	1050	3150	3150		30	105	3,150	2020/21 - 2022/23		Technology
3.2.7	Beans	MT					3	1275	3	1275	3	1275	3825	3825		9	425	3,825	2020/21 - 2022/23		Technology
3.2.8	Mungbean	MT					2	480	2	480	2	480	1440	1440		6	240	1,440	2020/21 - 2022/23		Technology
3.2.9	Black Gram	MT					1	270	1	270	1	270	810	810		3	270	810	2020/21 - 2022/23		Technology
3.2.10	Potato (basic seed, 4th generation)	MT					280	19600	280	19600	280	19600	58800	58800		840	70	58,800	2020/21 - 2022/23		Technology
3.3	Support to SPGs for the seed production (with technical backstopping and quality assurances and control through SQCC/central agriculture lab/ provincial seed labs)	Number of SPGs					32	3200					3200	3200		32	100	3,200	2020/21	2 SPG/GP (material support and certfication fee)	Technology
3.4	**Breed improvement of Livestock**																				
3.4.1	Establishing/strengthening AI Units in project rural municipalities for breed improvement (dairy)	Number					4	3200	6	4800	6	4800	12800	12800		16	800	12,800	2019/20 - 2022/23	1 AI unit/RM	Technology
3.4.2	Establishment of famer managed Boer goat multiplier herds/units (under open nucleus breeding scheme)	Number					8	5176	8	5176			10352	10352		16	647	10,352	2020/21 - 2021/22	1 multiplier herd /RM	Technology
3.4.3	Follow up support to established farmer managed Boer goat multiplier herds/units	Number							8	2016	8	2016	4032	4032		16	252	4,032	2021/22		Technology
3.4.4	Performance evaluation of Boer and local goats in project RMs (from NARC)	Number					1	5000					5000	5000		1	5000	5,000	2020/21-2022/23		Knowledge management
3.4.5	Follow up support for performance evaluation of Boer and local goats in project RMs (from NARC)	Number							1	1000	1	1000	2000	2000		2	1000	2,000	2020/21-2022/23		Knowledge management
3.4.6	Goat production promotion program	Number					150	49200	150	49200			98400	88560	9840	300	328	98,400	2020/21-2021/22		Technology
3.4.7	Follow up support to goat production promotion program	Number							150	25800	150	25800	51600	46440	5160	300	172	51,600	2021/22-2022/23		Technology
3.4.8	Dairy production promotion program	Number					50	11650	50	11650			23300	20970	2330	100	233	23,300	2020/21-2021/22		Technology
3.4.9	Follow up support to dairy production promotion program	Number							50	7350	50	7350	14700	13230	1470	100	147	14,700	2021/22-2022/23		Technology
3.4.10	Rural poultry promotion program	Number					75	22575	75	22575			45150	40635	4515	150	301	45,150	2020/21-2021/22		Technology
3.4.11	Follow up support to rural poultry promotion program	Number							75	4050	75	4050	8100	7290	810	150	54	8,100	2021/22-2022/23		Technology
4	Training and capacity buiding																				

Secretary

Ministry of Agric

			FY 2018/19 (Year-1)		FY 2019/20 (Year-2)		FY 2020/21 (Year-3)		FY 2021/22 (Year-4)		FY 2022/23 (Year-5)			Source		Project Target					
4.1	**Trainings to extension agents and private agriculture service provider**																				
4.1.1	Training for trial establishment and implementation to field project staffs (2 days)	Number					8	800	8	800			1600	1600		16	100	1,600	2020/21-2021/22		Capacity
4.1.2	Training for technicians on AI (2 weeks)	Number			2	2000	1	1000	1	1000			4000	4000		4	1000	4,000	2019/20 - 2020/21		Capacity
4.1.3	Refresher training for technicians on AI (1 week)	Number					1	700			1	700	1400	1400		2	700	1,400	2020/21-2022/23		Capacity
4.1.4	Trainings to extension agents and private agriculture service provider based on need assessment (cluster level) (3 days)	Number					4	1000	4	1000	4	1000	3000	3000		12	250	3,000	2020/21-2022/23		Capacity
	A1: Sub-total			**0**		**14135**		**151539**		**172205**		**78304**	**416183**	**392058**	**24125**			**416183**			
Sub-component A2: Technology dissemination and farmer skills development																					
5	**Streamlined FFS and adoption support**																				
5.1	Model FFS (crops, livestock, business, nutrition) by FAO-TA	Number					56									56				56 model FFS to be conducted by FAO-TA	
5.2	Establishing FFSs (crop, oilseeds, pulses,potatoes, vegetable)	Number					220	42680	220	42680	160	31040	116400	116400		600	194	116,400	2019/20-2022/23		Technology
5.3	Establishing FFSs (goat, poultry, dairy)	Number					50	14300	50	14300	50	14300	42900	42900		150	286	42,900	2019/20-2022/23		Technology
5.4	Distribution of seasonal seeds (vegetable and forage) for wider adoption	Times			12	12000	12	12000	12	12000	12	12000	48000	48000		48	1000	48,000	2019/20-2022/23		Technology
5.5	Group Support for drudgery reduction on farm machineries and equipment	Number			80	5600	80	5600					11200	11200		160	70	11,200	2019/20 - 2020/21		Technology
5.6	Preparation of guidelines, manuals and learning materials for FFS	Number			1	500	1	500					1000	1000		2	500	1,000	2019/20 - 2020/21		Knowledge Management
5.7	Inter-FFS exposure trip to farmers	Number					4	1200	4	1200	4	1200	3600	3600		12	300	3,600	2019/20 - 2022/23	1 per cluster/year	Capacity
6	**Demonstrations and field days**																				
6.1	District level training to leader farmers (seasonal and offseason vegetable farming) (district level) (3 days)	Number			7	1050	8	1200	8	1200	8	1200	4650	4650		31	150	4,650	2019/20-2022/23		Capacity
6.2	Subject specific trainings for farmers (RM Level) (3 days)	Number			16	1280	16	1280	16	1280	6	480	4320	4320		54	80	4,320	2019/20-2022/23		Capacity
6.3	**On-farm demonstrations**																				
6.3.1	Production (plastic mulching, zero tillage, pheromone and other traps, vegetable/fruit problem diagnosis and solving and internal/external parasite management in poultry and livestock, mineral block, ration formulation, roughage improvement etc.)	Number					300	4500	300	4500	300	4500	13500	13500		900	15	13,500	2019/20-2022/23		Technology
6.3.2	Permanent poly-house farming techniques (with drip irrigation)	Number					16	800	16	800	16	800	2400	2400		48	50	2,400	2019/20-2022/23	2 strucutre/ RM of hills/ year	Technology
6.3.3	Animal shed improvement and FYM management program	Number					100	1500	100	1500	90	1350	4350	4350		290	15	4,350	2019/20-2022/23		Technology
6.3.4	Forage production, conservation and supplement livestock feeding	Number					40	800	30	600	10	200	1600	1600		80	20	1,600	2019/20-2022/23		Technology

Secretary

Ministry of Agric

			FY 2018/19 (Year-1)		FY 2019/20 (Year-2)		FY 2020/21 (Year-3)		FY 2021/22 (Year-4)		FY 2022/23 (Year-5)			Source			Project Target					
6.4	Adoption support for oly-house farming system in hills	Number					100	1700	100	1700	100	1700	5100	5100		300	17	5,100	2020/21-2020/22		Technology
7	**Strengthening advisory services and skill development**																				
7.1	Capacity need assessment (CNAA) of extension agents , private service providers, social mobilizers, farmers	Number							1	1000			1000	1000		1	1000	1,000	2021/22		Knowledge management
7.2	RM level skill enhancement training to technical staffs under local municipalities, agro-vet dealers, lead farmers and social mobilizers based on need assessment (1 day)	Number					16	800	16	800	16	800	2400	2400		48	50	2,400	2019/20-2020/21		Capacity
7.3	Farmer Field School ToF to project staffs (2 week long)	Number					1	1200					1200	1200		1	1200	1,200	2020/21		Capacity
7.4	Cluster level training on Food safety and quality (3 days)	Number					4	800	4	800			1600	1600		8	200	1,600	2019/20-2020/21	1 training/cluster	Capacity
7.5	Cluster level training on safe use of pesticides and chemicals for technicians/facilitators (3 days)	Number					4	800	4	800			1600	1600		8	200	1,600	2019/20-2020/21	1 training/cluster	Capacity
7.6	District level awareness training on safe use of pesticides and chemicals for leader farmers (2 days)	Number					8	1200	8	1200			2400	2400		16	150	2,400	2020/21-2021/22	1training/district	Capacity
7.7	Training for VAHW (new) (35 days)	Number					2	1800					1800	1800		2	900	1,800	2019/20		Capacity
7.8	Vet Kits for the VAHW (new)	times					2	600					600	600		2	300	600	2019/20		Technology
8	Technical assistance service from FAO-TA	Lumpsum			0.3	30000	0.3	30000	0.25	25000	0.15	15000	100000	100000		1	100000	100,000	2019/20-2022/23		Technical Assistance
	A2: Sub-total			**0**		**50430**		**125260**		**111360**		**84570**	**371620**	**371620**	**0**			**371620**			
	Grand Total in NPR (A1+A2)			**0**		**64565**		**276799**		**283565**		**162874**	**787803**	**763678**	**24125**			**787803**			
	Grand Total in US$					**592**		**2,539**		**2,601**		**1,494**	**7,225**	**7,004**	**221**			**7,225**			
	Grand Total in US$ million			**0.00**		**0.59**		**2.54**		**2.60**		**1.49**	**7.22**	**7.00**	**0.22**			**7.22**			

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

COMPONENT B: INCOME GENERATION AND DIVERSIFICATION

Component B: Cost Estimate

Cost in NPR '000

Sub-components, Outputs and Activities		Unit	FY 2018/19 (Year-1)		FY 2019/20 (Year-2)		FY 2020/21 (Year-3)		FY 2021/22 (Year-4)		FY 2022/23 (Year-5)		Total Cost	Source		Project Target				Remarks	Cost Category
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost		Grant	GON	Quantity	Unit Cost	Total Cost	Target Year		
Sub-component B1: Strengthening Producer Groups (PGs)																					
1	Organizing & capacity strengthening of PGs in crops and livestock																				
1.1	Organizing/formation of PGs	Number					1200	12000	390	3900			15900	15900		1590	10	15,900	2020/21-2022/23		Capacity
1.2	Training to PGs on leadership, governance and group dynamics (RM level) (3 days)	Number					16	1280	16	1280	16	1280	3840	3840		48	80	3,840	2020/21-2022/23	1 training/ RM/year	Capacity
1.3	Training to PGs on business management (RM level) (3 days)	Number					16	1280	16	1280	16	1280	3840	3840		48	80	3,840	2020/21-2022/23	1 training/ RM/year	Capacity
1.4	Providing training to PGs on agriculture seasonal planning (RM level) (1 day)	Number					16	640	16	640	16	640	1920	1920		48	40	1,920	2020/21-2022/23	2 training/ RM/year	Capacity
1.5	Providing training on gender mainstreaming (RM level) (2 days)	Number					16	960	16	960	16	960	2880	2880		48	60	2,880	2020/21-2022/23	2 training/ RM/year	Capacity
1.6	Providing district level training to PGs representatives on preparation of simple business plan and entrepreneurship development (3 days)	Number					32	4800	32	4800	16	2400	12000	12000		80	150	12,000	2020/21-2022/23	2 trainings/ district	Capacity
1.7	Training PGs representatives on negotiation skills with buyers and input suppliers (RM level) (1 day)	Number					16	800	16	800	16	800	2400	2400		48	50	2,400	2020/21-2022/23	2 trainings /RM/year	Capacity
1.8	Preparation and distribution of training manuals on farm business school and strengthening PGs	Number					2	1000					1000	1000		2	500	1,000	2020/21		Knowledge Management
1.9	Orientation program to PGs about PAs (RM level) (1 day)	Number					16	800	16	800			1600	1600		32	50	1,600	2020/21-2021/22	2 events/ RM/year	Workshop & Meeting
1.10	Implementation of Farm Business School (FBS)	Number							16	4800			4800	4800		16	300	4,800	2021/22-2022/23	1 FBS/ RM	Capacity
	B1: Sub-total			**0**		**0**		**23560**		**19260**		**7360**	**50180**	**50180**				**50,180**			
Sub-component B2: Market linkages through productive alliances																					
2	Conduct study on value chain analysis, market studies and mapping of potential buyers and sellers at rural municipality cluster (FAO-TA)																				
3	**Establishing a multi-stakeholder dialogue platform among key actors in value chains**																				
3.1	Formation of RM level multi-stakeholder dialogue platform (involving key actors of value chain)	Number					16	800					800	800		16	50	800	2020/21	1 event/ RM/year	Workshop & Meeting
3.2	Meeting of RM level multi-stakeholder dialogue platform	times					48	2400	48	2400	48	2400	7200		7200	144	50	7,200	2018/19-2022/23	3 times/ RM/year	Workshop & Meeting
3.3	Knowledge sharing and exposure trips for selected PGs representative for dissemination and replication of good practices (1 week)	Number					4	2000	4	2000	4	2000	6000	6000		12	500	6,000	2019/20-2022/23	1 event/ cluster/year	Capacity

Secretary

Government of Nepal
Ministry of Agriculture
Singhadurbar, Kathmandu

	Sub-components, Outputs and Activities	Unit	FY 2018/19 (Year-1)		FY 2019/20 (Year-2)		FY 2020/21 (Year-3)		FY 2021/22 (Year-4)		FY 2022/23 (Year-5)		Total Cost	Source		Project Target				Remarks	Cost Category
4	**Financing simple BPs through the MGs**													0							
4.1	Development and publication of matching & small grant guidelines and manuals	Number			1	500							500	500		1	500	500	2019/20		Knowledge Management
4.2	Workshop for identification of potential MFIs to fund BPs at project RMs (1 day)	Number					16	800					800	800		16	50	800	2020/21	1 workshop/ RM	Workshop & Meeting
4.3	Formation of project cluster level selection committee for selection of BPs	Number					4	200					200	200		4	50	200	2020/21		Workshop & Meeting
4.4	Provision of matching grant to fund BPs	Number					150	132900	150	132900	148	131128	396928	244110.72	152817.3	448	886	396,928	2019/20 - 2022/23		**Matching Grant**
4.5	Orientation on ESMF to project staffs (2 days)	Number					2	600	2	600			1200	1200		4	300	1,200	2020/21- 2021/22		Capacity
4.6	Cluster level training on ESMF to municipal level technicians and local service providers (5 days)	Number					4	880	4	880			1760	1760		8	220	1,760	2020/21- 2021/22	1 training/ district/year	Capacity
4.7	Orientation on ESMF to beneficiaries of the matching and small grant and other project activities (RM level) (1 day)	Events					16	800	16	800	16	800	2400	2400		48	50	2,400	2020/21- 2022/23	1 events/ RM/year	Capacity
5	**Development of Critical market infrastructure**													0							
5.1	Feasibility study for establishment of new village market and collection centers (including market infrastructure inventory and market need assessment for rehabilitation, handling and processing structures)	Number			4	2000							2000	2000		4	500	2,000	2019/20		Knowledge Management
5.2	Support to village markets, collection centers, Hat Bazar infrastructure rehabilitation/improvement	Number					16	16000	16	16000	8	8000	40000	40000		40	1000	40,000	2019/20 - 2022/23		Infrastructure
5.3	Support to establish handling and processing structures	Number					26	39000	26	39000	14	21000	99000	99000		66	1500	99,000	2019/20 - 2022/23		Infrastructure
5.4	Capacity building for rehabilitated market staffs, PGs, relevant stakeholders, etc. (O&M, overall market management (RM level) (1 day)	Number					4	320	6	480	6	480	1280	1280		16	80	1,280	2020/21- 2021/22	1 training/RM	Capacity
5.5	International exposure visit to expand knowledge on productive alliances and market management	Number					1	9800	1	9800			19600	19600		2	9800	19,600	2019/20- 2021/22		Capacity
5.6	Training to project staffs for adoption of GAP/GMP/GHP/GVP/HACCP (1 week)	Number			1	800	1	800					1600	1600		2	800	1,600	2019/20 - 2021/22		Capacity
5.7	District level training to PGs for adoption of GAP/GMP/GHP/GVP/HACCP (2 days)	Number					8	1600	8	1600	8	1600	4800	4800		24	200	4,800	2019/20 - 2021/22		Capacity
5.8	Capacity building of agrovet, VAHW and others PAs actors for quality control, certification, food safety and hygiene etc. (district level) (1 day)	Number					8	800	8	800	8	800	2400	2400		24	100	2,400	2019/20 - 2021/22		Capacity
6	Technical assistance service from FAO-TA	LS			0.3	85380	0.3	85380	0.25	71150	0.15	42690	284600	284600		1	284600	284,600	2019/20- 2022/23		Technical assistance
	B2: Sub-total			**0**		**88680**		**295080**		**278410**		**210898**	**873068**	**713051**	**160017**			**873,068**			
	Grand Total in NPR (B1+B2)			**0**		**88680**		**318640**		**297670**		**218258**	**923248**	**763231**	**160017**			**923,248**			
	Grand Total in US$			**0**		**813.28**		**2922.23**		**2729.92**		**2001.63**	**8467**	**7000**	**1468**			**8,467**			
	Grand Total in US$ million			**0.18**		**0.81**		**2.92**		**2.73**		**2.00**	**8.47**	**7.00**	**1.47**			**8.47**			

Secretary

Ministry of Agriculture
Singhadurbar, K

COMPONENT C: IMPRPOVING NUTRITION SECURITY

Component C: Cost Estimate

Cost in NPR '000

Sub-components, Outputs and Activities		Unit	FY 2018/19 (Year-1)		FY 2019/20 (Year-2)		FY 2020/21 (Year-3)		FY 2021/22 (Year-4)		FY 2022/23 (Year-5)		Total Cost	Source		Project Target				Remarks	Cost Category
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost		Grant	GON	Quantity	Unit Cost	Total Cost	Traget years		
Sub-component C 1: Institutional capacity strengthening																					
1	Institutional capacity building and strengthening																				
1.1	Prepare and Publish training modules of officials for roles in MSNP II	Number					1	450					450	450		1	450	450	2020/21		Knowledge Management
1.2	Municipality level interaction program for capacity strengthening of local food and nutrition security committee (1 day)	Events					16	640	16	640			1280	1280		32	40	1,280	2020/21-2021/22		Capacity
1.3	Training to public outreach services for understanding of local nutrition impact pathways and to delineate respective roles and responsibilities (women's group, mother's group, influencers/change agents, FCHVs, social mobilizers, Junior Technicians) (RM level) (1 day)	Events					48	1920	48	1920	48	1920	5760	5760		144	40	5,760	2020/21-2022/23		Capacity
1.4	Qualitative assessment of local dietary practices by DFTQC	Number					8	2400					2400	2400		8	300	2,400	2020/21		Technology
1.5	Development and analysis of food recipes by DFTQC (complementary food based on local dietary habits, food environment, and energy needs)	Number					8	800					800	800		8	100	800	2020/21		Technology
1.7	Training/orientation to local school teachers on importance of locally produced seasonal foods, vegetables, fruits and animal products consumption (RM level) (1 day)	Number					42	2100	42	2100	44	2200	6400	6400		128	50	6,400	2020/21-2022/23	8 events /RM	Capacity
1.8	Orientation to school students on importance of locally produced seasonal foods, vegetables, fruits and animal products consumption (1 day)	Number					52	1560	52	1560	56	1680	4800	4800		160	30	4,800	2020/21-2022/23	10 events/RM	Capacity
1.9	Training on improvement of local food recipes for mother groups representatives (RM level) (1 day, demonstration included)	Number					10	500	10	500	12	600	1600	1600		32	50	1,600	2020/21-2022/23	1 training/RM /year	Capacity
1.10	Participation on agriculture fair/exhibition	Number					8	400	8	400	8	400	1200	1200		24	50	1,200	2020/21-2022/23	1 event/ district	Capacity
	C1: Sub-total			**0**		**0**		**10770**		**7120**		**6800**	**24690**	**24690**				**24,690**			
Sub-component C 2: Nutrition Field Schools and Home Nutrition Garden																					
2	**Nutrition Field School (NFS)**																	-			

Sub components, Outputs and Activities		Unit	FY 2018/19 (Year-1)		FY 2019/20 (Year-2)		FY 2020/21 (Year-3)		FY 2021/22 (Year-4)		FY 2022/23 (Year-5)		Total	Source		Project Target				Remarks	Cost Category
2.1	Printing and distribution of curriculum, training manuals and guidelines of NFS	Number					1	500					500	500		1	500	500	2020/21		Knowledge Management
2.2	Preparation of audio and audio visual materials for NFS	Number					1	1000					1000	1000		1	1000	1,000	2020/21		Knowledge Management
2.3	Establish NFSs (first year)	No of NFS					64	9600	64	9600			19200	19200		128	150	19,200	2019/20-2022/23		Capacity
2.4	Follow up program of NFS (second year)	No of NFS							64	8320	64	8320	16640	16640		128	130	16,640	2021/22-2022/23		Capacity
2.5	Providing small grants	Number					168	91560	168	91560	168	91560	274680	**168928.2**	**105752**	504	545	274,680	2019/20 - 2022/23		**Small Grant**
2.6	Inter-NFS experience sharing visit (1 day)	Event							16	1600	16	1600	3200	3200		32	100	3,200	2021/22-2022/23	1 per RM/year	Capacity
2.7	Design & develop BCC materials for radio, FM and TV and printing materials	Number					1	1000					1000	1000		1	1000	1,000	2020/21		Knowledge Management
2.8	Test and develop radio spots & broadcast nutrition related materials (TV as well) at central level	Number					24	1200	24	1200	24	1200	3600	3600		72	50	3,600	2020/21-2022/23	2 broacast/month	Knowledge Management
2.9	Test and develop local radio spots & broadcast nutrition related materials (at PCUs)	Number			8	800	8	800	8	800	8	800	3200	3200		32	100	3,200	2019/20-2022/23	1 per district	Knowledge Management
2.10	Support program for local campaign (World Food Day, Breast Feeding Week, Nutrition Day etc.)	Event					48	2400	48	2400	48	2400	7200	7200		144	50	7,200	2020/21-2022/23	3 event /RM/Year	Capacity
2.11	Street drama/cultural events on nutrition awareness (1 day)	Times					16	800	16	800	16	800	2400	2400		48	50	2,400	2020/21-2022/23	1/RM/year	Capacity
3	**Home Nutrition Garden (HNG)**																	-			
3.1	District level training to frontline extension workers of RMs, project cluster units and SPs on year round home gardening supporting HNG (vegetables, poultry, beekeeping etc.) (3 days)	Events					8	1200					1200	1200		8	150	1,200	2020/21		Capacity
3.2	Formation/strengthening existing groups targeting pregnant/lactating 1000 day mothers for establishing HNG	Groups					420	4200	420	4200			8400	8400		840	10	8,400	2019/20-2021/22		Workshop and Meeting
3.3	HNG establishment training to HNG leader famers (RM level) (2 days)	No					16	960	16	960			1920	1920		32	60	1,920	2020/21-2022/23		Capacity
3.4	HNG support to health mothers/nutrition groups	Groups					420	60900	420	60900			121800	109620	12180	840	145	121,800	2020/21-2022/23		Technology
3.5	HNG follow-up support health mothers/nutrition groups	Groups							420	25620	420	25620	51240	46116	5124	840	61	51,240	2021/22-2022/23		Technology
3.6	Distribution of nutritious fruit saplings	times					60000	4800					4800	4800		60000	0.08	4,800	2020/21-2022/23		Technology
3.7	Assist local secondary schools to establish HNGs	No					8	400	8	400	16	800	1600	1600		32	50	1,600	2020/21-2022/23		Technology
3.8	Preparation of extension materials and booklets for promotion of food security targeted to small and vulnerable households	Number			1	500	1	500	1	500			1500	1500		3	500	1,500	2020/21-2022/23		Knowledge Management

Secretary

Sub-components, Outputs and Activities		Unit	FY 2018/19 (Year-1)		FY 2019/20 (Year-2)		FY 2020/21 (Year-3)		FY 2021/22 (Year-4)		FY 2022/23 (Year-5)		Total	Source		Project Target				Remarks	Cost Category
3.9	Inter RMs visit and experience sharing among NFSSC (MSNP II) members	Number					8	960	8	960	16	1920	3840	3840		32	120	3,840	2020/21-2021/22		Capacity
3.10	Preparation and distribution of guidelines, manuals and learning materials for HNGs and nutrition education	Number			1	500	1	500					1000	1000		2	500	1,000	2018/19-2019/20		Knowledge Management
4	Technical assistance service from FAO- TA	Lump sum			0.3	33990	0.3	33990	0.25	28325	0.15	16995	113300	113300		1	113300	113,300	2019/20-2022/23		Technical Assistance
	C2: Sub-total			**0**		**35790**		**217270**		**238145**		**152015**	**643220**	**520164**	**123056**			**643220**			
	Grand Total in NPR (C1+C2)			**0**		**35790**		**228040**		**245265**		**158815**	**667910**	**544854**	**123056**			**667,910**			
	Grand Total in US$					**328.2**		**2091.34**		**2249.31**		**1456.48**	**6125.37**	**4996.83**	**1128.54**			**6,125**			
	Grand Total in US$ million			**0.00**		**0.33**		**2.09**		**2.25**		**1.46**	**6.13**	**5.00**	**1.13**			**6.13**			

Secretary

Ministry of Agriculture Development

COMPONENT D: PROJECT MANAGEMENT, COMMUNICATION, MONITORING AND EVALUATION

Component D: Cost Estimate

Cost in NRS '000

Sub-components, Outputs and Activities		Unit	FY 2018/19 (Year- 1)		FY 2019/20 (Year- 2)		FY 2020/21 (Year- 3)		FY 2021/22 (Year- 4)		FY 2022/23 (Year- 5)		Total Cost	Source		Project Target			Remark	Cost Category
			Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost		Grant	GON	Quantity	Total Cost	Target Year		
Sub-component D1: Project management																				
1	**Establishment and operation of the PMU and PCUs**																			
1.1	PMU Office operation, monthly	Month	7	5000	12	12000	12	13500	12	14500	12	15500	60500	6500	54000	55	60,500	2018/19-2022/23		Office Management
1.2	PCU Offices operation, monthly	Month	4	3500	12	11000	12	12500	12	13500	12	14500	55000	6200	48800	52	55,000	2018/19-2022/23		Office Management
1.3	Office rent for PCUs	Month	4	2000	12	6300	12	6300	12	7000	12	7000	28600	28600		52	28,600	2018/19-2022/23		Office Management
1.4	Salary and allowances of government staff (PMU & PCUs)	Month	8	7000	12	21000	12	22500	12	23500	12	24500	98500		98500	56	98,500	2018/19-2022/23		Office Management
1.5	Salary and allowances of contract staffs (PMU & PCUs)	Month	8	4000	12	10500	12	11000	12	12000	12	13000	50500	980	49520	56	50,500	2018/19-2022/23		Office Management
1.6	Fuel, repair and maintenance cost (PMU & PCUs)	Month	5	5500	12	18000	12	18000	12	18000	12	18000	77500	54250	23250	53	77,500	2018/19-2022/23		Office Management
1.7	Cost for implementation of meeting of technical, project steering and provincial level committee	Number	9	1500	18	2000	20	2000	20	2000	20	2000	9500		9500	87	9,500	2018/19-2022/23		Office Management
1.8	Cost for different types of office meetings (PMU & PCUs)	Number	14	2000	73	5500	80	7000	80	7000	80	7000	28500		28500	327	28,500	2018/19-2022/23		Office Management
1.9	**Furniture and furnishing**																-			
1.9.1	Furniture and furnishing for PMU	Lumpsum	2	1783	2	1000	1	600	1	600	1	500	4483	4483		7	4,483	2018/19-2022/23		Office Management
1.9.2	Furniture and furnishing for PCUs and RMs	Lumpsum	4	3200	4	4000	4	4000	4	2000			13200	13200		16	13,200	2018/19-2022/23		Office Management
1.10	**Reconstruction and maintenance of PMU**																-			
1.10.1	Reconstruction and maintainance of office rooms at PMU	Lumpsum			1	1707	1	1500	1	500			3707	3707		3	3,707	2018/19-2019/20		Office Management
1.10.2	Maintenance of PMU floor	Lumpsum					1	600					600	600		1	600	2021/22		Office Management
1.11	**Procurment of Office equipment and machinery**																-			
1.11.1	Equipments and machinery for office and program hall of PMU	Lumpsum			2	2100							2100	2100		2	2,100	2019/20		Office Management
1.11.2	Fixing of CCTV in office (PMU and PCUs)	Lumpsum			4	480							480	480		4	480	2019/20		Office Management
1.11.2	Office equipment and machinery for PCU & RMs	Lumpsum			4	4450	4	1400					5850	5850		8	5,850	2019/20		Office Management
1.11.3	Desktop computer (for PMU and PCUs)	Number	20	1492	20	1400							2892	2892		40	2,892	2018/19-2019/20		Office Management
1.11.4	Laptop (for PMU, PCUs and RMs)	Number	20	2080	20	1800	20	2000					5880	5880		60	5,880	2018/19-2019/20		Office Management
1.11.5	Portable pocket projector (for PMU, PCUs and RMs)	Number					22	1650					1650	1650		22	1,650	2018/19-2020/21		Office Management
1.11.6	Printer (for PMU and PCUs)	Number	20	510	16	300							810	810		36	810	2018/19-2019/20		Office Management
1.11.7	Photocopy (for PMU and PCUs)	Number	5	933									933	933		5	933	2018/19		Office Management
1.11.8	Multimedia Projector (for PMU and PCUs)	Number	5	382									382	382		5	382	2018/19		Office Management
1.11.9	Camera (for PMU and PCUs)	Number	5	340									340	340		5	340	2018/19		Office Management
1.11.10	Generator (for PMU and PCUs)	Number	2	582									582	582		2	582	2018/19		Office Management
1.11.11	Tablets (for PMU & PCUs)	Number					15	900					900	900		15	900	2019/20-2020/21		Office Management
1.11.12	External hard disk (for PMU and PCUs)	Number			12	110							110	110		12	110	2019/20		Office Management
1.11.13	Other accessories/electrical equipments of expendible and non-expendible goods	lumpsum					LS	700	LS	700	LS	600	2000	2000		LS	2,000	2019/20-2022/23		Office Management

Secretary

Ministry of

1.12	**Provision of consultants including procurement and finance**																	-			
1.12.1	Individual procurement specialist for short term	Person Month	3	540	2	340							880	880		5	880	2018/19-2019/20		Office Management
1.12.2	Procurement Specialist for entire project period	Person Month					12	1600	12	1600	11	1600	4800	4800		35	4,800	2019/20-2022/23		Office Management
1.12.3	Finance Specialist for entire project period	Person Month					12	2000	12	2000	11	1800	5800	5800		35	5,800	2019/20-2022/23		Office Management
1.13	Procurement of materials required for FFS implementation (PCUs)	Times					4	2000					2000	2000		4	2,000	2020/21		Office Management
1.14	Transportation subsidy in seeds (PCUs)	times			12	540	12	1200	12	1200	12	1200	4140	540	3600	48	4,140	2019/20-2022/23		Office Management
	D1: Sub-total			**42342**		**104527**		**112950**		**106100**		**107200**	**473119**	**157449**	**315670**		**473,119**			
Sub-component D2: Communication and monitoring & evaluation																				
2	**Communication and M&E**																			
2.1	Orientation workshop of project programs at PCUs	Number			4	2000							2000	2000		4	2,000	2019/20		Workshop & Meeting
2.2	Upgrading Project Implementation Manual (PIM)	Number			1	900			1	1000			1900	1900		2	1,900	2019/20-2021/22		Knowledge Management
2.3	Publication and distribution of PIM	times					1	1000					1000	1000		1	1,000	2020/21		Knowledge Management
2.4	Development of project website and regular updating	Number		0	1	300	1	150	1	150	1	150	750	750		4	750	2019/20-2022/23		Communications
2.5	Upgrading project monitoring system (MIS) and regular upadating	Number		0	1	1400	1	900	1	500	1	500	3300	3300		4	3,300	2019/20-2022/23		Communications
2.6	Independent third party environmental and social audit for 10-15% of randomly selected sub-projects	Number							1	1500			1500	1500		1	1,500	2021/22		M & E
2.7	Cordination/interaction programs and workshops with ministry and other relevent project stakeholders	Number			3	800	6	1200	6	1200	6	1200	4400	4400		21	4,400	2019/20-2022/23		Workshop & Meeting
2.8	Coodination program and workhop with 3 project provinces and related stakeholders	Number			12	600	9	900	9	900	9	900	3300	3300		39	3,300	2019/20-2022/23		Workshop & Meeting
2.9	Inter-project experinece sharing/cross learning visit programs	Number					2	1400	2	1400	2	1400	4200	4200		6	4,200	2019/20-2022/23		Capacity
2.10	Pre-planning workshop	Number					1	300	1	300	1	300	900		900	3	900	2020/21-2022/23		Workshop & Meeting
2.11	Project progress (trimester and annual) review workshop	Number			2	600	3	800	3	800	3	800	3000	3000		11	3,000	2019/20-2022/23		Workshop & Meeting
2.12	Preparation and printing of annual implementation progress report (IPRs)	Number			1	300	1	500	1	500	1	500	1800		1800	4	1,800	2019/20-2022/23		Knowledge Management
2.13	Preparation and printing of Project Completion Report (PCR)	Number									1	1000	1000	1000		1	1,000	2022/23		Knowledge Management
2.14	Preparation and publication of project diary	copies			1000	500			1000	500			1000	1000		2000	1,000	2019/20-2021/22		Knowledge Management
2.15	PMIS training for project staffs	LS			2	600	2	600	2	600			1800	1800		6	1,800	2018/19-2021/22		Capacity
2.16	Preparation and publication of guidelines, manuals, learning and extension materials of project	Number			2	1000	3	1500	3	1500			4000	4000		8	4,000	2018/19-2019/20		Knowledge Management
2.17	Preparation and publication of extension materials/booklets/bulletins/pamphlets on improved agriculture technology (PMU)	Number			1	1000	3	1000	3	1000	3	1000	4000	4000		10	4,000	2019/20-2022/23		Knowledge Management
2.18	Preparation and pubilication of agriculture technology booklets, bulletins and pamphlets (PCUs)	times			12	1400	12	2400	12	2400	12	2400	8600		8600	48	8,600	2019/20-2022/23		Knowledge Management
2.19	Study Programs on various issues of project components	Number							4	2000	4	2000	4000	4000		8	4,000	2020/21-2022/23		Knowledge Management
2.20	Documentary of project implementation, works perfomed and success stories etc.	Number					4	2000	4	4000	4	3000	9000	9000		12	9,000	2020/21-2022/23		Communications

Secretary

2.21	Support program for national campaign e.g. World Food Day, Breast Feeding Week and participation in agriculture fair/exhibition etc.	Number			3	300	6	600	6	600	6	600	2100	2100		21	2,100	2019/20-2022/23		Communications
2.22	Provide abroad training on procurement methods of World Bank funded projects	Number					1	4200					4200	4200		1	4,200	2021/22		Capacity
2.23	Provide overseas/abroad training cum exposure visit for RM, PMU, PCUs and other related staff (1 week duration)	Number					1	9700	1	9700	1	9700	29100	29100		3	29,100	2019/20-2022/23		Capacity
2.24	Organize highlevel observation tour (overseas/abroad) for RM, PMU, PCUs and other related staff (1 week duration)	Number							1	9800	1	9800	19600	19600		2	19,600	2019/20-2022/23		Capacity
2.25	Training to project stakeholders on GESI and environment	Number			1	600	1	600					1200	1200		2	1,200	2019/20-2021/22		Capacity
2.26	Trainings to project staffs (M&E, procurement, data analysis, FFS , skill enhancement, and others)	Number			1	250	6	2200	6	2200	6	2500	7150	7150		19	7,150	2019/20-2022/23		Capacity
2.27	Officer level in service training to government staffs	Number					1	2800					2800	2800		1	2,800	2021/21-2022/23		Capacity
2.28	Mission management		1	500	1	800	1	1000	1	1200	1	1200	4700	4700		5	4,700	2018/19-2022/23		M&E
2.29	Undertake mid-term evaluation	Number					1	700					700	700		1	700	2020/21		M&E
2.30	Undertake mid-line project survey	Number							1	5000			5000	5000		1	5,000	2020/21		M&E
2.31	Project completion workshop	Number									1	1800	1800	1800		1	1,800	2022/23		M&E
2.32	Public hearing and audit of the project (PCUs)	times					4	800	4	800	4	800	2400		2400	12	2,400	2021/21-2022/23		Workshop & Meeting
2.33	**Program monitoring cost**	Month															-			
2.33.1	Program monitoring travel cost (PMU)	Month	12	1600	12	3620	12	5000	12	5000	12	6000	21220	14854	6366	60	21,220	2018/19-2022/23		M&E
2.33.2	Financial monitoring travel cost (PMU)	Month					12	600	12	600	12	700	1900	1330	570	36	1,900	2019/20-2022/23		M&E
2.33.3	Program conduction & monitoring travel cost (PCUs)	Month	4	600	12	6400	12	7000	12	7000	12	6500	27500	19250	8250	52	27,500	2019/20-2022/23		M&E
2.33.4	Program conduction & monitoring travel cost (NARC)	Month			12	1100	12	2500	12	2500	12	2500	8600	6020	2580	48	8,600	2019/20-2022/23		M&E
2.34	**Vehicles for monitoring programs implemented in the project districts**																-			
2.34.1	4 WD vehicle	Number	8	51850			1	6000					57850	57850		9	57,850	2018/19-2021/22		M&E
2.34.2	Motorbike & scooter (PMU and PCUs)	Number	24	5412	20	5000	14	3700					14112	14112		58	14,112	2018/19-2021/22		M&E
3	Technical assistance service from FAO- TA	Lump sum			0.3	1224	0.3	1224	0.25	1020	0.15	612	4080	4080		1	4,080			
	D2: Sub-total			**59962**		**30694**		**63274**		**65670**		**57862**	**277462**	**245996**	**31466**		**277,462**			
	Grand Total in NPR (D1+D2)			**102304**	**0**	**135221**	**0**	**176224**	**0**	**171770**	**0**	**165062**	**750581**	**403445**	**347136**		**750,581**			
	Grand Total in US$			**938.2**		**1240.1**		**1616.1**		**1575.3**		**1513.8**	**6883.5**	**3700.0**	**3183.6**		**6,884**			
	Grand Total in US$ million			**0.94**		**1.24**		**1.62**		**1.58**		**1.51**	**6.88**	**3.70**	**3.18**		**6.88**			

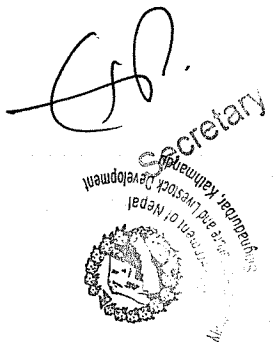
Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

Food and Nutrition Security Enhancement Project

Source and comonent wise cost breakdown

Components	Source, USD million)		Total	Weitage of componets, %
	GAFSP	GoN		
A	7.00	0.22	**7.22**	25.2
B	7.00	1.47	**8.47**	29.5
C	5.00	1.13	**6.13**	21.3
D	3.70	3.18	**6.88**	24.0
Total, USD million	**22.70**	**6.00**	**28.70**	**100.0**



Food and Nutrition Security Enhancement Project

Deatiled Project Cost Breakdown by Components, Sub-Components and Functions

NPR '000

SN	Key functions	Comp A			Comp B			Comp C			Comp D			Overall	
		Sub-A1	Sub-A2	Sub-total	Sub-B1	Sub-B2	Sub-total	Sub-C1	Sub-C2	Sub-total	Sub -D1	Sub-D2	Sub-total	NPR '000	USD million
1	Technology	399183	246050	645233				3200	179440	182640				827873	7.59
2	Capacity	10000	23570	33570	47580	41040	88620	21040	55600	76640		70050	70050	268880	2.47
3	Infrastructure					139000	139000							139000	1.27
4	Knowledge management	7000	2000	9000	1000	2500	3500	450	11800	12250		27300	27300	52050	0.48
5	Workshop and meeting				1600	9000	10600		8400	8400		16000	16000	35000	0.32
6	Matching grant					396928	396928							396928	3.64
7	Small grant								274680	274680				274680	2.52
8	Office mgmt										473119		473119	473119	4.34
9	Technicial assistance		100000	100000		284600	284600		113300	113300		4080	4080	501980	4.60
10	M&E											144882	144882	144882	1.33
11	Communications											15150	15150	15150	0.14
	Total, NPR '000	416183	371620	787803	50180	873068	923248	24690	643220	667910	473119	277462	750581	3129542	28.70
	Total, US$ million	3.82	3.41	7.22	0.46	8.01	8.47	0.23	5.90	6.13	4.34	2.54	6.88	28.70	
	Component Total, US$ million			7.22			8.47			6.13			6.88	28.70	
	Weitage of the components			25.16			29.51			21.36			24.0	100.00	
	GAFSP, US$ million			7			7			5			3.7		22.7
	GoN, US$ million			0.22			1.47			1.13			3.18		6

Exchange Rate: **1 US$=109.04** **(as per PAD)**

Secretary

Ministry of

Food and Nutrition Security Enhancement Project

Yearwise cost breakdown

Details	Year1	Year 2	Year 3	Year 4	Year 5	Total
Comp A	0	64565	276799	283565	162874	787803
Comp B	0	88680	318640	297670	218258	923248
Comp C	0	35790	228040	245265	158815	667910
Comp D	102304	135221	176224	171770	165062	750581
Total, NPR '000	**102304**	**324256**	**999703**	**998270**	**705009**	**3129542**
Total, US$ '000	938.225	2973.734	9168.223	9155.081	6465.600	28700.862
Total, US$ millions	**0.94**	**2.97**	**9.17**	**9.16**	**6.47**	**28.70**
Percent	**3.27**	**10.36**	**31.94**	**31.90**	**22.53**	**100**

Secretary

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

Annex 10.1
Regulatory framework for ESMF

A) Applicable Acts and Regulations

1. **Environment Protection Act 2019 (EPA 2019)** regulate environmental issues. The purpose of the EPA 2019 is to protect the fundamental right of each citizen to live in a clean and healthy environment, provide the victim with compensation by the polluter for any damage resulting from environmental pollution or degradation, maintain a proper balance between environment and development, mitigate adverse environmental impacts on environment and biodiversity and face the challenges posed by climate change. The chapter 2 of the EPA 2019 describes the preparation of environmental study report for a development project. The draft Environment Protection Regulation 2020 is yet to come into force by virtue of the power given by the section 44 of the Environment Protection Act 2019.

2. **Pesticides Act, 2048 (1991) and Regulations, 2050 (1993)**
This Act requires all importers, exporters, users, sellers, and producers of pesticides to register pesticides with the authority designated by the Government of Nepal. Plant Quarantine and Pesticide Management Centre (PQPMC) is the designated authority to register pesticides. The authority publishes names of allowed pesticides in the national Gazette. As per the Pesticides Regulation 1993, the registration agency is responsible to evaluate the impacts of pesticides on human, animal, and environment. The authority can cancel registration at any time if the general use of those pesticides is found to make adverse impacts on human, animal, and environment. The list of registered and banned pesticides is can be obtained from the PQPMC.

3. **Plant Protection Act, 1972 (1972) and Regulations, 1974**
This Act requires individuals and organizations importing plant products, biological control agents, beneficial insects, and medium for growing plants such as soil should obtain permission from the designated authorities. As per the Act the government can declare certain area as pest affected areas and adopt necessary measures to destroy pests in those areas.

B) Applicable World Bank Policies related to ESMF

1. World Bank's environmental and social safeguard policies are highly relevant to the purpose of this project and also crucial for sustainable poverty reduction. The objective of these policies is to prevent and mitigate negative implications to the people and environment in the development process. These policies provide guidelines for the identification, preparation, and implementation of programs and projects.

1.1 Environmental Assessment (OP/BP 4.01)

1.1.1. Environmental Assessment is used by the World Bank to identify, avoid, and mitigate the potential negative environmental impacts associated with the Bank's operations early on in the project cycle. The policy states that Environment Assessment (EA) and mitigation plans are required for all projects having significant adverse environmental impacts or involuntary resettlement. Assessment should include

Government of Nepal
Ministry of Agriculture and Livestock Development
Singhadurbar, Kathmandu

Secretary

analysis of alternative designs and sites, including the "no project option" and require public participation and information disclosure before the Bank approves the project.

2. In World Bank-funded operations, the purpose of Environmental Assessment is to improve decision making, to ensure that project options under consideration are sound and sustainable, and that potentially affected people have been properly consulted and their concerns addressed. The World Bank's environmental assessment policy and recommended processing are described in Operational Policy (OP)/Bank Procedure (BP) 4.01: Environmental Assessment.

2.1 Natural Habitats OP/BP 4.04

2.1.1 This policy aims to promote rehabilitation of degraded natural habitats, and prohibits WB's support to projects that involve the significant conversion or degradation of critical natural habitats.

2.2 Forests OP/BP 4.36

2.2.1 This policy prohibits the Bank from financing projects that "would involve significant conversion or degradation of critical forest areas or related critical natural habitats."

2.3 Pest Management 4.09

2.3.1 This policy favours the use of biological or environmental control methods for controlling pests. It recommends that the integrated pest management (IPM) be used for controlling agricultural pests with limited and safe use of pesticides when it is necessary. If a project leads to significant use of pesticides, a pest management plan is needed.

2.4 Physical Cultural Resources OP/BP 4

2.4.1 This policy advocates for the conservation and preservation of the natural resources and its judicious use.

2.5 Indigenous Peoples OP/BP 4.10

2.5.1 This policy directs to look into the rights of the indigenous people and ensuring their participation in the project activities.

2.6 Involuntary Resettlement OP/BP 4.12

2.6.1 This policy directs for the development of appropriate mechanism for the relocation and resettlement of household/community displaced directly or indirectly by project activities.