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IMPLEMENTATION COMPLETION AND RESULTS REPORT

TF-13719

ON A

GLOBAL AGRICULTURE AND FOOD SECURITY PROGRAM

GRANT

IN THE AMOUNT OF US\$ 46.5 MILLION

TO THE

Government of Nepal

FOR THE

Nepal Agriculture and Food Security Project

September 28, 2018

CURRENCY EQUIVALENTS

(Exchange Rate Effective, Sept. 28, 2018)

Currency Unit = Nepalese Rupee

NPR 113.47 = US\$1.00

FISCAL YEAR

July 1 - June 30

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ABBREVIATIONS AND ACRONYMS

AER	Agro-Ecological Region
AFSP	Agriculture and Food Security Project
BCC	Behavior Change Communication
BG	Beneficiaries Group
BMI	Body Mass Index
CBO	Community-Based Organization
CDD	Community Driven Development
CDO	Chief District Officer
CSO	Civil Society Organization
CF	Community Facilitator
CIP	Country Investment Plan
DFTQC	Department of Food Technology and Quality Control
DoA	Department of Agriculture
DoHS	Department of Health Services
DLS	Department of Livestock Services
DADO	District Agriculture Development Office
DADC	District Agriculture Development Committee
DESMC	District Environment and Social Management Committee
DFNC	District Food and Nutrition Committee
DHS	Demographic Health Survey
DIME	Development Impact Evaluation Initiative
DLSO	District Livestock Services Office
DPCC	District Project Coordination Committee
DPSU	District Project Support Unit
DFTQC	Department of Food Technology and Quality Control (MoAD)
ECoP	Environmental Code of Practice
EMF	Environmental Management Framework
FAO	Food and Agriculture Organization
FFS	Farmer Field School
FG	Farmers Group
FMIS	Financial Management Information System
GAFFSP	Global Agriculture and Food Security Program
GDP	Gross Domestic Products
GEED	Gender Equity and Environment Division
GoN	Government of Nepal
GRM	Grievance Redressal Mechanism
HIMALI	High Mountain Agribusiness and Livelihood Improvement
HMG	Homestead Nutrition Garden
HVAP	High Value Agriculture Project
ISN	Interim Strategy Note
IWRMP	Irrigation and Water Resources Management Project
IYCF	Infant and Young Child Feeding (minimum dietary diversity, minimum acceptable diet, consumption of milk or milk solids)
LDO	Local Development Officer
LSIE	Livelihood and Social Inclusion Expert

MDGs	Millennium Development Goals
MFD	Maximizing Finance for Development
MFI	Micro-Finance Institution
MNP	Micronutrient Powder
MoAD	Ministry of Agriculture Development
MoCPA	Ministry of Cooperative and Poverty Alleviation
MoFALD	Ministry of Federal Affairs and Local Development
MoHP	Ministry of Health and Population
MoLD	Ministry of Livestock Development
MPPWTM	Ministry of Physical Planning and Works and Transport Management
NLSS	Nepal Living Standard Survey
NPC	National Planning Commission
NARC	Nepal Agricultural Research Council
NGO	Non-Governmental Organization
NTFP	Non-Timber Forest Products
OHS	Occupational and Health Standard
PAF	Poverty Alleviation Fund
PD	Project Director
PDO	Project Development Objective
PESMC	Project Environment and Social Management Committee
PIP	Project Implementation Plan
PMIS	Project Management Information System
PMU	Project Management Unit
PMT	Project Management Team
PTCC	Project Technical Coordination Committee
RPCC	Regional Project Coordination Committee
RPF	Resettlement Policy Framework
RPSU	Regional Project Support Unit
SA	Social Assessment
SE	Supervising Entity
SMF	Social Management Framework
TA	Technical Assistance
USAID	United States Agency for International Development
VAHW	Village Animal Health Worker
VDC	Village Development Committee
VMF	Village Model Farm

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DATA SHEET

BASIC INFORMATION

Product Information

Project ID	Project Name
P128905	Nepal Agriculture and Food Security Project
Country	Financing Instrument
Nepal	Investment Project Financing
Original EA Category	Revised EA Category
Partial Assessment (B)	Partial Assessment (B)

Organizations

Borrower	Implementing Agency
Government of Nepal	Ministry of Agriculture Development

Project Development Objective (PDO)

Original PDO

The Project Development Objective is to enhance food and nutritional security of targeted communities in selected locations of Nepal. Food security will be realized through increased food availability, made possible by increasing productivity of agriculture, both crop and livestock. Nutrition security will be realized through improved dietary intake, made possible by promotion of diversified diets, and improved feeding and caring practices for pregnant and nursing women and children up to 2 years of age.



FINANCING

	Original Amount (US\$)	Revised Amount (US\$)	Actual Disbursed (US\$)
World Bank Financing			
TF-13719	46,500,000	41,500,000	40,589,091
Total	46,500,000	41,500,000	40,589,091
Non-World Bank Financing			
Borrower	11,500,000	10,330,000	10,330,000
Total	11,500,000	10,330,000	10,330,000
Total Project Cost	58,000,000	51,830,000	50,919,091

KEY DATES

Approval	Effectiveness	MTR Review	Original Closing	Actual Closing
11-Feb-2013	30-Apr-2013	27-Jan-2016	31-Mar-2018	31-Mar-2018

RESTRUCTURING AND/OR ADDITIONAL FINANCING

Date(s)	Amount Disbursed (US\$M)	Key Revisions
13-Jul-2017	29.87	Reallocation between Disbursement Categories
29-Mar-2018	36.66	Cancellation of Financing Reallocation between Disbursement Categories

KEY RATINGS

Outcome	Bank Performance	M&E Quality
Satisfactory	Satisfactory	Modest

RATINGS OF PROJECT PERFORMANCE IN ISRs

No.	Date ISR Archived	DO Rating	IP Rating	Actual Disbursements (US\$M)
01	10-Jun-2013	Satisfactory	Satisfactory	0



02	13-Dec-2013	Satisfactory	Satisfactory	4.00
03	14-Jun-2014	Satisfactory	Satisfactory	5.13
04	03-Dec-2014	Satisfactory	Moderately Satisfactory	6.71
05	24-Jun-2015	Satisfactory	Moderately Satisfactory	10.72
06	23-Dec-2015	Satisfactory	Moderately Satisfactory	16.12
07	15-May-2016	Satisfactory	Satisfactory	17.04
08	28-Nov-2016	Satisfactory	Satisfactory	19.98
09	12-Feb-2017	Satisfactory	Satisfactory	24.92
10	11-Aug-2017	Satisfactory	Satisfactory	30.79
11	09-Feb-2018	Moderately Satisfactory	Satisfactory	36.66

SECTORS AND THEMES

Sectors

Major Sector/Sector (%)

Agriculture, Fishing and Forestry 100

Agricultural Extension, Research, and Other Support Activities	19
Fisheries	9
Crops	17
Public Administration - Agriculture, Fishing & Forestry	19
Livestock	9
Other Agriculture, Fishing and Forestry	27

Themes

Major Theme/ Theme (Level 2)/ Theme (Level 3) (%)

Human Development and Gender 40

Nutrition and Food Security	40
Nutrition	20
Food Security	20



Urban and Rural Development	35
Rural Development	35
Rural Infrastructure and service delivery	22
Land Administration and Management	13
Environment and Natural Resource Management	26
Renewable Natural Resources Asset Management	26
Biodiversity	13
Landscape Management	13

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I. PROJECT CONTEXT AND DEVELOPMENT OBJECTIVES

A. CONTEXT AT APPRAISAL

1. ***At appraisal, Nepal had improved its general economic situation but still faced the challenge of sharing economic growth and improving the nutritional status more broadly across its population.*** In 2012-13 Nepal was still going through a momentous and prolonged political transition following the 10-year armed conflict that ended in 2006. Despite civil conflict and a difficult political situation, Nepal's general economic situation had improved considerably. In 2012-13, real GDP increased by 5 percent from 3.5 percent a year earlier, the second highest growth rate since the end of the conflict in 2006. Agriculture contributed a third of Gross Domestic Product (GDP). The share from remittances, at 25-30 percent of GDP, became a major factor in the economy supporting consumption, and non-agricultural entrepreneurial activities, wage earnings and property revenues were rising. The incidence of poverty had fallen nationally, with the proportion of poor people declining from 45 percent in 1995-96 to 25 percent in 2010-11. Nepal had also made impressive improvements towards the achievement of Millennium Development Goals (MDGs) including in the areas of primary education, gender parity and under-5 child mortality. However, the nutritional status of women and children had not shown much improvement, with malnutrition and stunting affecting about half of the nation's children. Also, although average income growth rates were high, inequality and geographic disparities remained high, especially in the Mid and Far West regions, the areas of focus of the project that were significantly below the national averages. Overall, Nepal faced the dual challenges of further accelerating domestic growth and sharing this growth more broadly across the population.

2. ***Nepal remained largely an agrarian-based economy, with low productivity of agriculture leading to food and nutrition insecurity in rural areas; at the same time, the feminization – and “greying” – of the agricultural labor force due to outmigration, raised special challenges to improve agriculture productivity.*** Agriculture (including crop, livestock and fisheries) was still the mainstay of the economy but its productivity was low. Nearly two-thirds of the country's population (66 percent) were employed in agriculture. However, agricultural productivity was one of the lowest in the South Asia region and had been virtually stagnant for over a decade. The situation was even worse in the Mid-Western and Far-Western regions where food production was barely enough to meet more than six months' demand and prevalence of hunger was highest nationally. Thus, most people in the region were dependent on external/ emergency food supply. The continued food insecurity and lack of economic opportunities had triggered out-migration comprising predominantly young, rural and male workers in search of employment opportunities elsewhere, leaving the agricultural potential of the region largely unexploited. Yet, the ensuing remittances were not sufficient to ensure food security in the project area. The feminization – and “greying” – of agricultural labor force suggested the need to make agriculture technology, extension and other interventions more gender inclusive and sensitive. On the income side, remittances, while crucial for the rural economy, remained secondary to agriculture for sustaining food security, especially in the poorer and more remote locations. Thus, enhancing agriculture production and productivity stood critically important in the project areas.

3. ***The project was meant to alleviate the constraints limiting the performance of agriculture and enhance food availability.*** In the project area, agriculture remained well below its potential. It was typically characterized by smallholder, traditional and subsistence farming; limited access to improved crop varieties, livestock breeds, and/or modern inputs and management practices; and high risk of pest and disease. Problems to be addressed included: (i) low availability of good quality seed and improved breeds of livestock within the country and at the farmer level; (ii) insufficient development by the research system of ‘appropriate’ – location and problem specific – technologies and



management practices for use by farmers to tap topographic and climatic advantages or address local constraints; (iii) weak research-extension-farmer and service delivery linkage; (iv) inadequate and weak extension support; (v) low investment in productive assets, including supplementary irrigation infrastructure to reduce rain-dependence; (vi) poorly developed market linkages; and (vii) lack of institutions, access to affordable credit and instruments for agricultural risk-bearing and risk-sharing. Budgetary and staff resources for public research (the Nepal Agricultural Research Council or NARC) and extension agencies (Departments of Agriculture and of Livestock Services) were stretched. The significant number of non-governmental entities or community-based organizations were not able to fill the gap in the provision of agricultural support services. The project was also designed to enhance food availability by closing the substantial yield gap for crop and animal production. Indeed, in these remote areas, food availability and access was largely dependent on local production. There was substantial scope to increase yield, through use of improved seeds and crop mixes, and through the introduction of better performing livestock breeds.

4. ***On the nutrition and health side, the project aimed at alleviating chronic maternal and child malnutrition.*** Malnutrition in the project areas remained a serious problem and constrained social and economic development. The project aimed at addressing malnutrition problems in the project area characterized by: (i) chronic energy deficiency in women (as measured by the Body Mass Index – BMI) that remained high at 24 percent in the Far-West and 19 percent in the Mid-West regions respectively; (ii) 35 percent prevalence of anemia in women, with vitamin D deficiency at 76 percent; and (iii) the prevalence of low birth weight babies was reported as 14 percent in the Mid-West and 15 percent in the Far-West; (iv) child stunting: nearly half the children under five were stunted and one-third underweight; and (v) wasting, reflecting more short-term under-nutrition, which stood at about 11 percent in both regions. Maternal under-nutrition and stunting had declined in the years preceding project appraisal, but wasting had remained constant during the preceding decade. The consequences were significant and long-term, ranging from increased neonatal mortality and morbidity to irreversible adverse physical and cognitive outcomes leading to unfavorable lifelong consequences for health, productivity and economic growth.

5. ***The project addressed country needs and government priorities, and its interventions were aligned with and/or complementary to key operations in the project area.*** The proposed operation directly supported relevant objectives of the GoN under the Multi-Sector Nutrition Plan (MSNP, Phase 1, 2013-17) and the Bank's Interim Strategy Note (ISN), 2012/13. The MSNP goal was to improve maternal and child nutrition, reflected in the reduction of various malnutrition indicators by one third. Improving agricultural productivity – the core focus of the proposed operation – was an important element in the ISN's Pillar 1: *Enhancing Connectivity and Productivity for Growth*. Pillar 2 of the ISN – *Reducing Vulnerabilities and Improving Resilience* – was also supported by targeting food insecure households to enhance their food availability, nutritional status and capacity to cope with climate change risks to their livelihoods. Finally, by targeting the relatively under-served populations in the hill and mountain regions, economically weaker/marginal farmers, young women and infants (specifically for nutritional status enhancement), the operation was also meant to contribute toward the ISN's second cross-cutting theme: *Fostering Gender Equality and Social Inclusion*. There were a number of other relevant operations and initiatives operating in the project area with which the project was meant to have synergy: (i) the Bank's *Poverty Alleviation Fund (PAF II)* aiming to improve living conditions, livelihoods, and empowerment among the rural poor and vulnerable groups; (ii) the *Nepal Social Safety Nets Project* which similarly sought to improve agricultural production and nutritional impact, primarily through food and cash for public works programs, as the means for increasing agriculture production in food insecure areas; and (iii) on the nutritional side, the Health SWAp and the Bank's *Sunaula Hazar Din* ('Golden 1000 Days') project, which further invested to improve the nutritional status of pregnant women and children under the age of two, which was to have a longer term impact on food security in the region. Beyond the Bank-assisted projects, the USAID's *Feed the Future* initiative shared significant common goals and features with the project, and came as a complement geographically by focusing primarily on the *Terai* (plains) and some hill districts of the Mid/Far West Development Regions. USAID also financed the Suaahara program which is an integrated



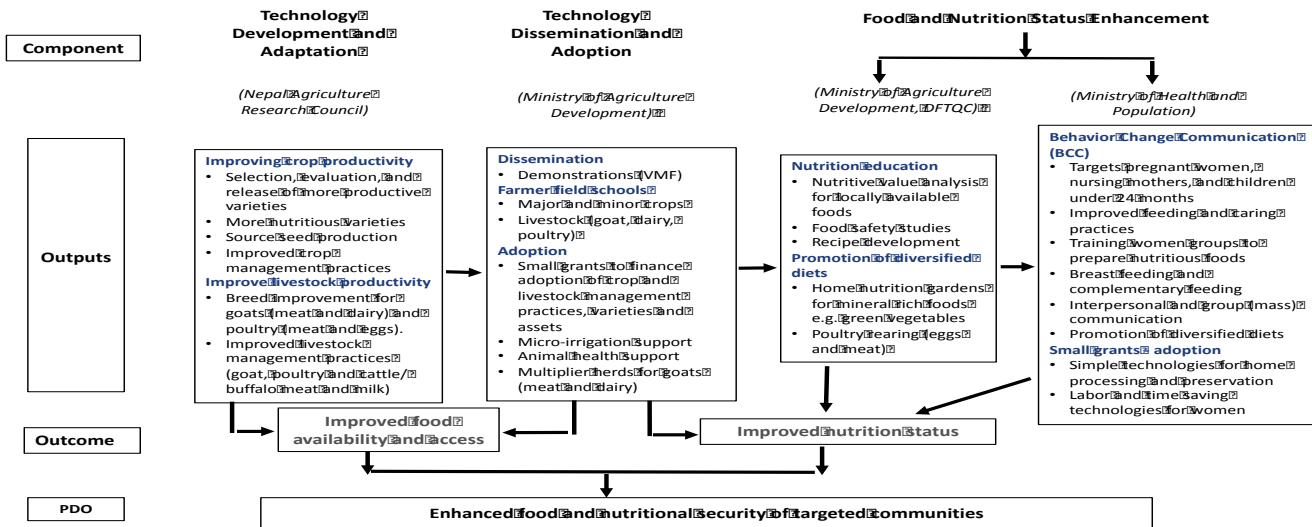
operation dedicated to improving the health and nutrition status of women and children who fall within the 1,000 day period, from conception until a child reaches 24 months of age. The Suaahara operation is currently in its second five-year phase (2016-2021) under a USAID funding of US\$63 million.

Theory of Change (Results Chain)

6. The Theory of Change (ToC) behind the design of the project is illustrated in Table 1. The links between the activities supported under the main project components and related key outputs and long-term outcomes are presented. It is noteworthy that there was no ToC in the Project Appraisal Document (PAD). The ToC presented below has been ‘retrofitted’ for the purpose of this ICRR as per the Guidelines. It is to be noted also that the inputs/ activities are lumped under the presentation of the components.

7. The problem statement to realize the PDO and the main critical assumptions underlying the causality of the results chain are as follows: (i) enhanced food security, was to be achieved through improved food availability, made possible by increasing agriculture productivity, both crop and livestock under Component 1 (Technology Development and Adaptation) and Component 2 (Technology Dissemination and Adaptation), and (ii) nutrition security was to be achieved through improved dietary intake, made possible by promotion of diversified diets, and improved feeding and caring practices for pregnant and nursing women and children up to 2 years of age under Component 3 (Food and Nutritional Status Enhancement). The activities under Component 1 and 2 were expected to lead to production increases, crop diversification, and consequent larger local consumption and marketed surpluses. This was reflected in outcome indicators regarding increased yields of the main crops (paddy, wheat, maize and potatoes) and livestock products (goat meat, eggs and cow/buffalo milk). The main aim of the activities under Component 3 was to improve the dietary intake for pregnant and nursing women, as well as children between 6-24 months. This was reflected by indicators regarding animal protein and fruits/ vegetables intake. The outcomes as stated in the PDO were to contribute to the higher-level objective of enhanced food and nutritional security of targeted communities in the Mid and Far Western regions of Nepal through synergy between Component 1 and 2 on one hand, and Component 3 on the other hand through sensitization and training of women about nutrition education, food safety issues and feeding norms. In the long-term, contribution would be made to more sustainable and inclusive socio-economic growth in these regions, serving the higher-level objective of both the Borrower and the Bank’s Interim Strategy Note.

Table 1: Project Theory of Change



Project Development Objectives (PDOs)

The Project Development Objective (PDO) was to enhance food and nutritional security of targeted communities in selected locations of Nepal¹. The project was implemented in 19 districts of the Mid-Western and Far-Western development regions². In these remote areas, food availability and access was largely dependent on local production. There was substantial scope to increase yields, especially through use of improved seeds, and crop mixes, as well as animal breeds.

Key Expected Outcomes and Outcome Indicators

8. The key project expected outcomes were: (i) increased productivity of targeted crops; (ii) increased yield of targeted livestock products (milk, meat and eggs); and (iii) increased proportion of pregnant and nursing mothers and children between 6-24 months' age adopting appropriate feeding practices. The Key Project Indicators (KPIs) were: (i) number of improved technologies (crop, fodder and livestock) released for project area farmers; (ii) increased productivity for each the four major crops in the project area (paddy, wheat, maize and potatoes) and each of three livestock products (goat meat, eggs from poultry and cow/buffalo milk); and (iii) improved dietary intake for pregnant and nursing women, and children between 6-24 months.

Components

9. The project had three technical components, and a fourth component relating to project management. Being multi-sector, the project was jointly implemented by the Ministry of Agricultural Development (MoAD) (currently Ministry of Agriculture, Land Management and Cooperatives), the Ministry of Livestock Development (MoLD), and the Ministry of Health Services (MoHS). MoAD took the lead for project implementation. The World Bank was the designated supervising entity and the Food and Agriculture Organization of the United Nations (FAO) provided technical assistance to the project.

¹ AFSP Grant Agreement dated April 30, 2013.

² Nepal is administratively organized into the following units (in decreasing size): regions, districts, sub-districts (illakas), municipalities (Village Development Communities-VDCs) and wards. Nepal has 75 districts and 3,914 VDCs.



10. **Component 1: Technology Development and Adaptation (Cost US\$ 7.739 M).** This component supported the use by project area farmers' of appropriate technologies and resources (seeds and breeds) contributing to increased productivity of crops and livestock, with two sub-components: (i) improved production technologies for crops, and (ii) improved production technologies for livestock.
11. **Component 2: Technology Dissemination and Adoption (US\$26.812M).** This component was to support the PDO by enabling farmers in the project area to adopt improved agricultural production technologies and management practices (especially those developed and promoted under Component 1). The component was designed to address the following set of constraints: lack of availability of improved variety seeds and breeding stock, weak technical capacity of farmers, poor animal husbandry, limited farmer capacity to make complementary on-farm investments, and limited capability and outreach of extension departments. Activities to be financed under this component included: providing trials and demonstrations, conducting training and capacity building activities, improving research infrastructure and operating costs for source seed and goat production. Chick production was supported (e.g., improved housing and upgrade of equipment for hatcheries) and private multiplier farmers given pure bred bucks and additional training support.
12. **Component 3: Food and Nutritional Status Enhancement (US\$8.940 M).** This component was meant to contribute to enhancing food and nutrition security in project areas through increased food availability for targeted households and promotion of diversified diets and improved feeding and caring practices for pregnant and nursing women, and children between 6-24 months of age. The component comprised activities that leveraged key entry points in the agriculture sector to improve nutrition, as well as through strengthening and supporting key nutrition interventions in project areas.
13. **Component 4: Project Management (US\$5.624 M).** This component was meant to ensure that (i) interventions undertaken under the project were properly planned, coordinated and aligned with project design and development objectives; (ii) implementation and institutional arrangements and activities were in line with relevant fiduciary and safeguards policies, procedures and standards; and (iii) there was due monitoring, oversight and reporting of project implementation and the resulting outputs and outcomes. Activities to be financed under this component included: (i) establishing and supporting project units at the overall, regional level and district level; (ii) specialized support services relating to key activities such as external audit, financial accounting and procurement; and (iii) training of staff involved in project implementation.
14. **Component Inter-linkages.** Each component of the project, while having distinct and separate functions, was to have synergistic linkages with the other components, which together aimed to address the availability, access and utilization of food in support of the PDO. Components 1 and 2 had a strong linkage: the agricultural research and development coming out of component 1 was to be disseminated for field-level adoption through the farmer extension mechanisms of component 2. It is to be noted that livestock products even in small quantities were recognized as improving nutrition, and so over 95 percent of livestock activities were targeted to women and overlapped with kitchen gardens supporting diet diversity and manure for these gardens. Attempts were made during implementation to link Component 3 with the other components in order to make them nutritionally sensitive.

B. SIGNIFICANT CHANGES DURING IMPLEMENTATION

15. The PDO, outcome targets, PDO indicators and components were not changed during project implementation
-

II. OUTCOME

A. RELEVANCE OF PDOs

Assessment of Relevance of PDOs and Rating

16. Based on its alignment with the CPS, as well as close consistency with Nepal's national agriculture and nutrition policies, the relevance of the PDO is rated as 'High'. The PDO remained highly relevant to GoN's and the Bank's priorities. Regarding GoN's priorities, the Country Investment Plan (CIP) has placed major emphasis on agriculture and food security; in addition, Nepal multi-sectoral Food and Nutrition Plan (MSNP, 2013-2017) has identified food and nutrition security as a key issue, particularly as part of Output 6 'Availability and consumption of appropriate foods in terms of quality, quantity, frequency and safety enhanced and women's workload reduced' and Output 7 'Capacity of national and sub-national levels enhanced to provide appropriate support to improve maternal and child nutrition'. On the Bank's side, the PDO was aligned with the Interim Strategy Note (ISN) at the time of approval; it remained consistent with the Country Partnership Strategy (CPS) for FY14-18. The project was aligned with Pillar 2 of the CPS 'increasing inclusive growth and opportunities for shared prosperity'. It recognized agriculture development and nutritional improvement as key actions to support poverty reduction and shared prosperity in Nepal.

B. ACHIEVEMENT OF PDOs (EFFICACY)

17. The PDO outcome results are summarized in Table 2 below and discussed thereafter together with the other RF indicators. Overall, based on agreed outcome and intermediate result indicators, the project largely achieved the PDO (see complete RF in Annex 1). In view of these results, and despite the fact that funding was still available, it was decided not to extend the project duration and US\$5 million were cancelled from the GAFSP. Clearly, an extension would have permitted to further exceed project targets.

Table 2: Summary PDO Results Indicators

Project Indicator	Unit	Baseline	End-Project Target	Achievement as of March 2018	% target achieved	Remarks
Project beneficiaries (% women)						
Crop producers	No.	0	40,000 (50%)	47,757 (85%)	119% (170%)	AFSP
Livestock producers	No.	0	27,000 (89%)	38,425 (90%)	142% (101%)	
Pregnant/ nursing mothers	No.	0	45,000	49,873	111%	
Technology development and adaptation						
Technologies released	No.	0	29	30	103%	NARC
Field trials	No.	0	4,000	6,580	164%	AFSP
Source seed production	MT	0	540	583	108%	
Increased crop and livestock productivity						
Paddy	Tons/ha	2.9	3.77	4.46	180%	BRA Survey
Wheat		1.4	1.82	2.27	124%	



Maize		1.9	2.47	3.02	122%	
Potato		4.8	6.24	7.00	112%	
Goat meat	Kg/1 yr goat	19.18	35	36.6	105%	
Eggs	Nb./hen/yr	20.5	35.8	90.0	251%	
Milk (cow and buffalo)	Liter/animal/yr	478.8	837.9	934.0	111%	
Improved dietary intake for women and children						
Animal protein	% over BL	56% ³	71%	89%	125%	BRA Survey
Fruits and vegetables		57%	72%	78%	108%	
Children 6-24 months		42% ⁴	72%	80%	111%	

18. **Project beneficiaries.** The number of project beneficiaries is based on the AFSP M&E database, as reported in the Government’s Implementation Completion Report (ICR). The target number of beneficiaries regarding both crop and livestock producers, as well as pregnant/ nursing women, was attained or exceeded especially livestock producers 42 percent over target and crop producers 17 percent over target⁵. This is to be attributed notably to the project group approach under FFS. This approach permitted to reach a large number of beneficiaries. It is to be noted that the beneficiary groups (crop/ livestock producers and pregnant/ nursing women) overlap.

19. **Technology development and adaptation.** Technology development and adaption was NARC’s responsibility. Over the course of the project 30 improved technology packages were released to project area producers, including 22 crop and 8 livestock packages. This result surpassed the target of 29 new technologies agreed at project approval. In this context, 6,580 trials were conducted by NARC (164 percent of target), and a total of 17 crop varieties were released. NARC also produced 583 MT of source seed (108 percent of target). Regarding livestock, a total of 225 improved goats (175 Boer and 50 Saanen) and about 12,500 doses of frozen buck semen were imported and distributed to NARC stations and breeder groups. A total of 2,133 Boer kids were distributed to the various districts against the target of distributing 2,000 kids, and, a total of 7,275 kids (7035 Boer and 240 Saanen) were produced. The variety and breed improvement activities were successful, due to establishment of private seed and breed multiplier farmers who produced the improved seeds and breeds for distribution. Without the private multiplier herds, the number of improved bucks distributed would only have reached seven percent of the actual sacrificing much of the productivity gains achieved. In that regard, 181 MT of certified seeds were produced as part of the seed multiplication program under Component 2 to enable multiplier cooperative/ farmers in the districts in turn to produce 4800 MT of seeds. As a result, some districts (e.g., Surkhet) have become self-sufficient in seeds and can sell surplus seeds to other districts.

20. **Crop and livestock productivity increase.** The increase in crop and livestock productivity was assessed through the Beneficiary Results Assessment (BRA) end-line survey conducted in March 2018 against the baseline data estimated at project inception. Regarding crop productivity, the yields of the four main targeted crops, i.e., paddy, wheat, maize and potato, were substantially exceeded. They range from 153 percent for potatoes, 180 percent for paddy, 196 percent for maize and 206 percent of target for wheat denoting great success in crop technology package adoption and consequent production increase. The increased in crop productivity is the results of the seed replacement rate that increased substantially with project support. Regarding the increased in livestock productivity, as was the case for crop productivity, the targets were substantially exceeded: (i) goat meat: increase of 36.6 kg for all improved goat breeds at

³ Percent of pregnant or nursing women reporting consuming animal protein/fruits and vegetables in the previous 24 hours.

⁴ Percent of children 6-24 month old who meet all three of these recommended feeding practices, also known as the "3 Infant and Young Child Feeding Practices" indicator.

⁵ It is to noted be noted that the two groups of beneficiaries have a large overlap. This overlap can be estimated at about 65 percent (personal communication). It would need to be estimated precisely.



12 months (111 percent of target); (ii) eggs: 90 eggs per hen per year (151 percent of target); and (iii) cow and buffalo milk: 934 liters per animal per year (111 percent of target).

21. **Improved dietary intake for pregnant and nursing women.** Based on the end-line BRA survey, the percentage of dietary intake over the baseline stood at project closure at the following level for pregnant and nursing women: (i) animal protein: 89 percent over the baseline level, vs. a target of 71 percent (125 percent of target); and (ii) fruits and vegetables: 78 percent over baseline level, vs. a target of 72 percent (108 percent of target). For children between 6-24 months the dietary intake stood at 80 percent over baseline level, vs. a target of 72 percent (111 percent of target).

Justification of Overall Efficacy Rating

22. As the above-provided evidence indicates, the project largely exceeded its intended outcomes. Individual activities, including cross cutting activities allowing integration of actions across components, further supported the achievement of the project outcomes. The overall project efficacy is therefore rated as Substantial.

C. EFFICIENCY

Economic and financial analysis

23. A cost-benefit analysis was conducted as part of this report to assess the project ex-post economic viability. Except for some modifications, the analysis followed the approach adopted in the PAD, to ensure methodological consistency and comparability. It focuses on the quantifiable benefits generated primarily through the adoption by small farmers of improved crop and livestock technologies and practices; these have been intensively propagated through demonstrations and adoption groups under FFS in the project villages. The analysis takes into account the spillover effects of project interventions on farmers outside project sites; but it does not take into account the benefits generated by nutrition enhancement and other similar non-productive interventions since these benefits are difficult to quantify. On that account, overall, the estimates are therefore partial and conservative. The analysis draws on the project M&E data, as well as special surveys undertaken by independent consultants in the course of project implementation, including the Development Impact Evaluation (DIME) (World Bank), the Beneficiary Results Assessment (BRA) (FAO) and the Community Score Card Assessment (FAO) (see Annex 4).

24. **Financial analysis.** The financial analysis at farm level is based on the findings of the surveys conducted during project implementation with the assistance of the Development Impact Evaluation (DIME) team of the World Bank. The DIME evaluated the impact of AFSP regarding key indicators at farm level in complement to the regular M&E estimates. The DIME impact evaluation findings drew on data across three rounds of surveys undertaken in October 2013 (baseline), November 2016 (midline) and November 2017 (endline) with a focus on incremental income, particularly from increased productivity of crop cultivation and livestock rearing. The surveys also present data that describe production decisions: (i) farmer group membership; (ii) input usage and expenditure; (iii) technology adoption practices; and (iv) food security behavior and knowledge. The DIME's impact evaluation results indicate *inter alia* that, over the course of the project, between the baseline (2013) and endline surveys (2017): (i) AFSP communities experienced greater increases in total income relative to non-AFSP control communities (increase of 18 percent), with livestock income showing larger gains; and (ii) health mothers' group membership quadrupled in AFSP communities (vs. doubling in control communities), with pregnant and lactating mothers' dietary diversity and average maternal knowledge increasing at a similar rate across both AFSP and control communities.



25. The DIME ex-post analysis estimated the farmer's annual incremental financial income at US\$439 including crop, livestock and poultry benefits from diversified/ mixed farming (18 percent over the baseline household income of NPR 226,000 or US\$2,007). This incremental income is of the same magnitude as the one estimated at appraisal (US\$449). It is due mostly to incremental revenues from the dramatic increase in yields of crops and livestock (see Results Framework). It is also due to the shift to a more concentrated group of more profitable crops, which was to be expected as a result of the farmer optimizing strategy. The results of the financial analysis also point to a positive change in farmer attitudes toward risk. If farmers focus on increasing the productivity of a smaller subset of more productive crops, it means that they have become less risk-averse. The current large crop mix, which is very diversified, is designed in part to hedge against individual crop failure. It is not necessarily counter intuitive that the farmer would be focusing on a smaller subset of crops at this time, with greater overall gains, since with the advent of the project (and other external factors) the context has become less risky, more market-oriented, and, hence, more propitious to growing a limited set of more profitable crops.

26. **Economic analysis.** The ex-post economic analysis was prepared based on the estimation of the incremental benefit streams accruing to the national community vs. the actual costs of project interventions in economic terms, netting out the taxes and subsidies from the reported financial disbursements, and using appropriate border parity prices and/ or standard conversion factors. The estimated incremental benefits taken into account were those that could be quantified regarding the effective adoption of agriculture crop and livestock production technologies by project beneficiaries. The nutritional benefits accruing to pregnant and lactating mothers and their children under two years of age were not taken into account. These benefits are clearly important, but they are difficult to quantify. Hence, the results of the present economic analysis are conservative. Costs were estimated based on GFSP grant and GoN budget disbursements, regarding the costs of project productive interventions, and the apportioned management costs. On the above basis, the ERR is estimated at 29.2 percent with a NPV of US\$25.5 million. These figures are higher than the PAD figures which indicated that the project productive investments would generate an ERR of 20.4 percent with a NPV of US\$17.9 million. They confirm that the project overall has achieved solid economic results.

27. **Cost-effectiveness.** The reassessment of the EFA has included an analysis of the cost-effectiveness of AFSP interventions in providing goods and services to project beneficiaries. This was done by comparing AFSP unit costs in implementing investments and/ or delivering services using M&E data vs. unit costs incurred by similar projects or standard costs commonly used in Nepal. The analysis focused on three types of interventions: (i) extension activities, based on the cost of establishing farmers' groups and conducting training sessions with these groups under the FFS approach vs. the standard district-level training undertaken by MOA (per event); and (ii) the cost incurred for implementation of investments under the small grant program, for rehabilitating rural roads (per km) and irrigation networks (per ha). The above cost-effectiveness analysis gave the following results: (i) *extension activities*: cost of one event was NPR 65,000 under FFS vs. NPR 106,400 under GoN norms; this is an excellent result given the fact FFS training was more intensive than the regular district level training by MOA; (ii) *irrigation rehabilitation*: NPR 60,900 per ha under AFSP vs. NPR 425,000 for Mountains, 350,000 for hills and 150,000 for Terai (IWRMP data), or weighted average of NPR 240,000, or US\$560 under AFSP vs. US\$2,200 average under MOA interventions; again this a very good result; however, the comparison may not fully cover the exact same type of work; and (iii) *farm roads*: about 70 km were completed under AFSP at a cost of NPR 153 million, or about US\$2,000 per km from the project 'out of pocket' funding; this cost is difficult to compare meaningfully with any norms since in certain cases communities have also contributed labor and material which is difficult to value, and road rehabilitation has been limited under AFSP to areas that were relatively easy to access.

Assessment of Efficiency and Rating



28. Based on the re-estimate of the economic and financial analysis that gave post-implementation NPVs and IRRs higher than those computed at appraisal, the results of the additional surveys conducted which all underscore the same positive results, and the significant cost-effectiveness in implementing project, the overall project efficiency is rated 'Substantial'.

D. JUSTIFICATION OF OVERALL OUTCOME RATING

29. The AFSP is an example of effective integration of agricultural development with public health, food security and nutrition. It has been very successful in reaching out to the most deprived households and in focusing on women. Its key focus on supporting Farmer Field School groups was the right approach in mobilizing community participation. It has brought about positive change in terms of crop and livestock development, and promoting nutrition and supporting livelihoods security through agriculture. In spite of the above-presented assessment and ratings—relevance of the PDO rated as High, efficacy of the PDO rated as Substantial, and efficiency of the project rated as Substantial—the overall outcome rating of the project is only rated Moderately Satisfactory. The reasons are due to the minor shortcomings arising from the modest performance of the M&E system (see para 53) and the safeguard compliance rated Moderately Satisfactory (see para 63).

E. OTHER OUTCOMES AND IMPACTS

30. **Gender.** The AFSP is clearly a women-focused project. It has successfully targeted and reached women as a priority throughout most activities and contributed to their empowerment. It is estimated that almost 90 percent of the participants in the Farmer Field School (FFS) groups were women. All members of the Village Model Farm (VMF) groups were women, with pregnant women and mothers of children under two years of age targeted. The AFSP has been very popular among women farmers, since they benefited directly from nutrition and health education, received support and equipment to reduce their workload, and new technologies and technical assistance to grow vegetables and develop livestock livelihoods (poultry, eggs, goats). Women's workloads have been substantially reduced thanks to the introduction of equipment such as corn shellers, seed grading machines, processing mills, and improved cooking stoves. Before the advent of the project, it took them several hours to travel to a mill to get their grains processed, and a greater amount of time to collect fuelwood. The mother and child nutrition and health education entry point through Female Community Health Volunteers, together with the support to agriculture and livestock activities, has proven very effective in mobilizing women. Aside from benefiting from the AFSP activities, the implementation of the project has brought about positive economic, social and political change for women within their communities. Through the VMF groups, women started group saving and organized themselves to apply for AFSP grants. With the project help, women were able to open bank accounts in their names. In all-female groups, but also in mixed FFS groups, women have come to hold leadership positions.

31. **Institutional Strengthening.** AFSP did not have a typical project-type institutional set-up. Its set-up was meant to (i) facilitate project implementation through the PMU with the external technical assistance of a third party, (ii) rely on third parties for actual project execution ('faire faire' approach), and (iii) transfer responsibilities to permanent entities at project closure. The international technical assistance to the PMU was provided by FAO under a broad-ranging TA contract covering international, national and local expertise (see Annex 1). The third parties that were part of the institutional set-up in support of the PMU were either (i) state entities: independent public entities such as NARC (Component 1); or technical services of ministries (agriculture, livestock and health) at national, regional and district level, as well as other public entities (Component 2 and 3); or (ii) private service providers, NGOs and independent cooperation agencies. The above 'mixed' institutional set-up worked well overall. On one hand, the staff of the PMU consisted of



civil servants seconded to the project; since they did not have the status of independent consultants (hence were not paid through project funding), they were able to stay on after project closure to maintain the institutional continuity until other possible interventions take over. On the other hand, under the all-encompassing FAO contract, provision was made for training and transfer of responsibilities to the permanent sections of the administration or to the private sector (including lead farmers as part of the FFS set-up). In addition, the FAO staff recruited at the local level were compensated at par with the level of the local administration and private organizations. Hence, as of now, they should accept to be recruited by the decentralized municipalities under their regular staff compensation arrangements, or integrate private sector service providers. In this regard, the newly-elected decentralized government bodies, budget permitting, should have available the required human resources to pursue project activities at a sufficient technical level, even in the absence of new external operational support.

32. **Poverty Reduction and Shared Prosperity.** The project has successfully reached the most vulnerable small-scale producers, including women, who are hardest hit by poverty. In some of the project locations, households were food secure for only three months of the year, and many men had to look for paid work outside the village or abroad. The district-based NGOs/ services providers recruited to assist in the implementation of the project facilitated the process of identifying participants from geographically remote, marginalized caste groups, especially Dalits (untouchables in the caste system), Janajatis (indigenous ethnic groups), single women, and physically disabled people. In some cases, mobilizing Dalit people to take part in agriculture-related activities proved to be a challenge as people from their caste were normally not involved in farming. However, including support to vegetable growing and livestock activities, small grants to household groups, and mother and child health and nutrition activities in the project, attracted more Dalit women and enabled them to participate in the AFSP.

III. KEY FACTORS THAT AFFECTED IMPLEMENTATION AND OUTCOME

A. KEY FACTORS DURING PREPARATION

33. AFSP preparation benefited from a Project Preparation Advance (PPA). The project had a realistic PDO in terms of the level of ambitiousness. The Results Framework was well designed in the sense that indicators were aligned with operational objectives, and had appropriate targets overall. The overall project design was straightforward with clearly structured components and clear operational logic that reflected the underpinning theory of change. The project design ensured that there was strong synergy between agriculture development, food security, health and nutrition. The institutional set-up with a PMU benefiting from strong TA support from FAO, was appropriate given the weakness of the ministries and local administration involved. Clearly, this led to implementation arrangements being complex. There was an adequate assessment of risk and design of mitigation measures. The project was ready for implementation at the time the GAFSP grant was approved. The project built on the results and lessons of several previous projects, notably grassroots CDD cum nutrition projects. One shortcoming in the design that came to the fore during implementation may have been that VDCs were not phased at par to ensure their equal participation in the project. But the sequencing of tasks was appropriate, given the overall work program and in view of the diversity of project area context. There was an appropriate selection of stakeholders to engage or beneficiary groups to target as part of the investment sub-projects; in this regard, the project focused on change agents in each VDC and producer group leaders who could give traction to the expansion of VDC productivity. It is to be noted that the project won the World Bank's design award across all projects in 2012. This award was largely attributable to the Bank team.

B. KEY FACTORS DURING IMPLEMENTATION



34. **Factors subject to government and/or implementing entities control.** The Government promptly established and staffed the PMU under MoAD, to be responsible for the daily project management, and technical coordination of executing agencies and service providers. It was appropriate that the PMU would receive the technical support of a high-level FAO TA team. That team developed the work methodology and systems to operationalize implementation arrangements and ensure better coordination of entities involved. In line with the project *faire faire* approach, the PMU relied on technical focal points (project technicians) at local level within the regional and district technical departments of the decentralized administration. The idea was to create a project structure at regional/ local level that would be light and agile, and would not entail any heavy administration; it was also meant to avoid 'institutionalizing' this structure as project unfolded and ensure that it would be taken over by existing permanent structures, either public or private, at project closure.

35. The PMU dealt efficiently with fiduciary and safeguards matters: (i) *fiduciary management*, including adequate procurement, budgeting, and financial management proved to be excellent, with trained and able staff (including a Financial Management Specialist, two accountants, an Internal Comptroller and a Procurement Specialist) who stayed during most of the implementation period, and adequate mechanisms put in place right from project inception; the Annual Work Plan and Budget (AWPB) was always adequately prepared and timely; all audit reports were similarly prepared on time; they were all unqualified; and (ii) *Social and Environmental safeguards*: the PMU dealt adequately with the implementation of the ESMF, including the Involuntary Resettlement Plan; it complied with safeguards requirements at both overall project and sub-project (SP) level; per PIM guidelines, SPs were subjected to environmental and social screening, and appropriate measures were requested as needed before release of the matching grants.

36. **Factors subject to World Bank control.** The Bank displayed solid project management performance. The following factors underpinned the Bank's performance: (i) *supervision effort and arrangements*: a total of 12 support missions, generally at semi-annual periodicity, were fielded systematically during the five-year project implementation period; this included, a Mid-Term Review in 2015, and a Completion Mission in March 2017 prior to project closure; there was a low turn-over of TTLs (one TTL for preparation and two TTLs for implementation; transition arrangements between TTLs were aptly organized; and (ii) *adequacy of supervision*: the Bank supervision missions were organized with participation of crop and livestock experts and specialists in the fiduciary and safeguards fields as required; most of these specialists were from the Bank field office in Kathmandu; they remained the same during the entire implementation period; specialized missions were also organized to examine in-depth certain areas such as financial management. Through the supervision missions, the Bank team provided appropriate and timely advice and support to the PMU. In doing so, it was proactive in the identification of opportunities, and appropriate follow-up and resolution of implementation issues; it proved to adapt appropriately to changing implementation conditions. The reporting of implementation issues in ISRs was candid and to the point.

37. **Factors outside control of government and/or implementing entities.** Project implementation took place during a difficult period due to prevailing external conditions outside project control. Two external events were particularly prominent: (i) the 2015 earthquake that caused numerous casualties: it created major socio-economic disruptions in the country that lasted for several months; these disruptions constituted a major hurdle for project implementation; and (ii) a few months afterwards, India decreed an embargo on exports to Nepal; this disrupted the supply lines required for acquisition of goods from the project. There were no other major negative events outside project control. The security situation in the project areas remained peaceful throughout the project areas. In fact, the legacy of the regime of the last decade was a culture of greater participation that proved to be an asset for project implementation.



IV. BANK PERFORMANCE, COMPLIANCE ISSUES, AND RISK TO DEVELOPMENT OUTCOME

A. QUALITY OF MONITORING AND EVALUATION (M&E)

M&E Design, Implementation and Utilization

38. Three aspects were considered in the assessment of the overall quality of M&E: (i) *Quality of M&E design*; (ii) *Quality of M&E implementation*; and (iii) *Quality of M&E utilization*. Under (i), the M&E was designed based on the project's theory of change which was clear and adequate indicators were identified at appraisal as part of the Results Framework to monitor progress toward the PDO using effective M&E arrangements. Under (ii) M&E data were collected and analyzed in a methodologically sound manner by the PMU's M&E section through the district and regional focal points. This was done with the assistance of FAO which developed the data collection and processing systems. One problem is that FAO was recruited with a time lag of about fifteen months, hence precluding proper data collection during the initial project implementation period. Regarding regular data collection on project outputs, it is clear that the means given to the district focal points for M&E purposes were limited in view of the large number and complexity of project activities. At central level, the M&E section had also limited capacity for data collection, record keeping and analysis (only one high-level expert specialized in M&E); it was not able to interface sufficiently with other data collection units, in particular the MoAD, MoLD and MoH statistical units, as well as NARC unit, which should have provided additional secondary information on production to be crossed-checked with the project-generated own information. The third aspect considered was the *Quality of M&E utilization*. In that respect, despite some of the weaknesses flagged above, M&E data on performance and results progress were generally used effectively to inform project management and decision-making. In this regard, the M&E section prepared regular semi-yearly progress reports on project outputs used to inform the project's Results Framework as prescribed in the PIM.

Justification of Overall Rating of Quality of M&E

39. The M&E system as designed with the assistance of FAO was generally sufficient to monitor project outputs, assess the achievement of the project stated objectives and test the critical links in the results chain. The impact studies that were conducted were of variable quality. The DIME study proved to be of excellent quality and provided reliable data on the project impact on incomes and other keys variables; the BRA and CSC suffered some shortcomings. Given the fact that the full M&E system was set up with a time lag and hence suffered delays in data collection, and that the BRA and CSC surveys had some shortcomings, the quality of M&E system is rated overall as Modest.

B. ENVIRONMENTAL, SOCIAL, AND FIDUCIARY COMPLIANCE

40. **Environmental safeguards.** At appraisal, the project was assigned a Category 'B' for which an Environmental Management Framework (EMF) was prepared to guide in implementation, monitoring and reporting of environmental issues. In addition, operational manuals and guidelines for screening and training were provided to DADO, DLSO and DPHO to manage environmental issues. Initially, some field activities, notably the investment sub-projects, were implemented without systematic screening process (e.g., FFS activities were not screened). There was also delay in recruiting the Environmental Specialist (ES) at PMU level. The safeguard performance actually weakened around mid-term of project implementation. One reason was a gap in environmental staffing: the Environmental Specialist resigned and was not replaced for several months. Other reasons had to do with environmental monitoring at the field level especially in remote areas which proved weak due to the lack of project staff stationed in these areas. In the later part of the implementation period, the project performance regarding environmental safeguard compliance improved



somewhat. The project came to comply with EMF requirements. It initiated the systematic screening of sub-projects, using appropriate safeguard tools like Environmental Management Plans (EMPs) and ECoPs.

41. **Social safeguards.** A Social Management Framework (SMF) was prepared for project implementation to be a key tool to guide social planning, implementation, monitoring and reporting. This framework ensured that the social considerations were incorporated in the project design and the adverse impacts were identified on time and mitigated accordingly. The following twin areas received particular attention: (i) involuntary resettlement; and (ii) gender and social inclusion. Regarding *Involuntary Resettlement*, consistent with project design, project implementation did not involve any land acquisition and resettlement causing physical or economic involuntary displacement. However, the small grants under the project included construction and rehabilitation of some minor infrastructures such as small irrigation networks, seed processing facilities, grain storages, rustic houses, grinding facilities, etc. The project progress reports confirmed that the small area of land parcels required for these subprojects were made available through donations which was validated by the report of an independent consultant. Regarding *Gender and Social Inclusion*, the AFSP sub-projects were meant to reach a large number of female beneficiaries and disadvantaged social groups including Dalits and indigenous people. The review of a representative sample of subprojects conducted by the M&E unit regarding FFS activities, crop and livestock producer groups, rural poultry groups and groups supported for livelihood and nutritional improvement revealed that 95 percent beneficiaries were female. In contrast to the large involvement of women in project-financed operations, only a limited number of women were hired as part of the project management staff. In fact, project management, both at the central and local level, has been largely dominated by men with little participation of women.

42. **Overall safeguards compliance.** Three project-related activities were considered regarding safeguard compliance: (i) sub-project ES screening; (ii) ES operational guidelines; and (iii) safeguard management committees. Regarding *Sub-project ES screening* under (i), preliminary environmental and social assessment was carried out in 3,600 sub-projects (89 percent) using the screening checklist. It was found from the assessment that no sub-projects had negative impacts that could not be mitigated through appropriate measures during implementation. This was confirmed through ES compliance monitoring carried out by the independent ES consultant. Regarding the *ES Operational guidelines*, one of the most important milestone achieved by the project was the mainstreaming of ES safeguards regarding agriculture and nutrition operations, through systematic guidelines and related capacity building activities. Finally, In relation to *Safeguards Management Committees* under (iii) the project planning, implementation and monitoring of safeguards issues was undertaken through the Project Environmental and Social Management Committee (PESMC) at national level and the District Environmental and Social Management Committees (DESMCs) in the districts. These committees comprised all stakeholders implicated in project implementation, including local government representatives and members of the civil society. They met quite regularly and were a means to elicit broad-based participation in the review of SE issues. .

43. In spite of the above positive considerations, the overall safeguard rating is assessed Moderately Satisfactory, given *inter alia* that monitoring at the field level especially in remote areas proved weak due to the lack of project staff stationed in these areas, there was inconsistency in screening of sub-projects (like livestock rearing and poultry farming), and there was not always continued technical backstopping to the communities on small grant sub-projects. Hence, (i) the environmental safeguards performance is rated Moderately Satisfactory; this rating is consistent with the supervision missions' rating of environmental safeguard performance that was continuously assessed at Moderately Satisfactory; and (ii) the social safeguards performance is also rated Moderately Satisfactory. The overall rating for safeguards compliance, based in part on the individual rating of environmental and social compliance, is rated Moderately Satisfactory.



44. **Financial management.** The overall financial management performance was maintained at Moderately Satisfactory over the Project period. Financial reporting was timely except for initial and mid stage of project implementation when the finance staff turnover and lack of consultant support impacted negatively on the project. However, the PMU faced challenges in receiving timely statement of expenditures from the cost centers throughout the Project. The Project could not benefit from the FMIS as its development was completed only at the later stage. It is to be noted that the implementation of FMIS in all the cost centers has been planned for the follow-on project. To ensure adequate capacity for effective and timely commencement of project activities, the PMU finance staff and the FM consultant (on retroactive financing) are planned to be on board before project effectiveness. Based on the experience of AFSP in which effective financial monitoring could not be systematically conducted, such mechanism needs to be duly established in the follow-on project.

45. **Procurement.** AFSP was one of the few well performing projects in the Nepal portfolio in terms of procurement management. The procurement management performance rating was maintained at Satisfactory over the entire project period. Except for initial delay in contracting out FAO, all other project procurement activities were completed well within the project period. Though staff turnover created some human resources gap, the engagement of an individual procurement consultant from the very beginning of the project contributed a lot in planning and expediting project procurement process. For example, the timely preparation of the Small Grants Operation Manual with clear procurement process helped manage grant awards effectively which is one of the very successful activities of the project. Similarly, effective procurement management contributed to timely procurement of goods and services such as laboratory equipment for strengthening DFTQC, civil works in successfully establishing small irrigation schemes, constructing/strengthening of many agricultural and livestock service and training centers; these core activities, contributed to the overall project success. Overall, procurement was key to project implementation and achievement of the PDO. Learning from the success of this project, for any follow-on project, a dedicated procurement consultant needs to be engaged right at the beginning of the project. This would be a key factor in hiring other consultants, and planning and expediting overall project procurement activities. Depending on the project nature, other technical consultants may need also be hired on time to form a team of experts so that appropriate procurement arrangements/ solutions can be provided to suit technical needs. Based on the effective procurement management and achievement made, the overall ICR rating on procurement management is Satisfactory.

C. BANK PERFORMANCE

46. **Quality at Entry.** The Bank team identified, facilitated preparation, and appraised the project such that it was most likely to achieve planned development outcomes and was consistent with the Bank's fiduciary role. The following are relevant elements that were considered for Quality at Entry: (i) strategic relevance and approach: the Bank team ensured that the project would be duly aligned with both the Bank's and the Government's strategy and action plans; it took into account particularly the CPS on the Bank side, and the Country Programming Framework (2013-17) and the Multi-Sector Food and Nutrition Plan (MSNP, 2013-2017) on the Government's side; (ii) technical, financial, and economic, and fiduciary aspects; (iii) poverty, gender, environmental and social development aspects; (iv) institutional aspects, and implementation arrangements; and (v) risk assessment.

47. **Quality of Supervision.** During project implementation, the Bank proactively identified and resolved threats to the achievement of development outcomes. Regarding '*focus on development impact*', the Bank team clearly identified the key areas where results had to be secured to achieve the development objective of '*enhanced food and nutritional security*'. These areas had to do *inter alia* with strengthened dialogue on key technical topics, training and capacity



building (e.g., with cadre and technician of the local administration, producers, service providers), access to funding and the implementation of critical investments (e.g., irrigation support, food processing, crop storage). In addition, particular attention was given to gender aspects with the remarkable results in terms of women's empowerment. A most important area was coordination between the various government entities and the synergy between their respective actions. Regarding '*supervision of technical (crop and livestock), fiduciary and safeguard aspects*', the Bank supervision teams always incorporated technical, fiduciary and safeguards specialists (generally Bank staff, sometimes consultants). Under heading '*adequacy of supervision inputs and processes*' missions were fielded periodically at about six-month intervals, with regular upcountry field visits despite the difficult field terrain situation. A total of 12 support missions were fielded, and an MTR mission in January 2016. Whenever key supervision staff were not available, they were either replaced or their visit was programmed separately. Regarding '*candor and quality of performance reporting*' Bank missions did not hesitate to flag thorny issues, including those having to do with staff performance and staffing arrangements. Finally under heading (v) '*role in ensuring adequate transition arrangements*', whenever TTLs had changed transition arrangements between TTLs were as seamless as possible.

48. **Justification of Overall Rating of Bank Performance.** In view of the good-standing of the Quality at Entry and Quality of Supervision, taking into account the overall difficult project implementation context, the Bank performance is rated Satisfactory.

D. RISK TO DEVELOPMENT OUTCOME

49. AFSP was clearly a complex intervention, a feature that has both advantages and risks. On the positive side, having multiple components allowed the project to be flexible, suiting interventions to both the opportunities and the challenges presented by local contexts. Having multiple interventions further allowed the project to address multiple constraints at once, taking advantage of complementarities. However, the multiple nature of the project also had risks. One disadvantage was the inability to assess which interventions worked best and were scalable. At the extreme, if every community did a different intervention, it was impossible to assess whether something that worked well in one community would work in another, because there were no supporting examples of success. This is not a risk to the PDO, but rather a feature that should have been informed by M&E. A second risk of the multiplicative nature of the project was that the complexity made the management of the project difficult. Expertise in so many areas (nutrition, small business management, agronomy, etc.) was needed under the AFSP, that it became somewhat difficult to keep track of it all. This feature seemed to have the effect of decentralizing the activities to field staff who may be more or less effective, leading to lots of heterogeneity in the quality of implementation of particular components in different communities.

50. The path forward without the project intervention is not assured. Many groups supported were off to an impressive start at project closure, through the small grant program particularly, expanding their crop production, selling livestock at a premium, starting small businesses, and preparing new and nutritious recipes. But a lot of groups seemed dependent on constraints related to access to access to technology and markets that may be difficult to alleviate when direct project support is removed. These constraints arise on both the dimensions of input supply for production and demand for finished products. It seems uncertain whether the producer groups would be able to find their own market. The question is how these constraints will be addressed without AFSP support. One solution seems to be that the newly-established local governments would pursue AFSP tasks by recruiting the staff, and the service providers, trained by AFSP with FAO assistance. Since the local consultants/ entities were recruited under AFSP at the remuneration prevailing locally, they could certainly be compensated under local budget norms. But overall, it seems likely that the new local bodies will have their hands full with the management of basic services, and be hard pressed to take AFSP-type innovative



initiatives forward. In this context, GAFSP has decided to fund a follow-on project called FANSEP currently at appraisal stage. In the long run, the sustainability of AFSP, and follow-on FANSEP, will depend on whether the local level farmer groups continue to use the crop varieties, breeds and other improved technologies, as these may be associated with costlier production inputs when GAFSP support for the project ends.

V. LESSONS AND RECOMMENDATIONS

51. **In the context of countries such as Nepal, rural women should be targeted as a priority on two counts: (i) men are migrating out of the country and women need to replace them; (ii) for given tasks, women are more productive than men.** The strong focus on women farmers under AFSP contributed to high productivity increases, especially for livestock production. This supports the results achieved under other projects showing that, for given activities, when women get access to the same resources as men, they are 20-30% more productive.⁶ The focus on women is all the more substantiated in the context of rural Nepal given the large outmigration of male laborers and the consequent feminization of the agriculture. The lesson is that, in such a context, women should be targeted as a priority through addressing the constraints they face in the specific value chains for which they play a dominant role. One flaw of the project that would need to be corrected as part of the follow-on FANSEP project is that, from an institutional standpoint, more women should be engaged in an implementation and management capacity to deliver programs such as AFSP.

52. **Integration of agricultural development, food security, nutrition and public health, as part of fostering Nutritionally Sensitive Agriculture (NSA) systems, is an effective approach to enhance the income and overall well-being of the rural poor and vulnerable. Bringing together several technical ministries and specialized entities to operate under the same project umbrella, if their individual responsibilities are well coordinated and delineated is a successful way to proceed.** AFSP is an example of effective integration of agricultural development, food security, nutrition and public health. It has successfully intervened at all critical links where difficulties may have arisen to affect this integration and involved all major entities at both national and local level where critical areas of expertise needed to be covered. It has done so in a participatory way, notably through FFSs, by involving producers' groups at the grassroots, mostly women's groups. This has resulted in an effective integration of both productive and reproductive/ livelihood household activities, and a clear empowerment of women. The recommendation is that such type of operation in the future should consider going one step further to support and strengthen Civil Society Organizations (CSOs) and formal farmer organizations/ cooperatives. The objective is that these entities can eventually improve farmer representation at the regional and national level, and enable local communities to actually influence national and local government policy. That process is timely since the country, after a prolonged period of transition, has finally embarked on a major decentralization reform program.

53. **Participatory approaches to agriculture extension through such methods as FFS are efficient as they are rooted in farmers' individual involvement and own circumstances.** The FFS approach was at the core of project implementation. It should certainly be retained as a central feature in any future operation involving participatory Community Driven Development and nutrition/ climate sensitive agriculture. The FFS approach was successfully deployed and fine-tuned with FAO's TA assistance. Under FFS, farmers received training and shared their experiences about crop/ animal husbandry practices under improved and traditional management. FFSs were the vehicle to implement the technologies and practices from component 1, with the following advantages: (i) they proved flexible and well adapted to the diverse local circumstances encountered in the project area; and (ii) they were highly appreciated by the beneficiaries for skills

⁶ FAO indicates that when women get access to the same inputs and resources as men, productivity increases by 20-30% over productivity possible only when men are targeted. Article in The Himalayan March 27, 2018



development. Farmer facilitators trained under FFS within the targeted communities were able to help sustain skills development. They carried out demonstrations within these communities after being trained, for the benefit of other farmers. The involvement of the FAO TA proved to be crucial to ensure the success of the FFS approach. One significant problem encountered at the early stage of implementation, however, was the prolonged time period (more than a year) it took to recruit the FAO team. The recommendation is that, for future operations similar to AFSP, the TA team should be on board early, possibly as early as project appraisal under PPA, so that it contributes to the design of implementation plans and systems, and be in a full state of operation when project implementation starts. For the longer term roll out of FFS, costs may need to be reduced. FANSEP (the follow-on project to AFSP currently being appraised) is exploring options to reduce these costs without sacrificing effectiveness.

54. **Financial assistance, preferably through Partner Financial Institutions (PFIs), is instrumental in supporting adoption of innovations by small producers.** Under AFSP, the small grant program was instrumental in supporting the technology adoption process; it proved to be in high demand with targeted producers. The small grants enabled investment in productive assets in the crop, livestock and nutrition sectors, with minimal resource contribution (generally in kind) on the part of farmer groups. It is clear that without this kind of financial support producer groups would not have been able to embark on the required 'nascent' investment process. Hence, the granting of small grants should definitely be pursued under any follow-on operation. Moving forward, however, the objective should be to help small producers, women and youth to graduate from the matching grants once they have implemented their initial investment initiatives, and integrate the regular/ formal commercial banking process. This would apply at least for income generating sub-projects; these sub-project should be financially sustainable and enable producers to reinvest earnings into further productive initiatives. The connection with the banking system would permit in turn to economize scarce public resources and use them where they are most needed, i.e., for public goods and services. It would also generate additional resources in the form of credit, hence promoting the cascading approach of Maximizing Finance for Development (FMD). This should be done in several ways: (i) have the obligation for the beneficiary farmer group to maintain a financial account, possibly with an established commercial bank or at least with a Micro-Finance Institution - MFI); (ii) request a minimal cash deposit on that account corresponding to the producers' contribution to the cost of the investment sub-project; and (iii) possibly have the Matching Grants (MGs) deposited on an escrow account to serve as guarantee for the bank or MFI to issue credit. At the same time, technical support should be given to the banks and IMFs so that they have a better understanding of the development needs at grassroots level and have the expertise to do an in-depth analysis of the requirements of the sub-project cycle, including a risk analysis.

55. **Climate resilience of production systems needs to consider local circumstances and be rooted into the social fabric at grassroots level.** The project has done a reasonable job at complying with environmental safeguards, least of this effort was the vetting of sub-project for social and environmental impact. This said, future projects similar to AFSP will need to go beyond social and environmental assessments of planned activities. They will need to consider integrating a community-based or community-managed resilience building approach, with activities such as community-level vulnerability and risk mapping, action planning, alliance building, community resilience budgeting or funding. Future project will need to turn the claimed focus on local and indigenous knowledge into action at the project implementation level by looking for ways to further promote traditional food crops, selecting and adapting local varieties and breeds, for example the khari goat, and involving communities in defining agricultural research needs and actions. Future operations should develop a clear forward-looking plan to ensure the sustainability of the supported farmer and women groups, and the sustainability of activities that may have relied too heavily on the distribution of external and costly inputs and equipment. Building farmers' autonomy with regards to agricultural and livestock inputs and food consumption should be a key objective of any follow-on project.



ANNEX 1. RESULTS FRAMEWORK AND KEY OUTPUTS

A. RESULTS INDICATORS

A.1 PDO Indicators

Objective/Outcome: Enhanced availability of improved technologies

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Improved technologies (crop and livestock) released for project area farmers	Number	0.00 15-Sep-2012	29.00 15-Sep-2012		30.00 31-Mar-2018

Comments (achievements against targets):

Unlinked Indicators

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Increased productivity (Crops) Tons/Ha	Text	2.9 15-Sep-2012	3.77 15-Sep-2012	-	4.46 31-Mar-2018
Paddy (Tons/ha)	Text	2.9	3.77		4.46



		15-Sep-2012	15-Sep-2012		31-Mar-2018
Wheat (Tons/ha)	Text	1.4	1.82		2.27
		15-Sep-2012	15-Sep-2012		31-Mar-2018
maize (Tons/ha)	Text	1.9	2.47		3.02
		15-Sep-2012	15-Sep-2012		31-Mar-2018
Potato (Tons/ha)	Text	4.8	6.24		7.14
		15-Sep-2012	15-Sep-2012		31-Mar-2018
Comments (achievements against targets):					

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Total farmers with increased productivity in	Number	0.00	67000.00		86182.00
		15-Sep-2012	15-Sep-2012		31-Mar-2018
Women farmers with increased productivity in	Number	0.00	44000.00		74591.00
		15-Sep-2012	15-Sep-2012		31-Mar-2018
Total farmers with	Number	0.00	40000.00		47757.00



increased productivity in crops		15-Sep-2012	15-Sep-2012		31-Mar-2018
Women farmers with increased productivity in crops	Number	0.00	20000.00		39806.00
		15-Sep-2012	15-Sep-2012		31-Mar-2018
Total farmers with increased productivity in livestock	Number	0.00	27000.00		38425.00
		15-Sep-2012	15-Sep-2012		31-Mar-2018
Women farmers with increased productivity in livestock	Number	0.00	24000.00		34785.00
		15-Sep-2012	15-Sep-2012		31-Mar-2018

Comments (achievements against targets):

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Increased Productivity of livestock products	Text	19.18	35	--	36.6
		15-Sep-2012	15-Sep-2012	31-Mar-2018	31-Mar-2018
Goat meat (Kg per 12 month old goat)	Text	19.18	35		36.6
		15-Sep-2012	15-Sep-2012		31-Mar-2018
Eggs (number per year)	Text	20.5	35.8		90
		15-Sep-2012	15-Sep-2012		31-Mar-2018



Milk (cow and buffalo) - liters per lactation	Text	478.8	837.9		934.0
		15-Sep-2012	15-Sep-2012		31-Mar-2018

Comments (achievements against targets):

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Improved dietary intake for pregnant and nursing women (% over BL)	Percentage	56.00 15-Sep-2012	71.00 15-Sep-2012		89.00 31-Mar-2018
Animal protein (% over BL)	Percentage	56.00 15-Sep-2012	71.00 15-Sep-2012		89.00 31-Mar-2018
Fruit and vegetables (% over BL)	Percentage	57.00 15-Sep-2012	72.00 15-Sep-2012		78.00 31-Mar-2018

Comments (achievements against targets): Pls. note: reporting consumption of animal protein, fruits and vegetables by pregnant and nursing women in the last 24 hrs.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Improved dietary intake for	Percentage	42.30	72.30		80.00



children between 6-24 months (% over BL)		15-Sep-2012	15-Sep-2012		31-Mar-2018
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Comments (achievements against targets):

A.2 Intermediate Results Indicators

Component: Technology Development and Adaptation

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Component 1: Field Trials of Improved Technologies	Number	0.00	4000.00		6580.00
		15-Sep-2012	15-Sep-2012		31-Mar-2018

Comments (achievements against targets):

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Component 1: Source Seed Production	Metric ton	0.00	540.00		582.70
		15-Sep-2012	15-Sep-2012		31-Mar-2018

Comments (achievements against targets):

Component: Technology Dissemination and Adoption



Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Component 2: Seed Replacement Rate	Percentage	0.00 15-Sep-2012	0.00 15-Sep-2012	0.00 31-Mar-2018	0.00 30-Dec-2016
Paddy	Percentage	7.20 15-Sep-2012	17.20 15-Sep-2012		27.30 31-Mar-2018
Wheat	Percentage	4.60 15-Sep-2012	14.60 15-Sep-2012		30.40 31-Mar-2018
Maize	Percentage	14.70 15-Sep-2012	24.70 15-Sep-2012		28.20 31-Mar-2018
Potato	Percentage	16.00 15-Sep-2012	26.00 15-Sep-2012		34.50 31-Mar-2018

Comments (achievements against targets):

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Component 2: Producer Groups supported in	Number	0.00 15-Sep-2012	4750.00 15-Sep-2012		4521.00 20-Dec-2017



Crops	Number	0.00	2000.00		1889.00
		15-Sep-2012	15-Sep-2012		31-Mar-2018
Livestock	Number	0.00	1300.00		1557.00
		15-Sep-2012	15-Sep-2012		31-Mar-2018

Comments (achievements against targets):

Component: Food and Nutritional Status Enhancement

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Component 3: Women's groups trained in preparation of nutritious foods	Number	0.00	1500.00		2159.00
		15-Sep-2012	15-Sep-2012		31-Mar-2018

Comments (achievements against targets):

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Component 3: Households with Pregnant and Nursing Mothers receiving project-supported BCC	Number	0.00	45000.00		49873.00
		15-Sep-2012	15-Sep-2012		31-Mar-2018

Comments (achievements against targets):





KEY OUTPUTS: INTERMEDIATE OUTCOMES AND OUTPUTS ACHIEVEMENTS UNDER INDIVIDUAL ACTIVITIES

- 1. FFS activities.** The FFS approach was at the core of project implementation. It was successfully deployed with FAO TA assistance to provide participatory training for all crop, livestock and nutrition activities in a flexible way. In the course of the FFS process, participant farmers received training and shared their experiences about crop/ animal husbandry practices under improved and traditional management. A total number of 1,932 crop FFSs (with 85 percent women's participation) and 363 livestock FFSs (96 percent of women) were conducted during the project period. FFSs proved flexible and well adapted to the diverse local circumstances encountered in the project area. FFSs were appreciated by the beneficiaries for skills development. The involvement of FAO TA proved to be crucial to ensure the success of this approach. Farmer facilitators trained within the targeted communities were able to help sustain skills development; they carried out demonstrations within these communities after being trained for the benefit of other farmers. Crop FFSs covered the major crops, i.e., paddy, maize, wheat and potatoes, and also secondary crops such as barley, millet, beans and buckwheat. Livestock FFSs were conducted in goat and poultry production. The integration of home gardens and nutrition modules in FFS proved a promising innovation.
- 2. Small grant program.** The small grant program was instrumental in supporting the technology adoption process; it proved to be in high demand with targeted producers. A total of 4,066 small grants were approved (vs. ??? targeted), benefiting about 101,850 persons (of whom 83,100 women or 82 percent), about 1,500 respectively each in the crop sector and livestock sectors, and 1,050 in the nutrition sector for a total project contribution of US\$ 11.2 million. These small grants enabled investment in productive assets such as: (i) crop sector: vegetable cultivation under plastic shed, fruit/ vegetable processing/ solar dryer, cereal seed production, thresher/ grinder, power tiller, community grain bank, shed improvement, compost production, agriculture tools, fish pond construction/ repair, grain store construction, etc.; (ii) livestock sector: asset development through goat and poultry purchase, shed construction/ improvement, vermi-compost pit construction, dipping tank construction, milk marketing including utensils and bulk milk coolers, nursery establishment, pig purchase, poultry hatchery, small feed industry, private paravet establishment, chaff cutter/forage production, etc.; and (iii) nutrition sector: labor saving tools like hand tractor, improved cooking stove, biogas production, grinding and hulling mill, nettle powder, pickle making, clean home and nutrition friendly kitchen, oil extractor, improved water mill, vegetable and fruit dryer.
- 3. Crop demonstrations, including Village Model Farms (VMFs) and Homestead Nutrition Gardens (HNGs).** Crop production demonstrations were carried out for all staple crops. The objective of these demonstrations was to promote the adoption of new varieties already tested in research stations and farmer fields. They covered a total area of 986 ha and benefited 3,700 groups (61,460 farmers). The project also conducted special nutritious crop demonstrations to promote locally available neglected crops with nutrient value. Over the project period, nutritious crop demonstrations were carried out in 1,647 producer groups (23,305 farmers). These demonstrations covered a total area of 440 ha. A total of about 800 Village Model Farms (VMFs) and the same number of Homestead Nutrition Gardens (HNGs) were established benefiting 26,405 women of 1,114 mother groups. Group mobilization, training on vegetable cultivation, vegetable seed distribution, training on backyard poultry and chick distribution activities were carried out in the course of VMF implementation. Backyard poultry rearing was meant to promote animal protein intake from poultry meat and egg consumption. Sessions were conducted for pregnant and nursing women on the nutrition status of different vegetables, poultry meat, eggs and recommended methods of consumption. Women's groups trained on VMF plots were supported to establish their own HNG plots. They were provided with vegetable seeds to cultivate on their homestead gardens and chicks to raise in their backyard. The end line Beneficiary Result Assessment Survey has shown that VMF and HNG activities significantly helped women and children increase their dietary diversity.



4. **Livestock technology development and adaptation.** Goat meat and milk, dairy and poultry (meat and eggs) production were the AFSP areas covered under livestock activities. Altogether 1,558 producer groups were supported benefiting 38,450 farmers (34,903 women or 91 percent). Under the goat breeding/ multiplier program, groups were provided with pure bucks and AI services coming from the project importation of 175 Boer goats and 50 Saanen goats. The support provided also comprised access to breeding animals, a small grant for the construction/ improvement of a model goat shed, medicine fund, and provision of basic animal health support, including vaccination, targeted deworming informed by famacha cards, fodder seed and saplings as well as group training on goat husbandry. Under the dairy cow and buffalo program, farmers received support for the production of buffalo and cow milk, and milk products. Farmer groups were provided with training on animal husbandry, clean milk production and the following supplies and services: milk containers, vaccinations, fodder seedlings and forage seeds. Under the rural poultry program target producers were provided with chicks, cash grants for the construction of shelters, vaccination support and revolving fund for basic animal health; training on poultry rearing was also provided. A novel intervention was the supply of a solar powered small scale (900 egg) hatchery unit for remote areas where day old chicks cannot easily be provided.

5. **Small irrigation support.** The small irrigation support program proved to be especially in high demand much beyond the original target. It produced excellent results regarding dry season vegetables particularly. There were two types of small irrigation sub-projects: (i) for farmer groups for which support was provided up to NPR 150,000 (US\$ 1,500); and (ii) for cooperatives for which support covered up to NPR 300,000 (US\$ 3,000). As the financial support amounted to a limited sum, and required a group application, wealthy people were reluctant to apply for this type of support. Hence the support went to the farmers who had real needs, with no risk of elite capture. A total of 1,351 irrigation schemes were financed during the project period against a target of 380 schemes at a total cost of US\$ 1.8 million. Sub-projects consisted in construction/ repair/ maintenance of these schemes. A total of 33,300 farmers (14,600 women or 44 percent) benefited from support to these irrigation schemes covering 3,942 ha of irrigated land.

6. **Nutritional enhancement.** Mother group's training regarding Food Preparation, Processing and Preservation (FPPP) and recipe demonstrations (using locally available foods) were some of the key activities conducted at field level regarding nutrition enhancement. The approach was used to make communities aware of the nutrition status of various foods, the benefit of dietary diversity and the necessity of adequate feeding and caring practices for 1,000 day mothers and children 6 months to 2 years, in complement to the Homestead Nutrition Gardens program. Behavior Change Communication (BCC) messages were disseminated regarding nutrition enhancement, mainly through local radios and TV channels, as well as posters. Building on dissemination of BCC messages, FPPP training and recipe demonstrations were carried out with a total of 2,159 mother groups benefiting 51,137 women; 1,293 FPPP demonstration centers were established. Similarly, important landmark events regarding nutrition, such as breastfeeding day, vaccination day, family planning day, iodine day, home gardens day, etc., were celebrated. This was found effective in providing nutrition counselling and enhancement to women.

7. **Other specific project activities.** The project comprised numerous other specific activities, e.g.: (i) crop technologies: on-farm validation of IPM/IDM/ICM technologies; economic analysis of research trials; specification of technical packages for proven varieties; support to the Seed Quality Control Center for preparing operational guidelines; support to seed storage and processing centers; mini-kit distribution for pre-released varieties; etc.; (ii) livestock technologies: maintenance of nucleus breeding flock of Boer and Saanen goats; technical package for goat stall feeding; dairy goat breeding package; development of silvi-pasture models; urea mineral block production, package of low-feeding technology for poultry; and (iii) nutrition enhancement: strengthening of the DFQC laboratory for nutritive value analysis; training of trainers on nutritive-sensitive agriculture; preparation of BCC training manuals



and materials; etc. Implementing all above set of activities, and coordinating between the numerous implementing actors, proved to be a complex undertaking for the PMU as part of project Component 4. The FAO team provided the required support for that undertaking (see Box 1 thereafter).

FAO TA CONTRACT

8. The FAO contract for a total amount of US\$ 8.7 million (15 percent of project costs) was an all-encompassing contract covering all the facets of technical assistance required for project implementation. There was the realization at project design stage that, in view of the project complexity and given the weak capacity of the national administration and service providers, comprehensive TA support would be required for project implementation. FAO was contracted for that purpose on a sole source basis since it had been involved in similar projects in Nepal and could mobilize the appropriate expertise. FAO assistance covered all major high-level counterpart positions at national level, except fiduciary positions, as well as all key counterpart technical positions at regional and district level, to assist PMU and RPMU staff. It also covered all project day-to-day staff support at the local level, next to the local staff of the decentralized administration. FAO recruited local service providers (general NGOs) to fill these local positions. The total staff numbers under the FAO contract were: 7 (plus 4 support staff) at national and regional level, 59 at regional and district level, and 190 at sub-district level. *Prima facie*, FAO staff acted as a double layer for project implementation. In reality, FAO assistance was required to make up for the lack of local capacity in the short-term, and to train the cadre of staff who would take over following project completion. The local FAO staff recruited were locally established and compensated based on local level market comparators. Hence, following project closure, these staff will be able to be recruited by the new elected bodies (notably the 'municipalities'), and/or will find work at the local level in the same capacity and remuneration as under the FAO contract

ANNEX 2. BANK LENDING AND IMPLEMENTATION SUPPORT/SUPERVISION

A. TASK TEAM MEMBERS

Name	Role
Preparation	
Supervision/ICR	
Omar Lyasse, Purna Bahadur Chhetri	Task Team Leader(s)
Shambhu Prasad Uprety, Ramesh Raj Bista	Procurement Specialist(s)
Timila Shrestha	Financial Management Specialist
Rohan G. Selvaratnam	Team Member
Kiran Gautam	Team Member
Neena Shrestha	Team Member
Tara Shrestha	Team Member
Ishwor Neupane	Team Member
Rekha Shreesh	Social Safeguards Specialist
Rupa Shrestha	Team Member
Annu Rajbhandari	Environmental Safeguards Specialist

B. STAFF TIME AND COST

Stage of Project Cycle	Staff Time and Cost	
	No. of staff weeks	US\$ (including travel and consultant costs)
Preparation		
FY12	31.350	210,617.61
FY13	35.463	169,990.96
Total	66.81	380,608.57
Supervision/ICR		
FY13	4.925	17,026.93



FY14	26.774	147,266.07
FY15	36.082	177,295.91
FY16	28.444	168,686.77
FY17	32.729	173,591.36
FY18	34.196	204,094.97
FY19	0	- 86.82
Total	163.15	887,875.19

ANNEX 3. PROJECT COST BY COMPONENT

a) Project Cost by Component

Components	Amount at Approval (US\$M)*	Actual at Project Closing (US\$M)	Percentage of Approval (%)
Technology Development and Adaptation	9.14	5.71	62%
Technology Dissemination and Adoption	31.66	29.43	93%
Food and Nutritional Status Enhancement	10.56	9.39	89%
Project Management	6.64	6.51	98%
Total	58.00	51.04	88%

*Includes physical and price contingencies

b) Financing

Source of Funds	Appraisal Estimate (US\$M)	Disbursed (US\$M)	% appraisal
GFSP	46.50	40.71	87%
GoN	11.50	10.33	90%
Total	58.00	51.04	88%



ANNEX 4. EFFICIENCY ANALYSIS

Economic and financial analysis

1. A cost-benefit analysis was conducted as part of this report to assess the project ex-post economic viability. Except for some modifications, the analysis followed the approach adopted in the PAD, to ensure methodological consistency and comparability. It focuses on the quantifiable benefits generated primarily through the adoption of improved crop and livestock technologies and practices by small farmers that have been intensively propagated through demonstrations and adoption groups under FFS in the project villages. The analysis takes into account the spillover effects of project interventions on farmers outside project sites; but it does not take into account the benefits generated by nutrition enhancement and other similar non-productive interventions since these benefits are difficult to quantify; overall, the estimates are therefore partial and conservative. The analysis draws on the project financial and M&E data, as well as special surveys undertaken by independent consultants in the course of project implementation, including the Development Impact Evaluation (DIME) (World Bank), the Beneficiary Results Assessment (BRA) (FAO) and the Community Score Card Assessment (FAO).

Data collection and analysis

2. In addition to the regular collection of Monitoring and Evaluation data directly related to the RF, other data were collected and analyzed during project implementation through three different surveys: (i) Development Impact Evaluation (DIME); (ii) Beneficiary Results Assessment (BRA); and (iii) Community Score Card (CSC). These surveys and results obtained thereby are described below.

3. **Development Impact Evaluation (DIME).** a special survey was conducted during project implementation with the assistance of the Development Impact Evaluation (DIME) team of the World Bank with the aim to further evaluate the impact of AFSP regarding key indicators. The DIME impact evaluation findings drew on data across three rounds of surveys undertaken in October 2013 (baseline), November 2016 (midline) and November 2017 (endline) with a focus on incremental income, particularly from increased productivity of crop cultivation and livestock rearing. The surveys also present data that describe production decisions: (i) farmer group membership; (ii) input usage and expenditure; (iii) technology adoption practices; and (iv) food security behavior and knowledge. The double difference⁷ observed between the baseline (2013) and endline surveys (2017) was used to calculate the project treatment effect. The DIME's impact evaluation results indicate *inter alia* that, over the course of the project: (i) AFSP communities experienced greater increases in total income relative to non-AFSP control communities (increase of 18 percent), with livestock income showing larger gains; and (ii) health mothers' group membership quadrupled in AFSP communities (vs. doubling in control communities), with pregnant and lactating mothers' dietary diversity and average maternal knowledge increasing at a similar rate across both AFSP and control communities.

4. **Beneficiary Results Assessment (BRA).** The BRA household study was a specialized study designed to provide statistical data on the main results framework (RF) indicators to complement the regular data collection by the project M&E unit. The study was outsourced to a private consultant firm, under the supervision of the FAO assistance team.

⁷ The double difference compares the difference of an outcome (say revenues) between treated and control households at endline with the difference between these two groups at baseline. If the difference is greater at endline than at baseline, the double difference is positive and the conclusion is that the program has had a positive impact.

Good that you emphasize the immediacy of the effect of livestock rearing on household income. Livestock ownership indeed has a dramatic transformative effect in the short run



A total of 1,577 sample households from project VDCs and 160 households from control VDCs were interviewed in ten project districts⁸ to collect the required information. Two surveys were administered: a baseline survey in April 2014 and an endline survey data over January-March 2018. As was the case of the DIME study, the double difference observed from these two surveys was used to calculate the project treatment effect. Overall, the BRA survey results show overall positive project outcomes regarding the yield of major crops, seed use and replacement rates, productivity of livestock activities, as well as the improved nutritional practices. They corroborate the efficacy results observed through the regular M&E data collection regarding RF indicators. One flaw of the survey is that data were collected based on recall from farmers including crop data and dietary diversity. Crop data was not based on the crop cutting method.

5. **Community Score Card (CSC).** The objective of CSC was to assess the degree of adoption of improved technology/management practices at beneficiary level during the entire project period. It was administered over the period of January to March 2018 in 30 VDCs of 10 project districts of the Mid-Western and Far Western regions⁹. The CSC locations were decided in consultation with district technical officers and service providers. The data were collected through participatory discussions with groups of 20-25 beneficiaries. The assessment covered threefold aspects of project implementation: (i) overall performance regarding technology adoption for the five-year implementation period; (ii) project support activities; and (iii) specific assessment of staff performance in the three project-covered individual sectors of agriculture, livestock and nutrition.

6. The CSC results were as follows: (i) crop technology adoption: it was found that improved project-sponsored technologies had been adopted by more than 70 percent of the beneficiaries; respondent groups in 18 CSC locations indicated an adoption level to the tune of 50–75 % and groups in the other 12 CSC locations responded that the degree of adoption stood at more than 75 percent; levels of adoption of the same order were indicated in the case of livestock technologies, as well as nutrition-related BCC messages; (ii) assessment of project support activities: communities ranked these activities as Satisfactory to Highly Satisfactory; in their views, project activities had positively impacted their livelihood conditions, mostly through increase production resulting from the use of improved practices; and (iii) specific sector assessment: communities expressed high satisfaction with the performance of project staff involved on implementation. In addition, the CDC assessment covered respondents' opinions regarding major skills learnt, achievements and way forward. Communities expressed great satisfaction with their acquisition of skills regarding the use of improved agriculture and livestock practices. They also indicated that their awareness on nutrition issues and related practices had been greatly enhanced as a result of project messages. Overall, they felt that their livelihood conditions had improved and they were better equipped to face the challenge of their own circumstances.

Financial analysis

7. The ex-post financial analysis at farm level is based on the findings of the DIME study, in complement to the regular M&E estimates. The DIME ex-post analysis estimated the farmer's annual incremental financial income at US\$439 including crop, livestock and poultry benefits from diversified/ mixed farming (18 percent over the baseline household income of NPR 226,000 or US\$2,007). This incremental income is of the same magnitude as the one estimated at appraisal (US\$449). It is due mostly to increased revenues from the dramatic increase in yields of crops and livestock (see Results Framework). It is also due to the shift to a more concentrated group of more profitable crops, which was to be expected as a result of the farmer optimizing strategy. The DIME study also clearly reveals the

⁸ Out of the 19 project districts, namely four from Far-Western region (Bajura, Dadheldhura, Darchula and Doti), and six from the Mid-Western region (Dailekh, Jajarkot, Jumla, Pyuthan, Rukum, Surkhet).

⁹ ERMC/Bright Future International (BFI) Pvt. Ltd., an external consultant firm, was commissioned to undertake the CSC.



immediacy of the impact of livestock rearing on household income. Livestock ownership indeed has a dramatic transformative effect in the short run on incomes. On the cost side, input expenditures (e.g., for fertilizer and pesticides) have only risen modestly. This indicates that farmers may not have become overly dependent on outside supply chains which could have been cause for concern. On the downside, however, labor input has increased significantly. This might be of concern given the outmigration of male workers and feminization of agriculture. Hired labor is clearly becoming scarcer, hence more expensive, in rural areas. Also this results runs somewhat counter to the project objective to lessen women's labor burden so that they have relatively more time to attend to reproductive activities (including improved nutrition) rather than productive activities.

8. The results of the financial analysis also point to a positive change in farmer attitudes toward risk. If farmers focus on increasing the productivity of a smaller subset of more productive crops, it means that they have become less risk-averse. The current large crop mix, which is very diversified, is designed in part to hedge against individual crop failure. It is not necessarily counter intuitive that the farmer would be focusing on a smaller subset of crops at this time, with greater overall gains, since with the advent of the project (and other factors possibly) the context has become less risky, more market-oriented and hence more propitious to growing a limited set of more profitable crops.

Economic analysis

9. The ex-post economic analysis was prepared based on the estimation of the incremental benefit streams accruing to the national community vs. the actual costs of project interventions in economic terms netting out the taxes and subsidies from the reported financial disbursements, and using appropriate border parity prices and/ or standard conversion factors. The estimated incremental benefits taken into account were those that could be quantified regarding the effective adoption of agriculture crop and livestock production technologies by project beneficiaries. The nutritional benefits accruing to pregnant and lactating mothers and their children under two years of age were not taken into account. These benefits are clearly important, but they are difficult to quantify. Hence the results of the present economic analysis are conservative. Costs were estimated based on GFSP grant and GoN disbursements, regarding the costs of project productive interventions, and the apportioned management costs. On the above basis, the ex-post ERR was re-estimated at 29.2 percent with a NPV of US\$25.5 million. These figures are greater than the PAD figures which indicated that the project productive investments would generate an ERR of 20.4 percent with a NPV of US\$17.9 million.

Cost-effectiveness

10. The reassessment of the EFA has included an analysis of the cost-effectiveness of AFSP interventions in providing goods and services to project beneficiaries. This was done by comparing AFSP unit costs in implementing investments and/ or delivering services vs. unit costs incurred by similar projects or standard costs commonly used in Nepal. The analysis focused on two types of interventions: (i) extension activities, based on the cost of establishing farmers' and mothers' groups, and conducting training sessions with these groups, notably under the FFS approach; and (ii) cost incurred for implementation of investments under the small grant program, notably for constructing standard buildings (per m²) and for establishing/ rehabilitating irrigation networks (per ha).

11. The above cost-effectiveness analysis gave the following results: (i) *extension activities*: cost of one event was NPR 65,000 under FFS vs. NPR 106,400 under GoN norms; this is an excellent result given the fact FFS training was more intensive than the regular district level training by MOA; (ii) *irrigation rehabilitation*: NPR 60,900 per ha under AFSP vs. NPR 425,000 for Mountains, 350,000 for hills and 150,000 for Terai (IWRMP data), or weighted average of NPR 240,000, or US\$560 under AFSP vs. US\$2,200 average under MOA interventions; again this a very good result;



however, the comparison may not fully cover the exact same type of work; and (iii) *farm roads*: about 70 km were completed under AFSP at a cost of NPR 153 million, or about US\$2,000 per km from the project 'out of pocket' funding; this cost is difficult to compare meaningfully with any norms since in certain cases communities have also contributed labor and material which is difficult to value, and road rehabilitation has been limited under AFSP to areas that were relatively easy to access.

12. It is to be noted that these results have to be interpreted in the AFSP context, i.e., AFSP interventions were demand driven and customized to suit local circumstances. Therefore, the figures are averages across a number of interventions bearing in mind that these were rarely 'one size fits all' interventions which could be assigned a standard costing.



ANNEX 5. SUMMARY OF GRANTEE'S ICR AND/OR COMMENTS ON DRAFT ICR

Context and General Project Description

Low food availability and poor nutrition status (particularly women and children below two years) in the mid and far western development regions of the country, were the key problems identified (PAD, AFSP). Country Investment Plan (CIP) also pointed out the need of agriculture and food security issues comprehensively.

The Government of Nepal (GoN) designed Agriculture and Food Security Project (AFSP) to enhance food and nutrition security of the residents of selected location of 19 project districts of mid and far western region of Nepal with competitive grant support of US \$ 46.5 Million from GAFSP and US\$11.5 million GoN contribution for 5 year period (1st April 2013 - 31st March 2018). It was envisaged that food security would be realized through increased food availability, made possible by increased productivity of both crop and livestock whereas nutrition security would be realized through improved dietary intake, made possible by the promotion of diversified diets, and improved feeding and caring practices for pregnant and nursing women and children below 2 years of age.

In order to achieve its objective, four components were provisioned in the project to address the inter-locking problems in the project area through coordinated interventions, including: (i) adaptation and release of relevant technologies for specific agro-ecologies to boost productivity and climate resilience of agriculture; (ii) enhancing local availability of improved crop variety and livestock breed; (iii) supporting farmers to adopt improved management and husbandry practices, use of modern inputs and market access; and (iv) improving household availability of nutritious foods through homestead production, 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.

The project was jointly implemented by the Ministry of Agricultural Development (MoAD), Ministry of Health (MoH) and Ministry of Livestock Development (MoLD). The World Bank was the designated supervising entity for the project and the Food and Agriculture Organization of the United Nations (FAO) provided technical assistance to the project.

Overall Outcome Rating

Criteria	Sub criteria	Rating (A-D)	Overall rating of criteria
Relevance	Relevance of the project to the problem identified at project identification and formulation	A	The Agriculture and Food Security Project (AFSP) was well aligned with country need and government priorities. Country Investment Plan (CIP) and country programming framework has well pointed out agriculture and food security issues comprehensively and kept in high priority. In addition Nepal multi-sectoral Food and Nutrition Plan MSNP (2013-2017) has also identified food and nutrition security as a key issue and the project has been able to contribute in the achievements of MSNP, particularly in Output 6 (availability and consumption of appropriate foods in terms of quality, quantity, frequency and safety) enhanced and women’s workload reduced) and output 7 (Capacity of national and sub-national levels enhanced to provide appropriate support to improve maternal and child nutrition). To enhance food and nutrition security of the selected
	Alignment and strategic fit	A	



			<p>households of the selected locations of the 19 project districts, the project envisaged in Increasing food availability through the enhancement of production and productivity of crop (Paddy, wheat, maize, potato and neglected nutritious crop finger millet, buck wheat) and livestock (goat, poultry and dairy) through access to improved crop varieties and livestock breeds along with improved management technologies suitable for the project area.</p> <p>Community scorecard assessment study and End line Beneficiary survey conducted by independent party in February 2018 shows that the project was based on the need of the community (Score 4 out of 4) and people of the project area. The project has been able to contribute in the food and nutrition security of the targeted group of the project area by 30% increase in food self-sufficiency. The project has been able to increase the household income by 18% vs. that of the baseline period.</p> <p>Overall rating A</p>
Efficacy	Contribution to impact	B	<p>NARC/Research stations implemented the component one, MOAD/DADO and MOL implemented the second component, the third component was implemented by CHD/DPHO and DFTQC whilst the fourth management component was mainly managed by PMU to support these components.</p>
	Achievement of outcome	B	<p>Keeping in view the outcomes, NARC was able to develop and release 17 crop varieties (against the target of 17) and these varieties were also used in the FFS and seed production program under component 2. Similarly, NARC also developed 30 improved technologies (crop-22, livestock-8) against the target of 29; which were trialed on the similar climatic condition of the project locations. These technologies were found effective to overcome the targeted specific problems/issues. Besides, NARC has produced 582 MT of source seed; of which 181 MT seed in seed multiplication program under component 2 to produce certified seeds, from a total of 4800 MT of seed produced in the districts. The seed cooperative/farmers informed that in closing workshop that some districts became self-sufficient in seed and they can sell it to other districts.</p>
	Achievement of outputs	A	<p>FFS provided intensive knowledge and skill to the farmers (47757 farmers against target of 40000) and also provided them adoption support; which helped them to adopt improved technologies; as a result Seed Replacement Rate of the paddy (7.2 to 39%), maize (14.7 to 35.7%), wheat (4.6 to 38 %) and potato (16 to 31.4%) has been increased drastically and also increased in the productivity of these crops. Similarly, 1558 livestock groups involving 38430 farmers (against target of 32500 farmers) provided technical knowledge on goat husbandry, poultry rearing and dairy production along with</p>



			<p>support and introduction Boer goats, which helped in increasing the livestock (milk, goat and egg) production and productivity.</p> <p>Village model Farm and Homestead Nutrition garden was particularly targeted to women in order to increase the dietary diversity and particularly to increase consumption of green vegetables and animal protein. Women were provided training on vegetable cultivation, poultry and nutrition. This helped women to increase knowledge and get access to such food items through their homestead garden. The end line BRA survey shows that the consumption of animal protein and fruits and vegetable increased by 33% and 31% respectively. Similarly, 3IYCF practices of children from 6 months to 24 months have been increased by 38%. FPPP training and Recipe demonstration (BCC message) along with HNG, support in the livestock program could be the reasons for this.</p> <p>Similarly, the productivity of livestock weight of goat at 12 month of age was increased from 19.18 kg to 36 kg (Boer cross); egg production/hen per year increased from 22 to 93 and the milk production per cattle per year increased from 478 litre to 934 litre. (end line BRA survey, 2018)</p> <p>The project has targeted to provide project developed BCC message to 45000 pregnant and nursing women (PNW) and the project has been able to provide BCC message to 49873 PNW.</p> <p>Overall rating B</p>
Efficiency	Timely implementation of activities	A	<p>All the activities under NARC, technology development (30), development of new improved crop variety (17), source seed production (582 MT), trials (6584) were conducted within budget and in timely manner.</p> <p>Under component 2, DADO, DLSO and DHO implemented the planned activities within stipulated time frame and within budget. The key activities carried out were FFS (1932), Demonstration (1862 groups), Adoption support (1540 groups), small irrigation (1351 schemes), seed production (2300 ha), Support to livestock groups (398 Poultry groups, 120 Dairy groups and 1040 goat groups), import of Boer and Saanen goats (225), Boer and Saanen frozen semen (12497 dose) were carried out in timely manner within budget.</p> <p>Similarly, a total of 2159 mother groups (53137 women) were trained on Food preparation, processing and preservation, recipe demonstration in mother groups (10214 times), ToT for FPPP (3 events), FPPP centre (1293 units) were conducted under DHO. 4066 Small grant support sub project were supported to 101,848 farmers.</p> <p>Overall rating A</p>
	Implementation of activities within planned budget	A	
	Application of risk management strategy	B	
Sustainability	Capacity development	A	<p>The project has capacitated farmer groups, cooperatives and local stakeholders (Service providers) in technical and management aspects and trained beneficiaries and stakeholders on concerned</p>
	Environmental	B	



	sustainability		<p>technical and management aspects as well as created awareness on social, environmental and economic aspects and getting access to other resources. (Section D: implementation of work plan and budget for detail)</p> <p>The project adopted strategy to empower women by involving at least 50% in crop activities and 90% in livestock activities and 100% in nutrition activities; this target has been achieved by project and more than fairly large portion of women (83%) were found to be involved in planning and monitoring of the project activities (CSC assessment, Feb 2015).</p> <p>Project initiated crop livestock technologies are technically and economically feasible and project has made arrangements to continue to support in implement these interventions after the closure of the project</p> <p>Overall rating B</p>
	Gender equality	A	
	HRBA	---	
	- Right to Food	B	
	- Decent Work	B	
	Technical sustainability	B	
	Economic sustainability	B	

Lessons and recommendations

- FAO TA was onboard in the project in Jan 2014, whereas the implementation started from April 2013. This has delayed in providing technical assistance in the implementation. Therefore, it is recommended that technical assistance should be made on board in timely manner. It is required to have the technical assistance team (key personnel) on board at least 3 months prior to the implementation of project to ensure all frameworks, guidelines M&E system and human resources are in place for the smooth implementation of the project from the beginning. This can be done through the provision of an implementation preparation phase.
- The phased-VDC coverage in the implementation implied less time available for lately covered VDCs. Therefore, project should be implemented in all rural municipalities from the beginning of the project.
- Uniform program activities (including number and cost) in 19 project districts were not able to cater local needs and program effectiveness. Therefore, the program activities should be planned based on local needs and agro-climatic conditions. Further, flexibility is needed in revising the activities based on the changing time context and demand to fulfill the set objective of the project.
- As CHD could not prepare BCC strategy, BCC training materials, BCC materials and IEC material on timely manner, the responsibility was shifted to FAO TA (in MTR) and finally FAO TA prepared these materials. The reason behind this was due to mismatched procurement process, which resulted in the delay in the implementation of nutrition activities in the field (BCC, IEC). Therefore such responsibility should have been entrusted to technical assistance part.
- Procurement of especially vehicle and equipment is to be completed in the beginning phase of the project for the effective implementation.

Good Practices

- Boer goat is found to be technically and financially viable in the project areas and liked by the project farmers. Therefore, it should be promoted in other similar areas.



- FFS was well accepted by the farmers' groups as a powerful tool for adopting and disseminating technology and enhancing farmer's knowledge and skills. Technical knowledge, timely delivery of improved agriculture inputs and proper management resulted in increased crop and livestock (goat, poultry, dairy) productivity. Therefore, this should be promoted as a key tool for delivering skill and knowledge.
- Seed multiplication of pre-released crop varieties helped the quicker dissemination of new crop varieties at farmer level. Therefore, such activities should be continued under regular programs in coordination with NARC.
- Small irrigation support helped farmers to repair the irrigation schemes and also to carry out new irrigation schemes, which ultimately increased the production and productivity of crops and vegetables.
- The small -grant support program helped farmers to adopt the improved technologies and also to carry out vegetable, goat and poultry farming in a micro-commercial way, which is handled within a family. Provision of small grant support should be continued under GoN programs and similar projects.
- The small grant support program helped to reduce the workload of women drastically through labor-saving technologies (improved water mill, hulling and grinding mill, corn sheller, improved cooking stove, bio-gas, thresher machine etc.) providing them extra time to feed and care of their children.



ANNEX 6. SUPPORTING DOCUMENTS (IF ANY)

- Action Aid, *Is GAFSP Reaching the Small-Scale Food Producers in Nepal?*, March 2018
- AFSP Grant Agreement, GAFSP Grant Number TF 013719, April 30, 2013
- AFSP Implementation Completion Report, March 2018
- FAO, Agreement for the Provision of Technical Assistance, UTF/NEP/073/NEP, January 22, 2014
- FAO, Community Score Card Assessment Report, March 2017
- FAO, Beneficiary Assessment Survey Report, March 2017
- USAID, Nepal National Anemia Profile, 2012

World Bank

- AFSP Project Appraisal Document (PAD), January 2013
- DIME, AFSP Impact Evaluation, Baseline Survey Report, March 2013
- Country Partnership Strategy (CPS) for Nepal (FY2014-2018), May 2014
- Second Emergency Food Security Support Project ICR, May 28, 2014
- Mid-Term Review Mission Aide-Memoire, Jan. 27 – Feb. 12, 2016
- DIME, AFSP Impact Evaluation, Midline Survey Report, December 2016
- Nepal Country Economic Memorandum: *Climbing Higher: Toward a Middle-Income Nepal*, May 2017
- Country Poverty Brief, Nepal, October 2017
- Nepal Systematic Country Diagnostic: A New approach for a federal Nepal, February 2018
- DIME, AFSP Impact Evaluation, Endline Survey Report (draft), March 3, 2018



ANNEX 7. MAP

