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# NEPAL FLOOD RECOVERY PROGRAM (NFRP) EVALUATION REPORT



December 11, 2012

This publication was produced for review by the United States Agency for International Development. It was prepared by Er. Babu Ram Adhikari (Team Leader), Er. Shuva Kanth Sharma, Mr. Buddhi Ram Chaudhary and Ms. Ansu Tumbahangfe of Scott Wilson Nepal Pvt. Ltd.

# **NEPAL FLOOD RECOVERY PROGRAM**

## **EVALUATION REPORT**

**December 11, 2012**

### **DISCLAIMER:**

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

# Contents

Abbreviations	iii
List of Tables, Figures, Boxes and Maps	iv
Executive Summary	v
<b>Chapter 1: Introduction</b>	<b>1</b>
1.1. Background	1
1.2. Purpose of the Evaluation	2
1.3. Research Questions	2
1.4. Structure of the Report	2
<b>Chapter 2: Methodology</b>	<b>3</b>
2.1 Methodological Framework	3
2.2 Study Sites and Sampling	4
2.2.1 Household Survey Sampling	5
2.2.2 Focus Group Discussions	5
2.2.3 Key Informant Interviews	5
2.2.4 Observations	6
2.3 Limitations of the Methodology	6
<b>Chapter 3: Commercial Agriculture</b>	<b>7</b>
3.1 Commercial Agriculture Component	7
3.2 Key Findings	8
3.3 Conclusions	12
<b>Chapter 4: Productive Infrastructures</b>	<b>14</b>
4.1 Productive Infrastructure Component	14
4.2 Key Findings	14
4.3 Conclusions	16
<b>Chapter 5: Nutrition and Hygiene</b>	<b>18</b>
5.1 Nutrition and Hygiene Component	18
5.2 Key Findings	18
5.3 Conclusions	19

<b>Chapter 6: Cross Cutting Issues</b>	<b>21</b>
6.1 NFRP Cross Cutting Issues	21
6.2 Observations	21
6.3 Unintended Consequences	24
<b>Chapter 7: Lessons Learnt and Recommendations</b>	<b>26</b>
7.1 Lessons Learnt	26
7.2 Recommendations	26
<b>References</b>	<b>28</b>
<b>Annexes:</b>	
Annex 1: Statement of Work	1
Annex 2: First Person: Case Studies	13
Annex 3: Indicators	19
Annex 4: Field Visit Itinerary	28
Annex 5: List of Key Informant Interview Participants	31
Annex 6: List of FGD Participants	34
Annex 7: Photographs from the Field	49
Annex 8: Findings from the Household Survey	52
Annex 9: Checklist for Infrastructure (STW)	57
Annex 10: Checklist for Infrastructure (Surface Irrigation)	59
Annex 11: Checklist for Market and Collection Centers	62
Annex 12: Checklist for FGD with Target Commercial Farmers/Beneficiaries	64
Annex 13: Checklist for Nutrition/Home Gardens	68
Annex 14: Checklist for Key Informant Interviews	70
Annex 15: Household Questionnaire	73
Annex 16: FINTRAC Model for Commercial Agriculture	78
Annex 17: Nepal Poverty Map	81
Annex 18: SWOT Analysis	83
Annex 19 Key FINTRAC comments on Evaluation Report	87

# Abbreviations

AIC	Agriculture Inputs Company	IG	Irrigation Group
ANC	Ante Natal Care	IPM	Integrated Pest Management
ASC	Agriculture Service Center	IFAD	International Fund for Agricultural Development
CBS	Central Bureau of Statistics	JTA	Junior Technical Assistant
CECI	Centre for International Studies and Cooperation	KG	Kitchen Garden
CEDPA	Center for Development and Population Activities	KII	Key Informant Interview
CT	Community Trainer	LDO	Local Development Officer
DADO	District Agriculture Development Office	LIG	Livelihood and Income Generation
DCCI	District Chamber of Commerce and Industries	MoAD	Ministry of Agriculture Development
DDC	District Development Committee	MIS	Market Information System
DOLIDAR	Department of Local Infrastructure Development and Agricultural Roads	NEA	Nepal Electricity Authority
DFID	Department for International Development	NEAT	Nepal Commercial Agriculture and Trade
DTO	District Technical Office	NFRP	Nepal Flood Recovery Program
ENA	Essential Nutrition Action	NG	Nutrition Group
FFD	Farmers Field Day	NGO	Non-Government Organization
FGD	Focus Group Discussion	O&M	Operation and Maintenance
FMCW	Female Community Health Workers	PNC	Post Natal Care
FNCCI	Federation of Nepalese Chambers of Commerce and Industry	PRA	Participatory Rural Appraisal
FORWARD	Forum for Rural Welfare and Agricultural Reform for Development	SOW	Statement of Work
FT	Field Technician	STW	Shallow Tube Well
FYM	Farm Yard Manure	SWOT	Strength Weakness Opportunity and Threat
GoN	Government of Nepal	ToT	Training of Trainers
Ha	Hectare	UC	User's Committee
Hh	Household	UNICEF	United Nations International Children's Emergency Fund
IC	Irrigation Cluster	USAID	United States Agency for International Development
ICRW	International Center for Research on Women	VDC	Village Development Committee
		WB	World Bank
		WFP	World Food Program

## List of Tables

Table 1	Salient Feature of USAID/NFRP Program Phases	1
Table 2	Sampling Frame and Size	5
Table 3	Commercial Agriculture Beneficiaries (in %)	8
Table 4	Average Net Income from Vegetable Sales Per Crop Cycle	11
Table 5	Percentage of Beneficiaries based on Landholding Size (in %)	21
Table 6	Variations in Key Commercial Agriculture Features in Hills and Terai	24

## List of Figures

Figure 1	Methodological Framework	3
Figure 2	Utilization of Income from Vegetable sales by Household (in %)	9
Figure 3	Constraints Felt by Farmers in Starting Commercial Farming before NFRP	9
Figure 4	Farmers Positive Perceptions on the Usefulness of USAID/NFRP Components	10

## List of Boxes

Box 1	Perspective from Non-participant Farmers	22
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## List of Maps

Map 1	NFRP VDCs and VDCs Selected for Evaluation	4
Map 2	Nepal Poverty Map	80

## Conversion Table

Hectare	Ropani	Bigha	Kattha
1	20	1.5	30

# EXECUTIVE SUMMARY

## BACKGROUND

Nepal Flood Recovery Program (NFRP) is an USAID/Nepal initiative to respond to substantial damage caused by heavy flooding of 2007 and 2008 in a number of Terai districts of Nepal. The implementation work began in May 2008 through FINTRAC Inc. in association with Nepal-based partners METCON and FORWARD. The program completed at the end of October 2012 in three phases with an investment of USD 8.5 million and covering a total of 7 districts, including Dadeldura in the hills in Phase III. In its Phase I and II, the NFRP sought to provide recovery and rehabilitation assistance to flood affected vulnerable communities and covered areas affected and prone to floods. In the final Phase III of 18 months, this objective was revisited to provide support to communities of the mainly non flood areas in the three districts of Kailali, Kanchanpur and Dandeldura with the aim of promoting rural economic growth and improve regional food security.

The purpose of this evaluation is to assess the strengths and weaknesses of USAID/NFRP Phase III. In doing so, this evaluation explores how well the program met the needs of the target communities and examines the intended and unintended consequences of the program while documenting valuable lessons learned. These will be fed into future initiatives of USAID/Nepal such as Feed the Future Program.

## METHODOLOGY

The evaluation was based upon the ‘*Evaluation Indicators*’ developed by the study team reflecting the Evaluation Questions of the Statement of Work (SOW) (Section 1.4). The methodology used by the evaluation team briefly included the following approach and activities:

1. **Literature review.** USAID/NFRP annual and quarterly reports of Phase I, II and III were reviewed together with non-project literature on food security in the far-west; status of commercial agricultural production and issues on inclusion, nutrition, sanitation and hygiene.
2. **Central and local level consultations.** The study team met key implementing agency partners over the evaluation period in order to obtain a deeper understanding of how Phase III was implemented.
3. **Field visits:** Field visits were carried out from 10<sup>th</sup> - 25<sup>th</sup> September 2012. All three Phase III districts were covered by the field visit. On-site observation of the production areas, irrigation systems and agricultural productive infrastructures (collection and market sheds) was carried out as well undertaking extensive interactions (Focus Group Discussions, Key Informant Interviews and observations) with the targeted beneficiaries and district level stakeholders, including the local government and line agency staff (e.g. DADO staff).
4. **Household survey:** In parallel with the field visit, a separate team was assigned to undertake a questionnaire based household survey among the randomly selected beneficiary households covering 332 households.
5. **Analysis of Quantitative and Qualitative Data:** The study adopted a ‘triangulation approach’ of data analysis; comparing the issues and findings between the quantitative and qualitative data collected. Analysis of household survey data was undertaken using Microsoft Excel, while qualitative information was analyzed by creating an ‘Analysis Matrix’ for each FGD.

A total of 13 Village Development Committees out of 28 NFRP project III VDC were covered for field visits. FGDs with 73 out of 363 Commercial Farmers/Irrigation Clusters and 10 out of 112 Nutrition Action Groups in 4 VDCs were undertaken using FGD checklists. KII was carried out with local government organizations and line agencies, including District Development Office (DDC), District Agriculture Development Officer (DADO) and Village Development Committee (VDC). The team also met NFRP local implementing partners -FORWARD, Helen Keller and Subcontractors as well as various actors within the vegetable value chain that included –local agriculture and veterinary input providers (the

agrovets), traders, whole-sellers, marketing management committees, District Chambers of Commerce and Industries (DCCI) members etc. Additionally, the team met 10 non-NFRP participant farmers of the project areas to obtain their perspectives on how they viewed opportunities provided by NFRP.

## KEY FINDINGS

### A. Commercial agriculture component

- a) The program activities have been appropriately designed to address the needs of the farmers in both Terai and hill districts to attract households into commercial production
- b) The participating households are mostly from non-commercial backgrounds and now have significantly<sup>1</sup> increased their vegetable production.
- c) Sales of vegetables has notably increased (Net income per cycle of new commercial vegetable farmers increased *three-fold* both in the Hills, from an average of NRs 45,000/ha to NRs 135,150/ha and Terai from an average of 81,000/ha to NRs 236,400/ha).
- d) Annual net incomes<sup>2</sup> from vegetable sales for Dalit farmers was NRs 40,092<sup>3</sup>; Janajati NRs 1,47,744; Brahmin/Chettri: NRs 85,668.
- e) Quality of technical backstopping (i.e. agriculture extension) support provided to the farmers is sound and comprehensive.
- f) Use of hybrid seeds have contributed to increased production and has been attractive to farmers, but this has also led to increased use of chemical fertilizers and pesticides by all (100%) NFRP program farmers. However, they were also fully aware of the hazardous and detrimental consequences of excessive use of chemical fertilizers and pesticides.
- g) Program farmers have extensively relied on family labor. The use of external labor was minimal at 8% of households employing on average 12 person-days of external labor per crop cycle.
- h) Marketing support to the NFRP farmers has been weak leading to reliance of the farmers on their traditional contacts and approaches.
- i) Among the program farmers, 78% were food secure families. However, these families used the increased production and resulting income for balanced diet and education of their children.
- j) Women's empowerment has taken place through access to production surplus and increased cash incomes.
- k) A diffusion effect is emerging but is limited due to inadequate supplies of irrigation water in the Hills and predominance of lowland in Terai, which gets inundated during the monsoon and therefore unsuitable for vegetable farming.

### B. Productive infrastructure

- a) All of the five surface irrigation systems rehabilitated/developed in the hills (Dadeldhura) are complete and ready for operation after the rainy season.
- b) Selection of sub-contractors was consistent with the 'Sub-contracting Guidelines' of NFRP (revised May 2011) and resulted in selection of competent and local firms.
- c) Construction quality is satisfactory for all irrigation systems, collection centers and market sheds visited.
- d) Irrigation systems in the Terai have significantly contributed towards the promotion of commercial vegetable production.

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<sup>1</sup> As most farmers were subsistence farmers, it was not practical to measure/compare production before and after the project interventions.

<sup>2</sup> Annual net incomes have been calculated on the basis of 3 crop cycles per year. Please see annex 8 for further details

<sup>3</sup> All Dalit farmers sampled were from Dadeldhura; where the surface irrigation systems had not come into full utilization as the systems were completed only by the end of the second crop cycle.

- e) No negative environmental effects have been observed from construction or operation of the infrastructures.
- f) Operation and maintenance provisions have been incorporated into the infrastructure development process.
- g) Market infrastructures (Market Sheds/Collection Centers) were found to be appropriately located and used.
- h) Linkages with the local government institutions (DDC/DTO) and line agencies have generally been weak impacting the continuity of services to the farmers.

### **C. Nutrition and Hygiene**

- a) Program activities have led to consumption of diverse and nutritious foods by the participating households.
- b) Program activities have resulted in changes in awareness and everyday practices in food preparation illustrating increased nutritional intake from a wider variety of foods.
- c) Among the participating households, there were indications of adoption of healthier and more hygienic practices at home and in production.
- d) There was increased awareness on maternal health issues and adoption of child health care practices, though traditional birthing practices still persisted.

## **CONCLUSIONS**

- a. USAID/NFRP model has been effective in raising incomes of targeted farmers. However, with very limited benefits (e.g. on farm labour) extended to non-participants, the overarching priority of rural economic growth and regional food security has not been adequately realized.
- b. Committed and quality agricultural extension services, training and irrigation support to the rural people have significantly contributed to motivate and engage subsistence farmers to join commercial vegetable production.
- c. Marketing support was considered inadequate by the farmers mainly due to low level of support.
- d. The productive infrastructure component has made significant contribution to the promotion of commercial vegetable farming.
- e. There is high level of ownership of the infrastructures by local communities.
- f. Program activities have created high level of awareness on maternal health and nutrition. Its support to Kitchen Garden has provided a diverse and affordable supply of micronutrient-rich food throughout the year leading to healthier children and adults.
- g. There are noticeable changes in hygienic practices observed amongst the participating households.

## **CROSS CUTTING ISSUES**

- a) Design of the program limits inclusion of marginal landholders and landless, the most food insecure groups, and these people can benefit only when the commercialization of vegetable production reaches a higher level.
- b) Extensive engagement of women in the program activities (training, production and sales) has empowered them and have positively influenced family nutritional intake.
- c) Choice of technology in program outputs has generally been appropriate.
- d) The USAID/NFRP Terai based model has also been broadly suitable for the hills.
- e) The capacity of local implementing partners was noted to have strengthened through training and on-the-job engagement in NFRP activities.

## UNINTENDED CONSEQUENCES

- a) NFRP farmers have become attractive platform for other agencies to disseminate new knowledge and practices (e.g. DADO in Dadeldhura is targeting NFRP commercial farmer to promote more sustainable Integrated Pest Management technologies).
- b) While the program did not promote or financially support use of chemical fertilizer and pesticides, there is in practice widespread use of such chemicals in unmonitored environment.
- c) NFRP has adopted and brought into productive use previously unused and incomplete infrastructures in three irrigation systems (Pokhara, Finikot, Samaiji).
- d) Additional income from the commercial agriculture has helped promote increased construction of household toilets in the program areas.
- e) Intake of fresh vegetables among NFRP non-participants farmers has increased due to ready availability of vegetables produced and sold or given as gift by NFRP kitchen garden households.

## LESSONS LEARNT

- a) Program activities that are too scattered and not of the required scale (in terms of number of farmers as well as their individual strengths, land size used etc.) to extend the economic benefits beyond the participating households. This has limited the reach of the program to the food insecure and marginalized communities. A program seeking to impact food insecure regions and marginalized communities, while working with the better-offs and those in relatively developed areas, should be designed to produce significantly large scale results to meet its objectives.
- b) Committed and quality agricultural extension services, training and irrigation support to the rural people can significantly contribute to motivate and engage even subsistence farmers to join commercial vegetable production.
- c) Approaches such as a voucher system of procuring agri-inputs from the agro-vets can contribute to build confidence among farmers in the service providers and reduce technical support gaps after the project leaves.
- d) Marketing support is essential to build confidence among farmers and to increase their level of investment. Market support should equally be prioritized along with production support.
- e) Equipment that costs less in initial investment is not necessarily cost effective in the long run. Their maintainability and availability of spare parts and skills in the locality should be a key factor in procuring mechanical equipments.
- f) Good nutritional and hygienic practices when adopted by the participating women and mothers are likely to be quickly taken up by non-participant mothers.

## RECOMMENDATIONS

- a) In order to address limitations noted in the design of the program, future programs designed to address recognized needs of the project area (i.e. food security and rural economic growth) should either:
  - i) Include intensive and specific focus on the food insecure/ marginalized communities, or,
  - ii) Have extensive regional focus on potential areas for agricultural growth so that the activities can create employment for marginalized households.

In other words, a program designed to meet regional food security should have its activities of the scale that can engage labor outside households, at least in the medium term. In this way, the program outputs will allow local incomes to be significantly higher such that it can have impact on income and food security at regional level.

- b) Building on the foundation of widely appreciated good quality field level services (i.e. agricultural extension services) that NFRP provided, the program should focus more on marketing support. It should tailor its marketing strategy/approach to reflect the needs of the NFRP farmers who

are small but growing producers with limited capacity. The linkage of NFRP producers should start with small, local or adjacent traders and extend to bigger traders only when their production level and product quality increases.

- c) While appreciating the widely accepted limitations of working entirely within the government systems, it is nonetheless important to achieve a balanced engagement with related government institutions such as MoAD, DADO and DDC. Use of government guidelines, registration of program farmer groups at DADO, and inclusion of program in DDC annual program usually brings this fine balance.
- d) The program has introduced or consolidated use of some beneficial technologies such as use of hybrid seeds in conjunction with better irrigation facilities, leading to higher level of production and income. Encouraged by this, farmers are increasingly attracted to the use of higher dose of chemical fertilizers and pesticides than the compost/IPM that program has promoted. It is important that recommended technologies are fully appraised from time to time for their suitability and to ensure that protective/appropriate skills are disseminated and used.
- e) The productive infrastructures are welcomed by the communities, and the program now needs to focus its design to ensure consideration not only of current needs but also the projected future needs. This will help to increase the level of diffusion that is required to achieve regional level economic and food security priorities.
- f) The communities are satisfied with visibly increased production levels in vegetables and are keen to go a step forward in meeting their micronutrient needs through livestock/poultry. It would be appropriate if this can be included, either directly or through partnership with other programs, in the program areas to provide a complete package of richer dietary foods.

# CHAPTER 1: INTRODUCTION

## 1.1. BACKGROUND

Nepal Flood Recovery Program (NFRP) is an USAID/Nepal initiative designed to respond to substantial damage caused by heavy flooding of 2007 and 2008 in a number of Terai districts of Nepal. This was planned for an initial 24-month period to address livelihood recovery and reconstruction/rebuilding needs of infrastructures damaged/destroyed by the floods. Beginning in May 2008, NFRP was implemented across six districts in the Terai region by FINTRAC Inc. in association with Nepal-based METCON, FORWARD, BASE and other local sub-contractors in 60 village development committees (VDCs). In October 2009, the program received a 10-month extension, referred to as Phase II, with an objective to provide recovery and rehabilitation assistance to 16 additional VDCs of Sunsari and Kanchanpur districts in the Terai.

In March 2011, USAID-NFRP extended its operation for a second time, increasing the project budget from an initial pledge of USD 4.2 million to USD 8.5 million. Under the 18-month extension, referred to as Phase III, USAID/NFRP refocused its economic assistance from a disaster recovery program to an integrated approach with the following priorities<sup>4</sup>:

- improving regional food security, and
- promoting sustainable rural economic growth.

Additionally, the hill district of Dadeldhura was included for the first time, extending the program to hills from its earlier Terai only focus.

In overall, Phase III supported the following three components:

1. Commercial Agriculture (called Livelihoods Income Generation in earlier Phases),
2. Productive Infrastructure, and
3. Nutrition and Hygiene (called Sanitation, Hygiene and Nutrition in earlier Phases)

**Table 1: Salient Features of USAID/NFRP Program Phases**

NFRP Phase	Time Frame	USAID/NFRP Districts	Objectives/outcomes	Total Program Cost
Phase I	May 2008- June 2010	Banke, Bardia, Kailali, Bara, Parsa and Rautahat (6 districts, 60 VDCs, 141 wards)	Improve the livelihoods of marginalized and vulnerable population affected by 2007 and 2008 floods.	\$4.2 million
Phase II	Oct 2009- March 2011	Banke, Bardia, Kailali, Bara, Parsa, Rautahat, Sunsari and Kanchanpur (6 districts, 16 VDCs, 140 wards)	Improve the livelihoods of marginalized and vulnerable population affected by 2007 and 2008 floods.	\$2.3 million

<sup>4</sup> Page 4, Section B.1, NFRP Amended Scope of Work to intend program duration and geographic coverage to Dadeldhura District, 11 February, 2011.

Phase III	April 2011 - October 2012	Kailali, Kanchanpur and Dadeldhura (3 districts, 28VDCs, 132 wards)	Regional food security and rural economic growth	\$2.0 million
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Source: Fintrac, 2011

## 1.2. PURPOSE OF THE EVALUATION

The purpose of this evaluation is to assess the strengths and weaknesses of USAID/NFRP III as a regional food security and sustainable rural economic growth program<sup>5</sup>.

Consistent with the Statement of Works the evaluation seeks to explore how well the program met the needs of the target communities i.e. increase the economic and food security status of both flood affected as well as unaffected people with particular focus on children, women and marginalized groups. Moreover, the evaluation also seeks to examine the intended and unintended consequences of the program while documenting valuable lessons learned in order that this can feed to future initiatives of USAID/Nepal such as Feed the Future Program that also aims to address food security and nutrition through intervention in agriculture and nutrition.

## 1.3. EVALUATION QUESTIONS

In undertaking the evaluation, the evaluation questions<sup>6</sup> are central to the process. The selection of sites for visits, checklist for meetings, questionnaire for household survey, the persons met and consulted are guided by the information sought by the evaluation questions provided in the SOW as follows:

1. How effective was the commercial agriculture program in increasing income, food security (availability, access, utilization, and stability) and improving the livelihoods of the target beneficiaries?
2. To what extent did infrastructure activities as well as the nutrition component help in achieving the project objectives?
3. What unintended effects (positive or negative) did the project have due to the integrated nature of this program?
4. How effective was the program in engaging women, youth, dalits, marginalized and landless groups?
5. What are the prospects of sustainability of the results achieved by the project and what measures adopted by the program will help in increasing the sustainability of the program?

## 1.4. STRUCTURE OF THE REPORT

The report has been structured around three components of USAID/NFRP Phase III. First chapter provides introduction to the NFRP and its Phase III followed by chapter two that elaborates on the methodology and tools used in the evaluation process. Chapters 3, 4 and 5 provide the key findings and conclusions for the three key components. Cross-cutting areas of project, including gender mainstreaming and capacity building are discussed in Chapter 6. Finally, Chapter 7 summarizes the key lessons learnt and recommendations.

Annex provides detailed information on the persons met, views of the some beneficiary members, the details of the evaluation tools used, SWOT analysis of key areas of program and other background documents.

<sup>5</sup> While Phase III is primarily targeted in non-flood affected areas, it also overlaps with Phase II areas covering flood affected vulnerable communities.

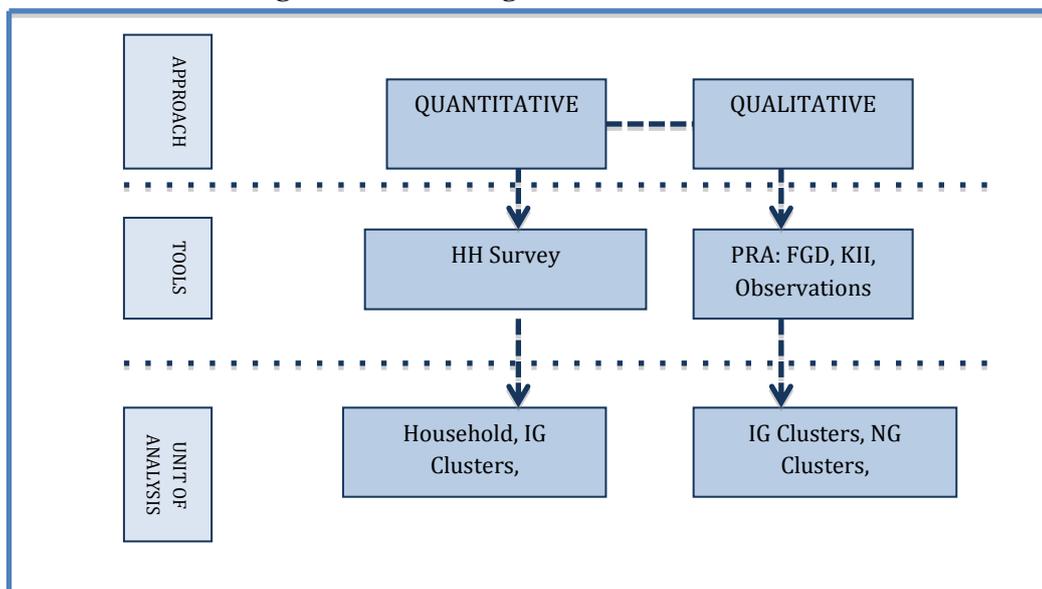
<sup>6</sup> USAID/Nepal, Scope of Work (SOW). AID-367-0-12-00014 NFRP Evaluation. Pg. 6

# CHAPTER 2: METHODOLOGY

## 2.1 METHODOLOGICAL FRAMEWORK

The evaluation was undertaken using both quantitative and qualitative approaches (Figure 1). Research tools were based upon the ‘*Evaluation Indicators*’ developed by the study team reflecting the Evaluation Questions of the SOW (see Section 1.3).

Figure 1: Methodological Framework



Note: IG Clusters: Irrigation Group Clusters, NG Clusters: Nutrition Group Clusters

The evaluation process consisted of five stages:

1. *Literature review*: Extensive reviews of USAID/NFRP annual and quarterly reports of Phase I, II and III were carried out in preparation of the research tools, and then later revisited during the analysis stage. In addition, non-project literature on food security within the far-west; status of commercial agricultural production, issues regarding inclusion, nutrition, sanitation and hygiene were also consulted (see Reference section).
2. *Central and local level consultations*: The study team met key implementing agency partners in order to gain deeper understanding of how Phase III was implemented and identify the implementation issues. Please see annexes 5 and 6 for the full list of people consulted.
3. *Field visits*: Field visits were carried out from 10<sup>th</sup> - 25<sup>th</sup> September 2012. This coincided with the third-crop cycle. All three Phase III districts were covered by the field visit. During this period, the team made on site observations of the production areas, irrigation systems and agricultural productive infrastructure (collection and market sheds). There were also extensive interactions (FGDs, KIIs and

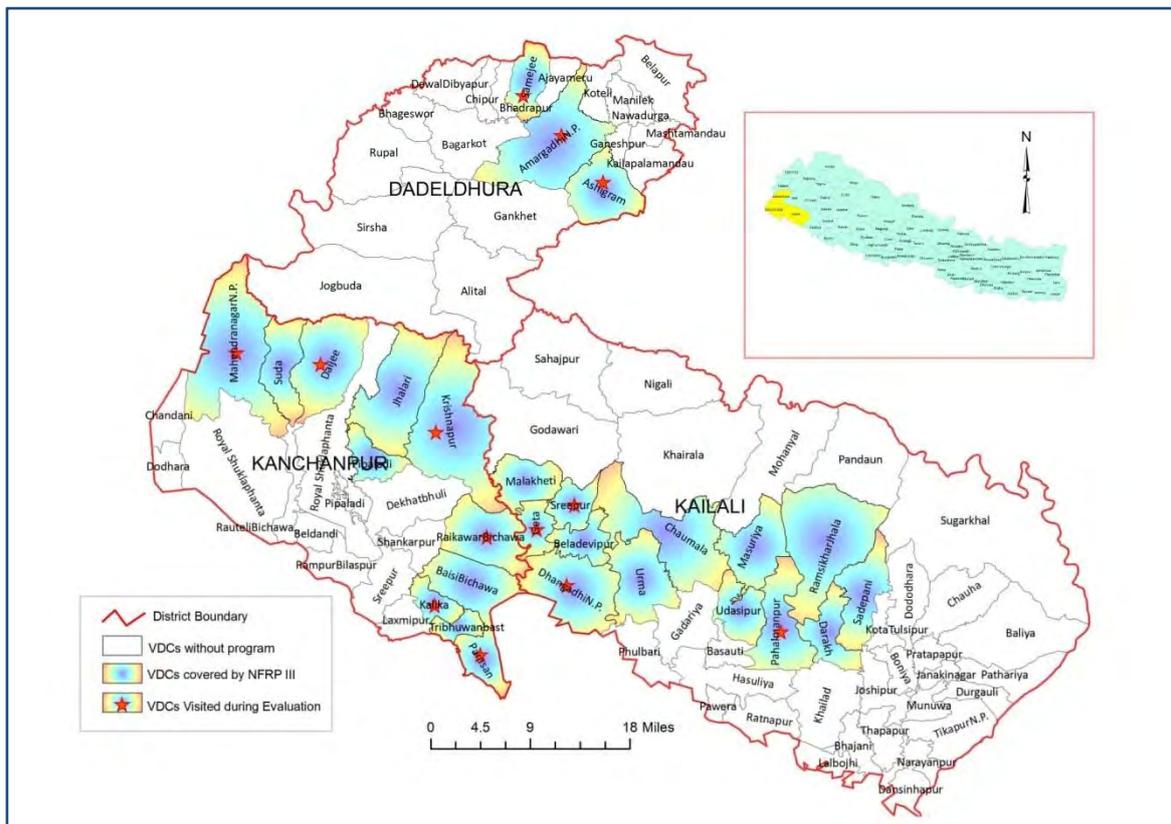
observations) with the targeted beneficiaries of the Commercial Agricultural and Nutrition components as well as the district level stakeholders, including the local government institutions (e.g. LDO and VDC Secretaries) and government line agency staff (e.g. DADO staff). Please refer to annex 4 for the details of the field visits and annex 5 and 6 for the list of local beneficiaries with whom FGDs and KIIs were conducted.

4. *Household survey:* In parallel with the field visit and consultations by the professional team, a survey team was assigned to undertake a household survey among the randomly selected beneficiary households. Altogether, 332 households (11% of the total beneficiaries) were surveyed using a questionnaire developed to respond to research questions. Please refer to annex 15 for the household questionnaire. Additional information on this survey is given below in Section 2.2.1.
5. *Analysis of quantitative and qualitative data:* The study adopted a ‘triangulation approach’ to data analysis; comparing the issues and findings between the quantitative and qualitative data collected. Efforts were undertaken to disaggregate and analyze the data based upon gender, caste/ethnic and geographical location. Specifically, analysis of the household survey was undertaken using Microsoft Excel, through which frequencies and percentages were generated. Comparisons with NFRP databases for Commercial Agriculture and Nutrition components were also undertaken, where possible. Qualitative information was analyzed by creating an ‘Analysis Matrix’ for each FGD.

## 2.2 STUDY SITES AND SAMPLING

All three of the Phase III districts- Dadeldhura, Kanchanpur and Kailali were selected for field visits and data collection (Map 1).

**Map 1: NFRP VDCs and VDCs Selected for Evaluation**



In order to limit selection bias when selecting VDCs, a varied number of sites were selected. Altogether, 13 out of 28 NFRP project III VDC sites were identified based upon: (i) Incidence of poverty<sup>7</sup>; (ii) Caste/ethnic composition; (iii) Distance from the district headquarters and regional markets; (iv) Construction of Agriculture Productive Infrastructure; and (v) Overlap of Phase II and Phase III VDCs. Full details of the selected VDCs are given in Annex 8.

### 2.2.1 HOUSEHOLD SURVEY SAMPLING

The evaluation employed a *Stratified, Quota, Random* sampling approach to the household survey. The sampling design covered all three NFRP districts which were taken as individual *Stratum* from which a certain *Quota*, based upon the proportion of the district beneficiaries, was sampled. Within each stratum, VDCs were identified based upon the criteria discussed in the section 2.2 along with the Irrigation Clusters (IC) in the different wards. At the IC levels, *Random Sampling* was carried out based upon a randomly identified list of Commercial Farmer participants<sup>8</sup>, made available by NFRP. Please refer to Annex 15 for the household questionnaire, which was carried out by two in-house trained<sup>9</sup> enumerators<sup>10</sup>.

**Table 2: Sampling Frame and Size**

Sampling	Dadeldhura	Kanchanpur	Kailali	Total
Total number of NFRP Hhs beneficiaries*	346 (11%)	1343 (43%)	1412 (46%)	3101
Total number of Hhs sampled	42 (12%)	125 (38%)	165 (50%)	332 (11%)
Female respondents	13 (31%)	57 (46%)	97 (58%)	167 (50%)

The above sampling size of 332 beneficiaries provides a confidence level of 90% at 4.27% confidence interval.

### 2.2.2 FOCUS GROUP DISCUSSIONS

Two sets of discussions were carried out during the evaluation: (i) FGDs with 73 out of 363 commercial farmers/irrigation clusters; and (ii) FGDs with 10 out of 112 Nutrition Action Groups in 4 VDCs. FGD checklists (Annex 12) were used for discussions. USAID/NFRP staffs supported the evaluation team to access the selected sites, but were not part of the interaction process. The discussions were held with groups of 5-7 participants, the duration of which was usually 2 to 3 hours. In addition, the evaluation team carried out 16 separate FGDs with female commercial farmer participants to obtain gender specific perspectives.

### 2.2.3 KEY INFORMANT INTERVIEWS (KII)

The Evaluation team carried out KII with local government organizations and line agencies, including the District Development Committee (DDC), the District Agriculture Development Officer (DADO) and Village Development Committee (VDC) Secretaries. The team also met NFRP local implementing partners -FORWARD, Helen Keller and Subcontractors as well as various actors within the vegetable value chain that included - local agriculture and veterinary input providers (the Agrovets), traders, wholesalers, marketing management committees, District Chambers of Commerce and Industries (DCCI) members etc. Additionally, the team randomly met 10 non-NFRP participant farmers of the project areas to obtain their perspectives on how they viewed commercial vegetable production and other support activities of the NFRP. Annex 5 provides the name list of key informants (KI) met during the study.

<sup>7</sup>This was based upon the Nepal Poverty Map (GON, WFP, World Bank 2010). See Annex 17.

<sup>8</sup> All the respondents were informed about the purpose of the survey and verbal consent was received for their participation.

<sup>9</sup> A 1-day training was provided to the team in addition to regular/daily feedback on the survey outputs by the expert team.

<sup>10</sup> One of the enumerators belonged to the local community, which helped facilitate discussions and gather information.

## 2.2.4 OBSERVATIONS

The evaluation team also made some visits to homes of the participants to observe kitchen garden conditions, general hygiene and cleanliness of the households and the condition of the children. Checklists were used (refer Annex 13) to validate some of the information received in the group meetings. The team made extensive use of checklists and photographs in the process.

## 2.3 LIMITATIONS OF THE METHODOLOGY

The evaluation team has chosen the approach and tools with the objective that they help to reflect the field condition as accurately as possible. Moreover, the supports from the associated institutions were readily available to the team. Despite this, the evaluation team considers that the following limitations have been noted during the course of the evaluation process:

- Recall bias represents a natural limitation of self-reported information. Particularly, when the respondents are asked to report on information which they may/may not recall. The longer the duration of the interval, the higher is the probability of incorrect recall. In order to minimize the bias, the study sought to obtain information by giving the participants enough time to reflect and answer or provide a sequence of events to help ‘trigger’ information recall. Furthermore, the study team sought to verify the reported-data by referencing the information with *Farmers’ Own Records*<sup>11</sup> (i.e. data of costs and incomes earned through the various crop cycles). Triangulation was achieved through matching information collected through FGDs, household questionnaires, KII with local staff and service delivery providers.
- Group discussions are not usually conducive for encouraging free expressions; especially amongst different sex, caste/ethnic groups and power relations (landowners and tenants). In many cases, only dominant voices are heard when facilitation is not properly conducted. The study team sought to minimize this by using small sub-groups (such as discussions with women) to ensure that their voices are heard.
- Furthermore, the timing of the evaluation took place soon after the completion of the 18 month project implementation period. At this short timeframe, results from project interventions expected over a longer period (such as continuity of project farmers, increased production etc) are not fully realized. This was most evident in the case of project supported irrigation systems which were completed just before the advent of the monsoon. These recently completed irrigation systems had not been used at the time of evaluation visit.
- Data was collected only for the first and second crop cycles, as the third cycle of production was just underway during the evaluation visit. It is possible that the third crop cycle would have given much more complete picture of the results from project interventions which were not possible due to the timing of the evaluation.

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<sup>11</sup> Four farmers were found to have kept records of their costs and incomes earned during the field visits. These were very helpful in providing a reference for comparisons.

## CHAPTER 3: COMMERCIAL AGRICULTURE

### 3.1 COMMERCIAL AGRICULTURE COMPONENT

The commercial agriculture component of USAID/NFRP III provided support for high-value vegetable crops. Farmers eligible for inclusion for support were those who can allocate minimum 6 Kattha (0.2 ha) of land for vegetable production for three crop cycles.

During its 18-month period, the program expanded its commercial agriculture activities in 539.5 ha of new farmland (430.2 ha in Kailali and Kanchanpur and 109.3 ha in Dadeldhura) as compared to its target of 530 ha (revised) and continued its activities on 220 ha of Phase II areas. Altogether 3,101 farmers (401 more than the targeted 2,700) participated in the program. This included the extension of 1,100 phase II farmers in Kailali and Kanchanpur, 1655 new farmers in the same districts and 346 farmers in Dadeldhura. Total input cost (excluding TA costs) of the component was NRs 22.3 million, including farmer contribution of NRs 9.65 million (43%)<sup>12</sup>.



Fig 2: Use of pheromone traps for pest control (Finikot, Dadeldhura)

Cost sharing between the farmers and USAID/NFRP was raised from 25% in Phase I and II to 40% recognizing the relatively better-off economic condition of the Phase III farmers.

The activities supported under this component included:

- i. *Irrigation systems*: 104 Shallow Tube Wells (STWs) with pump sets were provided with 60% subsidy. The program also provided delivery pipes and other accessories to farmers who had STWs.
- ii. *Hybrid seeds*: Hybrid seeds were introduced to selected communities to maximize yield. The seeds were subsidized at the rate of 75%, 50% and 25% in the first, second and third crop cycles respectively. A voucher/coupon system was introduced to farmers to access seeds from 18 Agrovets.
- iii. *Technical service delivery*: One on-site Field Technician (FT) was assigned for an average farm area of 11 ha in Dadeldhura and 25 ha in the Terai. The FTs provided trainings to farmers in the following technical areas:
  - a. **Nursery management**: Community-based nurseries were promoted.
  - b. **Production management**: Major activities such as sowing, transplanting, intercultural operation, etc. were introduced.
  - c. **Plant protection**: Integrated Pest Management (IPM) using pheromone traps (lures), use of bio-pesticides were promoted.
  - d. **Composting**<sup>13</sup>: Farmers were encouraged to prepare and use compost and Farm Yard Manure (FYM).
  - e. **Post harvest and marketing**<sup>14</sup>: Farmers were trained on harvesting methods, time, grading, packaging and transportation. Marketing support included broadcasting of daily prices in local

<sup>12</sup> Based on records provided by Fintrac. Calculations exclude administrative and TA costs.

<sup>13</sup> Chemical fertilizers were neither promoted nor subsidized by the program.

FM radios and mobile SMS. Collection centers and market sheds were constructed to support vegetable markets and improve sales.

- f. **Farmers Field Day (FFD):** Lead farmers were taken on tours to local markets to establish links with traders and whole-sellers. Joint monitoring visits of local stakeholders to program sites were also undertaken.

## 3.2 KEY FINDINGS

### *Selection of farmers*

**1 The participating households are mostly from non-commercial backgrounds and now have significantly<sup>15</sup> increased their vegetable production.**

- 16% (53/332) of the program participants had earlier experience of commercial vegetable farming (though in limited scale).
- 84% (279/332) of the program participants were previously engaged in subsistence production.
- The participation of Janajatis<sup>16</sup> is notably higher at 81%, mainly due to Terai Tharu population.

**Table 3: Commercial Agriculture Beneficiaries<sup>17</sup> (in %)**

Dalit	Janajati	Brahmin/Chhetri	Female Headed Households <sup>18</sup>
2.4	81.4	16.2	10

Source: Household Survey 2012

**2 Program participants have mainly been food secure families who have used the increased production and resulting income for balanced diet and education.**

- 78% (259/332) of the participants had food enough for 12 months from their own productions
- 9% (30/332) had food sufficiency for less than 6 months.
- The selection criteria for new Phase III VDC prioritized those VDCs with access to year-round water sources, motorable access to markets.
- 80% (264/332) of the participants increased their food in-take as a result of increased food production.

<sup>14</sup> USAID/NFRP had organized a two-day workshop on value chains and marketing with lead farmers from the three program districts, government line agencies, Chamber of Commerce and Industries (CCI), Agro-vets and traders.

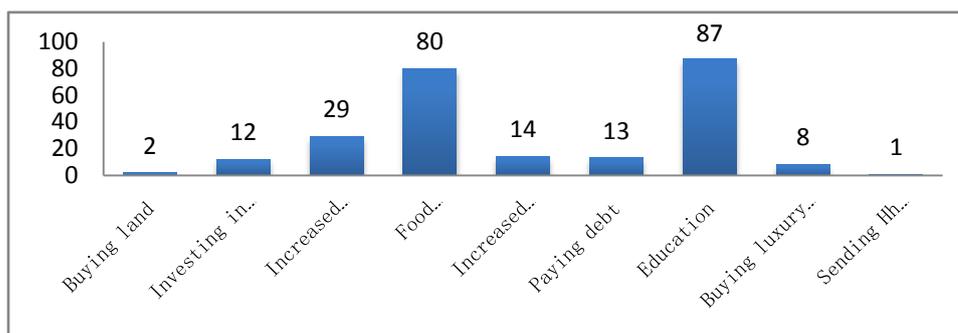
<sup>15</sup> As most farmers were subsistence farmers, it was not practical to measure/compare production before and after the project interventions.

<sup>16</sup> Janajatis are indigenous nationals. The majority are often economically and socially disadvantaged.

<sup>17</sup> A USAID/NFRP record for commercial agriculture farmers was 3,101. Amongst them: Dalits (3.2%), Janajatis (74.7%), Brahmin/Chhetri (22%)

<sup>18</sup> USAID/NFRP records do not provide Female Headed Household data. The records indicate the number of women participants, but field observations show that they are not all necessarily female-headed households. At the national level, 2001 census figures record 16.1% of all households as being headed by women.

**Figure 2: Utilization of Income from Vegetable Sales by Households (in %)**



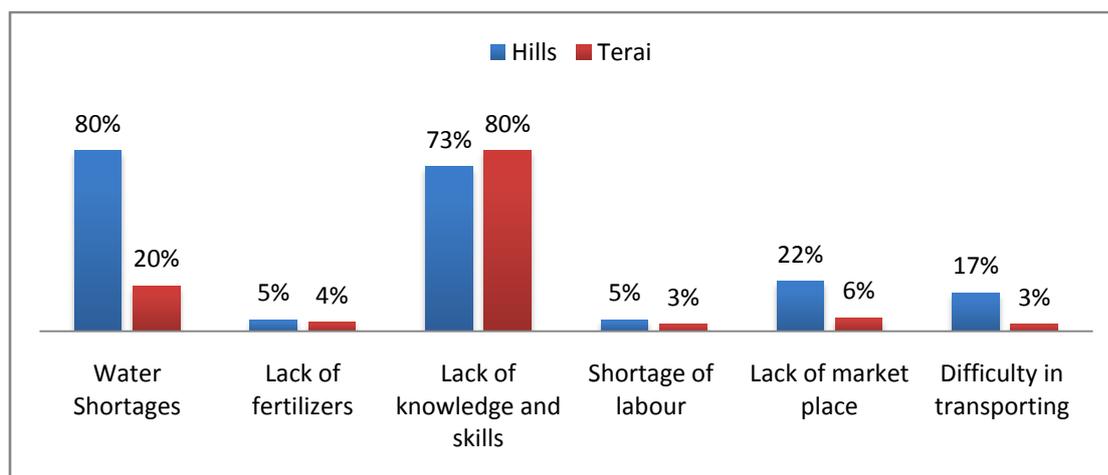
- 87% (288/332) used the additional income for the education of their children.

### *Appropriateness of technology*

#### **3 The program activities have been designed appropriately to address the needs of the farmers both in Terai and hill which has made commercial production attractive for the households.**

- 80% (33/41) respondents of the farmers in the hills stated that water shortages were the main constraint in vegetable production prior to the program interventions. In Terai, 33% (96/291) said that irrigation water was a major constraint (see Fig 3 below).
- The large majority of the respondents (73% in hills and 80% in Terai) said that lack of knowledge and skills had prevented them from engaging in commercial farming.
- The commercial agriculture component has irrigation support, training and skills transfer (through agriculture extension) as its main activities, reflecting the needs of the communities.

**Fig 3: Constraints Felt by Farmers in Starting Commercial Farming before NFRP**



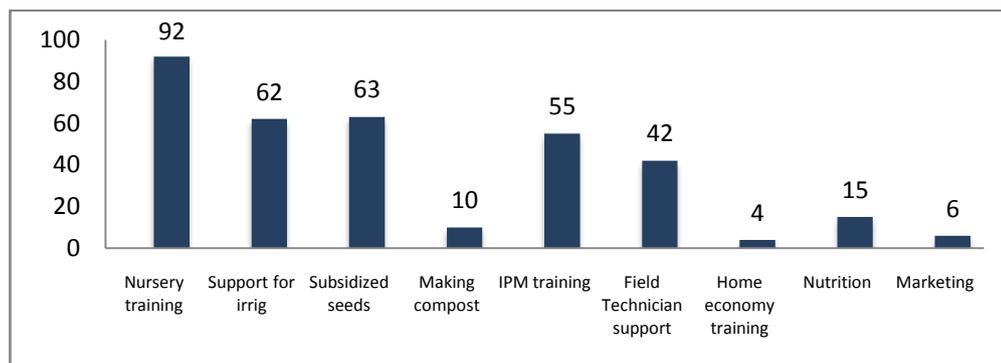
Source:

Household survey, 2012.

#### **4 Quality of technical backstopping (i.e. agriculture extension) support provided to the farmers is sound and comprehensive.**

- 92% of the participants appreciated the nursery management training.
- 55% of the participants found the IPM training to be useful.
- All (i.e. 100%) of the FGD participants said that Field Technicians (JTA) were accessible, well informed and highly motivated.

**Fig 4: Farmers Positive Perceptions on the Usefulness of USAID/NFRP Components (%)**



Source: Household Survey 2012

**5 Use of hybrid seeds have contributed to increased production and has been attractive, but this has also led to increased practice of using chemical fertilizers and pesticides.**

- New and appropriate varieties of hybrid vegetable seeds were introduced to the farmers and 100% of the farmers have reported increased production from the use of hybrid seeds.
- All (i.e. 100%) farmers interviewed have said that they have learnt more and feel confident about selection of more appropriate seeds than what they knew before program.
- All famers interviewed are using chemical fertilizers in conjunction with compost/FYM
- All farmers interviewed stated that hybrid seeds require higher level of application of chemical fertilizers and pesticides than local and improved seed varieties.
- Training has been provided to all participants on integrated pest management (IPM) and composting for organic manure.

**Marketing**

**6 Marketing support to the NFRP farmers has been weak leading to continuation of their reliance on their traditional contacts and approach.**

- FM radio price bulletins have been ineffective with none (i.e. 0%) of the FGD participants reporting ever hearing them.
- More than 50% of the FGD participants reported that they have relied on their informal and traditional contacts to access markets.
- Most of the NFRP farmers have been selling their produce in small local markets mainly due to relatively low level of production

**Income and employment generation**

**7 Income from sales of vegetable has helped to significantly increase household incomes of participating farmers.**

- Net income of traditional commercial vegetable framers *doubled* from NRs 93,570/ha to NRs 216,060/ha per crop cycle after joining NFRP.
- Net income per cycle of new commercial vegetable farmers increased *three-fold* both in the Hills, from an average of NRs 45,000/ha to NRs 135,150/ha and Terai from an average of 81,000/ha to NRs 236,400/ha.
- Annual net incomes<sup>19</sup> from vegetable sales for Dalit farmers was NRs 40,092<sup>20</sup>; Janajati NRs 1,47,744; Brahmin/Chettri: NRs 85,668.

<sup>19</sup> Annual net incomes have been calculated on the basis of 3 crop cycles per year. Please see annex 8 for more information.

- Earning level is significantly higher at NRs 242,190/ha per cycle for Janajatis and NRs 229,680/ha per cycle for female-headed households, while the dalits have lagged behind at NRs 108,360/ha per cycle<sup>21</sup>.

**Table 4: Average Net Incomes from Vegetable Sales per Crop Cycle**

Category of Farmers	Average veg. plots per crop cycle (in Ha)	Average Net Income/Ha (in NRs)	Average Net Income per crop cycle (in NRS)
Dalit	0.123	108,360	13,328
Janajati	0.203	242,190	49,164
Brahmin/Chhetri	0.177	161,640	28,556
Small-sized landholders (<0.5 ha)	0.143	204,270	29,278
Medium-sized landholders (0.5- 2 ha)	0.213	170,580	36,390
Large-sized landholders (>2 ha)	0.263	205,440	54,099
Female headed households	0.153	229,680	35,217
Total Average	0.190	185,760	35,294

Source: Household Survey 2012

**8 Program farmers have extensively relied on family labor and minimal external labor.**

- 92% (304/332) of households are using 100% family labor<sup>22</sup>.
- 8% (28/332) households hired external labor for vegetable farming. These families hired an average of 12 per days of external labor per crop cycle.
- 4 FGDs participants reported that there was decreasing trend of out migration in Hills reflecting intensive engagement of program farmers in farm activities.

**9 Women’s empowerment has taken place through access over production and cash incomes.**

- All FGDs reported women to be actively engaged in production.
- 89 % (76/85) of the female respondents had received trainings on farming practices during the program phase.
- 68% (11/16 FGDs with women) reported to have opened up a bank account in their names.
- All of the interviewed women reported to have direct and regular access to cash due to program interventions.

***Diffusion effects***

**10 A diffusion effect is emerging but is limited due to inadequate supply of irrigation water in the Hill and the predominantly lowland in Terai.**

- 37% (11/30 FGD) reported diffusion effects amongst non-participant households.
- Rate of diffusion was roughly 2 households per irrigation cluster during the program period.<sup>23</sup>

***Coordination and synergy***

**11 Linkages with the local government institutions (DADO, DDC) and line agencies have generally been weak but some limited synergy has been achieved.**

<sup>20</sup> All Dalit farmers sampled were from Dadeldhura; where the surface irrigation systems had not come into full utilization as the systems were completed only by the end of the second crop cycle.

<sup>21</sup> Dalit’s income was the lowest primarily due to their location in the hills, inability to afford inputs and traditionally poor quality of land that they inherited.

<sup>22</sup> This was primarily due to low level of land at 0.203 ha per family engaged in vegetable farming. This was sufficiently covered by household labor.

<sup>23</sup> In FGDs, 24 clusters reported diffusion of 40 farmers from non-participant households.

- NFRP program was designed not to follow the DDC planning processes.
- NFRP programs were not required to be part of the DDCs annual program.
- Joint visits, limited but still some visits, were carried out by DADO and DDC officials at some of the NFRP program sites for monitoring purposes.
- DADO in Dadeldhura has initiated IPM trainings in NFRP program sites to educate farmers on the proper use of pesticides.
- Sense of ownership of NFRP outputs among government agencies was weak as evidenced from discussions with key government agencies.

### 3.3 CONCLUSIONS

#### **1 USAID/NFRP model has been effective in raising incomes of targeted farmers. However, with very limited benefits extended to non-participants, the overarching priority of rural economic growth and regional food security has not been adequately realized.**

Land productivity has increased by three folds in areas previously cultivated with traditional cereal crops. Survey shows that in the hills the net production income has increased from NRs 45,000/ha to NRs 135,150/ha per crop cycle. In the Terai, the income level increased from NRs 81,000 per ha to NRs 236,400/ha. This is a significant and attractive increase contributing towards the improved livelihoods, increased food intake, nutrition and education of participating farmers. The model has been effective in those communities that already had some basic infrastructure support (e.g. had some form of irrigation, motorable access to markets), but still fully fledged commercial agriculture production had not taken place prior to the program interventions.

As noted from the findings, only 8% of the program farmers have used external labor, and that is at a low level of average 12 person days per crop cycle per family. This level is insufficient to sustain a non project family who relies for their livelihoods only on the employment in a vegetable garden. As a result, the program cannot be seen to have made enough community or regional impact to promote regional economic growth.

At the same time, experience in various parts of Nepal shows that it requires many years of visible and sustained growth to achieve economic growth at a regional level.. This can happen with continuous support to the people to meet their additional infrastructure and skill requirements. What NFRP has started in the region is clearly a positive trigger that can, over the years, lead to increased level of diffusion and subsequent economic growth of the area.

Similarly, given the nature of the program intervention, regional food security can be achieved through increased income levels in the region but will take longer to manifest.

#### **2 Committed and quality agricultural extension services, training and irrigation support to rural communities have significantly contributed to motivate and engage subsistence farmers in commercial vegetable production.**

The agriculture extension support from the management team was noted to be excellent and well appreciated by the farmers, with more than 90% of the respondents stating that the skills and knowledge they acquired are new and very useful.

Furthermore, the proper design of the component activities addressed the key production constraints of the people helping them to move towards commercial farming. More than 80% of the farmers in the hills considered lack of irrigation water to be a major obstacle, while absence of knowledge and skills featured

prominently at 73% and 80% for the people of hills and Terai respectively. These were precisely the areas that NFRP supported under the commercial agriculture component.

As a result of these interventions, the evaluation noted that subsistence farmers comprised 84% of the program participants and were happy with the production and income returns they achieved after joining the NFRP program.

### **3 Marketing support was ineffective mainly due to low level of support and interventions not tailored to meet specific needs of the NFRP farmers.**

USAID/NFRP design included creation of production groups out of 3-11 irrigation clusters with the objective of turning them into an organization capable of taking care of all aspects of commercial vegetable production and marketing activities. While such production groups were formed in most of the clusters, none of them are currently functioning as an organization. As a result, farmers continue to sell their products individually in small quantities using their traditional networks.

NFRP farmers are essentially small-scale farmers and are geographically dispersed. As a result, they are not able to provide a consistent and assured supply of vegetable items needed to attract large traders. Therefore, it is important that a marketing approach is designed to reflect this. However, the support provided to the farmers was a standard one with visits to market centers, one-off meeting with the traders and a workshop with lead farmers. This obviously was not adequate, and therefore not effective.

# CHAPTER 4: PRODUCTIVE INFRASTRUCTURES

## 4.1. PRODUCTIVE INFRASTRUCTURE COMPONENT

The objective of this component was to support the communities with infrastructures identified to be essential for increased production and marketing of products coming from the commercial agriculture components. Total fund spent for infrastructure component was NRs 12 million, out of which local contribution NRs 0.9 million (7.5%).

Market sheds/collection centers and surface irrigation systems were designed by USAID/NFRP' engineering team, while local subcontractors carried out the rehabilitation/construction. The subcontractor also provided hands-on trainings to the shallow tube well (STW) farmers on operation and maintenance of the structures.

Activities supported under this component included:

- (i) *Construction of surface irrigation systems:* Five surface irrigation systems were rehabilitated or newly constructed in Dadeldhura, all of which were completed around the end of second crop cycle or just before the onset of rainy season. Total cost for their development was NRs 6.0 million including farmer contribution of NRs 0.67 million (11 %).
- (ii) *Engagement of local communities for surface irrigation:* Users' Committees (UC) were formed for each infrastructure. The UCs played important role in mobilizing households for voluntary labor contributions and in raising seed money (NRs 1,500 per irrigation outlet) for operation and maintenance and carried out supervision of rehabilitation works.
- (iii) *Construction of market sheds/collection centers:* Two collection centers in Dadeldhura were constructed at a cost of NRs 1.6 million, including community contribution of NRs 0.1 million (6.5%). Three market sheds were also constructed in Kanchanpur.

## 4.2 KEY FINDINGS

### *Selection of infrastructure type and sites*

1. **Irrigation systems are mostly simple in their design and were constructed in locations that already had some form of pre-existing facilities or had potential for irrigation development.**
  - All surface irrigation systems, except the lift-irrigation system of Finikot, are simple and robust in nature, requiring very little effort in operation and maintenance.
  - Highly participatory approach to their development has strengthened ownership feeling among beneficiaries.
2. **All of the five surface irrigation systems rehabilitated/developed in the hills (Dadeldhura) were complete and ready for operation after the rainy season.**



Fig 6: Market center at Kalika (Kanchanpur) being used by farmers to sell their produce

- The completed irrigation systems were noted to have sufficient water to meet demands for 3 crop cycles in the designated command areas.
- The irrigation schemes were ready just before the advent of monsoon, so these have not yet been used for crop cycles in dry periods.

**3. Market infrastructures (Market Sheds/Collection Centers) were found to be appropriately located and used.**

- Market sheds of Kailai and Kanchanpur are appropriately located within the premises of existing market centers, and were used soon after their completion.
- Marketing management committees have been established at all three market centers. These committees collect fees from users for use in maintenance and upkeep of the sheds.

*Selection of sub-contractors and their capacity*

**4. Selection of sub-contractors was consistent with the ‘Sub-contracting Guidelines’ of NFRP (revised May 2011) and resulted in selection of competent and local firms.**

- Competent local firms were identified in the long list prepared for completion.
- The capacity of the sub-contractors was noted to be adequate to maintain schedule and quality.

*Quality of infrastructures constructed*

**5. Construction quality is satisfactory for all irrigation systems, collection centers and market sheds visited.**

- Quality of construction of irrigation systems, collection sheds and market sheds was generally found to be good.
- Continuous presence of USAID/NFRP staff, technical personnel of subcontractors and supervision from subcommittee during construction helped to achieve quality of works.

**6. No negative environmental effects were observed from construction or operation of the infrastructures.**

- All (5) surface irrigation systems are small and have not contributed to any negative environmental effects as determined by USAID Regulation 22 CFR 216, Agency Environmental Procedures and GON's Environmental Guidelines and Procedures (Environmental Protection Act and Regulations 1996/97).

*Operation and maintenance*

**7. Operation and maintenance provisions have been incorporated into the infrastructure development process.**

- User committees for each irrigation cluster and management committees for market sheds have been constituted. These institutions are responsible for proper operation and maintenance.
- Operation and maintenance fund (NRs 1,500 per irrigation outlet) has been collected and administered in all infrastructure sites visited.
- All of the irrigation pumps from phase III visited by the team were operational and other infrastructures were in good condition.

*Infrastructure for improved livelihoods and food security*

**8. Irrigation systems supported by NFRP have significantly contributed towards the promotion of commercial vegetable production.**

- 62% (207/332) of the participating farmers reported that irrigation was the key motivation for participating in project activities.
- Irrigation alone can be estimated to contribute to at least 25%<sup>24</sup> of the increased production leading to increased income levels responsible for improved livelihoods.
- NFRP supported infrastructures have significantly contributed to improved household food security and nutrition.

#### *Adequacy of design and impact on diffusion*

#### **9. Design of surface irrigation systems in the Hills have set limitations in the diffusion of program benefits**

- In the case of Pokhara, the storage reservoir was just adequate to meet the needs of the program farmers due to limited funds, despite additional availability of water at source.
- This restricted expansion of vegetable farming to potential and interested neighboring farmers.
- In the other sites, the availability of water itself was noted to be the limiting factor, which also led to limited diffusion.

#### *Coordination and synergy*

#### **10. NFRP has achieved good level of synergy in developing its infrastructures.**

- In Finikot, NFRP worked with Nepal Electricity Authority (who connected the high tension line) and Amargadi Municipality (who paid for the transformer) allowed the scheme to be completed despite limited NFRP funds.
- NFRP worked with Mercy Corps and CECI to complete the collection centers in Samaiji (Dadeldhura), first floor of which was supported by the partners.

### **4.3 CONCLUSION**

#### **1. The productive infrastructure component has made significant contribution to the promotion of commercial vegetable farming.**

Surface irrigation systems in Dadeldhura have the potential (but had not been tested as of the evaluation period due to the availability of monsoon rain) to provide year-round irrigation for vegetable crops within designated command areas. These have been developed to support the farmers with increased vegetable production. Similarly, market sheds in Kanchanpur district are already in use and are noted to widely reflect the needs of the communities.

#### **2. There is high level of ownership of the infrastructures by the local communities.**

Participating communities were involved in the development of the infrastructures from the early stages of project cycle. They also shared a portion of the infrastructure development costs through voluntary labor contribution. Beneficiary households have also raised seed money for operation and maintenance

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<sup>24</sup> This level of contribution is generally attributed for cereal crops. This might be significantly higher for vegetable production.

on a monthly basis. These arrangements along with the increased incomes from vegetable production are very likely to help in maintaining the irrigation systems.

Similarly, the market sheds constructed in Kanchanpur district have their own management committee of vegetable sellers who also manage a maintenance fund.

## Chapter 5: NUTRITION AND HYGIENE

### 5.1. NUTRITION AND HYGIENE COMPONENT

The Nutrition, Sanitation and Hygiene component of NFRP-Phase III was focused on ‘dietary diversification’ through Kitchen-Garden food production and behavioral change education. This was particularly targeted at pregnant and lactating women and households in Kailali and Kanchanpur with children less than 2 years old.. This was later expanded to commercial vegetable groups. Altogether 2,259 individuals (1644 in Kailali and 615 in Kanchanpur) in 112 nutrition action groups covering 75 hectares of Kitchen Garden were formed and provided with hygiene educational trainings.



Figure 7: Many households keep soap near the tube wells for easy access (Geta VDC)

The activities supported under this component included:

1. *Training of Trainers:* A 6-day Training of Trainers (ToT) was provided to 16 Community Trainers (CTs) from FORWARD, a NFRP partner NGO, by Helen Keller on Essential Nutrition Action<sup>25</sup> (ENA). ToT on Kitchen Gardens were also provided to the same CTs by USAID/NFRP.
2. *Technical knowledge on Kitchen Gardens (KG):* Participants of the program were formed into Nutrition Action Groups and were provided with 3-days demonstration training on land preparation, nursery establishment and transfer by the CTs. Each participating household was required to commit a minimum of 1 Kattha (0.033 ha) of land for their individual KGs. Hybrid and improved varieties of seeds and fruit trees were provided by the program.
3. *Educational training on nutrition and hygiene:* Educational trainings on nutrition (food preparation, intake of iodized salts) and better health practices (washing hands, Ante Natal and Post Natal care) were provided to the participants.

### 5.2. KEY FINDINGS

#### *Changes in knowledge, attitudes and practices*

1. **Program activities have resulted in increase in awareness levels and practices in food preparation indicating more nutritional intake.**
  - 100% (116/116) of the participants had replaced non-iodized salt with iodized salts during food preparation.
  - 100% (116/116) of the participants reported to be washing rice less rigorously and cleaning vegetables prior to cutting them to minimize loss of nutrient content.
  - None of the participants boiled water before drinking. Energy cost and time burden was seen to be a deterrent.

<sup>25</sup> The training consisted of 7 components ranging from food preparation, hygiene to antenatal and postnatal care.

**2. There was increased awareness on maternal health issues and adoption of child health care practices, though traditional birthing practices still persisted.**

- 70% (82/116) of the participants were aware of the need to visit formal health service centers at least four times during their pregnancies for their Ante Natal Care (ANC) check-ups. They reported that this was necessary to ensure the health of their babies and themselves.
- All 11 participants who were pregnant during the project were reported to have visited their nearest formal health facilities four times for ANC. This was corroborated by the FCHWs.
- Home deliveries however were still found to be preferred, with only the participants of 1 nutrition action group (*Shreepur*) reporting to have deliveries in formal health facilities.
- All the participants were aware of Post Natal Care (PNC) and the dietary needs of babies (such as breast feeding, preparing separate food for adults and babies etc).

***Changes in nutritional intake***

**3. Program activities have led to consumption of diverse and nutritious food by the participating households.**

- The diet of 60% (6/10) of the participants of Nutrition Action Group prior to the project lacked fresh vegetables needed to provide optimal nutrients. They mainly ate cereals and potato with salt, pepper and dried vegetables, where available.
- Currently, 95% (110/116) of the participants had eaten fresh vegetables in the three days preceding the day of the survey.
- 100% (10/10) of all the participants are cultivating vegetables in their kitchen gardens.

**4. The participating households showed clear indications of adopting healthier and hygienic practices.**

- 100% (116/116) of the participants reported to be using soap to wash their hands, before eating and after using their latrines and washing their child's bottom.
- 66 % (4/6) of the homes visited by the evaluation team had soaps near the tube wells, where it could be easily accessed.
- 40.5% (47/116) of the participants had permanent latrines constructed, either through their own means or with the support of development agencies.

### **5.3. CONCLUSIONS**

**1. Program activities have provided a diverse and affordable supply of micronutrient-rich food throughout the year leading to healthier children and adults.**

The targeting of pregnant, lactating women and households with children less than 2 years has ensured that those that are most vulnerable to micronutrient deficiencies have benefited from program activities. This is relevant as national figures estimate that up to 52% of children below 5 years in the Far-West Development Region of Nepal are stunted due to chronic malnutrition (NDHS, 2006).

Considering that traditional diets of the predominantly indigenous Tharu communities in the Terai were based on cereals, with little or low intake of fresh vegetables, the introduction of kitchen gardens, provision of seeds and associated trainings have contributed towards providing an affordable supply of micronutrient-rich food throughout the year. Changes in uptake of iodized salts, vitamin A and iron consumption are positive indicators that can show move towards better food nutrition practices.

**2. There are noticeable changes in hygienic practices observed among the participating households.**

Changes in hygienic practices observed and reported by the participating households provide a good indication that awareness of better hygiene has been internalized and is being increasingly practiced in everyday life. For example, the simple act of washing hands with soap is estimated to reduce the incidence of diarrhea by 45 % (Water Aid, 2011). Whether these behavioral changes are sustained and will lead to an overall change in better health practices can only be studied in the future.

# CHAPTER 6: CROSS CUTTING ISSUES

## 6.1 NFRP CROSS CUTTING ISSUES

The following can be summarized as the key cross cutting areas across NFRP:

- Support to socially and economically marginalized households
- Engagement of women in program activities
- Appropriateness of technologies
- Replicability of the models
- Ownership of the program outputs by government and communities
- Capacity building of the partners and beneficiary groups

## 6.2 OBSERVATIONS

### 1. Design of the program limits inclusion of marginal landholders and landless, the most food insecure groups, and these people can benefit only when the commercialization of vegetable production reaches a higher level.

The USAID/NFRP model has a selection criterion that requires each farmer to contribute a minimum of 0.2 ha (6 Kattha in the Terai and 4 Ropanis in the Hills) to qualify for inclusion in the program. As such, landless and marginal farmers were inevitably left out. Household survey data show that 68% (225/332) of the program participants were medium (0.5-2 ha) to large (>2 ha) landholders; with an average household land holding size of 1.1 ha (32.5 Katthas). In a few cases marginal farmers were found to have collectively organized themselves to be eligible.

While the phase III was not specifically targeted towards the landless and marginal landholders, the lack of mechanisms to accommodate these groups is important as landless and marginalized groups constitute a significant proportion (41% in Terai) of the program district's population (CBS, 2003/4); with the majority of those who are land poor also belonging to the Dalit occupational caste group and indigenous groups<sup>26</sup>. Most of these households are vulnerable to food security.

**Table 5: Percentage of Beneficiaries based on Landholding Size (in %):**

	<0.5 ha (<15Kattha)	0.5-2 ha (15-60 Kattha)	> 2 ha (>60 Kattha)
Hills	45	55	-
Terai	30	58	11
Female headed households	46	41	3

Source: Household Survey 2012

The assumption that landless and marginal landholders would be included in the program through hiring of external labor was found to be inadequately realized; mostly because the scale of commercial production (average of 0.2 ha per household) has not reached a magnitude that requires extensive hiring of external labor. Only 8% (28/332) households had hired external labor for vegetable farming; and those that hired did so for very short time periods (approximately 12 person-days per crop cycle) and infrequently.

<sup>26</sup>National landless figures: 43.98% Terai Dalits, 15.32% Hill Dalits; 22.83% Tharu.  
USAID – Nepal Flood Recovery Program Evaluation Report 2012

### Box 1: Perspectives from Non-participant Farmers

Dev Bahadur Bohra of Finikot, Dadeldhura and Jiriya Khatariya of Pahalmanpur, Kailali were both deeply interested in being a part of the NFRP program. However, both of them were unable to do so because they did not own enough land (min. 0.2 ha) required to participate in the program. Lack of sufficient land has not been the only factor. Rita Chaudhary in Pahalmanpur laments that the considerable distance between her land and the constructed STW limited her from participating. Similarly, Harischandra Rana of Parasan, Kanchanpur, regrets being unable to participate in the program due to lack of information. By the time Rana learnt about NFRP in his village, he found out that irrigation cluster groups had already been organized.

However, not everyone who could not benefit from NFRP was constrained by eligibility criteria or lack of information. Some villagers made the intentional decision not to engage. For example, Ram Prasad Awasthi and his wife in Geta in Kailali owned enough land and met all necessary criteria, but did not participate. Awasthi states, "I'm a retired schoolteacher. My wife and I are the only members in our family. At our age, the two of us wouldn't be able to invest the necessary energy and effort required to benefit financially from vegetable farming."

On the other hand, a number of current beneficiaries had initially rejected the idea of adopting commercial vegetable farming introduced by NFRP. The concept was new to many and plenty of villagers were more comfortable in continuing their age-old agricultural practice of cultivating cereal crops, mostly for household consumption. Two such examples are Lachyang Ghale and Shantu Chaudhary of Kalika, Kanchanpur. Both Ghale and Chaudhary stood firmly against the program and remained unconvinced of the benefits NFRP promised to deliver. Today, seeing the voluminous vegetable production in the fields of other NFRP beneficiaries and their income, both regret their decision. "We were ignorant in the beginning. Now we are regretful and are deeply interested in participating. Is that possible?" asks Chaudhary.

## 2. Extensive engagement of women in the program activities (training, production and sales) has notably empowered them and have positively influenced family nutritional intake.

The program has attempted to engage women in both commercial vegetable production and the nutrition and hygiene components. For commercial agricultural production both men and women were provided with trainings on the 6 components provided by the FTs. Household survey data shows that 10% (33/332) were female headed households<sup>27</sup>.

During the FGDs, many women reported that within their households, they were the most engaged in vegetable production. Other studies (ICRW, 2005; IFAD, 2010) have indicated increased time burdens on women after their entry into income-generating activities. However, this evaluation notes that NFRP women participants feel that the cash incentives significantly out-weighed the greater time/effort required by vegetable production. Statements such as "...this was the first time that I have had cash in my hands", "...before (cultivating traditional cereals) we didn't have much surplus, but now we have enough to save up even after paying for the children's education and buying other household needs..." were common sentiments expressed during FGDs and interviews (see Annex 2, A Shining Example and Financial Empowerment). Regular cash flows was stated as being important factor which allowed families to buy household items when required<sup>28</sup>. USAID/NFRP records also show that 99% of the Nutrition Action Groups were women particularly those that were pregnant, lactating or from households with children less than two years. The training and subsequent engagement in kitchen garden activities enabled women to positively influence the household hygiene and dietary practices of the entire family, including men and children.

<sup>27</sup> USAID/NFRP records do not provide the number of Female Headed Household data. The records indicate the number of women participants, but field observations show that they are not all necessarily female-headed households. Nationally, 2001 census figures record 16.1% of all households as being headed by women.

<sup>28</sup> Undertaking an in-depth assessment of the trade-offs after engaging in commercial vegetable production was beyond the scope of this evaluation. Nevertheless, future studies on this subject would contribute to greater understanding of household and gender dynamics.

### 3. Choice of technology in program outputs has generally been appropriate.

The selection of sites, design and approach for STWs in the Terai and surface irrigation in the Hills was found to be carried out well. The decision to use of Indian Krilosker pumps instead of Chinese pumps that were provided in Phase I and II and provision of piped irrigation systems in the hills and support to lift irrigation in Finikot were good ones. However, despite budgetary constraints<sup>29</sup>, if the design of irrigation systems in the hills had allowed for additional surplus water (e.g. in Pokhara) for possible new farmers, this would have resulted in higher diffusion rates necessary to realize Phase III priorities.

Introduction of hybrid seeds in NFRP for vegetable crops follows a nationwide trend where 85% of the imported vegetable seeds are hybrids (Vegetable Development Directorate, MoAD, 2066/67). The evaluation noted that NFRP has provided good level of support to its farmers in creating awareness on the selection and application of hybrid seeds.

However, use of hybrid seeds has come with more intensive and wider use of chemical fertilizers and pesticides. All (100%) of the FGD farmers the evaluation spoke to said that they are using more chemical fertilizers and pesticides when using hybrid seeds. At the same time, the evaluation noted that the respondents were aware of the implications of intensive and unprotected application of the pesticides on the applicants and consumers of the produce. NFRP had provided its farmers orientation and safety tools to be used when applying pesticides.

### 4. The USAID/NFRP Terai based model has also been broadly suitable for the hills.

Our understanding of the NFRP/Fintrac model for commercial agriculture is presented in Annex 16. This model incorporates the experience of implementing NFRP in the Terai over the years, and its reputation has been good (KII with DADO, Kanchanpur). The impressions of the application of the model in the hills are encouraging. However, the evaluation noted some features that differed between Hill and Terai that could be of interest in application of the model.

**Table 6: Variations in Key Commercial Agriculture Features in Hills and Terai**

Aspects	Hill	Terai
Topography	<ul style="list-style-type: none"> <li>Three crop cycle of vegetable crop is possible annually.</li> </ul>	<ul style="list-style-type: none"> <li>Three crop-cycles are possible only in <i>bari</i> (high land). Most localities have low land where only two-crop cycle of vegetable is possible.</li> </ul>
Climate	<ul style="list-style-type: none"> <li>Cole crops (cauliflower, cabbage), carrot, radish, tomato can be produced during summer which fetch high prices as off-seasonal vegetable in Terai.</li> <li>Post harvest life of produce is longer.</li> </ul>	<ul style="list-style-type: none"> <li>Cole crops produced during winter are sold at high prices in the hills.</li> <li>Post harvest life of produce is shorter.</li> </ul>
Irrigation system	<ul style="list-style-type: none"> <li>Lack of source and topography in the hills is a major constraint</li> <li>Surface irrigation systems require high levels of investment (Average cost USAID/NFRP STW is approx. NRs. 132,600).</li> </ul>	<ul style="list-style-type: none"> <li>Ground water is more readily available in most locations.</li> <li>Cost of STW is relatively low (Average cost USAID/NFRP STW is approx. NRs. 40,000).</li> <li>STWs can be installed quickly allowing farmers to use from 1<sup>st</sup></li> </ul>

<sup>29</sup> The proposal of FINTRACT for Phase III acknowledges limitations of budget for additional irrigation facilities (page 6, last paragraph).

	<ul style="list-style-type: none"> <li>• Surface irrigation systems require long time to construct.</li> </ul>	crop cycle onwards.
Availability of Chemical fertilizers	<ul style="list-style-type: none"> <li>• Required quantities of chemical fertilizers are not readily available.</li> </ul>	<ul style="list-style-type: none"> <li>• Proximity to Nepal-India boarder allows farmers to access chemical fertilizers without much difficulty.</li> </ul>
Accessibility and Road Network	<ul style="list-style-type: none"> <li>• Density of road network is low</li> <li>• High transportation cost</li> <li>• Not many marketing opportunities.</li> </ul>	<ul style="list-style-type: none"> <li>• High density of road network.</li> <li>• Transportation cost is relatively less.</li> <li>• More marketing opportunities and easier access to markets.</li> </ul>
Earnings from vegetable sales	<ul style="list-style-type: none"> <li>• Average net income was NRs 133,800/ha per crop cycle<sup>30</sup></li> </ul>	<ul style="list-style-type: none"> <li>• Average net income was NRs 259,860/ha per crop cycle.</li> </ul>

**5. The capacity of local implementing partners was noted to have strengthened through trainings and on-the-job engagement in NFRP activities.**

During the program period, Field Technicians (FT) from local partner FORWARD was provided with a week-long ToT on commercial vegetable production. Most of the FTs interviewed already had prior experience of working on vegetable production, but they still found the ToT and hands-on experience of working senior experts very useful. In addition, 16 Community Trainers (CT) were trained on Kitchen Gardens by USAID/NFRP and on Essential Nutrition Action (ENA) by Helen Keller.

### 6.3 UNINTENDED CONSEQUENCES

A number of important unintended consequences were noted during the course of the evaluation. These include:

#### Commercial agriculture

1. NFRP farmers have become an attractive platform for other agencies to disseminate new knowledge and practices (e.g. DADO in Dadeldhura is targeting NFRP commercial farmer to promote IPM technologies).
2. While the program did not promote or financially support the use of chemical fertilizer and pesticides, there is in practice widespread use of such chemicals. This is taking place in an environment where use is not regularly monitored for possible impacts on the health of the user and consumers.

#### Productive infrastructure

1. Unused and incomplete infrastructures such as three irrigation systems (Pokhara, Finikot, Samaiji) have been brought into productive use with the adoption of these infrastructures for support by NFRP. This has enabled wasted community resources to be productively used.

<sup>30</sup> Earnings in Dadeldhura were lower than the Terai, as the participant farmers had not been able to use the water from the irrigation systems, which were only completed by the end of the second cycle.

## **Nutrition and hygiene**

1. Additional income from the commercial agriculture has helped in increased construction of household toilets in the program areas.
2. Intake of fresh vegetables even among non-participants farmers has increased due to improved availability of vegetables (in cheaper prices in market or as gift by kitchen garden households) in the locality. Previously, both awareness and availability was low.

# CHAPTER 7: LESSONS LEARNT AND RECOMMENDATIONS

## 7.1 LESSONS LEARNT

Important lessons learnt from the implementation of the NFRP are summarized below.

### A. Commercial Agriculture

1. Committed and quality agricultural extension services, training and irrigation support to the rural people can significantly contribute to motivate and engage even subsistence farmers to join commercial vegetable production.
2. Approaches such as voucher system of procuring agri-inputs from the agro-vets can contribute to build confidence among farmers on the service providers and reduce technical support gaps after the project leaves.
3. Marketing support is very essential to build capacity and increase opportunities for the farmers in selling the products. This is essential for farmers to increase their level of investment.
4. Equipment that cost less initially is not necessarily cost effective in the long run. Their maintainability and availability of spare parts and skill in the locality should be a key factor in procuring mechanical equipment. For example, relatively expensive but better performing Indian pumps provided during phase III was highly appreciated by the farmers, whereas most of the cheaper Chinese pumps provided during earlier phases of USAID/NFRP were either defunct or in poor conditions.
5. The level of investment by a program on better off farmers needs to be significantly higher for the marginalized or landless communities of the area to benefit indirectly (e.g. through on farm employment). If this is not possible, a separate package such as that of river bed farming or lease of public land is necessary to engage them in productive activities.

### B. Productive Infrastructures

1. Marketing sheds developed in existing market centers are more likely to be used. It is important that they are not built in the peripheral areas due to shortage of land etc.

### C. Nutrition and Hygiene

1. Good nutritional and hygienic practices adopted by the participating women and mothers have been quickly taken up by non-participant mothers.

## 7.2 RECOMMENDATIONS

### A. Overall/Scope of Program Design

1. For the program to address real and recognized needs of the project area (i.e. food security and rural economic growth), the program design should:
  - iii) Include intensive and specific focus on the food insecure/ marginalized communities, or,
  - iv) Have extensive regional focus on potential areas for agricultural growth so that the activities can create employment for marginalized households.
2. Program designed to meet regional food security should have its activities of the scale that will require labor outside the households, at least in the medium term.

3. When program interventions are designed to work with relatively better off areas (i.e. accessible and with some level of irrigated water) and households, program outputs should be designed to allow significantly higher incomes that will impact on regional food security and nutritional levels.

## **B. Commercial Agriculture**

### **1. The program needs to actively engage landless and marginalized landholders through income generation activities involving useful new techniques and skills such as:**

- i) Facilitating access to common land like riverbed farming for vegetable production
- ii) Rearing livestock to improve livelihoods

### **2. There should be greater focus on ‘value addition’ activities that enable farmers to gain higher remunerative prices. The activities could include:**

- i) Construction of collection centers at strategic locations
- ii) Construction of cold storage units along market routes to add value to the products

### **3. The program should have tailored marketing strategy/approach that links local collectors with vegetable traders in regional and adjacent Indian markets**

- i) In designing the approach, it should be recognized that NFRP producers are small and with limited capacity to meet the needs of bigger traders.
- ii) A marketing study to explore the types of vegetables and preferences in small and local Nepalese markets as well as nearby markets in India.
- iii) Advise farmers to produce suitable crops based upon the findings of the marketing study.
- iv) Production groups need to be strengthened and formalized so that they can collectively sell larger quantities and negotiate better prices with traders.

### **4. It is necessary to establish closer and continuous linkages with local government bodies and district based line agencies, such as DTO and DADO.**

- i) Program activities included in the DDC planning processes are better owned by the DDC and DADO.
- ii) Farmers’ production groups (agriculture groups) should be registered with DADO to access various services provided by DADO.
- iii) Government staff and technicians can be cost effective resources to engage in for monitoring and feedback activities.

### **5. It is important that recommended technologies are fully appraised from time to time for their effectiveness and suitability.**

- i) Despite training and awareness, the use of chemical fertilizers and pesticides is much more widespread leading to possible detrimental impacts in the long run.

## **C. Productive Infrastructure**

- 1 Water storage reservoirs should be sufficient to attract non-participant neighboring farmers who get interested in commercial vegetable production.

## **D. Nutrition and Hygiene**

1. Inclusion of a livestock/poultry component into the nutrition packages would enable increased intake of micronutrient rich food.

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# **Annex 1: STATMNET OF WORK**

## Annex 1: Statement Of Work

**TITLE:** To do a final performance evaluation of USAID/Nepal Flood Recovery Program (NFRP).

### **Purpose/Objective:**

The purpose of this contract (PO) is to obtain services from a local organization to do a final evaluation of USAID/Nepal Flood Recovery Program (NFRP).

### **Statement of Work (SOW):**

#### **1. Introduction**

This statement of work (SOW) is for a final evaluation of the USAID/Nepal Flood Recovery Program (USAID-NFRP) that started in May 2008. Initially a USD 4.2 million, 24-month activity designed to respond to the 2007 floods, USAID/Nepal extended the program for an additional 10 months, with estimated cost increased to USD 6.5 million, to expand program operations to regions affected by the 2008 floods. The aim was to support livelihoods recovery, health needs, and the reconstruction of damaged infrastructure in a way that makes communities less vulnerable to future floods. In other words, USAID/Nepal aimed to “**BUILD BACK BETTER**”. The activities implemented in the 2007 and 2008 flood affected districts are referred to as Phase I and Phase II, respectively. The districts covered by USAID-NFRP under each phase are shown in the box. The program is planned to end on August 31, 2012.

In April 2011, USAID/Nepal conducted an independent evaluation of Phase I and Phase II programs. The evaluation report is available at [http://pdf.usaid.gov/pdf\\_docs/PDACS577.pdf](http://pdf.usaid.gov/pdf_docs/PDACS577.pdf)

On March 9, 2011, the program was extended for the second time for an additional 18 months, with the total estimated life of the project budget increased to USD 8.5million. The extension focused on improving food security by expanding training to farmers in new food production technologies, linking producers to markets and input suppliers, and addressing infrastructure constraints including roads, bridges, and irrigation access. The second extension is referred to as Phase III. Under Phase III, the program is working in Kailali, Kanchanpur, and Dadeldhura districts.

<b>Districts Targeted by the Nepal Flood Recovery Program</b>
Phase I: Banke, Bardia, Kailali, Bara, Parsa and Rautahat
Phase II: Banke, Bardia, Kailali, Bara, Parsa, Rautahat, Sunsari and Kanchanpur
Phase III: Kailali, Kanchanpur, and Dadeldhura

This evaluation will focus on activities implemented during Phase III of the program (from March 9, 2011 to August 31, 2012) and will examine the effectiveness of the interventions, investigate intended and unintended consequences of the program and document lessons learned that can be shared throughout the Agency to improve development learning and future programming.

The evaluation should assess how well the program has met the needs of both the flood affected people and neighbouring communities not directly affected by floods. It will also assess how well the program met the needs of men, women, youth, children, and marginalized groups from the beneficiary communities. The scope of the evaluation is guided by the evaluation questions in this SOW.

## **2. Project Background**

In early July 2007, heavy monsoon rains in Nepal, lasting for a period of more than three weeks flooding and landslides in 50 of 75 districts of the country. The rains caused considerable damage and human suffering. The rains continued in August 2007, causing flooding and landslides in 50 of 75 districts of the country. More than 600,000 people in rural communities suffered from livelihood, infrastructural and other losses. Early recovery efforts under the Nepal Red Cross Society coordination involved the provision of materials and technical advice to re-establish livelihoods, support to the most affected communities to repair damaged homes, the prevention of outbreaks of communicable diseases, and programs aimed at water, sanitation, and hygiene.

The affected communities needed assistance in medium to long-term recovery and rehabilitation. By February 2008, an update by World Food Programme (WFP) reported that four months after the flood, 42% of the affected households had not recovered, 54% partially recovered and only 4% indicated that they had completely recovered.

The main outcomes of the Flood Recovery Program were:

1. Rehabilitation and rebuilding of productive infrastructure
2. Provision of income generation activities
3. Improved sanitation, hygiene and nutrition
4. Strengthening local groups and local peace committees
5. Protection of women and children

While Phases I and II worked on all the above mentioned outcomes, Phase III focused only on the first three outcomes. The evaluation conducted in March 2011, looked at all the outcomes. This final evaluation will focus on Phase III activities only and hence look at only the first three outcomes mentioned above.

Some of the operating parameters for implementing this program were as follows:

- The project is to review the geographic areas and communities affected by flood during 2007 and 2008 and identify a prioritized list of districts, Village Development Committees (VDCs), and communities, among the flood affected regions of Nepal for implementation of this activity.
- Community participation in project identification, planning, and monitoring of infrastructure projects activities was required for continued operation and maintenance.
- The project was expected to work to the maximum extent possible with and through local firms and non-governmental organizations, and private voluntary organizations.
- USAID also expected the project to ensure maximum synergy with on going USAID/Nepal activities and those implemented by other donors.

### *Initial Program (Phase I):*

USAID/Nepal started the two-year Flood Recovery Program in May 2008 in six flood affected districts (Banke, Bardia, Kailali, Bara, Parsa and Rautahat) in the Terai region. Through this program, USAID/Nepal worked with community groups and local governments to deliver goods and services to marginalized communities where only limited services are available through Government of Nepal (GON) or other donor programs due to prevailing insecurity.

The Nepal Flood Recovery Program was implemented by Fintrac Inc., a US agribusiness firm. Fintrac worked with METCON, a local Nepali consulting firm as a sub-contractor, and a number of other local sub-contractors

USAID-NFRP constructed and rehabilitated roads, bridges and culverts, erosion control, river training and embankment repairs, building health posts, schools, latrines and other community structures, community irrigation and drainage systems. The program supported farmers for three crop cycles and by the end, the project farmers reported an increase in previous incomes by 350 percent on average. The crops introduced included onions, chillies, cauliflowers, cabbage, long beans, cucumbers, squash, okra and tomatoes. The program trained beneficiaries in proper sanitation, hygiene and nutrition. The program also supported installation of improved cooking stoves and assisted in establishing demonstration kitchen gardens to improve household nutrition. The program trained adult and youth participants in community planning and development, youth leadership, and disaster preparedness and management. The program encouraged strong community participation through a grassroots planning process, cost-sharing agreements and the use of local skilled and unskilled labor. The long-term goal is for USAID-NFRP activities to help communities to be more resilient in the face of future floods and also have a solid platform for sustained growth and development.

*First Cost Extension (Phase II):*

Nepal was affected by more floods in 2008, affecting 250,000 more people. Floods in the Koshi River in August 2008 caused 47,000 people to be displaced and damaged about 5,000 hectares of farmland and 17 kilometres of the East-West Highway along Sunsari district. People displaced by the Koshi floods were living in camps. Additionally, Kanchanpur district was heavily affected by 2008 floods. The Asian Development Bank (ADB) supported rehabilitation of major infrastructure like roads, irrigation, and drinking water, but there was a great need for assistance in restoring the livelihoods of the flood-affected people.

USAID/Nepal provided additional funds to extend the program by 10 more months and expanded program coverage to the two flood-affected districts of Sunsari and Kanchanpur. There was no substantial change in the original scope of work in terms of types of activities to be implemented, except to replicate the program in two more flood affected districts and increase the quantity of outcomes in each of the program components.

*Second Cost Extension (Phase III):*

In Phase I and II, the program worked with 4,435 farmers in building their knowledge and skills in growing and marketing high value crops for a period of 18 months. During numerous interactions with USAID staff, the beneficiary farmers expressed that the skills they learned through the program were new. There were many areas - for example, production and marketing - in which farmers wanted the program to provide continued support for at least for another three crop cycles, over a period of eighteen months, so that they could consolidate their knowledge and build confidence to continue with these activities when the program ends. Due to the short duration of the program, there was more focus on the production side and less time was available for improving marketing of products.

To consolidate the gains made by the project, the program was extended for the second time to support farmers in Kailali, Kanchanpur, and Dadeldhura for another eighteen months. These three districts are also the part of the geographic focus area for USAID/Nepal's Feed the Future program.

During the next eighteen months, the program provided support in marketing the products of the farmers and construction or rehabilitation of productive small scale community infrastructure (for example, culverts, small bridges, irrigation and marketing sheds) that directly assists in improving

access and product marketing. There was great unmet demand for supporting the kitchen garden component, which was successful in reaching the most marginalized communities and women. Therefore, the program expanded and strengthened the kitchen garden component, which has been an extra source of nutritious foods at the household level.

### **3. Development Hypothesis**

Based on the successful implementation of Phases I and II, and considering USAID/Nepal's future agriculture programs in the Terai and hills, USAID-NFRP tested the current model with farmers from neighbouring communities who are not directly affected by floods and not living in flood affected areas of Terai. The program also tested the model in the neighbouring hill district of Dadeldhura. The program will document lessons learned and provide recommendations for future agriculture and food security programs. USAID-NFRP is therefore based on the premise that livelihood of marginalized and vulnerable population, who are affected by floods or vulnerable to future floods, will be improved by increasing the capacity of the affected farmers in commercial vegetable farming, developing productive community infrastructure, and increasing knowledge of men and women in better nutrition practices.

### **4. The Evaluation: Purpose, Audience & Use**

The purpose of the evaluation is two-fold. The evaluation should first assess how well the program met the needs of the different flood affected people (men, women, youth, children, marginalized groups) to build back their livelihoods, as well as the needs of other people not so much affected by floods, to increase their food security. Secondly, the evaluation should examine the intended and unintended consequences of the program and document lessons learned that USAID/Nepal can utilize in its future programs. One of the important programs that USAID/Nepal is designing is the Feed the Future program which aims to address food security and nutrition through interventions in agriculture and nutrition. The lessons can be shared throughout the Agency to improve development learning and future programming.

With both these purposes in mind, the evaluation team should tailor recommendations so that they improve the development learning and future programming for the Agency. The evaluation will provide direction that should improve achievement of results and also reduce the risk of unintended consequences.

As USAID/Nepal is developing its Country Development Cooperation Strategy (CDCS) for the next five years, the learning from this evaluation will help inform programming decisions in the CDCS, which emphasizes local capacity building. This evaluation will also reflect experiences in working with local Nepali organizations as implementing partners. The results from the evaluation will benefit the Government of Nepal, USAID's implementing partners, and other donors and local organizations that are planning and implementing disaster recovery, as well as food security programs. Learning from the unique flood recovery program should also help the Mission increasingly understand the linkages from disaster relief, recovery to long term development, thereby assisting the Mission in integrating disaster risk reduction. The evaluation team will also need to consider the external environment, project methodology and the escalation of activities when assessing opportunities and threats. The focus of the evaluation is defined by the evaluation questions in the next section.

## 5. Evaluation Questions

The evaluation for Phases I and II of USAID-NFRP was conducted in March 2011 and addressed all the desired outcomes of the program as mentioned earlier in the Project Background section.

Phase III focused only on the first three outcomes which cover livelihoods, infrastructure, sanitation, hygiene and nutrition. This final evaluation will focus on Phase III activities only. The evaluation should be framed in order to answer the key evaluation questions listed below.

1. How effective was the commercial agriculture program in increasing income, food security (availability, access, utilization, and stability) and improving the livelihoods of the target beneficiaries?
2. To what extent did infrastructure activities as well as the nutrition component help in achieving the project objectives?
3. What unintended effects (positive or negative) did the project have due to the integrated nature of this program?
4. How effective was the program in engaging women, youth, dalits, marginalized and landless groups?
5. What are the prospects of sustainability of the results achieved by the project and what measures adopted by the program will help in increasing the sustainability of the program?

Following is a checklist of key points to consider for the analysis needed to respond to above questions:

1. How effective was the commercial agriculture program in increasing income, food security (availability, access, utilization, and stability), and improving the livelihoods of the target beneficiaries?
  - a. Selection of farmers
  - b. Selection of sub-contractors and their capacity
  - c. Appropriateness of technology
  - d. Effectiveness of training
  - e. Targets and achievements
  - f. Extension approach
  - g. Marketing
  - h. Differences in hill vs. Terai districts
  - i. Factors that contributed to successes/failures
  - j. Gaps in support
  - k. Integration of different components (infrastructure, income generation, sanitation, hygiene, & nutrition)
  - l. Working with local government institutions: VDCs, LDOs, District line offices, etc.
  - m. Coordination and synergy with GON, USAID and other donor programs
2. To what extent did infrastructure activities help in achieving the project objectives?
  - a. Selection of infrastructure type and sites

**NFRP Evaluation**

- b. Selection of sub-contractors and their capacity
  - c. Quality
  - d. Design and construction
  - e. Operation & Maintenance
  - f. Contribution to improved livelihood and food security
  - g. Working with local government institutions: VDCs, LDOs, District line offices, etc.
  - h. Synergy with GON, USAID and other donor programs
3. How effective was the nutrition component of the program?
- a. Approach
  - b. Selection of target group
  - c. Changes in knowledge, attitude and practice of target beneficiaries
  - d. Changes in nutritional intake
  - e. Synergy with USAID and other donor programs
4. What unintended effects (positive or negative) did the project have due to integrated nature of this program?
- a. Environmental
  - b. Local capacity building
  - c. Infrastructure
  - d. Food security
  - e. Nutrition
  - f. Linking disaster relief and recovery with long-term development
5. How effective was the program in engaging women, youth, dalits, marginalized and landless groups?
- a. Selection of beneficiary
  - b. Specific approaches to ensure inclusion
  - c. General levels of participation at different stages of planning and implementation
  - d. Levels or types of participation of previously excluded groups
  - e. Approaches to increase participation of previously excluded groups
6. What are the prospects of sustainability of the results achieved by the project and what measures adopted by the program will help in increasing the sustainability of the program?
- a. Appropriateness of agriculture technology introduced
  - b. Financial impact – type of financial benefits
  - c. Possibility farmers can expand from program achievements
  - d. Possibility program achievements extend to neighbouring farmers
  - e. Replicability of model
  - f. Capacity building of local implementing partners
  - g. Community or GON ownership of completed infrastructure
  - h. lessons learned for future programming

**6. Evaluation Methodology**

This evaluation will be a rapid appraisal and evaluators should employ a participatory approach

when possible. Where possible, the evaluators will employ quantitative methods as well. The methodology must provide sufficient information to complete a vigorous Strengths-Weaknesses-Opportunities-Threats (SWOT)

#### **AID-367-O-12-00014**

#### **NFRP Evaluation**

analysis. Information can be collected through a review and analysis of secondary information paired with collection and analysis of primary information. Triangulation of findings will be required to address inherent bias.

This was a unique project with a wide range of activities and implementing partners. In order to be effectively engaged during the fieldwork, the evaluation team will need to collect and review secondary data early in the process. A desk review must include design and project documents (e.g. planning, baseline and performance reports). The core indicators, targets and achievements identified in the PMP will provide limited information on project outputs and progress. Evaluators should specifically look for additional results-oriented information.

Collection of primary data must emphasize a participatory approach with stakeholders and beneficiaries. Semi-structured interviews with focus groups and key informants can be interspersed for flexibility and efficiency. If quantitative measures are used, the process must fulfill adequate statistical rigor. Roundtables and short workshops might also be appropriate for assessment and learning with implementing partners, USAID staff, NGOs, relevant donors and Government of Nepal. Evaluators should rely on a number of sources and techniques to answer the evaluation questions. Evaluators should select the sites and activities independently. See Annex 1 for additional guidance.

The evaluation team should make a presentation of its evaluation methodology to the technical team in the General Development Office of USAID/Nepal before finalizing the methodology. This written design of the evaluation should include key questions, methods, and main features of data collection instruments and data analysis plan. Per the Evaluation Policy, a written design of the evaluation should be shared with country-level stakeholders and Implementing Partners for comment before being finalized unless unusual circumstances bar this which must be explained.

### **7. Performance Information Sources**

Documents for desk review

- Statement of Work, Project PMP and Work Plan
- Annual Report, quarterly reports, monthly reports, accrual reports
- Baseline Studies
- Success Stories
- Evaluation Report, Nepal Flood Recovery Program 2011

Stakeholders including implementers as well as direct and indirect beneficiaries

- Beneficiaries
- Community members not selected for direct participation
- Participants of training activities, specifically farmer group members, men and women
- Project Management Committee of infrastructure
- VDC Secretaries of selected VDCs
- Local Development Office (LDO), LDO planning officer
- Implementing Sub-contractors
- USAID-NFRP Contractor Staff from Fintrac and METCON

Other Stakeholders

- District Officers of related line agencies (e.g. District Agricultural Office, District Development Committee, District Health office)
- Staff of selected other donor staff (e.g. WFP, ADRA, etc.)
- USAID/Nepal General Development Office team

**AID-367-O-12-00014**  
**NFRP Evaluation**

**8. Timeline and Deliverables**

The estimated period of performance for this purchase order is a total of 40 days, commencing o/a September 1, 2012 through October 31, 2012. Given the 40-day period for the consultancy, this timeline includes some flexibility for unexpected interruptions or non-working days if needed.

Estimated No. of Work Days	Estimated No. of Actual Work Days	Activities
Day 1- Day 4	4	Documentation review, planning, and initial Kathmandu-based interviews
Day 5 - Day 24	20	Field work (including travel to and from field sites)
Day 25 – Day 33	9	Internal team review of findings and debriefing; prepare and deliver a separate presentation, as scheduled by USAID/Nepal, to outline major findings / recommendations
Day 34 – Day 40	7	Finalization of draft report

Total number of estimated work days = 40

The evaluation timeline provided above is a guide that will need to be refined. Submission of the final draft report will be made no later than 20 days after field work is completed. USAID/Nepal will provide comments within 7 working days of the submission of the draft report. A revised final draft will be submitted within 7 working days after receipt of comments from USAID/Nepal. The evaluation report will be final only after it is cleared in writing by USAID/Nepal.

Deliverables

1. Presentation of evaluation methodology to USAID Nepal before beginning the evaluation
2. A Power Point Presentation on important findings & recommendations to an audience of USAID/Nepal Mission, partners, donors, Government of Nepal.
3. The final report should contain a summary of best practices promoted by the project. Report should contain an executive summary 3-5 pages in length that summarizes key points (project purpose and background, key evaluation questions, methods, findings, etc.) Annexes should include: the Evaluation SOW, any “statements of differences” regarding significant unresolved difference of opinion by funds, implementers, and/or members of the evaluation team; all tool such as questionnaires, checklists, survey instruments, discussion guides; and all sources of information, properly identified and listed.

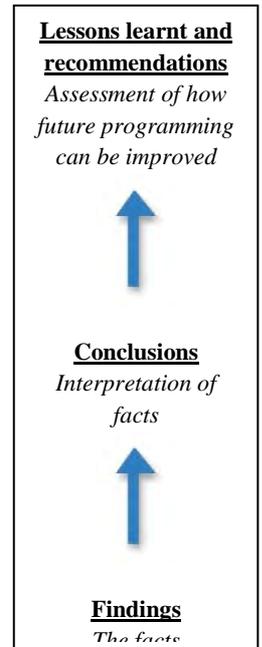


Figure 1: The Foundation of the evaluation report

4. Two hard copies of evaluation report, 20 pages, excluding graphs, diagrams, table, annexes, cover pages, and table of contents, with good quality spiral binding
5. A separate executive summary in Nepal in addition to the one in English
6. A soft copy of evaluation report, in MS Word and PDF format
7. Raw data and records (e.g. interview transcripts, survey responses, etc.) in electronic form collected by the evaluation team should be given to the COR. All quantitative data collected by the evaluation will be provided in an electronic file in easily readable format (on a thumb-drive is possible); organized and fully documented for use by those not fully familiar with the project or the evaluation; owned by USAID and made available to the public barring rare exceptions.

The evaluation report should demonstrate a clear line of analysis between findings, conclusions and recommendations. The report must be in concise and clear English with visual summaries such as graphics, charts and summary data tables. The evaluation report should meet the criteria outlined in Evaluation Report Review Sheet in Annex 4. All the data presented in the report must be sex disaggregated as applicable.

The Team Leader has the final responsibility for prioritizing which conclusions and recommendations are highlighted in the report. If there are additional recommendations or alternatives in addition to those highlighted, they can be included in an annex.

Different perspectives or subject matter expertise within an evaluation team will sometimes lead to a different interpretation of facts. Footnotes may be used to draw attention to different interpretations of findings.

The evaluation team must refer to USAID TIPS on „CONSTRUCTING AN EVALUATION REPORT“, NUMBER 17, 1<sup>ST</sup> EDITION, 2010, for organization of this evaluation report. A draft outline must be submitted to USAID/Nepal at the end of Week 1. Figure 1 demonstrates the links that USAID/Nepal expects to see between findings, conclusions and recommendations.

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## **9. Terms and Conditions of the Consultancy**

Each member of the evaluation team will be required to sign a Non-Disclosure Agreement (Annex 2) and Disclosure of Real or Potential Conflict of Interest for USAID Evaluations (Annex 3).

## **10. Composition of the Evaluation Team**

The evaluation team must be made up of 4 non-USAID development professionals with expertise in project evaluation, agriculture, infrastructure, and gender and social inclusion. At least one member of the team must have extensive knowledge and experience leading and conducting project evaluations and evaluation methodologies. One member must be an Agriculture Specialist; one member must be an Engineering Specialist, and one member must be a Gender and Social inclusion specialist. An evaluator with knowledge of nutrition would be an asset to the team, but is not mandatory.

At least two members of the team should have spoken Nepali skills with one member of the team functionally fluent in spoken Hindi or Tharu. There should be both male and female members in the evaluation team. The evaluation team members should not be employees of any of the organizations that are receiving funds from USAID-NFRP.

Following paragraphs specify requirements and responsibilities for the Team Leader, Agriculture specialist, Engineering Specialist, and Gender and Social inclusion Specialist.

Team Leader: The Team Leader must have a minimum of Master's degree in the areas of

agriculture, engineering, nutrition, international development or a related subject area or equivalent years of relevant experience. He/She must have excellent written and spoken English language skills. He/She must have broad technical experience with provision of local infrastructure, agriculture, nutrition, capacity building of local communities, monitoring and evaluation. The Team Leader shall have the authority and responsibility to conduct and manage the evaluation and submit deliverables to USAID/Nepal. The responsibilities include: technical leadership for and supervision of team members; quality control and timeliness of all deliverables; preparation or supervision of evaluation methodology, logistical plan, data collection, and report preparation; serve as a primary point of contact for the evaluation team to **AID-367-O-12-00014**

### **NFRP Evaluation**

USAID Contracting Officer and his/her representative. The Team Leader will lead the presentations to USAID/Nepal and other stakeholders on the findings, conclusion, and recommendations of the evaluation and ensure timely submission of all deliverables.

Agriculture Specialist: Agriculture Specialist must have at least a Bachelor's degree in Agriculture, preferably with knowledge and experience in business administration and marketing. The Agriculture Specialist will work with the evaluation team to develop evaluation methodology and evaluate the appropriateness and effectiveness of agriculture interventions, including irrigation, micro-credit, business development and market development. He/She should have a good knowledge of supply chain of small agricultural inputs and equipment leading to output of quality products. The Agriculture Specialist will interact with subcontractors, local NGOs and consultants on various aspects of agriculture program implementation, including planning, design, implementation, community participation, sustainability, and best practices.

Engineering Specialist: Engineering Specialist must have at least a Bachelor's degree in engineering with experience in design, construction, monitoring and evaluation of local level infrastructure programs, including small scale irrigation systems. The Engineering Specialist will work with the evaluation team to develop evaluation methodology and evaluate the appropriateness and effectiveness of productive infrastructure activities in consultation with the beneficiary communities. The Engineering Specialist will also interact with subcontractors, local NGOs, local A&E consultants on various aspects of infrastructure program implementation, including planning, design, implementation, community participation, operation and maintenance, sustainability and best practices.

Gender and Social Inclusion Specialist: Gender and Social Inclusion Specialist must have a minimum of Bachelor's degree in social science or relevant subject area, and at least 3 years" of experience. The Gender and Social Inclusion specialist will work with the evaluation team to develop evaluation methodology and evaluate the appropriateness and effectiveness of local capacity development and participation of marginalized groups in decision making processes to make a democratic and inclusive process.

Logistics: The evaluation team is responsible for managing all logistics required for completing the evaluation. This includes but is not limited to arranging for transportation, meeting venues and appointments for meetings. The evaluation team must purchase group personal accident insurance coverage.

USAID/Nepal will provide at least one copy of USAID-NFRP planning and reporting documents and may provide other reference materials as required.

USAID/Nepal Participation: USAID/Nepal staff may join the evaluation team as and when necessary. USAID staff may participate as an additional member of the team during primary data collection, specifically during Semi Structured Interviews with focus groups, key informants, implementing partners. The USAID team participant will manage his/her own logistics through

close coordination with the Team Leader. To ensure against bias or conflict of interest, the USAID team member's role will be limited to participating in the fact-finding phase, and contributing to the analysis. The final responsibility for analysis, conclusions and recommendations will rest with the independent members and Team Leader.

**AID-367-O-12-00014**  
**NFRP Evaluation**

### **11. Reporting and Dissemination**

The evaluation team must provide USAID/Nepal with at least two original hard copies in good quality spiral-bound documents and one electronic version of the presentation and the final report. The electronic version of the final report should be provided in MS Word and PDF format and the raw data and records should be given to the POC on a thumb-drive as mentioned above under Deliverables.

The final, approved report must be entered in the Development Experience Clearinghouse database (DEC). The evaluation team leader is responsible for submitting the final, branded and approved report into the DEC. See website <http://dec.usaid.gov> for instructions on how to submit reports into the DEC database.

### **12. Contact Person/Technical Directions:**

USAID/Nepal Director of General Development Office (GDO) and/or his designee (Shanker Khagi) at [skhagi@usaid.gov](mailto:skhagi@usaid.gov) will act as the in-country point of contact (POC) for this PO.

### **13. Period of Performance:**

The anticipated date of this PO is o/a September 1, 2012 to October 31, 2012. The period of performance includes some flexibility for unforeseen circumstances such as bandh, strikes. It also includes non-working days.

# **Annex 2: First Person**

# Influencing Migration Outflows

Like most men in his village, Lal Bahadur Bista of Dadeldhura district moved to Qatar four years back desperate to provide for his family. Faced with the reality of unemployment, he laments that migrating for labor, especially to India or the Gulf, was the only option villagers had. For three years, Bista worked as a laborer in a construction company in Qatar, earning about Rs. 30,000 per month. He has been back in his village for a year now and is delighted at the thought that he might never have to leave again. He reveals that USAID-NFRP's recent introduction of commercial vegetable farming in Samaiji has transformed his life for the better.

Prior to the program, Bista recounts that the only crops villagers grew in their abundant fields were wheat, maize and a few vegetables. He recalls that the production was barely enough to feed the families, let alone sell them in the market. After the program was introduced, he states that not only was he capable of growing a variety of vegetables in his field, but he was also able to make a profit out of the production for the very first time. In the first crop cycle since NFRP, Bista grossed approximately Rs. 12,000. "I might not be earning as much as I did when I was in Qatar yet," he claims, "but right now, I get to work in my own field with my wife and live with my children—that is the kind of pleasure (and independence) one cannot get toiling away in a foreign land."

Bista is very grateful for the reservoir tank and training provided by the program. The village, however, is still struck by inaccessibility of water during the dry seasons.

**USAID-NFRP has been somewhat significant in influencing migration pattern in certain villages.**



***“If all the men in my village who have migrated abroad in search of work knew about the potential of commercial vegetable farming, I believe they would be busy growing cauliflowers and chillies instead doing labor in Qatar or Dubai.”***

*- Lal Bahadur Bista, a recent returnee from*

## A Shining Example

Chandra Devi Ayer smiles shyly when called the shining example of the success of NFRP in her village, Larada in Dadeldhura. Chandra is a wife and a mother of five—three married daughters, a son who works in Dubai and another who attends a local school close by.

Chandra and her husband have been working in their 8 ropani field to grow seasonal vegetables, wheat and maize ever since she can remember. Despite attempts to grow these crops and vegetables commercially, their efforts always fell short. Most of the production was enough only for home consumption. Whatever little was saved was sold in Dadeldhura's vegetable market. However, the inaccessibility of the market (3 hours walk from the village) and water scarcity did not help. On several occasions, her vegetables even died due to diseases costing her a lot of money. Consequently, the earning from vegetable farming was barely enough to make ends meet for her family.

However, since the USAID program became effective in Larada, things have been quite different for the Ayer family. Used to earning only about Rs. 10,000 on average during each crop cycle, Chandra was overjoyed to report that she earned Rs. 70,000 from the latest crop cycle. For her progress, she mostly credits the nursery training, distribution of subsidized seeds, and the awareness regarding compost fertilizers provided by NFRP. Chandra admits that she had never felt as financially secure as she does now. Reportedly, she bought some new clothes for her family, spent some money on her son's schooling, and has saved up the rest of her earning. She claims that, on earning money from vegetable farming, her biggest joy was being able to buy gold worth Rs. 28,000 for her daughter-in-law who recently gave birth to a son. With the knowledge and training she has received, Chandra is encouraged to work harder in her field and earn even more in the next crop cycle. To other women in the village, Chandra is seen as role model whose success story is worthy of replication.

**NFRP participant Chandra Devi Ayer earned Rs. 70,000 from a single crop cycle in 2011.**



***“Since participating in NFRP, I have realized that taking care of vegetables is no less demanding than nurturing small babies, but I don’t mind it because the result has been very rewarding.”***

*- Chandra Devi Ayer, NFRP participant in Larada, Dadeldhura*

# Financial Empowerment

**67-year old Basu Devi Saaki has profited considerably after participating in NFRP project and is encouraged to continue farming vegetables.**



***“Before NFRP, I couldn’t imagine that I would be able to support my family financially. Today, I am able to make a comfortable living out of commercial vegetable farming as well as afford my granddaughter’s higher level education.”***

- Basu Devi Saaki, 65, Pokhara, Dadeldhura

brought about in her family, she says “Previously, it felt like we were living our whole lives in credit. Now whenever I or my *buhari* [daughter-in-law] go to buy oil, spices or rice from shops, it feels nice to pay with the cash we earned ourselves.” Even so, Basu Devi feels that NFRP’s biggest impact in her life was to make her capable enough to support her youngest granddaughter, 17- year old Harina Devi Dhaami. “My daughter, who was married off in a different village, was about to send Harina to India to work in some beauty parlor because she could not afford her education. I told to forget sending off such a young girl on her own to a strange city and that I would take the responsibility of her education,” Basu Devi states proudly. Harina did not end up going to India. Interestingly, she is currently studying Agriculture JTA in Dipayal.

When Basu Devi Saaki lost her husband in 1997, her only source of hope and support was her son, Ramesh Bahadur Saaki, who used to work in Delhi.

Unfortunately, *Ramesh* too passed away in 2002 leaving Basu Devi bereft and without any financial support. She was living with her daughter-in-law and three grand children. Before the USAID program, she recounts that making ends meet without the support of a male family member was both difficult and disheartening.

Today, at 65, Basu Devi Saaki claims that not only is she at a better financial state because of USAID’s commercial vegetable farming program, but she also feels empowered to make a difference in her family’s life. Since NFRP began its operation last year, Basu Devi has earned Rs. 25,000 in the first crop cycle and Rs. 40,000 in the second cycle. She says that the credit of her progress goes to NFRP’s Junior Technical Assistant (JTA) who taught the villagers everything there was to know about vegetable farming—from the productive way of composting manure to the use of particular fertilizers.

Recounting one of the most significant changes commercial farming has

# Voices of Empowered Women

*Hariyali Tarkari Samuha* of Bijpuri village, Kanchanpur stands as a remarkable example of the impact NFRP has made on women empowerment through commercial vegetable farming.

On being asked how things are different since the program came into effect, one of the women, Asha Chaudhary, is quick to share that they are not confined in their houses any more. “Our workload has certainly increased but we don’t mind the hard work. Instead, it is liberating to be out in the fields or to go to the market to sell vegetables.” A younger girl, Geeta Chaudhary, adds that the market is only a 15-minute walk from the village. “If you take your bicycle, it’s not even 5-minutes away but we prefer to carry the vegetables in our basket and walk to the market early in the morning and return in the evening as a group,” she giggled looking at the other women.

This newly developed ritual of commuting to the market to sell vegetables from their fields seemed to empower the women on multiple levels. Not only were they enabled to step out of their homes, but trivial events such as talking to each other on their way to the market, interacting with customers or even buying a cup of tea from the teashops seemed to greatly increase their confidence and exposure. 33-year old Prema Devi Chaudhary mentioned that one of her favorite things to do on her way back home was to buy a cup of yogurt and *jalebi* (a popular sweet dish soaked in sugar syrup).

Disposable income from selling vegetables has also meant increased authority in their own households for these women. They reveal that before NFRP’s implementation, the women (majority of whom were married) mostly depended on their husbands for the smallest of expenses. Amrita Devi Chaudhary spoke up, “There were many times when my husband would not pay any attention when I asked him to buy oil or lentils. It would take him days before he finally brought the necessary items for the kitchen. Now, I buy my own groceries and even bring home chicken meat and fish when I or my kids feel like it.” Pawan Devi Chaudhary admitted that now it’s her husband who asks her to buy him things—like vests or a pair of slippers—on her way back home in the evenings. The confidence level of the women and their empowered status were palpable. *Hariyali Samuha* is currently in the process of registering for a Women’s Cooperative.

## Women participants in Bijpuri, Kanchanpur share their experiences with the program



***“I rarely stepped out of my house before participating in the program. Although the workload has increased exponentially since joining the program, I enjoy working in the field and going to the market to sell vegetable, especially stopping on the way to have some yogurt and jalebi.”***

*-Prema Devi Chaudhary, 33, one of the members of Hariyali Tarkari Samuha in Bijpuri, Kanchanpur*

# Shifting from Potato Farming to High Value Vegetable Crops

**NFRP participant learns the benefits of shifting from traditional cultivation practice to commercial**

cultivating potatoes in ¼ of his land. From 1 bigha of land, he reports that he used to produced



***“I was so used to farming potatoes that I did not think of alternatives at all. I never thought I could earn so much money from farming fresh vegetables.”***

*- Mantri Rana, 47, one of the NFRP farmers in Geta, Kailali.*

cycles of vegetables crops in his field.

Mantri Rana, 47 lives in Geta, Kailali with 9 family members (his wife, 3 sons, 2 daughter-in-laws and 2 grand sons,). For more than 10 years, Rana has been cultivating potatoes in ¼ of his land. From 1 bigha of land, he reports that he used to produced about 75 quintal potatoes which earned him approximately Rs. 45,000 each year.

Since USAID intervention in Geta, Rana switched from cultivating potatoes to farming fresh vegetable crops. Through the program, he received hybrid seeds for various crops in a subsidized rate as well as attended hand-in trainings. He recounts that since participation, he has earned Rs. 2,71,000 from early/winter season crops such as cauliflower, cabbage, chilli, tomato and brinjal. “I never expected to earn such an amount from fresh vegetable crops alone.”

In the same land, Rana also planted cucurbits (cucumber, bitter gourd, bottle gourd and snake gourd) and radish during the spring/summer seasons. Unfortunately, due to over a month long strike in the far-west in, a huge quantity of his cucumber was damaged. Eventually, he was able to earn Rs. 12,000 from the cucumbers, which was only enough to recover his investment. In total, Rana made a gross profit of Rs. 1,46,000 in this season.

Rana owns 4 bighas of upland field (bari), which enables him to cultivate vegetable crops all year round. He considers himself fortunate to have taken part in NFRP program and is encouraged to grow all three

# **ANNEX 3: INDICATORS**

### Annex 3: Indicators

Meta Group	Indicators	Measurements	Data Sources/Research Tool	Addresses Research Question
<b>1. CHARACTERISTICS OF THE TARGETED COMMUNITIES</b>	<ul style="list-style-type: none"> <li>Remoteness</li> </ul>	<ul style="list-style-type: none"> <li>Distance from the district headquarters (in hours)</li> <li>Distance from the nearest road head (in hours)</li> <li>Distance from the nearest market centre</li> </ul>	<ul style="list-style-type: none"> <li>Field visit</li> </ul>	#4
	<ul style="list-style-type: none"> <li>Availability of water</li> </ul>	<ul style="list-style-type: none"> <li>Presence of perennial water source</li> <li>Water shortages</li> </ul>	<ul style="list-style-type: none"> <li>Observation, KII</li> </ul>	#1
<b>2. DEMOGRAPHIC CHARACTERISTICS OF THE TARGETED BENEFICIARIES</b>	<ul style="list-style-type: none"> <li>Proportion of Dalits</li> <li>Proportion of Marginal groups</li> <li>Proportion of Marginal land holders</li> <li>Proportion of Food insecure households</li> <li>Proportion of women farmers</li> <li>Proportion of Women headed households</li> </ul>	<ul style="list-style-type: none"> <li>Targeted population by caste/ethnicity</li> <li>Average land holding size of participants in the program</li> <li>Percentage of farmers with own land holdings: 0.2-0.5ha, 0.5-0.8 ha, &gt;0.8 ha</li> <li>Percentage of landless who have leased land to enter the program</li> <li>Percentage of farmers with food security for: &lt;6 months, 6-8 months, 8-12 months, &gt;12 months</li> <li>Percentage of women farmers included in the program</li> <li>Participation of women farmers in trainings</li> <li>Provisions for women to participate in trainings</li> </ul>	<ul style="list-style-type: none"> <li>Fintrac database</li> <li>Fintrac database, Hh Survey, FGD discussions</li> <li>Hh survey</li> <li>Fintrac database, FGD with Women Farmers</li> </ul>	#4

Meta Group	Indicators	Measurements	Data Sources/Research Tool	Addresses Research Question
	<ul style="list-style-type: none"> <li>• Proportion of subsistence farmers before the intervention</li> <li>• Proportion of commercial farmers before the intervention</li> </ul>	<ul style="list-style-type: none"> <li>• Main occupation before the intervention</li> </ul>	<ul style="list-style-type: none"> <li>• Fintrac database, Hh Survey</li> </ul>	#4
	<ul style="list-style-type: none"> <li>• Proportion of working age individuals within the household</li> </ul>	<ul style="list-style-type: none"> <li>• Average Hh size by age</li> </ul>	<ul style="list-style-type: none"> <li>• Hh Survey, KII and FGD with Farmers</li> </ul>	#1
<b>3. PROGRAM INTERVENTION</b>	<ul style="list-style-type: none"> <li>• Utility of Trainings (Nursery preparation &amp; management), pest management, pre- and post- harvesting, marketing)</li> <li>• Continued/appropriate support provided by field staff during the crop cycle</li> <li>• Capacity building of the NGO trainers</li> </ul>	<ul style="list-style-type: none"> <li>• Farmer recognise the recommended brands of inputs and are using them appropriately</li> <li>• No. of times field staff has provided support during 1<sup>st</sup> and 2<sup>nd</sup> crop cycle</li> <li>• Satisfaction of farmers with the training and support provided by the NGO field staff</li> <li>• Areas/Issues for improvement</li> <li>• No. and types of trainings provided by Fintrac to NGO staff</li> <li>• Satisfaction of NGO staff with the trainings</li> </ul>	<ul style="list-style-type: none"> <li>• KII with NGO field staff and farmers</li> <li>• KII and FGD with farmers</li> <li>• KII with the NGO staff</li> </ul>	#1, #5

Meta Group	Indicators	Measurements	Data Sources/Research Tool	Addresses Research Question
	<ul style="list-style-type: none"> <li>Irrigation systems installed</li> </ul>	<ul style="list-style-type: none"> <li>Existing types of irrigation systems</li> <li>No. and types of systems installed</li> <li>Appropriateness of design</li> <li>Performance of sub-contractors for quality works</li> <li>Satisfaction of farmers with the irrigation systems</li> <li>Internal-conflict within Irrigation groups over water usage</li> </ul>	<ul style="list-style-type: none"> <li>Fintrac database, FGD with Farmers</li> <li>Hh Survey, KII and FGD with Farmers</li> <li>KII with NGO Field staff and Farmers</li> </ul>	#1, #2, #5
	<ul style="list-style-type: none"> <li>Types of seeds and fertilizers recommended to farmers</li> <li>Availability of seeds and pesticides</li> <li>Production costs</li> </ul>	<ul style="list-style-type: none"> <li>Recommendation of government certified varieties of seeds and fertilizers</li> <li>Availability of the inputs in local markets</li> <li>Success rate of seeds germinating into seedlings</li> <li>Cost of inputs</li> <li>Usage of the voucher system with the Agrovets</li> </ul>	<ul style="list-style-type: none"> <li>NGO Field Staff, FGD with Farmers</li> <li>Hh Survey, NGO Field Staff, FGD with Farmers, KII with Agrovets</li> </ul>	#1, #5
	<ul style="list-style-type: none"> <li>Marketing</li> </ul>	<ul style="list-style-type: none"> <li>Trainings and follow-up provided for appropriate timings of crop planting /harvesting</li> <li>Measures to “add-value”</li> <li>Establishments of cooperatives/farmer marketing groups and registration with DDC</li> <li>Trainings on Account management</li> <li>Increase in linkages of Farmers with Agrovets, transport operators, traders,</li> </ul>	<ul style="list-style-type: none"> <li>Hh Survey, KII with NGO Field staff and FGD with Farmers</li> </ul>	#1, #5

Meta Group	Indicators	Measurements	Data Sources/Research Tool	Addresses Research Question
		<ul style="list-style-type: none"> <li>wholesellers</li> <li>• Utility of the Agricultural sheds and Collection centres</li> <li>• Frequency and appropriateness of Radio and SMS price broadcasts</li> <li>• Priority areas/issues for farmers in marketing</li> <li>• Problems encountered with service providers</li> </ul>		
<b>4. GOVERNMENT LINKAGES</b>	<ul style="list-style-type: none"> <li>• Linkages with DADO, DOLIDAR</li> </ul>	<ul style="list-style-type: none"> <li>• Coordination, Information sharing , access to government provisions</li> </ul>	<ul style="list-style-type: none"> <li>• KII with local government officials</li> </ul>	#1, #5
<b>5. LIVELIHOODS</b>	<ul style="list-style-type: none"> <li>• Proportion of farmers who are fully engaged in Commercial Vegetable Production</li> <li>• Change in incomes through the selling of vegetables</li> <li>• Change in subsistence to commercial farmers</li> <li>• Proportion of irrigation groups who have sold surplus water</li> <li>• Incomes earned from selling the water</li> <li>• Generation of on-farm labour</li> </ul>	<ul style="list-style-type: none"> <li>• No. of commercial farmers</li> <li>• Total Area of land under commercial production</li> <li>• Proportion of land under HVCs</li> <li>• Average net incomes earned during the 1<sup>st</sup> and 2<sup>nd</sup> crop cycle</li> <li>• No. of irrigation groups that have sold water</li> <li>• Amount of non-program land irrigated by the sold water</li> <li>• Amount earned by the groups</li> <li>• Usage of the income earned</li> <li>• No. of on-farm person-days generated</li> </ul>	<ul style="list-style-type: none"> <li>• Fintrac database, Hh Survey</li> <li>• Fintrac database, Hh Survey, KII and FDG with Farmers</li> <li>• FGD with Farmers</li> </ul>	#1, #3

Meta Group	Indicators	Measurements	Data Sources/Research Tool	Addresses Research Question
		<ul style="list-style-type: none"> <li>during 1<sup>st</sup> and 2<sup>nd</sup> crop cycle</li> <li>Proportion of household and external labour employed during the 1<sup>st</sup> and 2<sup>nd</sup> crop cycle</li> </ul>		
<b>6. FOOD SECURITY</b>	<ul style="list-style-type: none"> <li>Changes in cropping patterns (Cereals and Cash crop)</li> <li>Proportion of Farmers that are food secure from own production</li> <li>Changes in incomes</li> <li>Availability of staple crops in the market</li> <li>Expenditure on food</li> </ul>	<ul style="list-style-type: none"> <li>Proportion of farmers who are engaged in both cash and cereal production</li> <li>Proportion of farmers who have fully converted to commercial production</li> <li>Percentage of farmers with food security for: &lt;6 months, 6-9 months, 10-12 months, &gt; 12 months</li> <li>Main sources of Hh income (agriculture, daily wage labour, migration, etc.)</li> <li>Average earnings from commercial agriculture during the 1<sup>st</sup> and 2<sup>nd</sup> crop cycle</li> <li>Reports of shortages of staple food items</li> <li>Prices of staple food items</li> <li>Changes in food utilization and food behaviour</li> <li>Proportion of Hh expenditure on food</li> </ul>	<ul style="list-style-type: none"> <li>Fintrac database, Hh Survey, FDG and KII with Farmers</li> <li>Hh Survey, FGD with Farmers</li> <li>Hh Survey, FGD with Farmers</li> <li>Fintrac database, FDG with Farmers</li> <li>FGD with farmers</li> <li>FDG with farmers, KII with traders</li> <li>FGD and diagramming with Hh members</li> </ul>	#1, #3
<b>7. NUTRITION AND HYGIENE</b>	<ul style="list-style-type: none"> <li>Changes in Nutrition status</li> </ul>	<ul style="list-style-type: none"> <li>Knowledge of mothers about appropriate diets</li> <li>Different food preparation for adults and</li> </ul>	<ul style="list-style-type: none"> <li>Observation</li> <li>KII and FGDs with NG members</li> </ul>	

Meta Group	Indicators	Measurements	Data Sources/Research Tool	Addresses Research Question
		babies		
	<ul style="list-style-type: none"> <li>Changes in Diet</li> </ul>	<ul style="list-style-type: none"> <li>Types of vegetables being cultivated in the Home Gardens</li> <li>Proportion of carbohydrates, protein, vegetables and fruits being consumed in Hhs</li> <li>Dietary responses to disease symptoms</li> <li>Main source of Drinking water</li> <li>Potability of water</li> </ul>	<ul style="list-style-type: none"> <li>FGD and diagramming with Hh members</li> </ul>	#2
	<ul style="list-style-type: none"> <li>Changes in hygiene practices</li> </ul>	<ul style="list-style-type: none"> <li>Access to potable water</li> <li>Proportion of Hh members who practice washing their hands</li> <li>Proportion of Hhs which have latrines (permanent and temporary)</li> </ul>	<ul style="list-style-type: none"> <li>Hh Survey, Observation at the Hhs</li> </ul>	#2
	<ul style="list-style-type: none"> <li>Prevalence of diseases</li> </ul>	<ul style="list-style-type: none"> <li>Reduction in frequency, severity, and duration of common water borne diseases</li> </ul>	<ul style="list-style-type: none"> <li>Hh Survey, KII and FGD with Hhs members</li> </ul>	#2
	<ul style="list-style-type: none"> <li>Changes in health seeking behavior</li> </ul>	<ul style="list-style-type: none"> <li>Knowledge of pregnant women about Ante-Natal Care, Safe delivery, Post Natal Care</li> <li>Dietary responses to treatment</li> </ul>	<ul style="list-style-type: none"> <li>Hh Survey, KII and FGD with Hh members</li> </ul>	#2
<b>8. HOUSEHOLD ASSETS</b>	<ul style="list-style-type: none"> <li>Utilization of the income</li> </ul>	<ul style="list-style-type: none"> <li>Main areas (accumulation of physical assets, debt payment, invest in productive sector)</li> </ul>	<ul style="list-style-type: none"> <li>Hh Survey, FGD with Farmers</li> </ul>	#1, #3
	<ul style="list-style-type: none"> <li>Changes in Physical assets</li> </ul>	<ul style="list-style-type: none"> <li>Accumulation of physical assets (land, house, motorcycle, bicycle, mobile phones, radio &amp; TV)</li> <li>Main source of income for the accumulation of assets</li> </ul>	<ul style="list-style-type: none"> <li>Hh Survey, FGD with Farmers</li> </ul>	

Meta Group	Indicators	Measurements	Data Sources/Research Tool	Addresses Research Question
<b>9. WOMEN'S EMPOWERMENT</b>	<ul style="list-style-type: none"> <li>Women's empowerment</li> </ul>	<ul style="list-style-type: none"> <li>Percentage of women headed households</li> <li>Proportion of women who participated in trainings</li> <li>Proportion of women with control over assets</li> <li>Proportion of women who are active in commercial production and marketing</li> <li>Proportion of women who are active in community activities (leadership roles)</li> </ul>	<ul style="list-style-type: none"> <li>Fintrac database, Hh Survey</li> <li>FGD with women Hh members</li> </ul>	# 4
	<ul style="list-style-type: none"> <li>Gender Disparities</li> </ul>	<ul style="list-style-type: none"> <li>Wage rates for men and women (same work for same wage)</li> <li>Schooling for boy and girl children</li> </ul>	<ul style="list-style-type: none"> <li>KII</li> </ul>	
<b>10. SUSTAINABILITY</b>	<ul style="list-style-type: none"> <li>Continued engagement of farmers in commercial production</li> </ul>	<ul style="list-style-type: none"> <li>Changes in land under cultivation between Phase I and II</li> <li>Changes in land under cultivation for overlapped Phase II and Phase III farmers</li> <li>Proportion of Farmers who have dropped out of the program</li> <li>Reasons for dropping out</li> </ul>	<ul style="list-style-type: none"> <li>Fintrac Database, Hh Survey</li> <li>HH Survey, KII and FGD with Farmers</li> </ul>	#1, #5
	<ul style="list-style-type: none"> <li>Continued usage of irrigation systems</li> </ul>	<ul style="list-style-type: none"> <li>Proportion of irrigation systems that are functioning between Phase II and Phase III farmers</li> <li>Proportion of irrigation systems that are functioning for Phase III farmers</li> <li>Proportion of Irrigation Groups that sell water</li> </ul>	<ul style="list-style-type: none"> <li>Fintrac database, Hh Survey</li> </ul>	

Meta Group	Indicators	Measurements	Data Sources/Research Tool	Addresses Research Question
		<ul style="list-style-type: none"> <li>• Mechanisms in place for O&amp;M</li> <li>• Availability of spare parts for maintenance</li> <li>• Availability of trained technicians</li> </ul>		
	<ul style="list-style-type: none"> <li>• Continued usage of market information</li> </ul>	<ul style="list-style-type: none"> <li>• Proportion of farmers which listen to the radio updates</li> </ul>	<ul style="list-style-type: none"> <li>• HH survey, KGD with Farmers</li> </ul>	#5
	<ul style="list-style-type: none"> <li>• Availability of inputs in local markets</li> </ul>	<ul style="list-style-type: none"> <li>• Reports of shortages of inputs</li> </ul>	<ul style="list-style-type: none"> <li>• KII with Farmers, Agrovets</li> </ul>	#5
	<ul style="list-style-type: none"> <li>• Affordability of inputs</li> </ul>	<ul style="list-style-type: none"> <li>• Costs of inputs</li> </ul>	<ul style="list-style-type: none"> <li>• KII with Farmers, Agrovets</li> </ul>	#5
	<ul style="list-style-type: none"> <li>• Diffusion effects</li> </ul>	<ul style="list-style-type: none"> <li>• No. of non-participant farmers who have started commercial production</li> </ul>	<ul style="list-style-type: none"> <li>• Fintrac database , FGD with non-program Farmers</li> </ul>	#5
<b>11. INSTITUTIONAL CAPACITY DEVELOPMENT</b>	<ul style="list-style-type: none"> <li>• NGO partners</li> </ul>	<ul style="list-style-type: none"> <li>• No. of local NGO partners</li> </ul>	<ul style="list-style-type: none"> <li>• Fintrac database</li> </ul>	#5
	<ul style="list-style-type: none"> <li>• Trainings</li> </ul>	<ul style="list-style-type: none"> <li>• No. of trainings provided to trainers</li> <li>• Types of trainings</li> <li>• Transference of the new knowledge and skills to other staff and program activities</li> <li>• Perception of enhancement of knowledge and skills</li> </ul>	<ul style="list-style-type: none"> <li>• Fintrac database, KII with local NGOs</li> </ul>	#5
	<ul style="list-style-type: none"> <li>• Working modalities</li> </ul>	<ul style="list-style-type: none"> <li>• Changes in the working modalities of the local partners</li> </ul>	<ul style="list-style-type: none"> <li>• KII with local NGOs and Fintrac staff</li> </ul>	#5

# **Annex 4: Field Visit Itinerary**

Date	Municipality/ VDC	District	Observation of Infrastructure Component	Research Tools		
				FGD	Household Survey	KII
11-Sep-12	Amargadhi	Dadeldhura	<ul style="list-style-type: none"> <li>• Finikot Lift cum-gravity-fed pipe irrigation</li> </ul>	<ul style="list-style-type: none"> <li>• 2 IG Clusters</li> </ul>	✓	<ul style="list-style-type: none"> <li>• DADO</li> <li>• Agrovat</li> </ul>
12-Sep-12	Samaiji	Dadeldhura	<ul style="list-style-type: none"> <li>• Samaiji Gravity-fed pipe irrigation</li> <li>• Pokhara Gravity-fed pipe irrigation</li> </ul>	<ul style="list-style-type: none"> <li>• 1 IG Clusters</li> <li>• 1 IG Cluster</li> </ul>	✓	<ul style="list-style-type: none"> <li>• DDC</li> </ul>
13-Sep-12	Amargadhi	Dadeldhura	<ul style="list-style-type: none"> <li>• Larada gravity-fed pipe irrigation</li> </ul>	<ul style="list-style-type: none"> <li>• 2 IG Clusters</li> </ul>		<ul style="list-style-type: none"> <li>• Traders</li> </ul>
14-Sep-12	Ashigram	Dadeldhura		<ul style="list-style-type: none"> <li>• 1 IG Clusters</li> <li>• 1 IG Cluster</li> </ul>	✓	
15-Sep-12	Bhimdutta	Kanchanpur	<ul style="list-style-type: none"> <li>• 3 STWs</li> <li>• 3 sheds</li> <li>• Market shed</li> </ul>	<ul style="list-style-type: none"> <li>• 3 IG Clusters</li> </ul>	✓	<ul style="list-style-type: none"> <li>• Regional Fintrac Staff</li> </ul>
16-Sep-12	Daiji (Phase II)	Kanchanpur	<ul style="list-style-type: none"> <li>• 2STWs</li> </ul>	<ul style="list-style-type: none"> <li>• 2 IG</li> <li>• 1 NG Cluster</li> <li>• 2 IG Clusters</li> </ul>	✓	<ul style="list-style-type: none"> <li>• Helen Keller</li> <li>• Marketing Management Committee</li> </ul>
17-Sep-12	Krishnapur	Kanchanpur	<ul style="list-style-type: none"> <li>• 1 STWs</li> <li>• 1 STW sheds</li> <li>• Delivery pipe</li> </ul>	<ul style="list-style-type: none"> <li>• 3 IG Clusters</li> </ul>	✓	<ul style="list-style-type: none"> <li>• Agrovat</li> <li>• DADO</li> <li>• DTO</li> </ul>
18-Sep-12	Raikawar-Bichawa	Kanchanpur	<ul style="list-style-type: none"> <li>• 3 STWs</li> <li>• 3 STW shed</li> <li>• 1 trolley</li> </ul>	<ul style="list-style-type: none"> <li>• 2 IG Clusters</li> <li>• 1 NG Cluster</li> <li>• 2 IG Cluster</li> <li>• 1 NG Cluster</li> </ul>	✓	<ul style="list-style-type: none"> <li>• Health post</li> <li>• Agriculture Service Center</li> <li>• VDC</li> <li>• DDC</li> <li>• DADO</li> <li>• MMC</li> </ul>

Date	Municipality/ VDC	District	Observation of Infrastructure Component	Research Tools		
				FGD	Household Survey	KII
19-Sep-12	Kalika	Kanchanpur	<ul style="list-style-type: none"> <li>• 2 Market sheds</li> </ul>	<ul style="list-style-type: none"> <li>• 1 IG Cluster</li> </ul>	✓	
	Parasan (Phase II)	Kanchanpur	<ul style="list-style-type: none"> <li>• 2 STWs</li> </ul>	<ul style="list-style-type: none"> <li>• 2 IG Clusters</li> </ul>	✓	
20-Sep-12	Dhangadi	Kailali	<ul style="list-style-type: none"> <li>• 3 STWs</li> <li>• 1 STW sheds</li> <li>• Market shed</li> </ul>	<ul style="list-style-type: none"> <li>• 2 IG Clusters</li> <li>• 2 IG Clusters</li> </ul>	✓	
21-Sep-12	Pathariya and Shirpur	Kailali	<ul style="list-style-type: none"> <li>• 3 STWs</li> <li>• 3 STW sheds</li> </ul>	<ul style="list-style-type: none"> <li>• 2 IG Clusters</li> <li>• 1 NG Cluster</li> <li>• 2 IG Clusters</li> </ul>	✓	
22-Sep-12	Geta (Phase II)	Kailali	<ul style="list-style-type: none"> <li>• 4 STWs</li> </ul>	<ul style="list-style-type: none"> <li>• 2 IG Clusters</li> <li>• 1 NG Cluster</li> <li>• 2 IG Clusters</li> </ul>	✓	
23-Sep-12	Pahalmanpur (Phase II)	Kailali	<ul style="list-style-type: none"> <li>• 3 STWs</li> </ul>	<ul style="list-style-type: none"> <li>• 2 IG Clusters</li> <li>• 1 IG Clusters</li> </ul>	✓	<ul style="list-style-type: none"> <li>• Agrovat</li> <li>• DADO</li> </ul>
24-Sep-12	Tikapur (exclusively Phase II)			<ul style="list-style-type: none"> <li>• 2 IG Clusters</li> </ul>		<ul style="list-style-type: none"> <li>• NEAT</li> <li>• Traders</li> <li>• VDC Secretary</li> <li>• Subcontractors</li> <li>• FNCCI</li> <li>• AIC</li> <li>• Agrovat</li> </ul>

\*Phase II (non Phase III VDCs): Pathariya, Manuwa

# **Annex 5: List of Key Informant Interview Participants**

Date	Organization	District	S.No.	Individuals	Designation
6-Sep-12	--	Kathmandu	1	Sangeeta Shrestha	Community Development and Nutrition Specialist
11-Sep-12	DADO	Dadeldhura	2	Tanka Prasad Rijal	Plan Protection Officer
			3	Khem Raj Joshi	Planning Officer
12-Sep-12	DDC	Dadeldhura	4	Yuva Raj Aryal	Planning Officer
13-Sep-12	Vegetable Wholeseller	Dadeldhura	5	Yagya Bahadur Shahi	Vegetable Wholeseller
			6	Gyanu Malla	Vegetable Wholeseller
16-Sep-12	Kanchanpur Mandi Vyawasayi Sangh	Mahendranagar, Kanchanpur	7	Tek Raj Bhatta	President
			8	Prakash Upadhyaya	Vice President
			9	Bishal Sonar	General Secretary
			10	Bishram Singh Dhama	Secretary
			11	Bishnu Khanal	Treasurer
			12	Hari Bahadur Malla	Member
			13	Tekendra Thapa	Member
			14	Aaite Bohra	Member
			15	Hem Raj Bohra	Member
			16	Ratan Nepali	Member
			17	Tek Bahadur K.C.	Member
			18	Anil Chaudhary	Advisor
17-Sep-12	DTO	Kanchanpur	20	Janak Raj Kalauni	Acting Chief
	DADO	Kanchanpur	21	Yog Raj Kharel	Chief
			22	Dharma Dutta Lekhak	Account Officer
	Debit Agrovet	Gularia, Kanchanpur	23	Puni Ram Chaudhary	Proprietor
	Helen Keller	Krishnapur, Kanchanpur	24	Navraj Uprety	District Coordinator
			25	Rajan Joshi	Program Assistant
26			Binod Dahal	Aama District Coordinator	
20-Sep-12	FCHW	Shreepur, Kailali	27	Nirmala Devi Chaudhary	Member
23-Sep-12	DDC	Kailali	28	Gokarna Prasad Sharma	LDO
	DADO	Kailali	29	Khagendra Prasad Sharma	Chief
	Marketing Management Committee	Dhangadi, Kailali	30	Pyare Lal Rana	Chairman
24-Sep-12	Pahalmanpur VDC	Pahalmanpur, Kailali	31	Ramesh Bohora	Secretary
			32	Keshav Bhatta	Former

Date	Organization	District	S.No.	Individuals	Designation
					Secretary
	Vegetable Wholeseller	Atariya, Kailali	33	Hari Dutta Bhatta	Vegetable Wholeseller
			34	Chetan Koirala	Vegetable Wholeseller
			35	Purna Bahadur Rijal	Vegetable Wholeseller
			36	Tej Raj Paneru	Vegetable Wholeseller
	NEAT	Tikapur, Kailali	37	Dhiraj Puri	Staff
			38	Logan Shah	Staff
	Chamber of Commerce	Dhangadi, Kailali	39	Rajesh Bhandari	Acting President
			40	Dinesh Bhandari	Former President
			41	Dilli Raj Sharma	Executive Officer
	AIC	Dhangadi, Kailali	42	Bharat Bahadur Swar	Acting Director
			43	Durga Bahadur Pandey	Section Officer
	Subcontractor	Dhangadi, Kailali	44	Gazi Mofizul Islam	Sub-contractor
			45	Mohammad Aslam Ali	Sub-contractor
			46	Kamal Raj Chaudhary	Sub-contractor
	Vegetable Wholeseller	Dhangadi, Kailali	47	Jagadish Chaudhary	Vegetable Wholeseller
			48	Abdul Hamid	Vegetable Wholeseller
	Agrovet	Dhangadi, Kailali	49	Bipin Uprety	Proprietor
		Finikot, Dadeldhura	50	Dev Bahadur Bohara	Non-participant Farmers
		Pokhara, Dadeldhura	51	Padam Singh Sahu	Non-participant interviewee
		Pahalmanpur, Kailali	52	Jiriya Khatariya	Non-participant interviewee
		Pahalmanpur, Kailali	53	Rita Chaudhary	Non-participant interviewee
		Kalika, Kanchanpur	54	Lachyang Ghale	Non-participant interviewee
		Kalika, Kanchanpur	55	Shantu Chaudhary	Non-participant interviewee
		Parasan, Kanchanpur	56	Harischandra Rana	Non-participant interviewee
		Geta, Kailali	57	Lal Bahadur Rana	Non-participant interviewee
		Geta, Kailali	58	Ram Prasad Rana	Non-participant interviewee
		Geta, Kailali	59	Ram Prasad Awasti	Non-participant interviewee

# **Annex 6: List of FGD Participants**

Date	VDC	Ward No.	District	Group Name	S.No.	Participants	Designation
11-Sep-12	Finikot	11	Dadeldhura	Samayji Taja Tarkari Samuha	1	Tika Bohra	Member
					2	Dhan Bahadur Gurung	Member
					3	Dev Damai	Member
					4	Dani Damai	Member
					5	Parvati Devi Bohra	Member
					6	Jaya Bahadur Bohra	Member
					7	Ram Bahadur Bohra	Member
					8	Dev Bahadur Bohra	Member
					9	Lok Bahadur Bohra	Member
					10	Kamal Singh Bohra	Member
					11	Padma Bahadur Bohra	President
					12	Bahadur Singh Bohra	Member
					13	Jogi Damai	Member
					14	Dharma Singh Bohra Dhanuk	Member
					15	Hira Devi Bohra	Member
					16	Khinna Devi Bohra	Member
					17	Dharma Devi Bohra	Member
					18	Tek Bahadur Dhanuk	Member
					19	Vishna Devi Bohra	Member
					20	Chakra Bahadur Bohra	Member
12-Sep-12	Samayji	8	Dadeldhura	Pragati Taja Tarkari Samuha	21	Khadak Singh	President
					22	Padam Bista	Member
					23	Dan Singh Ayer	Member
					24	Laxmi Bista	Member
					25	Indra Bista	Treasurer
					26	Bahadur Singh Bista	Treasurer
					27	Dil Bahadur Bista	Secretary
					28	Dambari Bista	Member
					29	PashViceti Bista	Member
					30	Bhim Bahadur Bista	Member
					31	Parvati Bista	Member
					32	Dinesh Bista	Secretary
					33	Dev Singh Bista	Member
					34	Rajesh Bista	Member
					35	Bashanti Bista	Member
					36	Parwati Bista	Member
					37	Parwati Bista	Member
					38	Sarita Bista	Member
					39	Sunita Bista	Member
					40	Maya Bista	Member

Date	VDC	Ward No.	District	Group Name	S.No.	Participants	Designation
					41	Prem Bahadur Oli	Field Technician
					42	Tika Bista	Member
12-Sep-12	Amargadhi (Pokhara)	7	Dadeldhura		43	Tek Bhandari	President
					44	Padam Bahadur Sahu	Vice-President
					45	Gopal Kaini	Vice-President
					46	Ganesh Saaki	Secretary
					47	Indra Kaini	Member
					48	Sapna Bhattarai	Member
					49	Datti Kaini	Member
					50	Sarita Bhattarai	Member
					51	Tulsi Devi Bhattarai	Member
					52	Dhan Bhadur Kaini	Member
					53	Harkesh Sahu	Member
					54	Bishna Devi Kaini	Member
					55	Basu Devi Saaki	Member
					56	Bhoj Raj Bhatta	Member
					57	Indra Sahu	Member
					58	Padma Singh Sahu	Member
					59	Bhim Dutta Bhatta	Member
					60	Sharada Kaini	Farmer
					61	Dhan Bhadur Kaini	Farmer
					62	Birma Bhattarai	Farmer
					63	Ishwori Devi Bhatta	Farmer
					64	Maina Bhattarai	Farmer
					65	Kamala Devi Bhattarai	Farmer
					66	Sunita Devi Bhattarai	Farmer
					67	Chetu Devi Bhattarai	Farmer
					68	Dhana Devi Bhattarai	Farmer
					69	Bimala Devi Bhattarai	Farmer
					70	Dirgha Raj Bhattarai	Farmer
					71	Parvati Bhattarai	Farmer
					72	Tara Devi Bhattarai	Farmer
					73	Bishna Devi Saaki	Member
					74	Janaki Devi Saaki	Member
					75	Laxmi Kharkawaal	Member
					76	Sunari Kathayat	Member
					77	Mahesh Chandra Kharkawaal	Member
					78	Naval Singh Bhattarai	Member

Date	VDC	Ward No.	District	Group Name	S.No.	Participants	Designation
13-Sep-12	Amargadhi (Larada)	3	Dadeldhura		79	Yakshya Singh Ayer	Member
					80	Ram Singh Ayer	Member
					81	Tek Bahadur Ayer	Member
					82	Hikmat Singh Ayer	Member
					83	Ram Singh Ayer	Member
					84	Hari Singh Ayer	Member
					85	Lal Bahadur Pandey	Member
					86	Bhavani Danta Pandey	Member
					87	Bhavani Singh Ayer	Member
					88	Padma Raj Pandey	Member
					89	Krishbir Singh Ayer	Member
					90	Krishna Sotha Pandey	Member
					91	Ram Danta Pandey	Member
					92	Ganesh Danta Pandey	Member
					93	Ghan Shyam Pandey	Member
					94	Bishnu Danta Pandey	Member
					95	Bhavani Danta Pandey	Member
					96	Bhim Bahadur Ayer	Member
					97	Tulsi Devi Ayer	Member
					98	Sita Devi Ayer	Member
99	Chandra Devi Ayer	Member					
100	Devu Devi Ayer	Member					
101	Bina Devi Ayer	Member					
102	Maina Devi Ayer	Member					
103	Sharada Devi Ayer	Member					
104	Bishna Devi Ayer	Member					
105	Vashu Devi Ayer	Member					
14-Sep-12	Amargadhi (Tadibata)	1	Dadeldhura	Pragatishil Samuha	106	Prakash Bahadur Ayer	Member
				Lagansil Samuha	107	Mohan Singh Ayer	Member
				Lagansil Samuha	108	Dhan Bahadur Ayer	Member
				Sidhi Binayak Samuha	109	Parmananda Bhatta	Member
				Lagansil Samuha	110	Sharda Devi Shavad	Member
				Pragatishil Samuha	111	Manohari Devi Ayer	Member
				Lagansil Samuha	112	Nara Bahadur Shavad	Member
				Lagansil	113	Thagi Bahadur Ayer	Member

Date	VDC	Ward No.	District	Group Name	S.No.	Participants	Designation
				Samuha			
				Lagansil Samuha	114	Raj Bahadur Shavad	Member
				Sidhi Binayak Samuha	115	Dillai Raj Bhatta	Member
				Lagansil Samuha	116	Kalavati Devi Ayer	Member
				Lagansil Samuha	117	Padma Bahadur Shavad	Member
				Pragatishil Samuha	118	Gomati Bhatta	Member
				Pragatishil Samuha	119	Gauri Devi Kaami	Member
				Pragatishil Samuha	120	Madhu Devi Ayer	Member
				Pragatishil Samuha	121	Kalavati Devi Ayer	Member
				Pragatishil Samuha	122	Rama Devi Ayer	Member
				Pragatishil Samuha	123	Uttima Devi Ayer	Member
				Pragatishil Samuha	124	Durga Devi Ayer	Member
				Pragatishil Samuha	125	Ghana Devi Ayer	Member
				Pragatishil Samuha	126	Sher Bahadur Ayer	Member
				Pragatishil Samuha	127	Goman Singh Ayer	Member
				Lagansil Samuha	128	Ram Bahadur Ayer	Member
				Sidhi Binayak Samuha	129	Hari Bhatta	Member
				Sidhi Binayak Samuha	130	Tej Bahadur Shavad	Member
				Sidhi Binayak Samuha	131	Prem Bahadur Ayer	Member
15-Sep-12	Bhimdutta (Rajpur)	1	Kanchanpur	Hariyali Group	132	Bharati Devi Dangora	Member
					133	Desu Devi Dangora	Member
					134	Smita Dangora	Member
					135	Sunita Devi Dangora	Member
					136	Anu Devi Dangora	Member
					137	Kamal Chaudhary	Member
					138	Janaki Devi Chaudhary	Member

Date	VDC	Ward No.	District	Group Name	S.No.	Participants	Designation
					139	Pushpa Devi Chaudhary	Member
					140	Deepa Rawal	Member
					141	Meera Rawal	Member
					142	Pooja Chaudhary	Member
					143	Shishkali Devi Chaudhary	Member
					144	Ramkali Devi Chaudhary	Member
					145	Jayasana Devi Chaudhary	Member
					146	Krishna Chaudhary	Member
					147	Mantuya Chaudhary	Member
15-Sep-12	Bhimdutta (Bijpuri)	3	Kanchanpur	Pragati Samuha	148	Shanti Devi Chaudhary	Member
					149	Amrita Chaudhary	Member
					150	Sumitra Devi Chaudhary	Member
					151	Geeta Devi Chaudhary	Member
					152	Prema Devi Chaudhary	Member
					153	Rita Devi Chaudhary	Member
					154	Pavan Devi Chaudhary	Member
					155	Krishna Devi Chaudhary	Member
					156	Asha Devi Chaudhary	Member
					157	Bhagyavati Devi Chaudhary	Member
					158	Gita Devi Chaudhary	Member
15-Sep-12	Raikawarbi chwa	2	Kanchanpur		159	Phulmati Rana	Member
					160	Rajmati Rana	Member
					161	Rampyari Rana	Member
					162	Nisha Rana	Member
					163	Raj Devi Chaudhary	Member
					164	Savitri Rana	Member
					165	Revati Rana	Member
					166	Mangali Chaudhary	Member
					167	Basmati Rana	Member
					168	Sunita Rana	Member
					169	Gauri Rana	Member
					170	Rajmati Rana	Member
					171	Mona Rana	Member
					172	Gomati Rana	Member
					173	Samjhana Rana	Member
					174	Anita Chaudhary	Member
					175	Deepa Chaudhary	Member
					176	Sita Chaudhary	Member
					177	Phulmati Chaudhary	Member
					178	Gori Chaudhary	Member

Date	VDC	Ward No.	District	Group Name	S.No.	Participants	Designation
					179	Meena Chaudhary	Member
					180	Lauti Chaudhary	Member
					181	Sita Chaudhary	Member
					182	Gudhawari Rana	Member
					183	Shanti Rana	Member
					184	Indra Rana	Member
					185	Chori Devi Rana	Member
					186	Phul Devi Rana	Member
					187	Durwati Rana	Member
					188	Deepa Chaudhary	Member
					189	Shanti Rana	Member
					190	Mamta Rana	Member
					191	Brijakali Rana	Member
					192	Ghumani Rana	Member
16-Sep-12	Champhapur, Daiji	8	Kanchanpur		193	Ganesh Raj Joshi	Member
					194	Laxmi Danta Bohra	Member
					195	Laxmi Dutta Badu	Member
					196	Puran Rana	Member
					197	Bhim Bahadur Malla	Member
					198	Bhim Bahadur Ayer	Member
					199	Prakash Rana	Member
					200	Suka Ram Rana	Member
					201	Rona Rana	Member
					202	Hari Chandra Rana	Member
					203	Bala Ram Rana	Member
					204	Ramu Rana	Member
					205	Sika Rana	Member
					206	Kalawati Joshi	Member
					207	Devki Devi Ayer	Member
					208	Manju Ayer	Member
					209	Godawari Devi Tiruwa	Member
					210	Laxmi Rana	Member
					211	Basanti Rana	Member
					212	Tikeshwori Paneru	Member
					213	Jhakku Chaudhary	Member
					214	Krishna Prasad Chaudhary	Member
15-Sep-12	Krishnapur Paluwa		Kanchanpur		215	Tika Ram Chaudhary	Member
					216	Nara Bahadur Chaudhary	Member
					217	Sukum Raj Chaudhary	Member
					218	Khagendra Prasad	Member

Date	VDC	Ward No.	District	Group Name	S.No.	Participants	Designation
						Chaudhary	
					219	Yam Bahadur Chaudhary	Member
					220	Lal Bahadur Chaudhary	Member
					221	Shanta Ram Chaudhary	Member
					222	Chandra Bahadur Chaudhary	Member
					223	Bhagi Ram Chaudhary	Member
					224	Janak Chaudhary	Member
					225	Kalu Ram Chaudhary	Member
					226	Ram Bir Chaudhary	Member
					227	Pani Ram Chaudhary	Member
					228	Ram Bir Chaudhary	Member
					229	Kalu Ram Chaudhary	Member
					230	Sunil Chaudhary	Member
					231	Prem Bahadur Chaudhary	Member
16-Sep-12	Daiji			Nutrition Group	232	Maya Devi Chaudhary	Member
					233	Janaki Devi Chaudhary	Member
					234	Kamala Devi Chaudhary	Member
					235	Rajkumari Devi Chaudhary	Member
					236	Saraswati Devi Chaudhary	Member
	Daiji			Commercial Agriculture	237	Kalawati Joshi	Member
					238	Manju Ayer	Member
					239	Devaki Rana	Member
					240	Shanti Rana	Member
					241	Amiphool Rana	Member
					242	Laxmi Rana	Member
					243	Shyam Kali Rana	Member
				Jagaruk Tarkari Samuha	244	Geeta Dagaura	Member
					245	Rajeshwori Rana	Secretary
					246	Bishna Rana	Member
					247	Manvati Rana	Member
					248	Jharodevi Rana	Member
					249	Meena Devi Rana	Member
					250	Sonuwati Rana	Member
					251	Janawati Rana	Member
					252	Joganwati Rana	Member
17-Sep-12	Kichi, Krishnapur	3,4	Kanchanpur		253	Dikka Raj Bhandari	Secretary
					254	Siya Ram Rana	President
					255	Mul Chandra Rana	Treasurer

Date	VDC	Ward No.	District	Group Name	S.No.	Participants	Designation
					256	Ram Dada Rana	Member
					257	Lohar Singh Rana	Member
					258	Bhulwas Rana	Member
					259	Sundar Rana	Member
					260	Tem Lal Rana	Member
					261	Krishna Rana	Member
					262	Ram Prasad Rana	Member
					263	Bandhu Rana	Member
					264	Bhaktu Rana	Member
					265	Padam Rana	Member
					266	Lekh Raj Rana	Member
	Krishnapur	6	Kanchanpur	Hariyali Samuha	267	Bhagiram Chaudhary	Member
					268	Man Bahadur Chaudhary	Member
					269	Sukuram Chaudhary	Member
					270	Ram Krishna Chaudhary	Member
					271	Ram Dhani Chaudhary	Member
					272	Mangal Chaudhary	Member
					273	Hari Krishna Chaudhary	Member
					274	Desh Raj Chaudhary	Member
					275	Krishna Chaudhary	Member
					276	Khushi Ram Chaudhary	Member
					277	Chabhahil Chaudhary	Member
					278	Ram Bahadur Chaudhary	Member
					279	Ram Krishna Chaudhary	Member
18-Sep-12				Nutrition Group	280	Parvati Devi Rana	Member
					281	Janki Devi Rana	Member
					282	Muna Devi Rana	Member
					283	Meera Badeak	Member
					284	Neha Devi Rana	Member
					285	Bhagati Devi Rana	Member
					286	Rani Devi Rana	Member
					287	Sangariya Devi Rana	Member
					288	Pratima Devi Rana	Member
					289	Indra Devi Rana	Member
					290	Sumitra Badeak	Member
					291	Saroji Badeak	Member
					292	Somati Devi Rana	Member
					293	Nujana Devi Chaudhary	Member
					294	Sarita Devi Chaudhary	Member
					295	Phaguni Devi Rana	Member
					296	Janumati Badeak	Member
					297	Shanti Devi Rana	Member

Date	VDC	Ward No.	District	Group Name	S.No.	Participants	Designation
					298	Shakuntala Devi Rana	Member
					299	Shushila Devi Rana	Member
					300	Shardhha Devi Rana	Member
					301	Himati Devi Rana	Member
					302	Khagi Devi Rana	Member
					303	Maslo Devi Rana	Member
					304	Rekha Devi Rana	Member
					305	Ram Jumi Rana	Member
					306	Jamuna Devi Rana	Member
	Raikawarbi chawa		Kanchanpur	Pragatishil Samuha	307	Prem Bahadur Chaudhary	Member
					308	Dhani Ram Chaudhary	Member
					309	Deepak Chaudhary	Member
					310	Til Bahadur Chaudhary	Member
					311	Dhan Bahadur Chaudhary	Member
					312	Krishna Bahadur Chaudhary	Member
				Namuna Samuha	313	Bijaya Chaudhary	Member
					314	Pati Ram Chaudhary	Member
					315	Santu Ram Chaudhary	Member
					316	Pani Ram Chaudhary	Member
					317	Krishna Prasad Chaudhary	Member
					318	Bijaya Bahadur Chaudhary	Member
					319	Patiram	Member
					320	Narendra Chaudhary	Member
				Milan Samuha	321	Indra Bahadur Chaudhary	Member
					322	Mimram Chaudhary	Member
					323	Nanda Ram Chaudhary	Member
					324	Bhakta Bahadur Chaudhary	Member
					325	Naresh Chaudhary	Member
					326	Hari Lal Chaudhary	Member
					327	Prem Raj Chaudhary	Member
					328	Saraswati Devi Chaudhary	Member
					329	Urmila Devi Chaudhary	Member
					330	Jugari Devi Chaudhary	Member
					331	Mina Devi Chaudhary	Member
				Namuna Samuha	332	Laxmi Chaudhary	Member
					333	Janaki Chaudhary	Member
18-Sep-12	Raikawarbi chuwa	3	Kanchanpur	Kanchan Bemausami Tarkari Utpadan Samuha?	334	Ram Prawesh Rana	Member
					335	Radeshwor Rana	Member
					336	Raj Kumar Rana	Member
					337	Sabu Ram Rana	Member
					338	Viceden Rana	Member

Date	VDC	Ward No.	District	Group Name	S.No.	Participants	Designation
					339	Paras Ram Rana	Member
					340	Puttu Rana	Member
					341	Phul Chandra Rana	Member
					342	Nanda Lal Rana	Member
					343	Gopal Rana	Member
					344	Chote Rana	Member
					345	Dhami Singh Saaki	Member
					346	Tek Raj Bhatta	Member
					347	Suji Rana	Member
					348	DraViceti Rana	Member
					349	Bed Kumari Rana	Member
	Kaluwapur Raikawarbi chuwa	3	Kanchanpur	Ujyalo Bemausami Tarkari Utpadan Samuha	350	Siya Ram Rana	Member
					351	Taula Rana	Member
					352	Surav Ram Rana	Member
					353	Udhav Rana	Member
					354	Babu Ram Rana	Member
					355	Kallu Rana	Member
					356	Ram Chandra Rana	Member
					357	Darsha Rana	Member
					358	Meera Rana	Member
					359	Shree Krishna Rana	Member
					360	Dev Singh Rana	Member
					361	Hari Rana	Member
19-Sep-12	Jaai	5			362	Sher Bahadur Chaudhary	Member
					363	Bir Bahadur Chaudhary	Member
					364	Mahadev Chaudhary	Member
					365	Sushil Chaudhary	Member
					366	Pradeshu Chaudhary	Member
					367	Ram Krishna Chaudhary	Member
					368	Roop Lal Chaudhary	Member
					369	Sher Bahadur Chaudhary	Member
					370	Som Lal Chaudhary	Member
					371	Mina Devi Chaudhary	Member
					372	Kamala Chaudhary	Member
					373	Gyanu Chaudhary	Member
	Bangarama	14	Dhangadi		374	Dinesh Chaudhary	Member
					375	Moti Ram Chaudhary	Member
					376	Raghu Nath Chaudhary	Member
					377	Jage Prasad Chaudhary	Member
					378	Ashok Chaudhary	Member

Date	VDC	Ward No.	District	Group Name	S.No.	Participants	Designation
					379	Budhi Ram Chaudhary	Member
					380	Janga Bahadur Chaudhary	Member
					381	Gopi Lal Chaudhary	Member
					382	Ram Lal Chaudhary	Member
					383	Lahanu Chaudhary	Member
					384	Budhi Chaudhary	Member
					385	Ram Kumar Chaudhary	Member
					386	Ramu Chaudhary	Member
					387	Om Prakash Chaudhary	Member
					388	Purnima Chaudhary	Member
					389	Urmila Chaudhary	Member
					390	Pramita Chaudhary	Member
					391	Sushmita Chaudhary	Member
					392	Durga Chaudhary	Member
	Bhatiyarima	6	Dhangadi		393	Barna Bahadur Shahi	President
	a				394	Himani Shahi	Secretary
					395	Shankuntala Shahi	Vice-President
					396	Raja Ram Rana	Member
					397	Bayan Rana	Member
					398	Thoke Rana	Member
					399	Banabare Rana	Member
					400	Suun Kumari Rana	Member
					401	Bala Bahadur Rana	Member
20-Sep-12	Shreepur	1			402	Khushi Ram Chaudhary	Member
					403	Khoji Prasad Chaudhary	Member
					404	Kalu Ram Chaudhary	Member
					405	Sita Chaudhary	Member
					406	Raj Kumari Chaudhary	Member
					407	Sabitri Chaudhary	Member
					408	Ramita Chaudhary	Member
20-Sep-12					409	Kabita Devi Chaudhary	Member
					410	Durga Devi Chaudhary	Member
					411	Ramati Devi Chaudhary	Member
					412	Champha Devi Chaudhary	Member
					413	Hanshuk Devi Chaudhary	Member
					414	Chameli Devi Rana	Member
					415	Ram Laulari Rana	Member
					416	Sabita Rana	Member
					417	Rampati Rana	Member
					418	Raj Kumari Rana	Member
					419	Mayawati Devi Rana	Member

Date	VDC	Ward No.	District	Group Name	S.No.	Participants	Designation
					420	Rewati Devi Rana	Member
					421	Maya Devi Rana	Member
					422	Sumitra Devi Rana	Member
					423	Sushmita Devi Rana	Member
					424	Aniphool Devi Rana	Member
					425	Radhika Devi Rana	Member
					426	Radha Devi Rana	Member
					427	Chandu Devi Rana	Member
					428	Sita Devi Chaudhary	Member
					429	Namphara Devi Chaudhary	Member
					430	Namdan Devi Chaudhary	Member
					431	Thagiya Devi Chaudhary	Member
					432	Nirmal Devi Chaudhary	Member
					433	Sampuri Devi Chaudhary	Member
					434	Nangita Devi Chaudhary	Member
					435	Jayamati Devi Chaudhary	Member
					436	Meena Devi Chaudhary	Member
					437	Nauhar Devi Chaudhary	Member
					438	Dil Maya Chaudhary	Member
					439	Rupa Devi Chaudhary	Member
					440	Suku Devi Chaudhary	Member
					441	Kuru Devi Chaudhary	Member
20-Sep-12	Geta	1	Kailali	Birsana Samuha	442	Reema Chaudhary	Member
					443	Laxmi Chaudhary	Member
					444	Bhagrati Chaudhary	Member
					445	Janaki Chaudhary	Member
					446	Sabita Chaudhary	Member
					447	Muliya Chaudhary	Member
					448	Nirmala Chaudhary	Member
					449	Mandri Rana	Member
					450	Bharthari Chaudhary	Member
					451	Laxman Chaudhary	Member
					452	Buddhiram Chaudhary	Member
					453	Nagendra Chaudhary	Member
					454	Ghanashyam Chaudhary	Member
21-Sep-12	Pahalmanpur Tilkahanipur	5	Kailali		455	Bina Chaudhary	Member
					456	Krishna Chaudhary	Member
					457	Maya Devi Chaudhary	Member
					458	Laxmi Chaudhary	Member
					459	Chuniya Devi Chaudhary	Member
22-Sep-12	Pahalmanpur	3			460	Joseph Chaudhary	Member
					461	Gulab Devi Chaudhary	Member

Date	VDC	Ward No.	District	Group Name	S.No.	Participants	Designation
					462	Dambar Devi Katharia	Member
					463	Phulmati Devi Katharia	Member
					464	Janaki Devi Katharia	Member
					465	Ramai Chaudhary	Member
					466	Moti Devi Chaudhary	Member
					467	Kamala Devi Chaudhary	Member
					468	Ram Devi Katharia	Member
					469	Aash Devi Katharia	Member
23-Sep-12	Kalika	4			470	Aaita Bahadur Tamang	President
					471	Duwamani K.C.	Vice-President
					472	Laxmi Lamsal	Treasurer
					473	Devi Paudel	Member
					474	Hari Prasad Bhatta	Member
					475	Jaya Bahadur Chanda	Member
					476	Durga Bhatta	Member
					477	Shuka Bahadur Tamang	Member
					478	Kamal Sharma	Member
					479	Suchitra Kafle	Joint-Secretary
23-Sep-12				Nutrition Group	480	Sundarwati Rana	Member
					481	Ram Kali Rana	Member
					482	Sumitra Rana	Member
					483	Karina Rana	Member
					484	Pardesini Devi Chaudhary	Member
					485	Rama Devi Chaudhary	Member
					486	Nahuni Devi Chaudhary	Member
					487	Jugmati Devi Chaudhary	Member
					488	Basanti Devi Chaudhary	Member
					489	Ram Pyari Chaudhary	Member
					500	Shanti Devi Chaudhary	Member
					502	Anuli Devi Chaudhary	Member
					503	Januka Devi Chaudhary	Member
					504	Asha Devi Chaudhary	Member
					505	Phoola Rana	Member
24-Sep-12	Rajpur, Geta	9	Kailali	Purnagiri Bemausami Tarkai	506	Chandra Rana	Member
					507	Mahadev Rana	Member
					508	Basmati Rana	Member
					509	Basanti Rana	Member
					510	Parvari Rana	Member
					511	Ramdin Rana	Member
					512	Bhagpat Rana	Member

Date	VDC	Ward No.	District	Group Name	S.No.	Participants	Designation
					513	Pothi Rana	Member
					514	Malamati Rana	Member
					515	Bhokpati Rana	Member
					516	Raj Kumari Rana	Member
					517	Phulan Rana	Member
					518	Phul Sohantar Rana	Member
					519	Jhuniya Rana	Member
					520	Sunita Rana	Member
					521	Tika Rana	Member
					522	Kaida Rana	Member
					523	Sabada Rana	Member
					524	Poonam Rana	Member
					525	Jagat Ram Rana	Member
					526	Amit Rana	Member
					527	Raja Mati Rana	Member
					528	Meena Rana	Member
					529	Sahebaniya Rana	Member
					530	Thage Rana	Member
					531	Joi dev Rana	Member
	Geta	2	Kailali	Kalika Bemausami Tarkari	532	Krishna Chaudhary	Member
				Utpadan Samuha	533	Ram Krishna Chaudhary	Member
					534	Sundari Chaudhary	Member
					535	DraViceti Chaudhary	Member
					536	Jagani Chaudhary	Member
					537	Lalita Chaudhary	Member
					538	Pradeshani Chaudhary	Member
					539	Meena Rana	Member
					540	Ramdulari Rana	Member
					541	Thagani Chaudhary	Member
					542	Sunkesari Chaudhary	Member
					543	Sharada Chaudhary	Member
					544	Bhairab Chaudhary	Member

# **Annex 7: Photographs from the Field**

## Annex 7: Photographs from the Field



A farmer in Finikot, Dadeldhura displays pheromone trap (IPM) technique for pest control.



NFRP beneficiary weeding his vegetable plot. Altogether 3,101 farmers have participated in the commercial agriculture component.



A beneficiary from NFRP Phase III in Daijee, Kanchanpur shows records of his earnings from commercial vegetable farming for the second crop cycle. The program trained its participants on the significance of accounting and home economics. However, this was a rare case and not widely followed through.



A dysfunctional irrigation pump set distributed to farmers in Daijee, Kanchanpur is discarded. More than 60% (11/18) of the Chinese pump sets handed out to beneficiaries during Phase II were broken down and are currently of no use. To avoid similar cases in the future, farmers were provided more durable Indian pump sets in Phase III.



An agro-vet in Dadeldhura surrounded by medicines/pesticides. NFRP established linkages between vegetable farmers and agro-vets for obtaining seeds through voucher systems.



A newly constructed STW and diesel pump set in Bijpuri, Kanchanpur. On average, one pump provides irrigation facilities to 2.5 ha of land.



Female participants of Nutrition Action Group describing their experiences and learning.



Children in Raikawarbichawa, Kanchanpur eating wholesome meal. Since NFRP intervention, considerable behavioural changes in intake of fresh vegetables have been observed.

# **Annex 8: Findings from the Household Survey**

## Annex8: Findings from the Household Survey

### Sample size

1. Total respondents: 332
2. Respondents in program districts: Dadeldhura: 41 (12%), Kanchanpur: 125 (38%), Kailali: 166 (50%)
3. Respondents of Phase III: 219 (66%), Phase II overlapped VDCs: 113 (34%)
4. Respondents from different social groups: Dalits: 8 (2.4%), Janajati: 270 (81.4%), Brahmin/Chhetri: 54 (16.2%)
5. Female respondents: 160 (48%) Male respondents: 162 (52%)
6. Female headed households amongst respondents: 33 (10%)

### Household characteristics

1. Average Family Size: 8
2. Average family size for different social groups: Dalits: 8.5, Janajati: 8.4, Brahmin/Chhetri: 6.2
3. Average household landholding size: 32.8 Kattha (1.1 ha)
4. Average household landholding size for different social groups:

Groups	Hills	Terai
Dailt	0.26 ha (8 Kattha)	-
Janajati	-	34.8 Kattha
Brahmin/Chhetri	0.8 ha (24.5 Kattha)	29.3 Kathha
Female Headed Hhs	0.3 ha(11.5 Kattha)	22.5Kattha
Average	0.7 ha (22.1 Kattha)	34.3 Kattha

5. Percentage of beneficiaries based on landholding size (in percentages):

	<0.5 ha (<15Kattha)	0.5-2 ha (15-60 Kattha)	> 2 ha (>60 Kattha)
Hills	45(N=19)	55(N=23)	-
Terai	30(N=88)	58(N=169)	11(N=33)
Female headed households	46(N=17)	41(N=15)	3(N=1)
Total	32(N=107)	58(N=192)	10(N=33)

6. Food security from own production (in percentages):

	<6 m	6-9m	9-12 m	>12 m
Hills	39	41	11	9
Terai	5	9	39	46.3
Dailt	62.5	25	0	12.5
Janajati	5	10	39	46
Brahmin/Chhetri	22	30	22	26
Female headed Hhs	12	21	48	18
Total	9	13.5	35	42.5

7. Main sources of income (in percentages):

	Agriculture	Business	Remittance	Salaried Job	Daily wage labor	Commercial veg production
Dailt	87.5	50	12.5	0	100	25
Janajati	99	10	6	11	25	18
Brahmin/Chhetri	83	13	20	22	15	11
Female headed households	97%	9	12	15	21	9
Total	95	11	8.5	11	23	17

#### Previous commercial vegetable farmers

1. Total number of previous commercial vegetable farmers: 56
2. Previous commercial vegetable farmers: Hills: 8 (14%), Terai: 48 (86%)
3. Average plots of commercial vegetables= 5.2 Kattha (1.7 ha)
4. Average Net Income from sales: Winter: NRs 20,173, Off-seasonal: NRs 15,035
5. Average Net Income per Kattha: Winter: NRs 3,575, Off-seasonal: NRs 2,664

#### Main reasons for not starting commercial vegetable production

1. Main reasons for not starting commercial vegetable production (in percentages):

	Water shortages	Lack of fertilizers	Lack of knowledge and skills	Shortage of labour	Lack of markets	Difficulty in transporting	Others
Hills	80% (N=33)	5% (N=2)	73% (N=30)	5% (N=2)	22% (N=9)	17% (N=7)	41% (N=17)
Terai	33% (N=96)	4% (N=12)	80% (N=234)	3% (N=9)	6% (N=19)	3% (N=10)	7% (N=20)

#### Commercial vegetable production

1. Average Size of vegetable plots (in Katthas):

	1 <sup>st</sup> Crop Cycle	2 <sup>nd</sup> Crop Cycle
Phase II overlapped*	4.2	3.8
Phase III	6.5	6.6
Hills	5.5	6.3
Terai	5.8	5.6
Average	5.7	6.5

Note: Decreasing trend seen in Phase II. Problems due to: Irrigation 50% (57) and Marketing:27% (31) problems

2. Households that have hired external labour: 8% (28)

3. Average annual Net Incomes from selling commercial vegetables:

	Avg veg plots (Katha)	Net Incomes/Kattha				Average	Average Net Income per Crop Cycle
		1 <sup>st</sup> Crop Cycle		2 <sup>nd</sup> Crop Cycle			
		Hill	Terai <sup>^</sup>	Hill	Terai		
Dailt (N=8)	3.7	3,585 (N=8)	-	3,639 (N=8)	-	3,612	13,364
Janajati (N=270)	6.1	-	8,023 (N=233)	-	8,124 (N=260)	8,073	49,248
B/C (N=54)	5.3	5,750 (N=54)	-	5,026 (N=54)	-	5,388	28,556
Small-sized landholders (N=106)	4.3	5,141 (N=16)	8,208 (N=75)	5,341 (N=16)	8,549 (N=83)	6,809	29,281
Medium-sized landholders (N=197)	6.4	4,285 (N=22)	7,026 (N=145)	4,499 (N=21)	6,935 (N=165)	5,686	24,166
Large-sized landholders (N=33)	7.9	2,056 (N=2)	15,646 (N=29)	525* (N=2)	9,166 (N=29)	6,848	54,101
Female headed Hhs (N=33)	4.6	7,420 (N=3)	10,243 (N=25)	6,694 (N=3)	6,269 (N=30)	7,656	35,219
Total averages (N=332)	5.7	4,550 (N=42)	8,012 (N=253)	4,460 (N=39)	7,749 (N=277)	6,192	35,298

Note: \* Farmers reported bad harvest due to the lack of water and pests

<sup>^</sup> In the Terai, some farmers planted paddy during the 1<sup>st</sup> Crop Cycle

8. Utilization of earnings from vegetable sales (in percentages):

Buying land	Investing in agri inputs	Increased savings	Increased food consumption	Increased protein intake	Paying debt	Education fees	Buying luxury items	Sending Hh members abroad
2 (N=6)	12 (N=39)	29 (N=96)	80 (N=264)	4 (N=14)	13 (N=34)	87 (N=288)	8 (N=25)	1 (N=3)

## Farmers perception regarding USAID/NFRP program

### 1. Positive aspects of the NFRP project (in percentages):

Nursery training	Support for irrig	Subsidized seeds	Making compost	IPM training	FT support	Home economy training	Nutrition	Marketing
92 (N=307)	62 (N=207)	63 (N=210)	10 (N=33)	55 (N=182)	42 (N=138)	4 (N=13)	15 (N=51)	6 (N=20)

### 3. Areas where more improvement can be made (in percentage):

Nursery	Support for irrigation	Subsidized seeds	Making compost	IPM training	Continue FT support	Home economy training	Nutrition	Marketing
5 (N=17)	36 (N=120)	15 (N=52)	33 (N=108)	12 (N=39)	33 (N=108)	1 (N=3)	1.2 (N=4)	29 (N=97)

# **Annex 9: Checklist for Infrastructure (STW)**

## Annex 9: Checklist for Infrastructure (STW)

### Project Overview:

Name of District:	
Name of VDC:	
Type of Structure:	
Dimension of Structure:	
Number of Household benefitted:	
Name of Implementing Sub-contractor/NGO:	

Site identification and need	
1	<p>What were the criteria for selecting the site location?</p> <ul style="list-style-type: none"> <li>• Was the decision by the committee? Contractors?</li> <li>• What is the area covered (in hectares)?</li> </ul>
Use of pump sets	
2	What are the kinds of crops being grown and their seasons?
3	What is the use of pumps? For what kinds of crops are they used?
4	<p>What kinds of pump sets are used: diesel or electrical?</p> <ul style="list-style-type: none"> <li>• If diesel, do the farmers keep stock of additional diesel?</li> </ul>
5	<p>What is the delivery system like?</p> <ul style="list-style-type: none"> <li>• Open channel system (earthen or lined)?</li> <li>• Flexible plastic pipes?</li> <li>• Buried pipes?</li> </ul>
Operation and Management (O&M)	
8	<p>What is the modality of operation of pump sets?</p> <ul style="list-style-type: none"> <li>• Do farmers individually operate the pump sets?</li> <li>• Are there certain persons designated for their operation?</li> </ul>
9	<p>Does the cluster have a formal management committee?</p> <ul style="list-style-type: none"> <li>• If yes, what is the nature of the committee?</li> <li>• If not, how do they manage the operation and management of the system?</li> </ul> <p>Has the program trained any local technicians for repair and maintenance of pump sets?</p>
10	<ul style="list-style-type: none"> <li>• How frequently do the pump sets break down?</li> <li>• Are spare parts available?</li> <li>• Is the performance of Chinese vs. Indian pump sets significant and different? (breakdown frequency, availability of spare parts, etc.)?</li> </ul>
11	How do the beneficiaries share O&M costs?
12	<ul style="list-style-type: none"> <li>• How do farmers schedule the use of pump sets?</li> <li>• Have there been problems or issues related with the usage of pump sets and water management?</li> <li>• Have there been cases of theft of pump sets?</li> </ul>
Production	
13	<p>Has the diffusion (commercial agriculture) taken places as envisaged?</p> <ul style="list-style-type: none"> <li>• If yes, in how many hectares of land?</li> <li>• What is the number of beneficiaries?</li> <li>• How is the water sold to the new member?</li> </ul>
14	<p>How many STW have started selling water to their neighbours (diffusion effect)?</p> <p>Is the STW component going to make significant contribution to the improvement of livelihood of beneficiary communities?</p>
Overall Impression of the Program	
15	

# **Annex 10: Checklist for Infrastructure (Surface Irrigation)**

## Annex 10: Checklist for Infrastructure (Surface Irrigation)

### Project Overview:

Name of District:	
Name of VDC:	
Type of Structure:	
Dimension of Structure:	
Number of Household benefitted:	
Name of Implementing Sub-contractor/NGO:	

<b>Identification of Infrastructures</b>	
1	<p>How was the structure/ component identified?</p> <ul style="list-style-type: none"> <li>• Feasibility Survey report.</li> <li>• Was there community participation in selection of component? If yes, mention the total no. of people surveyed.</li> <li>• Were VDC/DDC consulted in selecting the component?</li> <li>• Was there any dispute in the selection of infrastructure?</li> <li>• Did anyone (influential person) play a major role in the selection of infrastructure?</li> <li>• Were the infrastructures new or existing? If so, when was it built and who built it?</li> <li>• Who designed the infrastructure?</li> </ul>
2	Did implementing partners propose the infrastructure?
3	Are there any other donor agencies working in the vicinity for the similar type of projects?
<b>Design and Quality of the Structure</b>	
4	Was the structure design appropriate? Were any environmental consideration made while designing the structure (downstream effect of irrigation, bioengineering)?
5	<p>What were the design basis/ criteria for the structure?</p> <ul style="list-style-type: none"> <li>• Did sub-contractor propose the design?</li> <li>• Was there any data available pertaining to design, such as hydrological data which helped in design?</li> <li>• Any input/ suggestion from local community in design finalization?</li> <li>• Any alteration in the original design due to public pressure or actual ground condition?</li> </ul>
6	<p>What was the quality of the construction work?</p> <ul style="list-style-type: none"> <li>• Are the beneficiaries satisfied with the construction of infrastructure?</li> <li>• If not, what are/were their grievances?</li> </ul>
7	<p>Who was responsible for implementation (sub-contractor/community)</p> <ul style="list-style-type: none"> <li>• Was the community involved in the construction of the infrastructure?</li> </ul>
8	<p>How was the component monitored in the execution phase?</p> <ul style="list-style-type: none"> <li>• Was there utilization of local labor/ resources?</li> <li>• Was preference given to hiring of local labor? Any gender based preference?</li> <li>• How well the locally available resources utilized?</li> <li>• Was there any contribution from local community in terms of labor?</li> </ul>
9	<p>Was there aid from governing bodies?</p> <ul style="list-style-type: none"> <li>• Did DDC/VDC contributed in monetarily or with any other means in the project execution?</li> </ul>
<b>Implementation of Infrastructure</b>	
10	How was the sub-contractor/ NGO selected for implementing the structure?
11	Was a users' committee formed from the beginning? If yes: were there any formal

	<p>agreements with the development partner (NFRP)?</p> <ul style="list-style-type: none"> <li>• How many members were there?</li> <li>• How inclusive was the committee (for dalits, women/ irrigation policy)?</li> <li>• What was the role of users' committee in supervision and implementation?</li> <li>• What was their legal status? (According to the Constitution/ Regulation/ By Laws of user's committee)?</li> <li>• Were they legally registered?</li> </ul>
<b>Use of Structure</b>	
12	Are all the community members using the structure for whom it was targeted? If not, what is the reason for not being used?
<b>Maintenance of Structure</b>	
13	Is the operation and maintenance (ONM) plan developed? Mention brief description of the plan.
14	How is the fund managed for the maintenance? How do the farmers plan to raise their ONM cost (irrigation service fees, others- contribution from VDC, DDC)?
15	Has there been a committee to look after the maintenance?
16	Is the maintenance team linked with DDC & VDC?
17	Has any local person technically upgraded to carry out / report maintenance when required?
18	Were beneficiaries given training on construction/maintaining the quality of construction?
19	Was there any form of cost-sharing from the community (according to the irrigation policy, DDC, VDC and other development partners in addition to NFRP)?
20	What are the linkages with DDC, VDC, DOLIDAR for future support and sustainability?
<b>Consequences of the Program</b>	
21	Was the component effective in addressing the flood recovery issue at community level? Any example which shows the effectiveness.
22	What was the targeted population intend to use the structure? Has the target been achieved? If not what was the reason?
23	Has the component able to serve as the role model for future as an effective flood recovery tool that may be guide for other implementing partners/ donors?
24	How well the structure did changed the socio-economic aspect of local community? <ul style="list-style-type: none"> <li>• Generation of short/long term employment. How many person/ person day?</li> <li>• Reduction in seasonal migration of local community. State percentage in reduction.</li> <li>• Linkage with different bodies such as DDC, VDC.</li> </ul>
25	Was there any conflict between beneficiaries during selection, implementation and post implementation phase? <ul style="list-style-type: none"> <li>• Pertaining to location of structure</li> <li>• Pertaining to selection of structure</li> </ul>
26	Was there any considerable environmental impact (positive/negative)?
<b>Lessons Learnt</b>	
27	What were the success/ failures behind the component? <ul style="list-style-type: none"> <li>• Quick decision</li> <li>• Participatory approach in selection</li> <li>• No objection/ clearance from governing bodies.</li> <li>• Allocation of the fund in quick manner.</li> <li>• Others?</li> </ul>
28	What were the hindrances observed in the execution of component? <ul style="list-style-type: none"> <li>• Issue related to local labor, commission, clearance from governing bodies, selection of sub-contractors.</li> </ul>

# **Annex 11: Checklist for Market and Collection Centres**

## Annex 11: Checklist for Market and Collection Centres

### Project Overview:

Name of District:	
Name of VDC:	
Type of Structure:	
Dimension of Structure:	
Number of Household benefitted:	
Name of Implementing Sub-contractor/NGO:	

<b>Site Identification</b>	
1	Appropriateness and accessibility of site: <ul style="list-style-type: none"> <li>• Are the communities satisfied with the location?</li> <li>• Was there participation of beneficiaries in site</li> </ul>
2	Is the land government owned or private? If private, what are the land acquisitions?
3	Who built the centre (sub-contractor or beneficiary community)?
<b>Appropriateness and suitability of site</b>	
4	What is the condition of roads leading to the centre?
5	What is the distance of the center from the road heads?
6	Is there a possibility for land expansion? If required, is additional land available?
<b>Design and operation</b>	
7	Who designed the centre? Was there participation from the community?
8	Does the centre have toilet facility separate for men and women? Is there a management committee responsible for the maintenance of the centre?
<b>Management, repair and maintenance</b>	
9	Is there a management committee responsible for the maintenance of the centre?
10	Is there any provision for management of vegetable wastes at or near the centre?
11	Is there any provision of utilizing vegetable waste for producing organic fertilizer?

# **Annex 12: Checklist for FGD with Target Commercial Farmers/ Beneficiaries**

## Annex 12: Checklist for FGD with Target Commercial Farmers

Name of Group: .....

Address: District/VDC / Ward No./Village .....

A. Need identification	
1	Was a PRA carried out in the VDC to understand the needs of the local community? <ul style="list-style-type: none"> <li>• Poverty ranking?</li> </ul>
2	How did the project staff match the needs of the community with project objectives?
B. Selection of Farmers Groups	
1	How did the farmers come to know about the commercial agriculture component of the project?
2	What did the project staff tell you about the criteria of becoming involved in the project activities? <ul style="list-style-type: none"> <li>• How much land did the project staff tell you that you needed to contribute towards the project?</li> </ul>
3	Were there any specific approaches applied by the project to include women and different marginalized groups?
4	Are the farmers aware of others who wanted to be a part of the project but were not included? Why? What reasons did the project staff provide?
5	Were any of the farmers commercial farmers prior to the program? <ul style="list-style-type: none"> <li>• If yes, what proportion were previous vegetable farmers?</li> </ul>
C. Involvement in the project	
1	How was the location of the STWs decided? <ul style="list-style-type: none"> <li>• By whom? – How?</li> </ul>
2	Was there any <b>conflict</b> in deciding the location of the STWs? <ul style="list-style-type: none"> <li>• If so, how was the issue addressed?</li> </ul>
3	What types of <b>cost sharing</b> mechanisms were implemented? <ul style="list-style-type: none"> <li>• Total cost of STW and pumps?</li> <li>• Funds provided by the Project?</li> </ul>
4	What types of <b>inputs</b> support were provided by the project? <ul style="list-style-type: none"> <li>• Trainings               <ul style="list-style-type: none"> <li>– Were the trainers knowledgeable?</li> <li>– Did you use the knowledge/skill received from training?</li> </ul> </li> <li>• HVC Seeds               <ul style="list-style-type: none"> <li>– How were the seeds distributed? Costs sharing?</li> <li>– How were the vouchers used?</li> <li>– Do the farmers recognize the recommended varieties?</li> </ul> </li> <li>• Fertilizers               <ul style="list-style-type: none"> <li>– What type of fertilizers do the farmers use? Chemical? Organic? Why?</li> </ul> </li> <li>• Insect Pest Control – Pesticides, use of IPM? Cost sharing</li> <li>• Marketing               <ul style="list-style-type: none"> <li>– What type of support did the project provide?</li> <li>– Were you invited to the talks with the FNCCI representatives?</li> <li>– Were any cooperatives formed?</li> </ul> </li> <li>• Follow-up               <ul style="list-style-type: none"> <li>– How much land does one staff cover?</li> <li>– Was regular follow-up provided by the field staff?</li> <li>– Are the farmers satisfied with the support provided?</li> </ul> </li> </ul>

5	<p>Did all the farmers cultivate the HVCs that were advised by the project?</p> <p>If yes,</p> <ul style="list-style-type: none"> <li>• What type of crop and variety was advised by Project?</li> <li>• Why did the farmers not plant these crops before the project? Reasons?</li> <li>• If not, Why did the farmers not follow the advice of the project? Reasons?</li> </ul>
<b>D. Production</b>	
1	<p>Do the field staff recommend:</p> <ul style="list-style-type: none"> <li>• When to plant the vegetables?</li> <li>• What type to plant?</li> <li>• Are the Farmers satisfied with the support? Or has the advise been harmful?</li> </ul>
2	<p>How has the cropped land changed over the 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> cycles</p> <ul style="list-style-type: none"> <li>• Proportion of farmers that have expanded their lands</li> <li>• Proportion of farmers that have decreased their lands</li> <li>• Proportion of farmers who have <b>dropped out</b> – Why?</li> </ul>
3	<p>By how much has the cost of the inputs changed?</p> <p>-Seeds-Fertilizers-Pesticides-Labour, Diesel</p>
4	<p>Access to Credit?</p> <ul style="list-style-type: none"> <li>• Do you have any sources of credit?</li> <li>• Have any saving and Credit groups been established?</li> <li>• If so, then what is the interest rate of loans?</li> </ul>
5	<p>Access to Service/Inputs?</p> <ul style="list-style-type: none"> <li>• From where farmers get technical services? (Project staffs/DADO/Agro-vet)</li> <li>• Do farmers buy agri-inputs themselves from Agro-vet?</li> </ul>
6	<p>Did you hire any external labour to help you with the cultivation?</p> <ul style="list-style-type: none"> <li>• If yes, for how many days?</li> <li>• What were the rates? For men and women</li> </ul>
7	<p>Are the farmers aware of other non-participant farmers who have learnt from them and are now practicing vegetable farming?</p> <ul style="list-style-type: none"> <li>• If yes, how many in the settlement? Ward?</li> </ul>
<b>E. Marketing</b>	
1	<p>Where do you sell your produce?</p> <ul style="list-style-type: none"> <li>• Have there been any changes in the location/method of selling the produce?</li> <li>• How much % farmer sell their produce in collection center/haatbazaar?</li> <li>• How far do you have to travel? (in hours/kilometers)</li> <li>• Loss of produces due to marketing problem</li> </ul>
2	<p>Are the farmers aware of the prices that are being provided?</p> <ul style="list-style-type: none"> <li>• What prices are the farmers receiving for their produce?</li> <li>• Are farmers satisfied with price? If not why?</li> </ul>
3	<p>Do the farmers used the Collection sheds/Market sheds?</p> <ul style="list-style-type: none"> <li>• If not, why not?</li> </ul>
4	<p>How do the farmers become aware of the prices?</p> <ul style="list-style-type: none"> <li>• Do they listen to the <b>FM and SMS price</b> updates?</li> <li>• Are the updates reliable?</li> <li>• How do the farmers make use of the FM up dates?</li> <li>• If they do not listen to the up dates, then why not?</li> </ul>
5	<p>Do any farmers have any type of contracts with “<i>thekedars</i>” (middle men)?</p> <ul style="list-style-type: none"> <li>• If so, how did they establish the contracts?</li> </ul>
6	<p>Have the Home Accounting trainings been useful?</p>
7	<p>What are the Main difficulties in marketing?</p>

F. Outcomes	
1	<p>By what percentage has the monthly/annual income changed as a result of Commercial Agriculture?</p> <ul style="list-style-type: none"> <li>• Before how much were your annual earnings?</li> <li>• What was the cost of the inputs?</li> <li>• After the implementation of the project, how much is your earnings?</li> <li>• What is the cost of the inputs?</li> </ul>
2	<p>Present Household expenditure? (in %)</p> <ul style="list-style-type: none"> <li>• Food</li> <li>• Education</li> <li>• Health</li> <li>• Agriculture inputs</li> <li>• House improvement</li> <li>• Entertainment</li> <li>• Others (specify)</li> </ul>
3	<p>How have you utilizing the extra money that you have earned?</p> <ul style="list-style-type: none"> <li>• Buying more land</li> <li>• Repaying debt</li> <li>• Food</li> <li>• Education</li> <li>• Health</li> <li>• Agriculture inputs</li> <li>• House improvement</li> <li>• Entertainment</li> <li>• Other (specify)</li> </ul>
4	<p>Have any if the farmers bought land? If their incomes have increased?</p> <ul style="list-style-type: none"> <li>• If so, how much (in local unit)?</li> </ul>
5	<p>Food Security (Accessibility, Availability, Utilization and Stability)</p> <ul style="list-style-type: none"> <li>• Can you buy food items in when you need? (Quantity, quality and regularly)</li> </ul>
G. Sustainability	
1	<p>STWs</p> <ul style="list-style-type: none"> <li>• Are all the pumps operating?</li> <li>• Are the materials required for maintenance available locally?</li> <li>• Have the Irrigation groups managed to <b>sell the water</b>? <ul style="list-style-type: none"> <li>– If yes, how much as been earned? How is the income used?</li> <li>– If no, why not?</li> </ul> </li> </ul>
2	<p>Commercial Agriculture</p> <p><b>HVC Seeds</b></p> <ul style="list-style-type: none"> <li>• Are the HVC seeds available from the local markets? Were there any shortages?</li> <li>• Where/from whom do the farmers buy the seeds?</li> <li>• Do farmers buy hybrid seeds with their own cost?</li> <li>• Has the price of the seeds increased since the start of the project?</li> </ul> <p><b>Services</b></p> <ul style="list-style-type: none"> <li>• Linkage with DADO/Agro-vet</li> <li>• Linkage with VDC for 15% agriculture budget</li> <li>• Development of Local Leader Farmer/ Level of technical skill transferred?</li> <li>• Linkage with trader, commission agent, collection center</li> </ul>

# **Annex 13: Checklist for Nutrition/Home Garden**

## Annex 13: Checklist for Nutrition/Home Garden

<b>A. Selection of the Households</b>	
1	How did you come to know about the home/ kitchen garden component of the NFRP project?
2	How was your Hh selected?
3	Do you know any other pregnant women or families with children less than 2 years who were not included in the project?
<b>B. Situation prior to the start of the NFRP project?</b>	
1	Were you aware about Ante Natal Care (ANC), such as having at least 4 visits to HP, SHP and the need to have iron Tablets?
2	What type of food items were you consuming before?
3	Where did you go to defecate?
4	Did you have a home garden? (i) If yes, on how much land were you cultivating on? (ii) If yes, what types of vegetables were you planting?
5	Have there been other nutrition/hygiene programs implemented in the area?
6	Where did you give birth to your last child? Who was there to help you during the birth?
<b>C. NFRP Support provided</b>	
1	What type of support was provided for the improvement of the kitchen gardens? (i) Trainings (ii) Seeds (iii) Fertilizers (iv) Pest control (v) Follow-up
2	What type of vegetables did the project staff recommend to plant?
3	What additional vegetables did you start planting?
4	If you did not follow their recommendations, why not?
5	Did the project staff come and measure the BMI of your child? (i) If yes, was this carried out regularly, or just a one time event?
<b>D. Outcomes</b>	
1	What proportion of the vegetables do you sell? And what proportion does your family consume?
2	What did you eat today?
3	What did you eat yesterday?
4	What is your main staple diet?
5	How many times you have leafy vegetables per week?
6	How many times do you have protein (eggs, lentil, meat, fish) per week?
7	How many times do you have milk per week?
8	Do you prepare separate food for adults and babies?
9	What id your main source of drinking water? Potability of water?

### Observation Checklist

1	Physical condition of the babies? Any signs of Malnutrition? 1. Swollen abdomen 2. Always crying 3. Wasting away of muscles 4. Listless, tired, dull 5. Yellow, dull, rough skin
2	Do they have a permanent latrine?
3	Do they wash their hands before meals? After going to the latrines?

# **Annex 14: Checklist for Key Informant Interviews**

## Annex 14: Checklist for Key Informant Interviews

<b>A. CHECKLIST FOR DADO</b>	
1	Commercial vegetable pocket areas in the district?
2	Familiarity of NFRP (Production sites, haatbazar/Collection centre)
3	Use of Resource person from DADO/ Agriculture Service Centre?
4	Views of DADO on HVC varieties used by NFRP?
5	Are the farmer groups registered with DADO?
6	Effectiveness of FM radio and SMS?
7	District Food and Nutrition security plan in district?
8	Use of VDC 15% agriculture budget?
9	Strength and Weakness of NFRP?

<b>B. CHECKLIST FOR DDC, VDC and DTO</b>	
1	Project plan and progress reporting to DDC (is it DDC yearly plan?)
2	Involvement of DDC/VDC in Joint monitoring of NFRP
3	Contribution of DDC, VDC and DTO (Collection centres/ haatbazar, STW)
4	Status of 15% agriculture fund by farmers
5	DTO: Technical suitability of Irrigation scheme, cost effectiveness

<b>C. CHECKLIST FOR AGROVETS</b>	
1	Trend of hybrid seeds sold
2	Who are the major clients?
3	Availability of hybrid seeds (shortage, cost)
4	Local farmers preference of hybrid seeds
5	Voucher system of inputs taking

<b>D. CHECKLIST FOR TRADERS/COMMISSION AGENTS/FNCCI MANGEMENT COMMITTEES</b>	

<b>Traders/Commission Agent:</b>	
1	% selling of local produces by seasons -
2	Profit margin: local VS imported -
3	Approach of collecting produce from production sites -
4	How are the prices fixed?
<b>Checklist for FNCCI</b>	
5	How does the FNCCI support farmers?
6	How does the MIS operate Effectiveness (use by farmers, traders/collector)
7	How can local agri-produce be promoted?

<b>E. CHECKLIST FOR LOCAL PARTNER NGOS</b>	
1	How did you get selected for the NFRP work?
2	How many staff are engaged in the NFRP work?
3	Before the start of the NFRP work, was there any training provided by NFRP? 1. If yes, what type of training? 2. How many staff were trained? 3. Were the trainings useful?
4	Have the staff used the trainings for other activities?
5	What were the positive aspects about working with Fintrac?
6	What new mechanisms did you learn, if any?
7	What difficulties did you face in implementing the programs?
8	What difficulties did you face while working with Fintrac?

<b>F. CHECKLIST FOR OBSERVATION: COMMERCIAL AGRICULTURE</b>	
1	Area
2	Crop condition (insect-pests),
3	Irrigation systems, Pumps
4	Information on crop varieties, other inputs (fertilizer, pesticides)
5	Use of IPM techniques
6	Post harvest handling process
7	Use of STW, if not why?

# **Annex 15: Household Questionnaire**

## Annex 15: Household Questionnaire

<b>Household No.</b>	
<b>District</b>	
<b>VDC</b>	
<b>Ward No.</b>	

! DISTRICT AND VDC CODES		
DADEL DHURA: 1	KANCHANPUR: 2	KAILALI: 3
AMARGADHI: 1A SAMAJI: 1B ASHIGRAM: 1C	BHIMDUTTA: 2A DAJI: 2B KRISHNAPUR: 2C RAIKAWARBICHAWA: 2D KALIKA: 2E PARASAN: 2F	DHANGADI: 3A SHIRPUR: 3B GETA: 3C P-MANPUR: 3D

<b>Name of Respondent</b> (Please ✓ your response)			
<b>Sex</b>	<b>Male</b>		<b>Female</b>

<b>Name of Household</b>						
<b>Caste/Ethnicity</b>	<b>Dalit</b>		<b>Janajati</b>		<b>Brahmin/Chettri</b>	<b>Others</b>
<b>No. of family members</b>						

### A. STATUS PRIOR TO NFRP INTERVENTION

1.	What were your <u>main sources</u> of income before becoming a part of the NFRP program? Please ✓ all that apply.									
	1.a	Farming		1.b	Selling livestock		1.c	Vegetable production		
	1.d	Business		1.e	Remittance		1.f	Pension		
	1.g	Salary		1.h	Daily wage labour		1.i	Others		
2.	How many months were you able to feed your family from your own farm production?									
	2.a	<6 m		2.b	6-9 m		2.c	9-12 m		
							2.d	>12 m		
3.	Were you practicing commercial vegetable farming prior to NFRP?						Yes		No	
4.	If yes, on how much land did you cultivate the vegetables? (Please specify in local unit)									
5.	How much were you earning in one season from commercial vegetable farming? (in NRs)									
6.	If you practiced commercial vegetable farming, what were the main problems in vegetable production? If you did not, what were the reasons behind not cultivating vegetables? Please ✓ all that apply.									
	6.a	Water shortages		6.b	Seed availability		6.c	Fertilizer availability		
	6.d.	Lack of knowledge and skills		6.e.	Labour shortage		6.f	Lack of markets		

6.g	Difficulty in transporting produce	6.h	High cost of transportation	6.i.	Others
If Others, then please explain:					

**B. AFTER PARTICIPATING IN THE NFRP PROGRAM**

7.	What is your total family land holding size? (in local unit)			Khet		Bari		Total	
8.	Have you rented/leased any land? If yes, how much land holding have you rented/leased? (in local unit)								
9.	How much land did you cultivate as a part of the NFRP project? (in local unit)								
	1 <sup>st</sup> Crop Cycle			2 <sup>nd</sup> Crop Cycle			3 <sup>rd</sup> Crop Cycle		
10.	Will you further expand your vegetable cultivated area in the future?								
	10.a.	Yes			10.b	No			
11.	Did you hire external labour for vegetable production?								
	11.a	Yes			11.b	No			
12.	If yes, how many persondays of labour did you hire?								
	1 <sup>st</sup> Crop Cycle				2 <sup>nd</sup> Crop Cycle				
13.	What was your expenditure for inputs?								
	1 <sup>st</sup> Crop Cycle				2 <sup>nd</sup> Crop Cycle				
	Crop		Amount (in NRs)		Crop		Amount (in NRs)		
13. a.1	Seed			13.b .1	Seed				
13. a.2	Fertilizer			13.b .2	Fertilizer				
13. a.3	Diesel/ Electricity			13.b .3	Diesel/ Electricity				
13. a.4	Labour			13.b .4	Labour				
13. a.5	Others			13.b .5	Others				
13. a.6	Total			13.b .6	Total				
14.	How much did you produce during the 1 <sup>st</sup> Crop Cycle? (NFRP demo-plots)								
	SN	Name of Vegetable	Cultivated area (in Local unit)	Production (in kg)	Market Price (per kg)	Gross Income (in NRs)	Remarks		

15.	How much did you produce during the 2 <sup>nd</sup> Crop Cycle? (NFRP demo-plots)							
	SN	Name of Vegetable	Cultivated area (in Local unit)	Production (in kg)	Market Price (per kg)	Gross Income (in NRs)	Remarks	
16.	Did you take part in the nutrition training program?							
	16.a	Yes		16.b.	No			
17.	What did you think were the positive aspects about the NFRP project? Please ✓ all that apply.							
	17.a.1	Nursery training		17.a.2	Irrigation system		17.a.3	Seeds
	17.a.4	Fertilizers provided		17.a.5	Pest control		17.a.6	Support provided by the Field staff
	17.a.7	Nutrition training		17.a.8	Home economic training		17.a.9	Knowledge about marketing
	17.a.10	Others (Please list):						
18.	Areas where the NFRP project could have improved their support? Please ✓ all that apply.							
	18.a.1	Nursery training		18.a.2	Irrigation system		18.a.3	Seeds
	18.a.4	Fertilizers provided		18.a.5	Pest control		18.a.6	Support provided by the Field staff

	18.a.7	Nutrition training		18.a.8	Home economic training		18.a.9	Knowledge about marketing	
	18.a.10	Others (Please list):							
19.	Areas where you have spent the extra incomes earned from Commercial Agriculture. Please ✓ all that apply.								
	19.a.1	Bought land		19.a.2	Bought new agriculture implements		19.a.3	Savings	
	19.a.4	Increased food intake		19.a.5	Started taking more protein		19.a.6	Paid off loans	
	19.a.7	Sent children to school		19.a.8	Bought luxury items		19.a.9	Invested in migration	
	19.a.10	Others (Please list):							

# **Annex 16: FINTRAC Model for Commercial Agriculture**

## Annex 16: FINTRAC Model for Commercial Agriculture

FINTRAC Inc. has its own strategy and approach to “Build Back Better” the flood affected and vulnerable communities under Nepal Flood Recovery Program (NFRP). It has specified service delivery mechanisms, production input subsidies, farmer selection criteria, production technologies, marketing approach, etc. which is generally termed as a FINTRAC model in the project. Thus, FINTRAC model is essentially an integrated package of inputs and services for commercial production of high value crops (HVC) i.e. focused in production of fresh vegetables to improve income, food security, nutrition and livelihood of farmers in its targeted coverage areas.

Accessibility to all year round road network, comparatively large size land holding and feasibility of irrigation are the pre-requisites for commercial agriculture. Keeping these facts in mind, FINTRAC has taken into consideration the following requirement for commercial agriculture:

1. **Irrigation:** Integration of all possible and suitable irrigation systems in the project is significant requirement to commercialize HVCs (vegetables crops). Shallow tube-well (STW) in Terai and canal pipe irrigation in the hills has been provisioned. Diesel pump for shallow tube-well is used in Terai whereas gravitational irrigation system is common in the hills. Electric motorized lift irrigation is also used wherever applicable. At least 75 Kattha (3.75 ha) in Terai and 50 ropani (3.75 ha) of land must be considered for one production cluster under the one irrigation system (cluster).
2. **Technical service delivery:** Agriculture Field Technician (FT) assigned in the production sites to provide technical inputs as per the need of producer groups is also an important provision of the project. FTs stay in the community as one of the members and are available to support the farmers at critical periods. In every crop cycle, one week long Training of Trainer (ToT) was given to FTs by the agriculture specialist from FINTRAC. The FT in turn gave field-based practical training to the farmers to suit the crop stages. FTs provided trainings to farmers under the following packages:
  - i. **Nursery management training:** Community-based nursery is focused.
  - ii. **Production Management training:** It covers the major agriculture cultivation activities like sowing, transplantation, intercultural operation etc. Chemical fertilizer is discouraged by encouraging farmer to use compost and Farm Yard Manure (FYM). Chemical fertilizer is not subsidized by the project.
  - iii. **Plant Protection:** Special emphasize was given in Integrated Pest Management (IPM) by using different types of pheromone traps (lures), use of bio-pesticides and applying several other IPM tools. The least toxic pesticides (green and yellow label) are recommended as the last resort. Banned chemical pesticides in Nepal and USAID are not used in the project. Furthermore, chemical pesticides are not subsidized. It was provided to the farmer from their own collected fund (Rs. 50/Kattha).
  - iv. **Compost Making:** Compulsory compost making to every household is communicated.
  - v. **Post harvest and Marketing:** Harvesting stage, method, time, grading, packaging, transportation etc. are the core contents of post harvest stages. In marketing, Market Information System (MIS) is applied by airing wholesale vegetable price, SMS system to inform vegetable prices. To support the marketing of produce collection centers, market sheds etc. are constructed in appropriate places.

- vi. **Farmers Field Day (FFD):** Inter and intra group visit, joint monitoring of field from district level stakeholders (DDC, CDO, DADO and others) is organised as a priority.

**3. Subsidy Provision:**

- i. **Irrigation:** 60% is subsidized in STW in Terai and all external construction materials and skilled labour is subsidized in canal irrigation system in hill.
- ii. **Seeds and other production inputs:** Most promising high values vegetable crops are selected to commercialize the agriculture. Hybrid seeds are brought under farming to maximize the production and yield. Following crops and its varieties are considered under the NFRP:

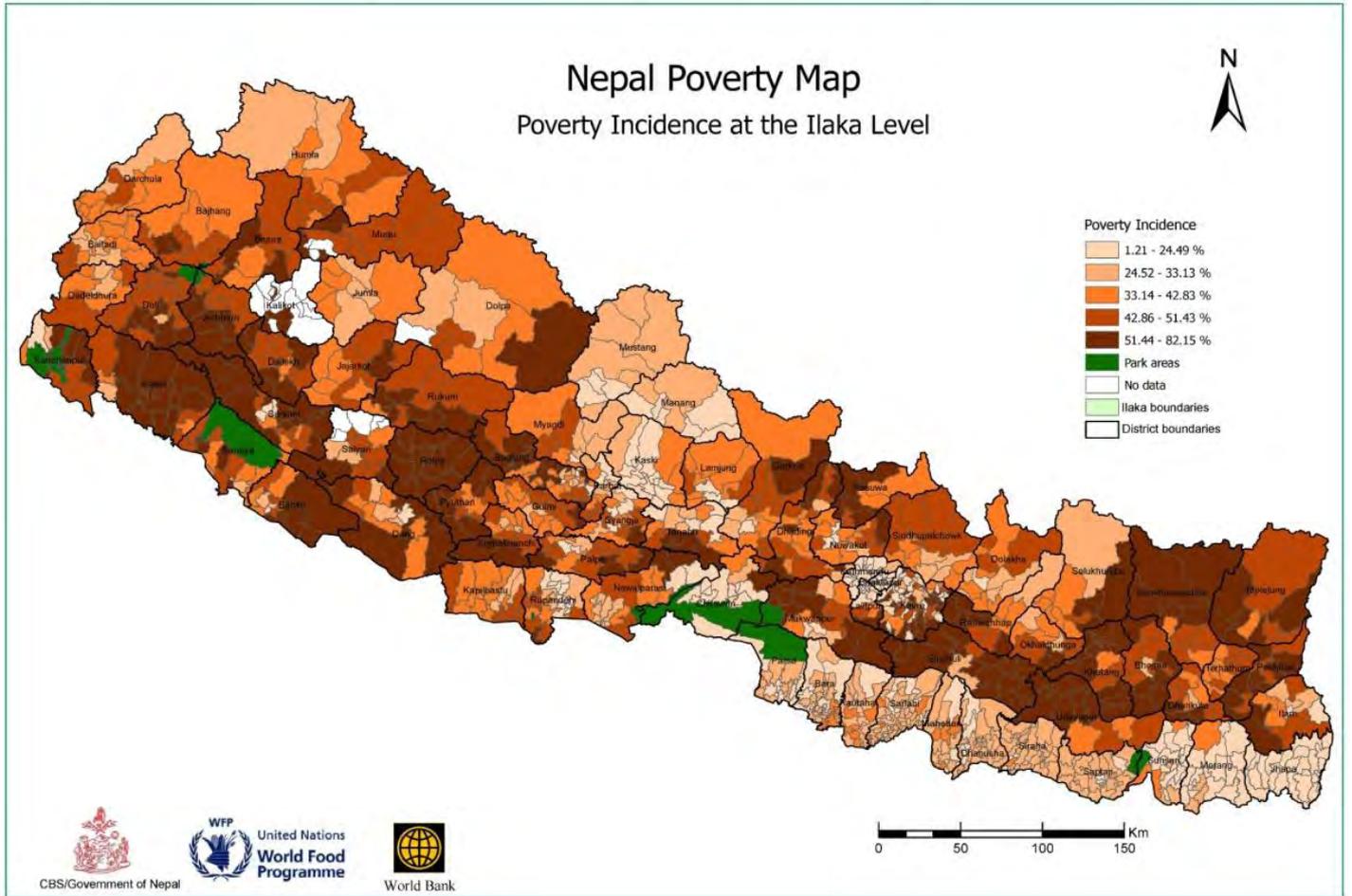
SN	Crop	Variety
1.	Chilli	NS-1701
2.	Cauliflower	Silver cup-60, Snow crown
3.	Cabbage	T 621, Green Coronate
4.	Tomato	Laxmi, Indom-9502
5.	Brinjal	PPL (Improved), Chhaya
6.	Onion	Nasik-53 (Improved)
7.	Radish	Four season
8.	Cucumber	Malini
9.	Cowpea	Chinese 324
10.	Lady's figure	Anamika, Durga (improved)
11.	Bitter gourd	Pali
12.	Bottle gourd	Gutka, Mahyco 4 & 8
13.	Snake gourd	Kobra

Note: There are other crops too, but the above are mostly used by the farmers.

Seeds are subsidized in the proportion of 75%, 50% and 25% in first, second and third crop cycle respectively in the third phase of the project (March 2011 to Sep. 2012). In case of second phase farmers, subsidy started from 50%, 25% and 0% in first, second and third crop cycle respectively as these farmers have already benefited from this scheme in the first and second phase of the project. To procure the seeds, pesticides, growth regulators etc. coupon system is practiced by the farmers in selected agro-vets. There are altogether 18 agro-vets from three districts of which three are from Dadeldhura.

Chemical fertilizer is not subsidized. Farmers procure it themselves from their convenient places. Plant growth regulators (PGR) are fully subsidized by the project. In pesticides, only pheromone traps and bio-pesticides are fully subsidized, but no subsidy is given for chemical pesticides.

# **Annex 17: Nepal Poverty Map**



# **Annex 18: SWOT ANALYSIS**

## Annex 18: SWOT ANALYSIS

### 18a. SWOT Analysis of Commercial Agriculture Component

Strengths	Weakness
<ul style="list-style-type: none"> <li>• Integrated package of inputs and irrigation was important and key factors in increasing vegetable production.</li> <li>• Competent Field Technicians (FT) based in production clusters provided quality on-site, regular supervision and hands-on training to the farmers</li> <li>• Subsidy packages (irrigation and seeds) attracted farmers in the program</li> <li>• Purchase of seeds through voucher systems established linkages between farmers and agro-vets, resulting in increased knowledge of farmers on various inputs (seeds, fertilizers, pesticides)</li> <li>• Use of hybrid seeds for appropriate crops resulted in high production.</li> <li>• Provision of Indian (Krilosker) pumps provided durable sources of irrigation</li> <li>• USAID/NFRP negotiations with agro-vets led to the supply of inputs at reasonable prices.</li> <li>• Self-employment opportunities created amongst participating households</li> <li>• Farmers have started utilizing market sheds to sell their produce.</li> <li>• Access to training and cash incomes has led to women’s empowerment</li> <li>• Both male and female farmers had regular access to cash.</li> </ul>	<ul style="list-style-type: none"> <li>• Food insecure (&lt; 6 months food sufficiency from own production) VDCs and households were engaged to a limited extent.</li> <li>• There is little room for program expansion due to irrigation systems in Dadeldhura.</li> <li>• Distribution of a single pesticide spray tank and a single watering can for each cluster was insufficient for larger clusters</li> <li>• Promotion of marketing activities was inadequate to address needs of farmers</li> <li>• Improved variety of seeds for certain vegetable crops (Brinjal, Radish, Okra, Bottle Gourd) are equally productive and popular among farmers and could have been used instead of hybrid seeds</li> <li>• Weak linkages with district based government line agencies (DADO, DDC) resulted in weak ownership of the program; this could subsequently affect access over resources these agencies could provide.</li> <li>• Home economics training was inadequate and therefore its use was limited</li> <li>• Production groups were not formalized and have not contributed in their marketing efforts.</li> </ul>
Opportunities	Threats/Limitations
<ul style="list-style-type: none"> <li>• Commercial vegetable farming has prospects of retaining potential out-migrants through employment creation at local level.</li> <li>• Climatic conditions of Terai and Hills could be exploited to mutual advantage through planned vegetable production.</li> <li>• Increasing road network in the region provides year-round transportation facilitating market access.</li> <li>• There is high demand of off-season (summer) vegetables in neighboring districts and nearby Indian towns.</li> </ul>	<ul style="list-style-type: none"> <li>• Expansion is limited by structural factors - availability of water in the Hills and the type of land (lowland) in the Terai.</li> <li>• Farmers are still unwilling to take the risk of fully replacing traditional cereal crops by vegetables</li> <li>• Conflicts can arise, particularly in the hills, over sharing of irrigation water, especially when the supply is limited</li> <li>• Flooding of local markets by similar vegetables from local and Indian markets can lower prices and create increased competition</li> </ul>

<ul style="list-style-type: none"> <li>• There exists ample opportunity in Terai for production expansion by large landholders.</li> <li>• Increased vegetable production over a long period in the region can help to address food insecurity widespread in the far and mid western region.</li> </ul>	<ul style="list-style-type: none"> <li>• Absence of system of insuring agricultural products discourages farmers from taking risks</li> <li>• Increased dependency on hybrid seeds and subsequently on chemical fertilizers can be detrimental when these inputs are in short supply or costly</li> </ul>
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### 18b. SWOT Analysis of Productive Infrastructure Component

Strengths	Weakness
<ul style="list-style-type: none"> <li>• Irrigation systems have made a significant contribution in the promotion of commercial vegetable farming</li> <li>• Inclusion of local communities in planning, site selection, and cash and kind contribution has generated ownership amongst the beneficiaries</li> <li>• Formation of Users' Committees (UC) and their supervision during construction has greatly helped to maintain the quality of construction works</li> <li>• Establishment of maintenance fund is likely to contribute to sustainability of the system</li> <li>• Except the Finikot lift irrigation system, all other systems are fairly small and easy to operate and maintain.</li> <li>• Increased incomes from vegetable productions will encourage and motivate farmers to maintain the system</li> <li>• Employment opportunities generated during construction of irrigation systems</li> <li>• Construction of market sheds in already existing marketing centers has ensured their use</li> <li>• Cooperation with government agencies (NEA), municipal authorities, Mercy Corps, CECI and USAID/NFRP has resulted in successful partnerships for infrastructure development.</li> </ul>	<ul style="list-style-type: none"> <li>• Weak institutional linkages with district level government line agencies could weaken prospects for rehabilitation and major repairs.</li> <li>• No public audits carried out or display information boards are erected to inform beneficiaries.</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>• In the Terai, there is room for expansion of commercial vegetable farming from STWs</li> <li>• Larger capacity of the pumps allow for irrigating cereal crops in addition to vegetables</li> </ul>	<ul style="list-style-type: none"> <li>• Weak linkages with district government line agencies may limit access to technical and financial support in the future</li> <li>• Availability of electricity and advance technical knowledge required for maintenance can hamper the functioning of the Finikot lift-irrigation system.</li> </ul>

### 18c. SWOT Analysis of the Nutrition and Hygiene Component

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>• The integrated approach of transferring knowledge and skills (demonstration KGs) alongside awareness (hygiene and nutrition education) was effective in successfully diversifying the diets of the participants.</li> <li>• Targeting pregnant, lactating women and households with children less than 2 years was effective and it ensures that those that are most vulnerable to micronutrient deficiencies are benefited.</li> <li>• Committed and well-trained Community Trainers (CTs) were effective in providing technical support for KGs and ensuring that hygienic practices are internalized. Synergy with Helen Keller offered NFRP significant expertise and lessons learnt for NFRP households.</li> <li>• Linkages and coordination with Helen Keller and NEAT prevented the duplication activities in the same locality.</li> </ul>	<ul style="list-style-type: none"> <li>• The criteria of allotting at least 1 Kattha (0.033 ha) of land for the KGs excluded marginal landowners and the landless.</li> <li>• The lack of livestock/poultry component within the KG package limited the intake of micronutrients in household diets.</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>• Trainings and knowledge gained from KG can be up-scaled and expanded for commercial vegetable farming.</li> <li>• Continued intake of diverse diets and practicing better hygiene can lead to improved health status</li> </ul>	<ul style="list-style-type: none"> <li>• Discontinuation of program support may lead participants to revert back to old practices</li> </ul>

# **Annex 19: Key FINTRAC comments on Evaluation Report**

### Key FINTRAC comments on Evaluation Report

Section of the Report	Fintrac Comments/Statements	SWN response/clarifications
Section 1.1	These are not NFRP's Phase III objectives however the evaluation repeats the observations that NFRP's regional impact was weak. The program never set "improved regional food security" as an objective. It should also be noted that the evaluation question related here does not mention regional food security and clearly emphasizes the impact at the beneficiary level.	Refer to Fintrac document "USAID NFRP: Amended Scope of Work to extend Program Duration and Geographic Coverage to Dadeldhura District: February 2011", page. 4, section B.1, fourth paragraph. It states that <u>".....activities under Phase III will be entirely focused on improving regional food security and promoting sustainable rural economic growth in target areas."</u>
Section 3.2 (6)	With Phase III's very limited timeframe, market development was in fact focused on these traditional contacts. NFRP worked to strengthen their relationships with farmers and to commit to long-term purchasing agreements. The statistic noted here is not considered a weakness by NFRP.	We did not note any significant impact in productive relationship and effectiveness between the farmers and traditional contacts or traders.
Section 3.2 (11)	NFRP was not required to go through DDC planning processes because of its nature as a short-term quick impact program. Upon receiving authorization from USAID for Phase III in March 2011, NFRP had less than 30 days to begin Phase III operations. If we were to run our project through the local government planning processes, months of delays would have occurred making it impossible for the program to complete its objectives.	While we agree that going through the local government planning process was not a program design element, we did note gaps in necessary support to farmers in post project scenario leading to weaker sustainability of program outputs.
Section 4.2 (2)	This is incorrect, as noted above. All five irrigation systems were completed and fully operational before the monsoons (i.e. in time for the second crop cycle). The evaluation team had the disadvantage of visiting these systems still during the monsoons when the need for irrigation water is lowest.	At the time of the field visits, evaluation noted that irrigation systems in Dadeldhura sites had only come into operation after the second cycle. Women farmers in Pokhara specifically stated that they carried water in buckets/canisters from the source to water the saplings in the second cycle.
Section 4.2 (9)	Diffusion was not an objective of the infrastructure program. In all cases, additional structures such as reservoirs and distribution lines can be connected to NFRP's systems in order to increase the capacity of water supply and allow them to access more farmers and hectares of land. These systems were specifically designed to allow for such expansions of irrigation supply.	Diffusion was a key evaluation point and emphasized in the SOW as well.
Section 6.2 (1)	These point are all true, and they were explicitly understood by USAID and Fintrac at the onset of Phase III. The program model was based on the success of previous phases and Fintrac was not	Point noted. However, it is important that we review the impact of the program on landless and marginalized. Refer SOW evaluation question 4.

	<p>requested by USAID to adjust the model to accommodate a large number of landless households. This observation also begs the question of how could landless households be incorporated into a commercial agriculture program that, by definition, requires beneficiaries to possess land? The basis of this observation is weak and ignores the context that NFRP had to operate in. It should also be noted that the Commercial Agriculture program was not the only agricultural activity under NFRP. The home gardening program, as part of the Nutrition and Hygiene component, supported 2,259 households, most of which possessed significantly smaller landholdings than their Commercial Ag counterparts and could therefore be considered more marginalized.</p>	
Section 7.1 (A4)	<p>Scott Wilson Pvt's mid-term evaluation of NFRP never stated that "most pumps from Phases I and II were defunct or in poor conditions". Today's Indian pumps are better quality and NFRP is happy with their performance. It should be noted that a recent evaluation conducted by NFRP in six districts of Phases I and II reported that 98% of pumps were operational and in relatively good condition.</p>	<p>The mid-term evaluation does raise the issue of the quality of the pumps in the central and eastern regions (Refer Evaluation Report 2011, pg. 16, Section D, First bullet) as states that many pumps were in poor conditions.</p>
Section 7.2	<p>It should be noted that almost all of the recommendations listed below are negative toward NFRP or imply deficiencies in the program. These recommendations fail to inform USAID on how the tremendous successes of NFRP can be replicated or capitalized upon. Much of negative commentary is based on objectives that were not set for the program, or inadequate understanding of the program's activities/results/impacts.</p>	<p>Recommendations made are forward looking than reflecting on the deficiencies of NFRP. The recommendations are based both on the strength as well as on the lessons learnt from the limitations of NFRP.</p>



**U.S. Agency for International Development**  
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