



1. Project Data

Project ID

P128905

Project Name

Nepal Agriculture and Food Security Proj

Country

Nepal

Practice Area(Lead)

Agriculture

L/C/TF Number(s)

TF-13719

Closing Date (Original)

31-Mar-2018

Total Project Cost (USD)

40,589,091.48

Bank Approval Date

11-Feb-2013

Closing Date (Actual)

31-Mar-2018

IBRD/IDA (USD)
Grants (USD)

Original Commitment

46,500,000.00

46,500,000.00

Revised Commitment

41,500,000.00

41,500,000.00

Actual

40,589,091.48

40,589,091.48

Prepared by
Maria Vanessa
Corlazzoli
Reviewed by
J. W. van Holst
Pellekaan
ICR Review Coordinator

Christopher David Nelson

Group

IEGSD (Unit 4)

2. Project Objectives and Components

a. Objectives

According to the legal agreement of 2013, the two objectives of the Nepal Agriculture and Food Security Project were to “enhance (i) food and (ii) nutritional security of targeted communities in selected locations of the Recipient’s territory” (Grant Agreement, 2013, pg.4).

The Project Appraisal Document (PAD) and the legal agreement had the same objectives (PAD, para. 12). In addition, the PAD also defined the targeted communities as 19 hill and mountainous districts with 784 village



development committees (VDCs) with a population of 3.4 million. The PAD estimated that about one-quarter of the VDCs would benefit directly from the project. According to the PAD, “food security would be realized through increased food availability, made possible by increasing the productivity of agriculture, both crop and livestock. Nutrition security would be realized through improved dietary intake, made possible by the promotion of diversified diets, and improved feeding and caring practices of pregnant and nursing women and children up to 2 years of age” (PAD, para. 13).

This ICR Review will use the objectives as stated in the legal agreement, together with the PAD’s definition of food security and nutritional security, as the basis for assessing the relevance of the objectives and the extent to which food security was enhanced by this project.

b. Were the project objectives/key associated outcome targets revised during implementation?
No

c. Will a split evaluation be undertaken?
No

d. Components

Component 1: Technology Development and Adaptation (Appraisal cost was estimated at US\$7.739 million. At closing the cost was US\$5.71 million). This component sought to support farmers use appropriate technologies and resources (seeds and breeds) to increase the productivity of crops and livestock. There were two subcomponents that the project aimed to achieve, including (i) improved production technologies for crops, and (ii) improved production technologies for livestock (PAD, para. 19). Additional activities included: providing trials and demonstrations, conducting training and capacity building activities, improving research infrastructure and operating costs for source seed production and germplasm import (eggs, semen, bucks, etc), and developing and managing foundation breeding stock (PAD, para. 19).

Component 2: Technology Dissemination and Adoption (Appraisal cost was estimated at US\$26.812 million. At closing the cost was US\$29.43 million). This component aimed at enabling farmers to adopt improved agricultural production technologies and management practices (especially those developed and promoted under Component 1). The component aimed at addressing a series of constraints, including restricted availability of improved variety seeds and breeding stock, the weak absorption capacity of technology by farmers, poor animal husbandry, limited farmer capacity to make complementary on-farm investments, and limited capability and outreach of extension departments. The component had three sub-components (i) support for crop production, (ii) support for livestock production, and (iii) institutional strengthening for extension and outreach. Key activities under these sub-components included: farmer group identification and mobilization, small grants to farmers’ groups, training for farmers and



agricultural/livestock support service providers, demonstrations through Farmer Field Schools (FFSs), and support to farmers for adoption of disseminated technologies.

Component 3: Food and Nutritional Status Enhancement (Appraisal cost was estimated at US\$8.940 million. At closing the cost was US\$9.39 million). This component sought to (i) increase food availability and alleviate seasonal food shortages through the promotion of community grain banks; home-level food preparation, preservation, and processing of locally available high nutritive-value foods. The component also aimed at (ii) improving feeding and caring practices. Key activities included promoting Behavior Change Communications (BCC), establishing homestead production (kitchen garden and backyard poultry) groups amongst households with pregnant or nursing mothers and children under two; providing nutrition education to farmers groups; and promoting simple household labor-saving and drudgery-reducing technologies for women to liberate time for self and child care. Finally, the component also sought to (iii) strengthen capacity for agriculture and livestock Department of Food Technology and Quality Control (DFTQC) staff to promote safe and nutritious food. Activities that were planned to be implemented under the nutrition component included: development of nutrition education and BCC packages and material; trainings; and small grants for simple technologies for home food processing, preservation and reducing women's labor and drudgery; and grain banks.

Component 4: Project Management (Appraisal cost was estimated at US\$5.624 million. At closing the cost was US\$6.51 million). This component sought to support key implementing partners to ensure proper planning, coordination, and alignment of project implementation. Key activities supporting this component included: (i) establishing and supporting project units at the overall, regional level and district levels; (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.

e. Comments on Project Cost, Financing, Borrower Contribution, and Dates

Project Cost. At appraisal, the total cost of the project was estimated at US\$58 million (PAD, pg. vi). At closing, the total project cost was US\$51.04 million (ICR, pg. 32).

Financing. A US\$46.5 million grant was provided by the Global Agriculture and Food Security Program (TF-13719). The actual disbursement at the end of the project was US\$40,589,091 (ICR, pg. 2).

Borrower Contribution. The PAD stated that the Borrower would contribute US\$11.5 million (PAD, page vi). At the end of the project, the Government of Nepal contributed US\$10.33 million (ICR, pg. 32). The Government of Nepal opted to not request an extension of the project's duration and canceled US\$5 million of the remaining GAFSP grant (ICR, para. 17).

Dates. The project was approved on February 11th, 2013 and became effective on April 30th, 2013. A midterm review was conducted on January 27th, 2016. The original closing date was March 31st, 2018. The project closed on this date.



3. Relevance of Objectives

Rationale

Country Context. At the time of appraisal in 2013, the general economic situation of Nepal was improving, despite an ongoing political transition related to the promulgation of a new Constitution and an ongoing peace process. Nepal had made good progress both in terms of poverty reduction and improvements of social indicators. However, development indicators in the project-targeted Mid and Far-West regions of the country were significantly below the national average. The Nepal Living Standard Survey (NLSS III, 2010) showed that 37 percent of people in the rural hills of the Mid and Far-West regions lived below the poverty line compared to the national average of 25.16 percent (PAD, para. 2). Yields of major crops in the region were typically more than 25 percent below the national averages (PAD, para. 2). The regions experienced a prevalence of hunger, high incidence of diarrhea, and were at risk of natural disasters that could impact agricultural production and livelihoods. While agriculture is the mainstay of the rural economy, its productivity was low and there was a substantial gap between potential and actual yields, particularly in the project area – i.e. the Mid-Western and Far-Western development regions (PAD, para 6). As a result, most farm households in the Mid and Far-West regions were dependent on external or emergency food supply (PAD, para. 4). Moreover, the agriculture sector was experiencing several challenges including (i) low availability of good quality seeds and improved breeds of livestock, (ii) insufficient development by research systems of the appropriate technology and management practices for farmers, (iii) weak research-extension farmer linkage, (iv) thin and inadequate support services, (v) low investment in productive assets, (vi) poorly developed market linkages, and (vii) lack of institutions and instruments for agricultural risk-bearing and risk-sharing (PAD, para. 5).

Moreover, chronic maternal and child malnutrition remained a serious problem in Nepal. The prevalence of low birth weight babies was reported as 14.1 percent in the Mid-West and 14.9 percent in the Far-West. In the Mid-West, over half the children under five (50.3 percent) were stunted and over one-third (36.9 percent) were underweight (PAD, para. 8). Similarly, nearly half the children under five (46.4 percent) were stunted and one-third (32.6 percent) were underweight in the Far-West (PAD, para. 8).

Alignment with World Bank Assistance Strategy. The objectives of the project were aligned with the World Bank's Interim Strategy Note (ISN), 2012-2013. The Interim Strategy Note outlined agriculture, infrastructure and social development as the key priorities for Nepal. The project's objectives supported Pillar 1: Enhancing Connectivity & Productivity for Growth and the outcome "increased agriculture productivity". Under Pillar 2: Reducing Vulnerabilities and Improving Resilience, the project's objectives could contribute to reducing food security among poor households (ISN, para. 78). The objectives also supported Pillar 3: Promoting Access to Better Quality Service and the outcome "decreased malnutrition among pregnant women" (ISN, pg. 8).



At project closure, the PDO, while not fully aligned, contributed to the Country Partnership Strategy (2014-2018). In particular, the objective was consistent with Pillar 2 “increasing inclusive growth and opportunities for shared prosperity” and Outcome 2.1 “increasing agricultural productivity and commercialization” (CPS, para 56). The project’s objectives further contributed to Outcome 2.3 “improved health and nutrition services, particularly for the poor and disadvantaged (CPS, para 60).

The objective of this project specifically aimed to address a development problem - food and nutrition insecurity - outlined and described in the World Bank’s Interim Strategy Note of 2012-2013. The project would potentially make a long-term contribution to sustainable and inclusive socio-economic growth in the targeted regions, which was also noted in the Bank’s Interim Strategy Note.

Alignment with Government Development Strategy. The Government of Nepal articulated the importance of food and nutritional security in the second Three Year Plan (2010/11-12/13), in the National Agriculture Sector Development Priority Plan (NASDP 2011-2015), and in the Multi-sector Nutrition Plan (2013-2017) (PAD, para. 9 and ICR, para. 5). In 2010, the Government of Nepal also led consultations with donors and civil society organizations to develop a Country Investment Plan (CIP) to address agriculture and food security, including aspects of availability, access, and utilization (PAD, para. 3). The Government of Nepal had created a multi-sectoral Nutrition Plan (PAD, para 3), which aimed at integrating contributions from the agriculture sector to lay the foundation for a national “nutritional architecture” (PAD, para. 9).

The project’s objectives were designed based on the country context, the Government of Nepal’s priorities, and previous sector experience. The objectives supported and fully aligned with the Interim Strategy Note 2012-2013 agreed with the Government and contributed towards achieving the Country Partnership Strategy (2014-2018). The objectives reflected a key development problem for Nepal, namely food, and nutrition insecurity that had economic and social implications in the short and long-term. Moreover, the inclusion of maternal and child malnutrition through an agriculture project is innovative and aligns with the current Country Partnership Strategy. However, this review questions the extent to which the project was designed to achieve food and nutrition security.

Definition of Food Security. A shortcoming of the definition of food security in the PAD was its exclusive focus on the supply of food. A World Bank policy study titled “Poverty and Hunger: Issues and Options for Food Security in Developing Countries” published in 1986 defined food security as “access by all people at all times to enough food for an active and healthy life”. This definition (which received worldwide support) emphasizes that poverty, high food prices, isolation, conflict, inadequate transport and other impediments to accessing food are more fundamental and more complex causes of food insecurity than food availability. Improved food availability through increased productivity of food crops and livestock production was undoubtedly a necessary condition for food security for the targeted communities, particularly because trade in food is difficult if not impossible during the winter in the project area. The objective of improved food availability was, however, not a sufficient condition for achieving food security because the project did not ensure access to food. In addition, improvements in the access of the targeted communities to food were not measured in this project. For example, there was no assessment during the project’s implementation of increases in household income or reductions in food prices both of which may have indicated improvements in food security. This review therefore concluded that the project’s declared



objective of increasing food production and food availability would not result in and was hence not relevant to the PDO of “enhancing food security in targeted communities”.

Improved nutrition security through “improved dietary intake”, made possible by the promotion of diversified diets, and improved feeding and caring practices of pregnant and nursing women and for children up to 2 years of age” cannot be achieved until women have the resources through purchases or barter to access an improved dietary intake. This access was likely to be precluded by the same factors that are likely to thwart enhancement of food security.

Conclusion. The relevance of this project's first core objective to enhance food security of targeted communities in selected locations is rated "modest" in this review because food security was not included as an objective in the results framework in the PAD or in the "retrofitted" theory of change in the ICR. Moreover, the PAD states that "improving agricultural productivity (is) the core focus of the proposed operation" (PAD, para. 11). While this focus supported Nepal's Interim Strategy Note and the Country Partnership Strategy, the achievement of improved agricultural productivity does not necessarily lead to increased food security. The PAD also did not provide any indicators to measure a change in food security - a clear signal that food security was not the essential objective. The relevance of the project's second core objective of achieving nutrition security of targeted communities in selected locations is also rated "modest" because "nutrition security" was not included in the results framework rather the objective listed in the results framework was "improving dietary intake" which was not a measure of nutrition security nor access to nutrition security. The relevance of objectives is therefore rated "modest".

Rating

Modest

4. Achievement of Objectives (Efficacy)

Objective 1

Objective

Enhance food security of targeted communities in selected locations of the Recipient's territory through increased food availability

Rationale

According to the PAD's definition, food security was to be realized through increased food availability, made possible by increasing the productivity of agriculture, both crop and livestock. The project was implemented in 19 poor project districts in the mid and far-western regions of Nepal.

The theory of change for this project was retrofitted for the ICR, as there was no theory of change presented in the project appraisal document (ICR, para. 6). The theory of change in Table 1 in the ICR underpinning the first objective indicates that:



- If there were improved food crop production and food crop diversification (through more productive and nutritious varieties, source seed production, and improved food crop management practices),
- and if there was improved livestock productivity (through breed improvement and improved livestock management practices),
- then there would be improved food availability and access, as well as improved nutrition status which would lead to enhanced food and nutritional security in targeted communities.

The theory of change presented in Table 1, while logically invoking improved “availability and access” of food as a criterion for achieving food security, failed to link project activities which generated increased food production to improved access of the target communities to food and hence to one of the project’s core objectives of enhanced food security. Indeed, neither the results framework in the PAD nor the theory of change in the ICR included outcome indicators that measured the achievement of food security.

Outputs:

Attempts were made by the project, through the Community Score Card assessment, to collect supporting data on agricultural production technology adoption. Unfortunately, there were issues with the methodology and reliability of data. Given that there were numerous other donor-supported projects with broadly the same objectives being implemented in the same districts, the lack of indicators and data to demonstrate the link between this project’s activities and increased agricultural productivity raised questions about the extent to which increased productivity was attributable to this project.

Nevertheless, according to the ICR, the following specific outputs were achieved throughout the life of the project:

Producers Supported

- 47,757 crop producers were beneficiaries of the project (85% women) (target exceeded target 40,000, ICR, pg. 6)
- 38,425 livestock producers were beneficiaries of the project (90% women) (target exceeded, target: 27,000, ICR, pg. 6).
- 1,889 crop producers groups were supported (target not met, target: 2,000, ICR, pg. 25).
- 1,557 livestock producers groups were supported (target met, target: 1,300, ICR, pg. 25).
- 1,932 crop farmer field schools (85% of participants were women) and 363 livestock farmer field schools (96% of participants were women) were conducted throughout the project (ICR, pg. 27 para. 1).
- 3,700 farmer groups (61,460 farmers) participated in crop demonstration (ICR, pg. 27, para. 3).



Technology

- 4,066 small grants for technology adoption were approved, benefiting approximately 101,850 people (of which 83,100 or 82% were women). Approximately 1,500 grants went to the crop sector and livestock sectors, and 1,050 grants were in the nutrition sector. A total of US\$11.2 million was distributed through small grants (ICR, pg. 27, para 2).
- 30 improved technologies packages, including 22 and 8 livestock packages, were released for project area farmers (target met, target: 29, ICR, pg. 19).
- 6,580 field trials of improved technologies were conducted by the Nepal Agricultural Research Council (NARC) (target exceeded, target: 4,000, ICR, pg. 6).
- 17 crop varieties were released
- 583 metric tons of source seeds were produced (target exceeded, target: 540 metric tons, ICR, pg. 23).
- 225 improved goats (175 Boer goats and 50 Saanen goats) and 12,500 doses of frozen buck semen were imported and distributed (ICR, pg. 28, para. 4).
- 2,133 Boer kids were distributed (target met, target 2,000 kids).
- 7,275 kids (7035 Boer and 240 Saanen) were produced.
- 1,351 irrigation schemes were financed during the project for a total cost of US\$1.8 million (Target exceeded, target: 380 schemes, ICR, pg. 28). A total 33,300 farmers (of which 44% or 14,600 were women) benefited from these irrigation schemes covering 3,942 ha of irrigated land (ICR, pg. 28).

Seed replacement rates

- 27.30% of paddy seed varieties were replaced (target exceeded, target: 17.20%, ICR, pg. 24).
- 30.40% of wheat seed varieties were replaced (target exceeded, target: 16.40%, ICR, pg. 24).
- 28.20% of maize seed varieties were replaced (target exceeded, target: 24.70%, ICR, pg. 24).
- 34.50% of potato seed varieties were replaced (target exceeded, target: 26%, ICR, pg. 24).

Outcomes:

Small grants provided to the crop and livestock sectors enabled investments in productive assets. Sector investments were made in vegetable cultivation, fruit/vegetable processing, solar dryer, cereal seed production, thresher/grinder, power tiller, community grain bank, shed improvement, compost production, agriculture tools, and grain stores (ICR, pg.27, para. 2). Similarly, livestock sector investments were in asset development through goat and poultry purchase, shed construction/improvement, vermicompost pit construction, dipping tank construction, milk marketing, nursery establishment, pig purchase, poultry hatchery, small feed industry, private parapet establishment, chaff cutter/forage production, and fish pond construction/repair (ICR, pg. 27, para. 2). That said, the ICR did not provide any evidence that directly linked



the small grant investment to the increase in crop or livestock productivity nor a link between increased agricultural productivity and “enhanced food security.”

The ICR notes that the variety and breed improvements were successful, in part, due to the establishment of private seed and breed multiplier farmers who propagated improved seeds and breeds for distribution (ICR, para. 18). For example, 181 metric tons of certified seeds were produced as part of the seed multiplication program. This enabled multiplier cooperative/farmers in the districts in turn to produce 4,800 metric tons of seeds (ICR, para. 19). As a result, according to the ICR, some districts (such as Surkehet) have become self-sufficient in food crops but this would not have ensured that access to food and hence food security of consumers was enhanced

A Community Score Card (CSC) assessment revealed that 70% of beneficiaries had adopted project-sponsored activities (ICR, pg. 34, para. 6). Levels of adoption were also indicated in the same range for livestock technologies (ICR, pg. 34, para. 6). During the CSC assessment, communities expressed satisfaction on project-supported activities, and with their acquisition of skills regarding the use of improved agriculture and livestock practices (ICR, pg. 34, para. 6). The ICR did not provide any evidence that participants had actually improved their knowledge or skills as a result of the activities, simply that the participants appreciated the project’s support to farmers to engage in these activities.

A Beneficiary Results Assessment (BRA) end line survey conducted in March 2018 collected evidence that there was an increase in crop and livestock productivity on farms in the project area. The improvement of crop and livestock productivity were key project indicators for this objective but they were not indicators of increased access to food and hence not indicators of “enhanced food security”.

A total of 47,757 farmers increased their productivity in crops, of which 83% were women (Target exceeded, Target: 47,757, ICR, pg. 20). For example, across the four main targeted groups (paddy, wheat, maize, and potatoes) productivity targets were exceeded. Productivity increased in paddy rice to 4.46 tons/ha, wheat to 2.27 tons/ha, maize to 3.02 tons/ha, and potato crops 7.14 tons/ha (Targets exceeded, Targets: paddy rice 3.77 tons/ha, wheat 1.82 tons/ha, maize 2.47 tons/ha, and potatoes 6.24 tons/ha, ICR pg 19).

A total of 38,425 farmers also increased their livestock productivity, of which 90% were women (Target exceeded, Target 27,000, ICR pg. 21). More specifically livestock production increased in the following ways, goat meat production to 36.6 kg per 12 month old goat , egg production to 90 eggs per hen, cow and buffalo milk production to 934 liters per animal (Targets Exceeded, Targets: goat meat 35kg, egg production 35.8 eggs, cow and buffalo milk 837.9 liters, ICR, pg. 21).

The World Bank’s Development Impact Evaluation Initiative (DIME) conducted an impact evaluation of the project and identified amongst other things that, on average farming and livestock households’ income grew by 18% more in village development committees (VDCs) where the project had interventions than in control groups in VDCs outside the project area. This information suggests that the increase in productivity of crops and livestock translated into higher household income in the VDCs included in the project. The ICR did not



include any information about changes in food prices during the project's implementation which would have indicated the impact which increases in food prices could have had on real incomes.

DIME results related to food security outcomes showed a mixed picture. Measures of food insecurity showed improvements from baseline to endline survey, but these results were not statistically significant. According to the DIME evaluation, "a strict interpretation of this finding is that the AFSP (project) areas did no better on food security indicators than non-AFSP areas." (DIME, pg. 55).

Conclusion. The ICR asserted (paragraph 2) the urgent need in the project area to improve crop productivity and livestock yields in order to increase food production in the project area. Evidence in the ICR demonstrates that the project either met or exceeded all its key targets for increased productivity of crops and increased yields from livestock production and therefore (given the PAD's definition of food security) substantially achieved the objective of enhanced food security. While there were no indicators to measure increased food consumption or access to food in the project, the DIME report showed that farming and livestock households' income grew by 18% more in village development committees (VDCs) where the project had intervention than in control VDCs. These data suggest that there may have been enhanced food security due to increased income but any conclusion of the net impact on food security would be dependent on the trend in food prices. However, the DIME evaluation also stated that relative food security improvements in the project area compared with control groups were not statistically significant. Nevertheless, the efficacy of this objective is rated substantial based on the definition of food security in the PAD, namely that it is associated with the achievement of increased food production. The ICR did not, however, provide direct evidence that the project enhanced food security in the target communities.

Rating
Substantial

Objective 2

Objective

Enhance the nutritional security of targeted communities in selected locations of the Recipient's territory through improved dietary intake.

Rationale

According to the PAD nutrition security was to be realized through improved dietary intake, made possible by the promotion of diversified diets, and improved feeding and caring practices of pregnant and nursing women and children up to 2 years of age" (PAD, para. 13).

The theory of change underpinning this objective (ICR, Table 1) suggests that if pregnant and nursing mothers and children up to the age of 2 have access to diversified diets and increased information and knowledge about nutrition education, food safety issues, and feeding norms, then there would be a change



in behavior, improved feeding and caring practices, an increase in dietary intake among the target group, and enhanced nutrition levels.

There were sufficient activities to support the expected outcomes and the overall anticipated impact of the project. However, the results framework's indicators failed to adequately link activity-level achievements to the project's expected outcomes and impacts. For example, there were no indicators that measured the participants' increased knowledge of adequate nutrition, food safety or feeding norms. Indicators were also lacking in the area of behavior change and access to diversified diets. One could assume that improved crop and livestock productivity contributed to increased food availability and the potential for an improved diet in the project's targeted communities, but the theory of change provided no evidence of a direct link between increased food availability and nutrition security.

Outputs:

The following outputs contributed to the achievement of the objective:

- 49,873 households with pregnant and nursing mothers received project supported behavior change communication materials (target exceeded, target: 45,000, ICR, pg. 25).
- 2,159 women's groups were trained in preparation of nutritious foods (target exceeded, target: 1,500, ICR, pg. 25 and 28). A total of 51,137 women participated in 1,293 Food Preparation, Processing, and Preservation (FPPP) were conducted (target not provided, ICR, pg. 6).
- The project also conducted Homestead Nutrition Garden (HNGs) demonstrations for pregnant and nursing mothers. Women's groups were trained on Village Model Farms (VMFs) and how to establish their own HNGs. They were provided with vegetable seeds and chickens they could raise. They received training on vegetable cultivation, poultry, and nutrition (ICR, pg. 39).
- 1,050 small grants were provided for the nutritional sector as part of this project. The grants funded labor saving tools like hand tractors, improved cooking stoves, biogas production, grinding and hulling mills, nettle powder, pickle making, clean home, and nutrition friendly kitchen, oil extractor, improved water mill, and vegetable and fruit dryers (ICR, pg. 27 and para. 2). The ICR explains, for example, that as a result of these small grants women did not have to travel several hours to mills to get their grains processed (ICR, para. 30).

Outcomes:

The ICR does not provide any evidence related to effectiveness or results related to trainings in nutritional education, small grants, behavior change communications. It also does not include any evidence of improved feeding practices. That said, the ICR demonstrates that dietary intake for pregnant and nursing women improved. Based on the end-line Beneficiary Results Assessment (BRA) survey, and comparing baseline reports, pregnant and nursing mothers improved their:



- animal protein intake increased by 89% over the baseline level (target exceeded, target: 71%, ICR, pg. 8), and
- fruit and vegetable intake increased by 78% over the baseline level (target exceeded, target: 72%, ICR, pg. 8).

For infants between 6 and 24 months, dietary intake also improved by 80% over baseline levels (target exceeded, target: 72%, ICR, pg. 8).

It is likely that the improved dietary intake (PDO indicator) was a result of the project's activities and accomplishments, particularly given the numerous women that participated in the project's program and achievements in Objective 1. An impact evaluation produced by the World Bank's Development Impact Evaluation Initiative (DIME) determined that the health of mother's groups quadrupled in project-communities vs. doubling in non-project communities. The ICR notes that women, particularly women's groups in the Village Model Farms (VMF) started to organize and save as a group in order to apply for small grants (ICR, para. 30). With the project's help, some of the women were also able to open bank accounts in their names.

Conclusion. While it is likely that economic benefits accrued to women who participated in the program, pregnant and lactating mother's dietary diversity and average maternal knowledge increased at similar rates in the project and non-project communities (ICR, para. 24). This finding put into question the effectiveness of the trainings received by the women and whether there were other factors that contributed to the achievement of the targets. Overall, the ICR did not provide sufficient evidence to demonstrate a link between the project's activities and its expected results and impacts on dietary intake. Consequently, the efficacy of improving dietary intake is rated modest and hence no assessment of the efficacy of "enhancing nutrition security" was possible.

Rating
Modest

Rationale

The project achieved increases in crop and livestock productivity; in other words the project achieved an increase in food availability. Nutritional security, defined as improved dietary intake by pregnant and nursing women and children under the age of 2, improved but the counterfactual showed that the dietary diversity by mothers not in the targeted communities also increased during the same time period. The achievement of enhanced nutritional security was therefore rated as modest. Given the positive evidence of increased food production and some evidence of improved dietary intake by pregnant and nursing women and children under the age of 2, the project's overall efficacy is rated substantial because it achieved the PAD's interpretation of the PDO (questioned in this review) - namely that increased food availability would enhance food security.



Overall Efficacy Rating

Substantial

5. Efficiency

Scope of Analysis: A cost-benefit analysis (CBA) approach was used at appraisal to capture the expected benefits from investments in agriculture technology management from development to adoption. At appraisal, key quantifiable benefits included: (i) increased source seed production to support quality certified seeds production for sustaining the target seed replacement rate (ii) increased adoption of demonstrated agricultural technology (iii) diffusion of crop production technology beyond direct beneficiary arms (iv) Increased product productivity (v) increased vegetables productivity/production- due to improved variety/seed quality and production technology and (vi) increased livestock productivity, assess improvement resulting from the supply of land information (ICR, pg. 81). The analysis did not take into account the benefits produced by the nutrition enhancement program (ICR, para. 23).

To ensure methodological consistency and comparability, an ex-post economic analysis was conducted that used the approach adopted in the PAD. The ex-post economic and financial analysis used data from the M&E system, Development Impact Evaluation (DIME), Beneficiary Results Assessment (BRA), and Community Score Card Assessment (FAO).

Economic and Financial Analysis: The health of mother's groups quadrupled in project-communities vs. doubling in non-project communities. Pregnant and lactating mother's dietary diversity and average maternal knowledge increased at similar rates in the project and non-project communities (ICR, para. 24).

The analysis in the PAD estimated an Economic Rate of Return of 20.4% with a Net Present Value (NPV) of US\$17.9 million (PAD, pg. 58). At completion, the ICR undertook an analysis using a similar methodology to the PAD. The results were better than those in the PAD. The Economic Rate of Return was 29.2% and the Net Present Value was US\$25.5 million (ICR, para. 26).

The project also assessed cost-effectiveness by comparing project unit costs in implementing investments vs costs incurred by similar projects or standards commonly used in Nepal (ICR, para. 27). It found that when it came to extension activities (such as trainings) the project was cost-effective. For example, project extension activities cost NPR 65,000 compared to NPR 106,400 under the Government of Nepal's norms (ICR, para. 27).

The project finished on time and under budget. However, project management costs were on the high side at close to 13% of total project costs.



Overall the economic and financial analysis (to the extent it could be applied to the project's results) showed that investments in the project were efficient. As a result, the project's efficiency is rated as Substantial.

Efficiency Rating

Substantial

a. If available, enter the Economic Rate of Return (ERR) and/or Financial Rate of Return (FRR) at appraisal and the re-estimated value at evaluation:

| | Rate Available? | Point value (%) | *Coverage/Scope (%) |
|--------------|-----------------|-----------------|--|
| Appraisal | ✓ | 20.00 | 30.00 <input type="checkbox"/> Not Applicable |
| ICR Estimate | ✓ | 29.00 | 30.00 <input type="checkbox"/> Not Applicable |

* Refers to percent of total project cost for which ERR/FRR was calculated.

6. Outcome

The PDO was based on the country context, Government of Nepal's priorities, and previous sector experience. The objective tackled a key development problem, food, and nutrition insecurity. That said, the project's definition of food security was heavily weighted toward food availability with no attempt to assess access to food or measure whether or not enhanced food security had been achieved. Nutrition security was similarly restricted to dietary intake with no indicator for nutrition security. While it was innovative to include maternal and child malnutrition in an agricultural project, the inappropriate definition of food security resulted in a rating of modest for the relevance of objectives.

Evidence in the ICR demonstrated that the project either met or exceeded all its key targets for increased productivity and production of crops and increased yields from livestock production. The targets for dietary intake were also met. On the other hand, the ICR provided insufficient evidence to demonstrate a link between the project's activities and the achievement of the twin objectives of enhanced food security and nutrition security. Nevertheless, based on the increased availability of food generated by the project and increased household income, there was a potential for enhanced food security. However a DIME evaluation concluded that the project that outcomes related to food security were not statistically significant. The DIME evaluation states that project areas "did no better on food security and nutritional indicators than non-AFSP (project) areas." (DIME, pg. 55). The rating of the project's achievements was rated substantial based on the PAD's definition of the PDO and not necessarily on the achievement of food security.

This review assessed that part of the project amenable to an estimate of efficiency (about 30%) as having



an economic rate of return of 29% when the project closed. The project also revealed significant cost-effectiveness and its overall efficiency was therefore rated substantial.

As a result of the ratings for relevance, efficacy and efficiency, the overall outcome of the project is rated moderately satisfactory.

a. Outcome Rating
Moderately Satisfactory

7. Risk to Development Outcome

Sustaining Increases in Productivity – While the project has made important gains towards achieving its agricultural productivity objectives, the ICR reflects that many community groups supported face constraints related to access to technology and markets. The constraints are associated with input supply for production and demand for finished products. These constraints may be difficult to alleviate in future without direct project support. While assistance could be provided by the “new local bodies”, it is unlikely that they will take on this role as they will be fully occupied managing basic services. Nevertheless, the ICR noted that “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”. Therefore, although some producer groups have made gains with the support of this project, without ongoing technical and institutional and financial assistance, some of the outcomes related to crop and livestock productivity may be at risk (para 50).

Sustaining Improvements in Nutrition – It is difficult to assess whether the outcomes related to increased dietary intake of pregnant or lactating women are at risk, given that the ICR did not provide evidence of the factors that led to the increased dietary intake. One possibility is that if there were to be a decrease in crop or livestock production, women may make different decisions related to their own dietary intake and that of their children. This would underline a conclusion that nutritional outcomes in the remote targeted communities will continue to be susceptible to a range of agricultural risks due to fluctuations in agricultural input and output markets, and exposure to natural disasters including environmental and climate change.

8. Assessment of Bank Performance

a. Quality-at-Entry

The project benefited from a Project Preparation Advance (PPA).

The project was designed in light of lessons learned from several projects, notably the grassroots CDD nutrition project, implemented in Nepal in the agriculture, livelihood, and nutrition sector (PAD, para. 25 and



ICR, para. 33). Some of the other lessons used in designing this project were derived from the Poverty Alleviation Fund, the Nepal Social Safety Net Project, Irrigation and Water Resource Management Project, and the Sunaula Hazar Dim Project (PAD, para 10).

The PAD was also explicit about how the project's objectives sought to complement, support, or work together with these projects (PAD, para. 26-29). The PAD also showed that the Bank was aware of other donors working on similar objectives, such as USAID's Feed the Future initiative.

The institutional arrangement with a PMU benefited from strong TA support from FAO. This relationship was able to support ministries and local administrations. While effective, this arrangement was also complex (ICR, para. 33).

The project was ready for implementation at the time that the grant was approved. The project did not require any extensions or restructuring.

Nevertheless, the project's design was deficient because it failed to link project activities which generated increased food production to enhanced access of the target communities to food security and hence to one of the project's core objectives. As a result of this design flaw, the quality of entry is rated as moderately satisfactory.

Quality-at-Entry Rating Moderately Satisfactory

b. Quality of supervision

The Bank conducted a total of 12 support missions throughout the life of the project, and a Midterm Review in January 2016. A comprehensive supervision mission was conducted in March 2017 prior to project closure (ICR, para. 36). Bank mission reports were candid about critical issues in the project, including project staff performance and staffing arrangements (ICR, para. 47) to be elaborated below. On the other hand in the same paragraph the ICR stated that "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'". This was clearly not the case. It was, for example, surprising, that the shortcomings in the M&E system such as the lack of indicators for the core objectives of enhanced food security and enhanced nutritional security was not corrected during the project's implementation.

The Bank team, under three task team leaders, worked with technical, fiduciary and safeguard specialists. The team also undertook periodic field visits, usually at six-month intervals with regular visits to the project area (ICR, para. 47). The technical specialists remained the same during the entire implementation period; most of them were from the Bank's field office in Kathmandu (ICR, para. 36).

Project implementation was managed by the Ministry of Agricultural Development (MoAD), Ministry of Health (MoH) and Ministry of Livestock Development (MoLD); but, also relied on third parties for actual



project execution such as state entities (for example, NARC and private service provider (NGOs or independent cooperation agencies).

Due to lack of local capacity the "national administration and service providers" in the short term, and to train a cadre of staff that could take over following project completion (ICR, pg. 29) FAO was selected (with experience implementing similar projects in Nepal) to provide technical assistance to complete project implementation. FAO provided assistance to all key counterparts at national, regional and district level (ICR, pg. 29).

The project had to adjust to two external events that were outside the project controls. The project was implemented during the 2015 Nepal earthquake that caused numerous casualties and created major socio-economic disruptions. The second external event was India's embargo on exports to Nepal. This event disrupted the supply lines required for the acquisition of goods from the project (ICR, para. 37). The security situation in the project area remained peaceful throughout the project.

This review rates the overall quality of supervision is rated as moderately satisfactory.

Quality of Supervision Rating

Moderately Satisfactory

Overall Bank Performance Rating

Moderately Satisfactory

9. M&E Design, Implementation, & Utilization

a. M&E Design

The monitoring and evaluation system was purposefully designed in the appraisal documents. Key M&E arrangements included drafting an M&E strategy and plan (PAD, para. 34). The project also planned to use a Project Management Information System (PMIS) and conduct internal and external assessments and evaluations. The PMU had the responsibility for M&E functions, which were meant to take place primarily at the beneficiary and community level (PAD, para. 34). The evaluation system included a baseline and an impact evaluation to be conducted by the Development Impact Evaluation Initiative (DIME) (PAD, para 35-36).

The project's theory of change ignored the complex pathways to enhanced food security and nutrition security. In addition, the results framework did not include adequate indicators to measure the outcomes expected at the activity and outcome levels. Furthermore, while the results framework included some key output indicators, it did not include indicators related to quality or outcomes of the activities. For example, there were no indicators to measure technology adoption, the effectiveness of the small-grants program, behavior change of pregnant or nursing mothers, knowledge change of crop or livelihood producers and importantly food security and nutritional security. As a result of the lack of evidence provided by the M&E system, and while the project



met many of its PDO indicators, the project's contributions toward the achievement of enhanced food security and enhanced nutrition security could not be determined.

The project did not make any revisions to its design, activities, indicators, or targets during implementation.

b. M&E Implementation

According to the ICR, M&E data were collected and analyzed methodologically by the PMU's M&E section. FAO assisted in developing data collection and processing systems (ICR, para. 38). Data collection was delayed as assistance commenced only in January 2014, and this produced over 15 months of delay (ICR, para. 38 and pg. 40).

The ICR reflected that there was limited data collection, record keeping, and analysis capacity at the district and central levels. At the central level, the project was not able to interface sufficiently with other data collection units within the Government of Nepal, as well as the NARC unit. More collaboration with other governmental units could have provided secondary information on outputs and outcomes that could have cross-checked with project generated data (ICR, para. 38).

The project was designed with multiple components that could be adapted and were flexible given the local context. The ICR adequately laments that unfortunately the monitoring system was not designed to gather data to test the effectiveness of different interventions (ICR, para. 49). The project was unable to articulate what worked well in one community vis a vis another community due to an insufficient M&E system (ICR, para. 49).

An impact evaluation was completed by DIME which involved three rounds of data collection, including baseline, midline, and end-line (ICR, para. 24). According to the ICR, the quality of the different assessments varied. According to the ICR, the DIME impact evaluation was of "excellent quality and provided reliable data on the project's impact on income." The BRA and Community Score Card assessments had some shortcomings (ICR, para. 39).

c. M&E Utilization

The ICR noted that the project prepared semi-yearly progress reports on project outputs. M&E data were used effectively to inform project management and decision-making (ICR, para. 38).

The M&E system design was moderately well designed, but it lacked PDO indicators that linked activity outcomes to project outcomes. Out of the 4 years that the project was under implementation, the project failed to collect M&E data for 15 months. The ICR did not adequately demonstrate that M&E evidence was used during implementation. In light of these shortcomings M&E quality is rated modest.



M&E Quality Rating

Modest

10. Other Issues

a. Safeguards

The project was classified as Environmental Category “B” Partial Assessment. At appraisal, it triggered the following safeguards: Environmental Assessment (OP 4.01), Natural Habitats (OP/BP 4.04), Forests (OP/BP 4.36), Pest Management (OP 4.09), Indigenous Peoples (OP/BP 4.10), Involuntary Resettlement (OP/BP 4.12), and Projects on International Waters (OP/BP 7.50).

An Environmental Management Framework (EMF) was prepared to guide the implementation, monitoring and reporting on environmental issues. Operational manuals and guidelines for screening and training were also provided to implementing partners. Systematic screening processes were not adopted initially, notably in the investment sub-projects. There were also delays in recruiting Environmental Specialists (ES) at PMU level. Human resources factors weakened safeguard performance. These factors were; gaps in environmental staffing and lack of staff stations in remote areas to perform environmental monitoring (ICR, para. 40). The ICR also acknowledges some gaps in the overall monitoring of safeguards. In particular, the ICR notes the inconsistency in the screening of sub-projects like livestock rearing and poultry farming, and inconsistent technical backstopping of the communities in small grant sub-projects (ICR, para. 43).

Involuntary Resettlement (OP/BP 4.12): A Social Management Framework (SMF) was also prepared as part of the project implementation. When it came to compliance with Involuntary Resettlement, the project did not involve any land acquisition and resettlement causing physical or economic involuntary displacement. Small areas of land parcels for sub-projects (such as small irrigation networks, seed proceeding facilities, grain storages, rustic houses, grinding facilities) were acquired through donations (ICR, para. 41).

Gender and Social Inclusion: When it came to Gender and Social Inclusion, the project’s subgrants were meant to reach female beneficiaries and disadvantaged social groups, including Dalits and indigenous peoples (ICR, para. 41). Nearly 95% of project beneficiaries were women. Unfortunately, there were only a limited number of women as part of the project management team (ICR, para. 41).

Safeguard Compliance: Preliminary environmental and social assessments were carried out in 3,600 subprojects (89%) using environmental safeguard screening (ICR, para. 42). No sub-projects had negative impacts that could not be mitigated through appropriate implementation. An independent environmental safeguard consultant confirmed this finding through an Environmental Safeguard Compliance review. Systematic guidelines and related capacity building activities were maintained and mainstreamed through environmental safeguard operational guidelines. Finally, project planning, implementation, and monitoring of safeguards issues were undertaken through the Project Environmental and Social Management Committee (PESMC) at the national level and the District Environmental and Social



Management Committees (DESMCs) at the district level. These committees were made up of all stakeholders that were part of the project, including local government and civil society. According to the ICR, the committees met regularly and elicited broad-based participation in the review of Environmental Safeguards issues (ICR, para. 42).

The ICR concluded that despite the positive aspects to safeguard compliance, (i) the environmental safeguards performance rating during supervision missions was regularly assessed as Moderately Satisfactory; and (ii) the social safeguards performance was also rated Moderately Satisfactory during supervision (para 43).

b. Fiduciary Compliance

The ICR provides different assessments of the quality of financial management. In paragraph 35 it is reported that "The PMU dealt efficiently with fiduciary matters", stating that "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". In addition 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". On the other hand in paragraph 44 the ICR concluded that the project's financial management performance was moderately satisfactory noting that "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 ICR went on to state in the same paragraph that "Based on the experience of AFSP an effective financial monitoring (through a financial management information system) could not be systematically conducted".

Procurement: The procurement management performance rating was satisfactory throughout the life of the project. All project procurement activities were completed within the project period, except for the initial delay in contracting technical assistance from FAO. The project benefited from an individual procurement consultant who assisted in planning and expediting project procurement processes. The ICR noted that "procurement was key to project implementation and achievement of PDO" (ICR, para. 45).

c. Unintended impacts (Positive or Negative)

This project was able to reach small scale female producers. The project worked with district-based NGOs to identify participants from geographically remote, marginalized caste groups, especially Dalits and Janajatis, single women, and physically disabled people. Dalits generally do not participate in agriculture-related activities (ICR, para. 32), and as a result, mobilizing them to participate in the activities was a challenge (ICR, para. 32). Key activities that enabled the inclusion of vulnerable groups included vegetable



growing, livestock activities, small grants to household groups, and mother and child health and nutrition programs (ICR, para. 32).

The Bank actively mainstreamed gender aspects to ensure women's inclusion and participation in the program (ICR, para. 47). Unfortunately, women were underrepresented in project management.

d. Other

None

11. Ratings

| Ratings | ICR | IEG | Reason for Disagreements/Comment |
|------------------|--------------|-------------------------|--|
| Outcome | Satisfactory | Moderately Satisfactory | The inappropriate definition of food security in the PDO and the absence of an indicator of food security in the results framework resulted in a rating of modest for the relevance of objectives, a modest rating for the efficacy of one of the objectives, substantial efficiency and hence a moderately satisfactory overall outcome rating for the project. |
| Bank Performance | Satisfactory | Moderately Satisfactory | The project's design flaws and inadequate supervision led to moderately satisfactory ratings for both quality at entry and supervision. |
| Quality of M&E | Modest | Modest | --- |
| Quality of ICR | | Substantial | --- |

12. Lessons

The following three lessons are selected from the five presented in the ICR (with some editing) because of their potential broad relevance to other Bank operations:

1 . Female crop or livestock producers can be more productive than male counterparts. For example, an FAO study prepared in connection with the implementation of this project showed that when women gained



access to the same resources as men, they were 20 to 30% more productive, especially when it came to livestock production (ICR, para. 51). Given the considerable outward migration of men from Nepal has resulted in the feminization of the agriculture sector the project targeted rural women. The ICR reflected, that in these circumstances giving priority attention to the constraints women face in the specific value chains in which they play a dominant role can pay high dividends.

2 . Nutritionally Sensitive Agriculture (NSA) systems, which integrate agricultural development, food security, nutrition, and public health, can enhance income and overall well-being of rural poor and vulnerable populations. For example, the project was able to integrate both productive and reproductive/livelihood household activities by involving the producer's group at the grassroots, mostly women's groups (ICRP, para. 52). The project reflected the need to also include Civil Society Organizations (CSOs,) and formal farmers' organizations and cooperatives.

3 . Participatory approaches to agricultural extension, through Farm Field Schools, supported farmer's individual involvement and proved adaptable to local needs. For example, Farm Field Schools (FFS) was the vehicle to train farmers. These schools provided farmers with an opportunity to share their experiences in crop and livestock practices under improved and traditional management (ICR, para. 53). According to the ICR, farmer facilitators trained under FFS within the targeted communities were able to train other farmers and help sustain skill development (ICR, para. 53).

13. Assessment Recommended?

Yes

Please explain

This ICRR recommends this project receive an additional assessment. While there is strong evidence to suggest that the project increased food productivity, questions remained on the extent to which this led to enhanced food security (improved access to food and increased consumption). While a DIME evaluation was conducted, it focused on effects on the project's livestock and farmer producers and pregnant and nursing mothers. The DIME sample group overlapped with the project participants. Given the large number of organizations and donors working in the same area in comparable agricultural projects, more evidence is needed to assess the net efficacy in terms of food security. Moreover, the impact of nutritional changes are typically only witnessed over long-periods of time. An additional assessment could help determine to what extent nutritional interventions were sustained and had an impact

14. Comments on Quality of ICR



The ICR was generally clear, well written and interesting with a logical outline which complied with OPCS guidelines. The ICR also provided a useful, albeit partial, theory of change that helped frame the report and its findings.

The Efficacy section was very clear, despite the lack of relevant indicators of enhanced food security and enhanced nutrition security linking activity results to outcomes. There was useful information in annexes that could have been included in the discussion of efficacy in the main text of the ICR. Similarly, there were pieces of very useful information sprinkled throughout the report that contributed to the understanding of the project's simple "first order" efficacy.

The ICR author correctly pointed out key weaknesses in the project's monitoring and evaluation system that prevented the project from fully articulating a complete story and full description of the activity outcomes. More use could have been made of the data in the DIME impact evaluation that could have been usefully included in assessing efficacy. The project's lessons were interesting.

A significant inconsistency was, however, noticed in the ICR. The rating of the project's overall outcome which was recorded as "satisfactory" in the Data Sheet on page 2 of the ICR was rated "moderately satisfactory" in the section titled "Justification of Overall Outcome Rating" (paragraph 29). IEG was advised by the Bank's project team that the intended rating was satisfactory in paragraph 29.

a. Quality of ICR Rating
Substantial