

**INTEGRETED PEST MANAGEMENT COLLABORATIVE RESEARCH  
SUPPORT PROGRAM (IPM CRSP)  
(2010 – 2012)**

**IDE Nepal**

**Mid Term Evaluation Report - 2013**

**Submitted to:**

**Social Welfare Council (SWC)  
Samaj Sewa Bhawan, Lainchaur  
Kathmandu  
Nepal**

**By:**

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### **Evaluation Team**

Mid Term Evaluation Team  
Social Welfare Council (SWC)  
Kathmandu, Nepal  
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## **Abbreviations and Acronyms**

BARI	Bangladesh Agricultural Research Institute
CRSP	Collaborative Research Support Programme
DADO	District Agriculture Development Office
DCPA	District Coffee Producers' Association
DDC	District Development Committee
DoA	Department of Agriculture
FAO	Food and Agriculture Organization
FFS	Farmers' Field School
GO	Government Organization
IDE	International Development Enterprises
IPM	Integrated Pest management
MoAD	Ministry of Agricultural Development
NARC	Nepal Agricultural Research Council
NGO	Non-governmental Organization
SWC	Social Welfare Council
USAID	United States Agency for International Development
VDC	Village Development Committee

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## **Executive Summary**

The IPM CRSP is a USAID-funded project. It works on a global theme with the goals of reducing crop losses due to pests, increase farmers' income, reduce pesticide use, reduce residues on export commodities, improve R&D capabilities and improve the ability to monitor the pests and increase an ability of women in IPM decision making and program design. IDE Nepal has a lead role and collaborates with NARC, DOA and also with non-governmental organizations at different levels involved in technology generation and scaling-up in the project districts and at center.

The purpose of the midterm review has been to assess the programme performance against its target and to suggest IDE Nepal corrective measures for the rest of the programme period. Overall impact of the project was assessed in relation to the log frame made available by IDE Nepal. To explore the level of progress made by the project and analyze the extent to which the achievements have supported project goals and their objectives, a four member team with a team leader, representatives from SWC and Ministry of Agriculture Development and a free lancer financial expert was formed by SWC. The main objectives of the evaluation were to explore the level of changes made by the project in IPM by resource poor farmers in rural communities from project sites. It also evaluated the effectiveness, the cost involved in the project activities, identifying the level of achievements, explore the coordination and linkages with line agencies, examine the financial disciplines and assess the lessons to be replicated in other locations ahead.

This report focuses on the evaluation of IPM CRSP project activities and an assessment of on-going activities, their achievements in research, technology transfer, and financial part. The study explored various aspects of project related activities through direct field observations, interviews, interaction and discussion with the stakeholders from project sites. The team visited almost all of the major sites of the project. Reviews of the project documents, field visits and discussions were the source of information in the report.

The project in general was found carried as per the general and project agreement signed with SWC in the technological and environmental approaches. The evaluation team appreciates in selecting the crops, beneficiary groups and project sites as well in the districts. The nature of the project was found more on-farm research type basically; therefore impact measurement in the livelihood of beneficiaries became difficult in the studies. The selection of the project partners was meeting the needs of the project.

Increased income from non-chemical agriculture and general awareness rose from this project towards it and use of mashed sweet gourd, soap-water and grafting technologies are some of success stories from the technologies which can be replicated in other areas too. The project partners were fully aware of the project activities and research results. The impacts in farmers' economical aspects, technological aspects and environmental aspects were assessed.

Since serious challenges are seen in human health from heavy chemical agriculture and raised awareness of the consumers towards organic product, the project has been effective to address the importance of bio-products in controlling the pests and protect the environment as stated in the objectives. It has been able to establish the fact of non-chemical agriculture in project sites though lacking aware in the markets/consumers.

To get conclusive results, more trials/demonstrations are necessary with new products to manage coffee stem borer, Fruit and shoot borer of eggplant and whitefly of tomato. The budget allocated for this project seems low therefore has to be increased for the further scaling up of its technologies. The evaluation team concludes that the experience collected from the project through IPMCRSP will be enough to establish the importance of IPM in human health and environment we live in this earth, however, the budget and resources allocated in the project are not sufficient to meet the objectives. The scaling up of the most successful activities demands even more investment in it. Frequent change of technical field staff was found a serious problem like in other organizations. For this permanent deployment of a technical staff and his/her empowerment is must. A more efficient development of supply chain system of the bio-products to the field level is necessary. As the products are expensive the scaling up programs should be tied up with the subsidy mechanisms for smallholder farmers. A good marketing channel of the non-chemical produced should be developed with separate outlet in the market. A good research design with multi-locations trials and demonstrations should be done for wide adoption of the results. . The heavy setting of various products could not be a. The use of locally available materials could be tested and promoted. As a principle, NARC should be involved directly or indirectly in this type of research for technology generation, validation and recommendation. Sustainability of non-chemical agriculture mainly relies on more and more involvement of the government line agencies and empowerment of the farmers' group itself.

USAID/Virginia Tech. /Ohio State University is a source of funding with the total grant of NRs 1,40,58,150.00 for 5 years. Financial process and accounting system found running satisfactorily, though looks small compared to the necessity of the project.

Based on the review, field visits and interactions with the stakeholders, the evaluation team forwards a series of recommendations so that the project activities could be improved in future and run smoothly.

## **SECTION ONE: INTRODUCTION**

### **1.1 Project Background**

Pests and diseases are the rising problems in the agricultural commodity in the world. Use of pesticides against these problems has been leaving an adverse effect on human health and whole ecosystem, pest outbreak, their resurgence and uprising as well. With the overwhelmingly increased awareness of the growers, consumers, traders and scientific communities in developed and developing countries as well on non-chemical agriculture, enormous number of efforts have been made to look alternatives to the chemical pesticides in recent days through either judicious use of chemicals or through the use of bio-products. Integrated Pest Management (IPM) as one of the tools has come up in recent years in reducing damages caused by pests without harming the environment. It also means the careful consideration of all available pest control techniques and subsequent integration of appropriate measures that discourages the development of pest populations and keeps

pesticides and other interventions to levels that are economically justified. IPM practices also help in reducing or minimizing the risks to human health and the environment where we live. FAO (2010) describes IPM as a tool which emphasizes on the growth of a healthy crop with the least possible disruption to agro-ecosystems and encourages natural pest control mechanisms.

IDE Nepal has started its activities on IPM since 2010 as five year project in Lalitpur, Palpa, Kaski and Rupandehi districts as IPM CRSP. In this project IDE Nepal has the lead role in implementing the project activities in close collaborations with different institutions as per the project agreement signed with the SWC. The project duration is for 5 years that is from 2010 to 2014 with total budget of NRs. 14,058,150.00. The NGO partners are Center for Environment and Agriculture Policy Research, Extension and Development (CEPREAD) in Lalitpur and Rupandehi, District Coffee Production Association (DCPA) in Palpa and Support Activities for Poor Producers of Nepal (SAPPROS-Nepal) through DFID funded MASF project in Kaski district. Major government partners are Nepal Agricultural Research Council (NARC) and Department of Agriculture. IPM CRSP focus locations and priority crops in the districts are as following:

**Table 1: IPM CRSP priority crops and focus locations**

<b>Crops</b>	<b>Districts</b>
Tomato, cole crops and cucurbits	Lalitpur
Tomato, cole crops and cucurbits	Kaski
Tomato, cole crops, cucurbits and egg plants	Rupandehi
Coffee	Palpa

## **1.2 Project Objectives**

The project agreement signed with the SWC has identified the following objectives:

**Overall objective:** Non-chemical IPM package for high value vegetable crops developed

## Specific objectives

1. To develop effective IPM packages for vegetables produced by limited resource farmers in Nepal
2. To achieve transfer of vegetable IPM packages on large scale to limited resource farmers in Nepal
3. To strengthen the institutional capacity for vegetable IPM so that Nepal can sustain an ability to generate IPM knowledge and promote adoption of IPM packages.
4. To develop value-chain approach of IPM technologies across the project districts, and
5. To establish strong linkages with NARC and DOA.

### 1.3 Intended Outcomes of the Project

The main intended outcome of this project is to develop an IPM package and more specifically to develop feasible and eco-friendly IPM technologies for organic food production in the project districts along with demonstration and linking smallholder farmers to profitable commercial market of different verified IPM tools.

### 1.4 Intended Beneficiaries of the Project

As per the project document, the major targeted beneficiaries are the limited resource farmers from 4 different districts of Nepal, however, South Asia region can also be benefitted by IPM knowledge and promote adoption of IPM packages.

**Table 2: District & Village Development Committee (VDCs)**

District	VDC
Lalitpur	Lele , Lamatar and Chapagaun
Kaski;	Dhikurpokhari, Ghachowk
Rupandehi;	Basantapur, Asuraina
Palpa;	Madanpokhara

### 1.5 Donor Information

IDE was established in 1981 by a group of North American entrepreneurs with an innovative approach it harnesses market forces to fight rural poverty in developing countries and worked in Nepal since 1992. It also facilitates market outcomes that benefit the poor in terms of income, affordability of inputs and services and better return of their produce sold. The detail information on the donor is as following:

**Name of the Project:** Integrated Pest Management - Collaborative Research Support Program (IPM CRSP)

**Name & Home Address of the Organization:**

1. International Development Enterprises (IDE) Inc/.  
Denver, 10403 West Colfax, Suite 500  
Lakewood, CO 80215, USA.  
Tel: (303) 232 4336, Fax: (202) 232 8346, [www.ideal.org](http://www.ideal.org)

2. International Development Enterprises (IDE) Nepal  
Bakhundole, Lalitpur  
Post-Box 2674, Kathmandu, Nepal

## **1.6 Project Composition**

IDE Nepal while carrying the IPM CRSP project in the sites collaborates with Department of Agriculture (DOA) and Nepal Agricultural Research Council (NARC). The NGO partners are Center for Environment and Agriculture Policy Research, Extension and Development (CEPREAD) from Lalitpur and Rupandehi, District Coffee Production Association (DCPA) from Palpa and Support Activities for Poor Producers of Nepal (SAPPROS-Nepal).

## **1.7 Financing Arrangements**

Total budget in this project is Rs. 14,058,150.00 for 5 years period. In the financial analysis, following components were covered:

- Financial Transactions
- Procurement procedure for goods and fixed assets
- Payments:
- Sub Agreements
- Financial Reporting
- Match Fund Reporting

## **1.8 Objectives of the evaluation**

Following are the objectives of the mid-term evaluation in accordance with the agreement with SWC Nepal:

- a. To explore the level of progress/changes made by the project and analyze the extent to which the achievement have supported the program goals and their objectives;
- b. To evaluate the project effectiveness
- c. To explore the cost effectiveness of the project activities
- d. To identify the target and level of achievements as specified in the project agreement
- e. To identify the target and level of achievements as specified in the project agreement
- f. To explore the coordination between the concerned line agencies in the project districts
- g. To find out the income and expenditure in compliance with the project agreement and proportion of programmatic and regularities/disciplines in accordance with the prevailing rules regulations and fix assets purchased in duty free privileges and locally, and
- h. To assess the good lessons to be replicated in other projects or in sites

## **1.9 Scope of the Evaluation**

As per the 3 ToR given by SWC and time available, the Evaluation Team examined following IPM CRSP project and its activities for the period of 2010 – 2012 in 3 different levels.

- a. Strategic level (analysis of project context, planning and documentation and partnership and networking)
- b. Implementation level (sufficiency and quality of resources mobilized in the project, reporting, monitoring, evaluation system and compliance with general and programme agreement)
- c. Organizational level (effectiveness of organizational management system and effectiveness of programme)

#### **1.10 Research Questions focused**

To help assess the effectiveness of the programmed activities, the questions for this project evaluation were formulated as:

1. What are the impacts of IPM CRSP project in the lives of project beneficiaries?
2. What are the ways of improving the future activities related to this project?
3. What skills farmers acquired?
4. What major changes occurred in the project?
5. Is there any impact on human health and their environment?
6. What is the status of women empowerment in IPM decision making and program design?

#### **1.11 Evaluation Team Composition**

The evaluation mission had comprised of four members as below:

1. **Team Leader:** Team Leader was from freelancer.
2. **Member:** Representative of Social Welfare Council (SWC)
3. **Member:** Representative from Ministry of Agriculture Development (MoAD)
4. **Member:** A freelancer financial expert

#### **1.12 Organization of the Study Report**

The evaluation report has been organized into 4 sections beginning with introduction which briefly presents overview of the project, objectives, scope and limitation. Methodology in section two describes the resources, study designs, selection of the participants, study instruments, mechanism for fieldworks, data presentation and analysis techniques and work schedules of the study. Section three discusses the way of data presentation and analysis. Finally, summary, conclusion and recommendations are given in section 4 of the report. References, annexure and appendices are in supplementary part.

## SECTION II: METHODOLOGY OF EVALUATION

### 2.1 Study Approach

As the nature of study is exploratory type, evaluation team concentrated mainly on review of existing project documents provided by IDE Nepal, key-informant interviews with project participants, focus group discussions, physical observation of project activities through field visits, person or group meetings with project partners and fact sheets made available by the groups to evaluate the project. Similarly, the information received from project partners were also reviewed in the study.

Project documents reviewed were:

1. Project and general agreement
2. Annual Progress Reports (FY 2009/10 to 2011/12)
3. Baseline survey report
4. Internal or external reports
5. Other related documents from net
6. Success stories, and
7. Audit report

Due to the higher geographical coverage of the project sites and time limitation, visit to the Agro-vet in Kaski was not possible. Project sites were selected purposively in consultation with the evaluation and project team in order to make representative sampling of the activities, crops and geographical diversification as far as possible. Lalitpur, Kaski and Palpa districts represented mid-hill region and Rupandehi as terai in the study. Lalitpur, Kaski and Rupandehi districts focus on vegetable crops and Palpa for the coffee.

The used methods are briefed below.

- **Focus Group Discussion:** Almost all of the group members of the project beneficiaries were organized and interacted in a relaxed and informal way at various project sites. Among the focus groups visited, majority of them were only women while in few there were mixed groups in term of gender. The discussion with the focus groups were conducted just after the initial rapport built by partner's staff. A standard check list was used for the FGD. In most cases Project's Beneficiary groups were taken as Focus Groups for the study.
- **Key Informant Interview:** Key informants deemed essential for the study were identified and interviewed. A standard checklist was used for such interviews. This was useful to get qualitative information to get in depth information on various aspects of the project. Lead farmers and trained skill persons were the key informants for the project.
- **Stakeholders meeting:** Project stakeholders meeting were conducted during the study. Both governmental and nongovernmental development organizations were met and interacted using standard checklist in a participatory way. Meetings with existing cooperative organization and market collection centers were also held. Partner organizations and their management team as well as staff were met and discussed both at field and central level.

- **Observation visits:** Project sites were visited in all the districts. Such visits were selected in order to observe diversified activities as far as possible

## 2.2 Study Designs

The method of the study was mainly exploratory and impressionistic. The design followed following activities:

- Pre-meetings:** In order to be familiar with project goals, project area, its objective and activities, SWC organized a pre-meeting of evaluation team with senior level managerial staffs of SWC and IDE Nepal.
- Desktop review:** Project documents (agreements, annual progress reports, evaluation reports, base line survey reports, audit reports, donor reports etc) were reviewed and relevant websites were visited for information collection in connection to this evaluation assignment.
- Checklist/Questionnaire preparation:** After getting an overview of the IDE Nepal's IPM CRSP project, the evaluation team developed a checklist to ask to the partners, Government line agencies, IDE N and the direct beneficiaries of the project.
- Consultation meetings:** Separate consultation meetings were organized with IDE Nepal at its Bakhundole office, Lalitpur. In both the meetings, information required for this study was collected and compiled.
- Field visit:** Based on the volume of work, number of activities to cover and the time availability with the team, field visit was scheduled and studies was carried out.

## 2.3 Field schedules of the Study

- Field visit in Lele, Lalitpur on December 30, Sunday, farmers' field visit and 11-12AM and interaction with farmers/stakeholders,
- On January 2<sup>nd</sup>, Wednesday at 8:30 am fly KTM to Pokhara by Buddha Air and whole day and night stay in Pokhara,
- In Pokhara - visit Ghachowk,VDC, Bhalam (organic VDC, Grafting, MPC), Malepatan, Grafting, back to Hotel,
- On January 3<sup>rd</sup> Pokhara to Palpa via Syangja and stay in Tansen Palpa,
- On the way to Palpa in Syangja MPC Sarketari,
- In Palpa - Bartung –White Lake Hotel, Tansen
- On 4<sup>th</sup> January, Palpa to Rupandehi and stay in Rupandehi
- On the way to Rupandehi, visit MPC and Coffee IPM in Madanpokhara, Basantpur VDC (IPM in Rupandehi)

- On January 5<sup>th</sup> morning presentation of finding discussion/ interaction, and afternoon around 4 pm back to Kathmandu by hired vehicle.

## **2.4 Selection of the participants**

Field visit was set on in coordination with IDE Nepal and facilitated by IDE Nepal team, its field offices and its main partner CEPREAD. The evaluation team exercised their decision to which they choose to meet or interview.

## **2.5 Study instruments/tools of data collection**

In order to conduct studies, various sources, tools and methods were used. The team used qualitative methods like Focus Group Discussion, interviews, interaction meetings, observations and collection of case studies from project sties. (In every evening of the field visits, the team had review meetings of 1 to 2 hours).

The study instruments (checklists) are presented in annexes. While collecting the information, due attention was given to the fact that the independence of the evaluation was not affected by the presence of a member from IDE Nepal during the data collection.

## **2.6 Mechanism for fieldworks**

Following pattern for field works was applied:

1. Literature review,
2. Interaction before the visit,
3. Field survey – observation, interview, Focus Group Discussion, and
4. Discussions and interview after the visit, and
5. Report write-up

## **2.7 Data presentation and analysis techniques**

This study is on the descriptive analyzing technique. Primary data collection was done through key informant survey in the respective project sites. Project beneficiaries, personnel involved in the project through GOs, NGOs and INGOs were the key informants. The number of key informants and details are in annexes. Analysis was made in Excel. Quantitative data were presented in tabular form and qualitative information in descriptive form in the report. The findings from the study were integrated according to the guideline provided by SWC.

## **2.8 Limitations of the study**

This study was constrained by time limitation. The team could spend only 4 days in the field. The information is limited to the responses of selective individuals, groups and institutions that were met and observed in the process of this study. Time constraint remained one of the limitations of the study.

## **SECTION III: FINDINGS AND ANALYSIS OF DATA**

### **3.1 General Overview**

In order to evaluate the project, the team first reviewed the project publications, interacted with concerned personnel from IDE Nepal, SWC and visited project sites of Lalitpur, Kaski, Syangja, Palpa and Rupandehi districts. Interaction was also done with the responsible persons of various line agencies, project partners and beneficiaries of IPM CRSP. Later the team also had the interaction with some of the members from advisory committee. During the fieldwork, the researcher took detailed field notes and observation records and afterwards notes were transformed to information and they were listed to find the relationships among different variables and their relation with the specific objectives. The information has been finally presented in a narrative form. Success stories are also kept in the Annexes. Below is the finding of the project:

### **3.2 Overall Evaluation of the Project**

The overall performance of the project is satisfactory. Project activities in the fields are moving towards to achieve the objectives in the line of the project activities signed with the SWC. The project itself looks more research type, which by nature takes several years to draw conclusions and make recommendations to the farmers. Despite this fact, the project shows a remarkable progress in the development of farmers' knowledge on IPM packages in major vegetable crops in limited time period. It has also showed an increase in ability of women in IPM decision making, however, their involvement in programme design it may take some more years.

Project activities have raised the awareness of beneficiaries on the importance of non-chemical agriculture and pest management skills considerably; however, project is still in the stage of its further validation in some areas such as for eggplant and tomato crops in terai and coffee in the mid-hill regions. Involvement of women farmers in the project during testing of the technology in their farm land is highly satisfactory, but their knowledge on type of product they used and their methods of preparation should be the focus of IPM CRSP ahead. Selection of the partners in the project found appropriate and were found involved in the activities the responsibilities they do have. Farmers are more or less convinced with the impact of product used on production as well as quality. Moreover, the cost of the products seems to be higher than the chemical agriculture if farmers have to bear all the cost themselves at the end of the project.

Beneficiary farmers have got several trainings on the advantages of non-chemical agriculture and disadvantages of chemical pesticides on human health, environment, and use of cow urine as well. Networking and coordination in central and district level offices seems satisfactory, however, there is lot of room to be further strengthened to make project fully successful.

Frequent changes in field staffs involved in IPM CRSP and budgetary constraints in this project are found continuously hampering the project activities, but all the project components were observed functioning satisfactorily in field level. Project publications, especially the success stories and annual reports are regularly published.

### **3.3 Operational and Strategic Management**

Operational status of the IPM CRSP project in farmers' field level can be categorized in on-farm pest management, development and testing of IPM packages, transfer of results and its up-scaling and assessment of social, economic and gender impacts under on-farm field conditions in the project sites. First of all, basic problems of the farmers for vegetable production were identified and activities were set to manage those problems non-chemically. Some non-chemical technologies like use of mashed sweet guard and soap water in the trap is appreciative and requires further scale up. But the pheromone trap for coffee stem borer looks non-selective to the insects since all types of insects were trapped in the board. In this project, a research for development of non-chemical packages for production of cucurbits, tomato, cole crops and eggplants have been designed and tested.

The treatments were selected to compare farmers practice, bio-pesticides only, bio-fertilizers only, bio-fertilizers and bio-pesticides combined and control. The combined use of bio-fertilizers and bio-pesticides was reported to be the best treatment. However, based on the results obtained, the scaling up of this technology has been done in Lalitpur (Lele, Ranagaun) and Kaski (Bhagam) districts.

In Basantpur, Rupandehi it is still on testing phase. Grafting technology for tomato seedling production introduced from Bangladesh to manage Root knot nematode in poly house had been established and promoted in Kaski, and extended to Syangja, but its tediousness and delicate nature questions its sustainability too.

Farmers' participation during the testing of the technology is satisfactory, but their awareness on the product (bio-fertilizers and bio-pesticides) they use, their availability in local market, and knowledge on methods of preparation has to be further strengthened in remaining years ahead. Field technicians and beneficiary farmers are convinced with the impact of product used on production, soil health improvement as well as quality of their harvest, but they were not sure about the supply chain management of their product in market.

The cost of the inputs seems to be higher to the limited resource farmers. During the interactions they were found worried about the affordability and knowledge of the consumers to differentiate the importance of their product. Farmers have experienced difficulties to control fruit borers and white flies with the use of bio-products made available to them.

Farmers were found willing to get better prices guaranteed in the market to their produced as compensation for their high value product. Farmers have experienced the improvement in soil fertility status due to the use of bio-fertilizers and no side effects they observe to the farmers in the use of bio-pesticides. Farmers have got trainings and are more or less aware about the health hazards of consumers too by the chemicals. Networking with district level offices

seems satisfactory but co-ordination during program implementation is comparatively weaker. The increased awareness of the beneficiary farmers have helped to reduce the use of chemical pesticides in other crops too.

Comparison of bio-fertilizers with bio-pesticides or with the combination of both could not be scientifically justifiable. The information and communication gap had been experienced due to the frequent changes of the field staffs. A research for development of non-chemical packages for production of coffee has been designed and tested. The combined use of bio-fertilizers and bio-pesticides in this trial too has been reported to be the best one among other treatments, but evaluation team found still on testing phase. The crops and the problems associated with the crops in IPM CRSP were correctly identified, but the role of NARC in research design and DoA's role in further up-scaling the knowledge is required.

Farmers are more or less convinced with the impact of product used on production as well as quality but they were not sure about the supply chain management of the bio-products in nearby local markets. Organic certification is expensive and not practical to the farmers. Everywhere in the project sites, farmers and stakeholders were worried about it.

The cost of the products seems to be very high, but if harvest could be sold in good price, it could be compensated easily. Farmers have experienced the improvement of the soil health due to bio-fertilizer use. Farmers have got trainings and are more or less aware about the health hazards by the chemical pesticides. Networking and co-ordination with district level offices seems satisfactory. But in some places farmers told us that chemical pesticides are used in their cereal crops.

Coffee stem borer management was not much successful by the bio-products. Probably due to the complex nature of the trial, comparison of bio-fertilizers with bio-pesticides or with the combination of both could not be scientifically justifiable. Moreover, the number of plants taken for observation and few locations trials are not enough for technology generation/validation. The information and communication gap had been experienced due to frequent change of the field staffs.

### **3.4 Financial and Administrative Performance Analysis**

#### **3.4.1 Program financing structure**

International Development Enterprises Nepal (IDE Nepal) is social, non-profit making development organization committed to improve the living conditions of Nepal's small and marginal farmers, Integrated Pest Management Collaborative Research Program (IPM CRSP) have been implemented by IDE Nepal to develop and transfer the environment friendly agriculture technology packages to the farmers of Nepal.

The IDE INC, USA is agreed to provide funds in the amount of minimum US \$ 100,000.00 per annum to implement this program and others as per general agreement made with SWC renewed on 5<sup>th</sup> June 2011. As per project agreement, administrative cost Rs. 1,622,258.00 and program cost Rs 12,435,892.00 was budgeted for the activities.

The program has remained 2 years to accomplish the said activities. Source of the Program and its application under our review are as follows:

**Table 3: Source of fund and years reviewed**

<b>Year</b>	<b>2012</b>	<b>2011</b>	<b>2010</b>
<b><u>Source of Fund</u></b>			
Balance of Fund	-	-	-
Fund received	2,304,227	2,448,386.00	2,810,327.00
Own and other source	-	-	-
<b>Total Fund available</b>	2,304,227	2,448,386.00	2,810,327.00
<b><u>Application of fund</u></b>			
Program expenditures	1,942,514.00	2,072,969	2,748,313
Administrative expenditures	361,713.00	375,417.00	62,015.00
<b>Total application of fund</b>	2,304,227.00	2,448,386	2,810,327.00
Fund Balance	-	-	-

The above table represents the application of fund and fund received, as per information provided to us, the fund received amount has been treated equivalent amount of expenditures pertaining to the period. So, the program has no balance amount for the further activities. As per information provided to us, IDE, USA has been providing advance amount to IDE, Nepal for various projects/program. The advance amount has been deposited into the respective currency's bank account. The advance amount specially belonging to this program has not been specified. As per the ledger of IDE Nepal, total payable to IDE Denver as of 31 December, 2012 is Rs. 18,819,038.45. This amount has been received in advance from USAID for all programs supported by the donor. The ledgers maintained by the IDE Nepal shows that it has receivable Rs. 7,294,026.66 out of expenditures incurred for this IPM CRSP program. So, the contribution from donor (IDE, USA) to implement this program till date could not be analyzed.

### **3.4.2 The efficiency of the projects/cost effectiveness**

As per project agreement, details of the programs under the project have been mentioned with total annual estimated cost. Standard costs for each activity are not mentioned in the agreement. Details implementation plan has been prepared with the unit cost of targeted activities; we observed that this project is research based program and the efficiency of the program can be determined with the success of the program. The program has analyzed benefit analysis of the cucumber, tomato and cauliflower on this research phase. Till date of our evaluation, the farmers don't have sufficient knowledge about the cost for the production of vegetables. Comparing the total expenditures with physical progress of the program, interaction with farmers, the efficiency of human resource has been observed. Further

implementation of the program, it needs to focus more technical knowledge to control the new virus and satisfaction of the farmers regarding the minimization of the cost/incremental of income from the production of the crops.

The project has some budget/expenditures for the procurement of office supplies. It has not budgeted for the procurement of the goods having higher value. The outsourcing for the program has not been observed, IDE Nepal has its own Human Resource Policy, as per information provided to us, and technical and administration staffs have been contracted under the policy. The services that are required for the implementation of this program have been utilised from the contracted staffs.

In addition, it has financial regulations for the procurement of goods & fixed assets. The considerable matters were not observed in the procurement of goods and services related to this program.

### **3.4.3 Compliance with general agreements/project agreements**

As per General agreement and Project agreement the financial arrangements for this program till date our review have been presented in the following table:

**Table 4: Year, budget estimated and expenditure As per Project agreement (Estimated)**

<b>(In Nepalese Rupees)</b>				
<b>Year</b>	<b>Estimated</b>	<b>Expenditure</b>	<b>%</b>	<b>Remarks</b>
2010	2,811,630.00	2,810,327.00	99.95	
2011	2,811,630.00	2,448,386.00	87.08	
2012	2,811,630.00	2,304,227.00	81.95	

The bank account mentioned in the project agreement has not been found in operation during our review. The actual supported amount could not be assessed due to lack of recording of actual support to the specific program. Overall deliver rate as per project agreement is observed satisfactory in this program.

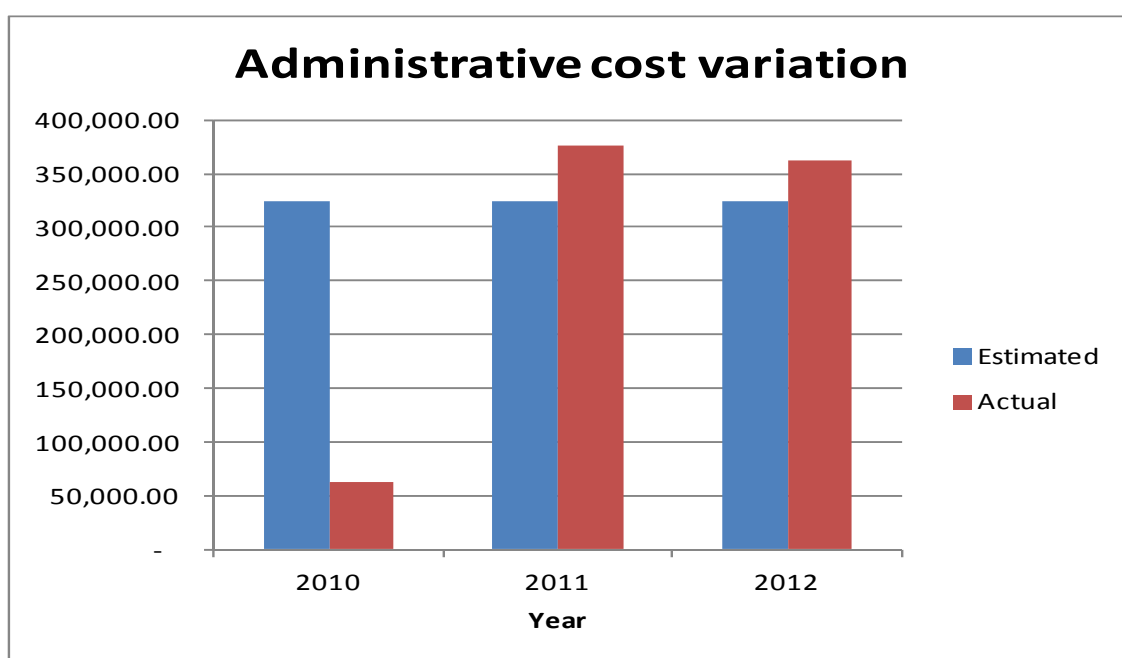
### **3.4.4 Budget allocation and implementation of program.**

The following table represents the figures of approved annual budget, the budget expenditure and percentage of expenditures and observed negligible variation. Total expenditures during our review period (up to 31 December, 2012) incurred Rs.7,562,940.00, the accounting system does not produce the expenditure related to the activities, i.e. expenditures for the IPM Package development, technology transfer, Institutional capacity building and M&E documentation and reporting.

**Table 5: Budget and expenditures from the year 2010 to 2012 (NRs.)**

Year	Budget Rs.	Expenditures Rs.	%
2010	2,811,630.00	2,810,327.00	99.95
2011	2,811,630.00	2,448,386.00	87.08
2012	2,811,630.00	2,304,227.00	81.95

The project agreement allocated the administrative cost and program cost. The activity wise expenditures are not being ensured due to proper lack of recording of expenditures. IDE Nepal has been recording the expenditures as per budget head. The recorded expenditures as per budget head has not been linked with program and administrative expenditures. However, IDE has provided segregating the total expenditures of this program into program expenditures and administrative expenditures. The following figures are reflected only administrative cost variation as per project agreement.

**Fig. 1: Administrative cost variation from year 2010 to 2012**

The above figure represents that the last two year administrative cost are greater variation than estimated cost, however, it has few budget and expenditures. Actual administrative cost stood 2.2 % to 15.69 % of total cost. Total actual administrative cost is Rs. 799,145.00 only from 2010 to 2012. During the period, estimated administrative cost was Rs. 973.356.00. Average estimated cost was 12 % where as actual administrative cost is 10.56 % during the period of 2010 to 2012.

As per project agreement with SWC, IPM CRSP has to report its activities on semi-annual basis to SWC, DDC and relevant government line agencies. IDE Nepal has submitted the annual audit reports along with consolidated fund Accountability statement to the Social Welfare Council. The consolidated fund Accountability statement doesn't reflect separately the cost of IPM CRSP.

#### **3.4.5 Compliance with tax laws**

As per the requirement and to fulfill the objective of donor agency, IDE Nepal has been preparing the financial statement and Audit Report in English Fiscal Year (Jan – Dec) and submitting to IDE, USA and SWC in Nepal. In addition IDE Nepal has been preparing the financial statement as per Nepali fiscal year and submitting to concern authority and also submitting the annual tax return to concern revenue office. The return filing for the fiscal year 2068/69 is yet to be submitted as of 31 December, 2012. The IDE Nepal has complied with the prevailing rules and regulation for deducting tax and has deposited in the revenue office regularly.

#### **3.4.6 Recording of Fixed Assets**

We observed that this program has not budgeted for the procurement of fixed assets; only few budgets have been allocated for office supplies. However, the IDE Nepal has been maintaining the fixed assets records.

#### **3.4.7 Financial Reporting & Evaluation of Internal Control System**

IDE Nepal has maintained its accounting records in accounting software named SUN system. All expenses are posted in the accounting system. The accounting package has the budget code to account the expenses. Details of expenses for each program can be generated from the system. The IDE Nepal prepares consolidated financial statement reflecting all the expenses, such financial statements are audited and the same has been made available to us. The consolidated fund accountability statement does not show the grant received and expenditures of specific program/projects. Regarding IPM CRSP, total expenses can be generated from the system. The scan copy of original bills and invoices are submitted to IDE, USA for inspection. Bank accounts are operated from two authorised directors. The financial regulations of IDE Nepal have some procedures to control and systematise financial transactions. Mainly, procedures have been prepared on the following sections:

Section 1: Financial Transactions

Section 2: Procurement procedure for goods and fixed assets

Section 3: Payments:

Section 4: Sub Agreements

Section 5: Financial Reporting

Section 6: Match Fund Reporting

In overall financial transactions, IDE Nepal is required to prepare individual fund accountability statements, and then consolidate from each financial statement. If the accounting system produces the reports of expenses and such reports reflect the expenses of annually implemented activities as per plan, it will be more reliable for financial evaluation to each program implemented by it.

### **3.5 Impact of the Project**

To scale up the technology, IPM package was compared with farmers' practice (combination of bio-fertilizers and bio-pesticides further) in different places of the project sites. The crops taken were cucumber, tomato, bitter gourd and cauliflower. In almost all of the testing sites, the results of IPM package were reported higher (production and income) than farmers' practice.

Various trials were observed conducted to develop effective IPM package on target crops with following 5 treatments:

1. Bio-fertilizers only
2. Bio-pesticides only
3. Bio-fertilizers and bio-pesticides
4. Farmers' practice
5. Untreated control

In the treatment 1, bio-fertilizers used were: compost (FYM): 5 kg, Nitro Fix 16 kg, P-sol-B: 28 g, K-soil-B: 42 g, Agri-VAM: 22 g per 10 plants. In treatment 2, compost (FYM) : 5 kg, *Trichoderma viride*: 23.3 g, *Trichoderma harzianum* : 23.3 g, *Pseudomonas fluorescense* : 47 g, *Metarhizium anisoplae*: 47 g, *Paecilomyces* spp. : 47 gm and *Bacillus subtilis* : 9.3 g was used. In treatment 3, the combination of treatment 1 and 2 were made. Likewise treatment 4 was farmers' practice in which farmers put urea @ 86 g, DAP 195 g, K 15 g, compost (FYM), 5.5 kg, full dose of K and P along with half dose of urea during transplanting and remaining half dose of urea applied at 3 split doses (30, 45 and 60 days after transplanting). Treatment 5 was completely untreated control.

- The reduction of pesticide use in farmers' fields clearly observed
- The soil quality improved
- IPM CRSP observed given women high priority in all the project activities
- Empowerment of female farmers increased, organized (more than 70% involvement)
- Encouragement of farmers to contact GOs, NGOs and encouraged
- Several trainings and visits organized to transfer the IPM technology in farmers' field level

### **3.6 Responses from the Beneficiaries**

- Improvement in soil quality. At Ghachowk, Kaski soil testing results reported pH 5.5 increased to 6
- Soil quality improved, farmers can feel at intercultural operation time,

- Non-chemical products are tastier than chemically grown crops,
- Color, aroma and taste is better in non-chemically grown crops,
- Harvest remains longer compared to chemical-pesticide used product,
- Due to low volume of production/amount the traders do not come to the village
- Investment and production both increased compared to earlier days
- IPM has contributed considerably on pest management and to grow healthy crops
- IPM could be more economical in mass scale farming,
- Connection networking with market stakeholders is necessary for profitable marketing of the IPM products.
- IPM packages seems expensive thus difficult to continue non-chemical agriculture,
- Market competitive and difficult when product volume is less.
- Supply chain not well developed
- Shop keepers come to the fields to buy the product if it is more
- IPM for 2 yrs and package developed
- Impression: highly intensive farming
- Technology difficult to continue, may be tedious and difficulty to learn in the starting but after learning looking more easy cultivation practice)
- Demand from the neighbors increasing
- Impact on human health seen distinctly, since the participation in the project, no headache, vomiting symptoms experienced,
- Urine knowledge-new and effective tool as pesticide & fertilizer)- see scale –up package for detail
- Registration/certification of organic farm product is difficult and expensive
- Poisonless vegetable production knowledge learned from the project
- We are unaware of names and doses what they use in the fields, so dependent on IDE
- Polyhouse package has brought a revolution in vegetable production
- Inputs should be available on time
- Generally no market differences in prices between chemical and non-chemical products
- The product is insufficient for truck loads so they have to go to the market themselves
- Slight increase in production and soil quality but it is expensive to the farmers so there is still the necessity for looking cheaper technology in farmers' field level
- Publicity is less, so requested to IDE/CEPREAD to assist the group
- First year demonstration by IPM technician on cucumber, tomato and cauliflower and was profitable
- After the project, group can be converted to cooperative to make it sustainable,
- Confidence level of the group members should be increased for the sustainability
- Collection centre to be built, further strengthening the groups, establishment of the factory reduce the cost, laws, rules regulations are to be amended to make it farmer-friendly
- For the grafted seedlings of tomato, demand is high, no market problem
- Tedious job so no other farmers interested for grafting
- Inputs; not available in the market
- Coffee export is not easy
- Consumption rate increased but cultivation could not be commercialized
- Stem borer main problem of coffee, If the problem of coffee stem borer will not be solved, not future of the crop

- Record keeping tedious to the farmers, no remuneration to the record keeper (incentive requested)
- This experiment comparatively expensive ( 5 times compare to India)
- Objectives of the experiment should be to produce coffee same batch and same quality
- Farmers' tour to other coffee producing/processing areas required/requested,
- High grade processing plant could help increasing the coffee area but the machine may not run year round
- Stem borer damage can be minimized with shade, but should be followed starting from nursery
- Youths in village are out of the country, so farming is becoming more women dependent these days
- Trials are expensive
- Commercial farming needs more input, which becomes expensive
- Input used in trial are not available in market
- More involvement of NARC and DoA required in technology scale up
- Collaboration had to be from early stage of project
- No farmers field school run yet on coffee cultivation in Madanpokhara.
- Supply chain systems are to be strengthened further
- Project is still in demonstration stage and still remaining to convince farmers towards the advantages of non-chemical agriculture
- Some insects (brinjal borer) cannot be controlled by bio-pesticide
- Financially small project
- Instability of field staff makes project weaker and a major problem
- IPM CRSP is research and extension type project
- Sample size is small in IPMCRSP therefore difficult to replicate in other places
- Government support is must for backstopping after the project
- Problems: the market is same for chemical and non-chemical both
- More cost for non chemical agriculture
- Farmer can sell their organic product soon
- Organic products are less in market not fulfilling the demands
- Field activities were found constrained of budget and field staffs

### **3.7 Project Sustainability**

#### **3.7.1 Capacity of Farmer Groups**

During the field observation and interaction with beneficiary farmers, they were found enthusiastic to continue their IPM activities. The underlying reasons for the confidence of farmers probed were the economic benefits they have been getting in recent years, and the technical knowhow for farming they have obtained and income. Even with the declining support from the project in some project sites, farmers have been continuing their farming activities and further in many cases they have scaled up of their farm size through leasing and purchasing. This all indicates that cash crop farming introduced by the project will run in a self-reliance way in coming years too.

In spite of appreciable progress made by farmer groups the groups are not matured enough as they should be to function independently though the groups' harmony, an important ingredient of any organization, was found quite impressive. The functioning of farmers group will rely largely upon the support they get from local service providing agencies. It was the important step taken by the project that majority of the farmer groups have been registered with DADO Office as per the project's exit strategy. It should be noted here that registration of groups simply in these district level agencies will not ensure to get support from the line agencies. For this the groups should be highly capable in managing group dynamics internally and to articulate their needs to line agencies through political representatives at local level. However all of the farmers groups are not capacitated up to that level at present. It was found that they had been trained in technical matters but need to have in group management and market dealing. Therefore, strengthening of farmer groups still may require follow up support which again depends upon the roles of district level line agencies.

### **3.7.2 Saving and Credit/Self-help Groups**

Saving and credit activity of self-help groups was found rather rudimentary and conceptual clarity was lacking in the process. Both the Project's heavy involvement in promoting farming activity and partners' previous experience suggest that there was no sufficient capacity to develop the saving and credit activity in a sustainable way.

### **3.7.3 Linkage with Local Government Agencies**

Though it is not easy to have functional relationship with local government because of various reasons, the local government agencies are ultimately the responsible bodies. Hence, for sustaining the achievements of any project and their replication in other areas there should be institutional mechanism to carry out the responsibilities. The project had performed number of activities in planning and coordinating with local agencies like DDC, VDC, DADO and local NGOs. In addition the project had made efforts to influence national level agencies disseminating project approach and achievements in the field of IPM. At district level project successfully built relationship with line agencies which has been reflected in recognition of farmer groups by registering them with DADO. However, the main issue is whether the coordination made with local agencies during the project period will continue after project phase out. It seems that for sustainable operation of various activities like in market centers, role of local government agencies will be vital. The project efforts so far made in building linkage were noteworthy but not consolidated sufficiently to institutionalize them. Guiding policy from central level to local line agencies, memorandum of understanding at district level among the stakeholders, agreement between VDCs and beneficiary groups or operating guidelines are some the tools that should have developed to ensure linkage with local agencies for the sustainability of project intervention after the withdrawal of external support.

### **3.7.4 Empowerment of Beneficiary Groups**

Target groups of IPM CRSP project have become able to organize themselves and make approach to other developmental organizations such as VDCs, DDCs, DADO, NGOs and I/NGOs for the support. Active involvement of female farmers in selling their farm produces by themselves is some of the examples of female empowerment. During the field visits, evaluation team observed females interacting openly with outsiders and found empowered socially, technically and economically, whereas in the past they used to be very shy in nature.

### **3.7.5 Partnership Modality**

As most of the project staffs and coordination committee members involved in the project were found highly professional and well familiarized with the project, it reveals the fact that IDE Nepal, responsible for overall management of the project has adopted partnership modality quite exemplary. In addition, it has hired a Senior Government Program Development Specialist with it to put sincere efforts in the area of coordination and collaboration with partner organizations.

### **3.7.6 Project Period and Implementation of Project Activities**

In view of large number of project activities and requirement of the project the period of 5 years deemed relatively short (for technology generation, verification and dissemination)

### **3.7.7 Planning and Coordination**

The project not only aimed to implement IPM CRSP but its two objectives out of five were related to strengthening of institutional capacity and establish strong linkages with governmental line agencies such as NARC and DOA. In addition district line agencies personnel were mobilized for various training which provided opportunity for the beneficiaries to be familiarized with the government agencies. Most importantly the farmer groups have been registered with DADO.

However, such activities of coordination during the project period will be continue or not after project phase out is the important issue in the overall context of Nepal emerged from the past experience of development sector. Hence it becomes essential for consolidation of coordination efforts during remaining project phase for their continuity after project phase out. These can be institutionalized through policy guidance from central level and issuing memorandum of understanding between the project and district level line agencies.

The evaluation team interacted with IPM CRSP Advisory Committee members, Dr. Shiddi Ganesh Shrestha, DDG of Planning and Human Resource (Chairman), Mr. Lila Ram Paudel, Deputy Director General of Administration (DOA) and (Ex-chairman), Dr. Yubak Dhoj G. C., President of Plant Protection Society and Program Director, Plant Protection Directorate, Hariharbhawan (DOA), Dr. Krishna P. Paudel, Chief, Horticulture Research Division Khumaltar (NARC), YP Giri, Director, Crop & Horticulture, NARC and Dr. Min Nath Paudel, Chief, Outreach Research Division, Khumaltar (NARC).

The overall assessment of the project from the interactions can be summarized as below:

- IPM CRSP is a small resource project but highly ambitious project,
- Has been able to leave some impact in project areas,
- Success stories can be replicated in government R & D systems also,
- The performance of IPMCRSP in operational level is satisfying at least in awareness creating against chemical agriculture,
- Impact seen in collaboration with DOA and NARC,
- The bio-products used in the project are to be easily available in the local market and farmers should know what they sprayed in their crops,
- The farmers' produce should have good market,

## **SECTION IV: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

### **4.1 SUMMARY**

The evaluation team noted that IPM CRSP activities and finances are in right track as per the agreement with SWC. Basically, problems of the farmers for production have been properly identified and activities are set to manage those problems. Some non-chemical technologies tested in the fields and their results are appreciative. Among the treatments selected; farmers' practice, bio-pesticides only, bio-fertilizers only, bio-fertilizers and bio-pesticides combined and control, the combined use of bio-fertilizers and bio-pesticides has been said to be the best treatment and the scaling up of this technology has also been done in Lalitpur (Ranagaun) and Kaski (Bhagam). In Basantpur, Rupandehi it is still on testing phase.

The technology of tomato cultivation inside polyhouse has been promoted extensively. To manage Root knot nematode in the polyhouses, grafting technology for tomato seedling production has been introduced and promoted in Kaski. Wilting has started to become a new problem and Agriculture Research Station, Malepatan Pokhara is looking the solutions against this problem. Farmer's participation during testing of the technology is satisfactory, but farmer's awareness on product used and practical knowledge on their methods of preparation has to be strengthened.

Overall participation of the farmers during the process of the program implementation is moderately satisfying. Farmers are more or less convinced with the impact of product used on production as well as quality but they were not sure about the supply chain management of the bio-products. Moreover, the cost of the products seems to be comparatively very high; therefore, farmers are willing to get better prices guaranteed in the market to their produces.

In all the places, evaluation team visited, farmers were found happy with the improvement in soil quality and soil health with the use of bio-fertilizers. Farmers have got trainings and are more or less aware about the health hazards and environment pollution by the chemicals.

Networking with district level offices seems satisfactory but their involvement during programme implementation in field level has to be further improved. Less coordination with governmental organizations makes difficult to scale up the proven technologies in future.

The effect of bio-pesticides on controlling fruit borer and white fly insects was not effective. The same case was reported with coffee borer in Palpa. The pest is becoming a serious threat to the coffee industry. Alternatives of these available products should be selected and tested in the problematic sites in co-ordination with NARC and DoA.

The partner organizations, government authorities and the line agencies that were quoted in the project document are all aware about the programme. Though in small scale, the impact of the project is satisfying in terms of technology transfer and adoption by beneficiary farmers. The information and communication gap had been experienced due to frequent change of the field staffs since current staffing in the field level seems to be insufficient and temporary.

During the field visits, team also noted that the funds available for the project activities are inadequate. If possible, funding should be increased for the remaining years. Other non-beneficiary farmers from the country also will be benefited from this project if the developed IPM package will be made available public.

## **4.2 CONCLUSIONS**

The effectiveness of an IPM programme depends on the seriousness of the pest problem that the project is addressing and the availability of existing IPM technology. The target groups and crops in the project were well identified. It has helped to reach the groups that were really engaged in farming occupation and right crops. Partnership modality in all the cases was found exemplary, but partners' expertise in different sectors has still to be utilized, however, the modality of partnership is replicable.

Increased awareness about the advantages and disadvantages of chemical agriculture and direct indirect benefit of IPM technology to the target groups within the short period is most important outcome of the project. But the technical knowledge on the bio-fertilizers and bio-pesticides they are using from past 3 years in their fields found less sufficient. Because of project intervention production of targeted crops has been increased along with the increased cropping intensity and farm income. A kind of social dignity of women farmers was also found fostering in the communities.

Beneficiary farmers were not aware on market mechanism and skills require competing in the market. The support in collection centers and promotion of marketing is impressive idea but project supported collection centers are serving as collection or market centers in most cases rather than a model resource center as an example to be replicated elsewhere.

The project objectives found well designed to address IPM CRSP but the research methodologies and inputs used in the trials have created dependency on the project. Some groups are not matured well yet to handle independently IPM CRSP and access to service agencies. Saving and credit activity of the groups was found rather rudimentary. The project has been successful in transferring commercial farming technologies and practices through IPM CRSP. The project efforts so far made in building linkages with local government were noteworthy but not consolidated sufficiently to institutionalize them. This has to be further strengthened for the sustainability.

Technology packages developed should be made available to all the stakeholders at different level, so that the successful results could be replicated in other places also. Commercialize non-chemical farming is most successful component of the project in addressing IPM CRSP of resource limited farmers. This is found highly replicable and suitable for scale up. Wider dissemination of this approach would help to influence agencies from policy level to implementation level working in agriculture. On the basis of its relevancy and effectiveness, the overall rating of the project is satisfactory.

## **4.3 RECOMMENDATIONS**

Without any major modifications, IPM CRSP can continue for its remaining periods of time. A final evaluation at the point of project completion will bring out the wider impacts of

project, sustainability of achievements, and development of community self-reliance, however, based on the documents reviews, interactions with the concerned personnel, field observations and analysis of the results, the evaluation team brings following recommendations for remaining period:

- Collaboration with project partners in central and field level for its sustainability has to be further strengthened. For this work more closely with DADOs and DDCs, and local NGOs,
- Lobbying is necessary in central level for the establishment of bio-fertilizer and bio-pesticide factory in the country, so that the import dependency on the inputs will be stopped,
- A good marketing channel of the non-chemical produced should be developed with separate outlet in the market,
- Training to the farmers has to be continued so that they will upgrade their knowledge on non-chemical agriculture to reduce project dependency,
- Rather importing trial materials from outside, support farmers to utilize available materials in the localities by themselves,
- The regular involvement of technical staffs in each and every activities of the programme along with the farming group is necessary for the effectiveness of the project. For this, permanent deployment for the project period of a technical staff and his/her empowerment is must. Therefore, allocate full time field staffs for remaining period in all the project sites,
- Make research more simpler and involve farmers in each and every steps during the trial period, so that the farmers will understand, what they did,
- Train/facilitate local private entrepreneurs/Agro-vets for the availability of bio-products,
- Consistency and quality in project reports/documents has to be taken serious consideration,
- Make available the easy to understand reading materials to the farmers,
- As the program budget is very less, the activities running are not sufficient to meet the objectives. Moreover the scaling up of the program demands more investment. So the program budget should be increased for rest of the period.
- Successful technologies like mashed sweet guard and soap water in the trap and grafting seedlings for tomato and biological products should be scaled up in wider areas,
- The Farmers Field School model or Farmers and science model of IPM is more effective to run such type of activities in the field. FFS could be very effective for empowerment of the farmers too. So find common goals with other INGOs and NGOs working in the locality through these models, A more efficient development of supply chain system of the bio-products to the field level is necessary. As the products are expensive the scaling up programs should be tied up with the subsidy mechanisms for smallholder farmers.
- A good research design with multi-locations trials and demonstrations should be done for wide adoption of the results. Treatments settings should be reviewed. The heavy setting of various products could not be adoptable by the smallholder farmers. The use of locally available materials could be tested and promoted. As a principle, NARC should be involved directly or indirectly in this type of research for technology generation, validation and recommendation,

- Involvement of field level technicians of DADO, NARC and other stakeholders on each the activities develops ownership of the program,
- More trials/demonstrations are necessary with new products to manage coffee stem borer, Fruit and shoot borer of eggplant and whitefly of tomato,
- Coffee farmers are heavily affected by coffee stem borer which demands a separate project to be launched. For this a collaborative project with the involvement of NARC, DOA and DCPA/NCPA could be designed.

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# ANNEXES

## Annex 1: CHECK LIST- 1

<b>Informants</b>	<b>DDC, DAO, Other Development Agencies, Partner NGOs</b>
<b>Methods/Process</b>	Meeting with stakeholders, Key Informant Interview
<b>Theme/Issues</b>	<b><i>Overall outcomes of the project</i></b>
	<ul style="list-style-type: none"> <li>• Overall impressions /perceptions about the project</li> <li>• Best outcomes of the project</li> <li>• Any undesirable consequences because of the project-direct/indirect causal relationship</li> <li>• Reasons behind the undesirable consequences</li> <li>• Project performance in terms of sustainability and replicability</li> <li>• What improvement can be considered for remaining time period</li> </ul>
<b>Theme/Issues</b>	<ul style="list-style-type: none"> <li>• <b><i>Effectiveness of the approaches and methods used in the project</i></b></li> <li>• <b><i>Strengths and weaknesses of the project approaches and intervention</i></b></li> </ul>
	<ul style="list-style-type: none"> <li>• Perceptions on project approach and methods</li> <li>• Strong elements of project management: assessment, planning, implementation and monitoring</li> <li>• Poor elements of project management: assessment, planning, implementation and monitoring</li> <li>• Feedback on project approach and methods</li> </ul>
<b>Theme/Issues</b>	<b><i>Identification of practices, approaches and technologies, used in the project, which can be replicated elsewhere and can have applicability for use in other areas</i></b>
	<ul style="list-style-type: none"> <li>• Which practices , approaches, technologies were found most successful</li> <li>• Reasons behind the successful ones</li> <li>• Of them which can be continued and which can be dropped</li> </ul>
<b>Theme/Issues</b>	<b><i>Linkages with the line departments, private service providers etc so that sustained innovation and maintenance of the activities is likely</i></b>
	<ul style="list-style-type: none"> <li>• Mechanism of linkages among various stakeholders</li> <li>• Role of local bodies</li> <li>• Roles of Government line departments for the project</li> <li>• Roles of private service providers in the project</li> <li>• How innovation, operation and maintenance activities run in long run</li> </ul>
<b>Theme/Issues</b>	<b><i>Project ability to influence local governments, stakeholders and other agencies</i></b>

<ul style="list-style-type: none"> <li>• What are the influences of the project</li> <li>• What kind of agreements /MoU were made</li> <li>• Is there any institutional development because of the project</li> <li>• What changes brought by the projects in the policy</li> <li>• What practices of project are adopted by other agencies</li> </ul>	
<b>Theme/Issues</b>	<p><i>Assessment of partnership modality with a focus on use of expertise and capacity development of partners.</i></p> <p><i>Partnership used in the project appropriateness and effectiveness of partnership used in the project</i></p>
<ul style="list-style-type: none"> <li>• Good points of partnership modality</li> <li>• Weakness of partnership modality</li> <li>• How expertise was used in partnership</li> <li>• Capacity development of partners</li> <li>• Can this model of partnership can be replicated</li> <li>• what was the level of effectiveness of partnership approach</li> </ul>	
<b>Specific to Partner NGOs:</b>	
<ul style="list-style-type: none"> <li>• Overall impression of partnership modality</li> <li>• Elements that should be retained</li> <li>• Elements that should be improved</li> <li>• Elements that should be removed</li> <li>• Specific suggestions for the improvement in future</li> </ul>	
<b>Specific to IPM CRSP Project Team:</b>	
<ul style="list-style-type: none"> <li>• Strengths of project approach; Underlying reasons</li> <li>• Weakness of project approach; Underlying reasons</li> <li>• Successful technologies – reasons for it</li> <li>• Failure activities/ technologies</li> <li>• Sustainability and replicability</li> <li>• SWOT of partnership approach</li> <li>• Assessment of linkage with GOs, Private Agencies and NGOs</li> </ul>	

## **CHECK LIST- 2**

<b>Informants</b>	<b>Farmer Groups, Other Beneficiary Groups, Other Key informants</b>
<b>Theme/Issues</b>	<b><i>Analysis of impacts of the project on life and livelihoods of targeted communities;</i></b>
<ul style="list-style-type: none"> <li>• What are the best positive changes that project brought in the community and how</li> </ul>	

<ul style="list-style-type: none"> <li>• Best services provided by the project</li> <li>• Useful infrastructures built by the project</li> <li>• What kind of community organizations developed and supported by the project</li> <li>• What is different during the project and after phase out of the project</li> </ul>	
<b>Theme/Issues</b>	<b><i>Reflection of community knowledge and priorities in the project approach</i></b>
<ul style="list-style-type: none"> <li>• History of community knowledge endowment</li> <li>• What knowledge are used in the project</li> <li>• What kind of skill and human recourses are used in the project</li> <li>• What problems of the community addressed by the communities</li> <li>• What are present community priorities</li> <li>• What priorities of communities were not addressed by the project or partially addressed</li> <li>• How community were involved in the project</li> <li>• Overall impressions /perceptions about the project</li> <li>• Any undesirable consequences because of the project-direct/indirect causal relationship</li> <li>• Reasons behind the undesirable consequences</li> </ul>	
<b>Specific to Farmers Groups</b>	
<ul style="list-style-type: none"> <li>• What new things were introduced in farming sector</li> <li>• Did Farmers take positively the innovation</li> <li>• Are farmers adopting the innovation</li> <li>• What are the merits of the innovation</li> <li>• What are the shortcomings of the innovation</li> </ul>	

### **CHECK LIST- 3**

#### **Total Commitments, budget and expenditures**

Year	2010	2011	2012	2013	2014
Donor (USAID) Commitments					
Others (with name) commitments					
Receipts from Donor					
<b>Budget</b>					
Budget for Program					
Budget for Administration					
total Budget					
<b>Expenditures</b>	2010	2011	2012		
<b>Disbursed to NGOs for program implementation</b>					
NARC (Government agency)					
SAPPROS					
Others (with Name)					
Expenditures from centre					
<b>Total expenditures</b>					
Program expenditures					
Administrative expenditures					

#### **Budget vs. Expenditures**

Component/Intervention/Activities	Budget approved	Expenditures			Total Expenditures	Budget Balance
		2010	2011	2012		
IPM Package Development						
Technology Transfer						
Institutional Capacity Building						
M & E documentation & reporting						
Total budget(Agreed amount as per project document)						

- Are the functions of ordering, receiving, accounting for, and paying for goods and services appropriately segregated?
- Is the IDE Nepal has received fund as per committed support? Is the Executing agency legally registered? Please note the legal status/registration of the entity.
- Are there written policies and procedures covering all routine financial management and related administrative activities? Are these accessible?
- Are controls in place concerning the preparation and approval of transactions, ensuring that all transactions are correctly made and adequately explained?
- Is there any indication that there are weaknesses in internal controls and/or financial management?
- Who are the authorized signatories on the bank accounts?
- What are the procedures for flow of funds, financial information, accountability, and audits in relation to the programme?
- Describe the basis of accounting (e.g., cash, accrual)?
- Who is responsible for preparation and approval of budgets?

- Is the program has incurred expenditure in non budgeted area?
  - Is IDE Nepal has complied in the following areas?
  - TDS on payment of remuneration, house rent and consultant fee.
  - Annually return filing to IRO office with financial statements.
  - Are financial reports prepared directly by the automated accounting system or are they or are they prepared by spreadsheets or some other means?
  - Is the financial management system computerized?
  - Can the system produce the necessary financial reports?
  - Does the reporting system have the capacity to link the financial information with the projects physical progress? If separate systems are used to gather and compile physical data, what controls are in place to reduce the risk that the physical data may not synchronize with the financial data?
  - Do the financial reports compare actual expenditures with budgeted and programmed allocations?
-

## Annex 2: Logical Framework-based Achievements Assessment

Hierarchy of Objectives	Intervention logic	Objectively verifiable indicators of achievement	Sources and means of verification	Overall rating of the objectives & activities from Evaluation Team
<b>Overall objective:</b> Non – chemical IPM package for high value vegetable crops developed				
<b>Specific objectives</b>	<p>1. To develop effective IPM packages for vegetables produced by limited resource farmers in Nepal.</p> <p>2. To achieve transfer of vegetable IPM packages on large scale to limited resource farmers in Nepal.</p> <p>3. To strengthen the institutional capacity for vegetable IPM so that Nepal can sustain an ability to generate IPM knowledge and promote adoption of IPM packages.</p>	Use of non-chemical IPM package increased by at least 20% in IPM CRSP project districts by the end of year 4.	<p>Field visit, survey and monitoring record.</p> <p>Record of home consumption and marketing of organic vegetables.</p>	1. Work in progress
<b>Expected results</b>	Non- chemical IPM package for one vegetable crop in each eco-logical region developed by the end of project period.	Alternative to chemical fertilizers and pesticides available to poor farmers for IPM package by the end of year 4.	<p>i. Field visit technical report</p> <p>ii. Monitoring report</p> <p>iii. Project final report</p>	1. Work in progress

<b>Activities</b>	1. Verification of non-chemical IPM package developed for high value crop (vegetables) in Terai and Hill.	Supply chain of non-chemical IPM tools from farmers group, MPC and service providers established in project districts	Annual Rs. 2811630/- IPM CRSP + 4887370/- IDE cross projects available	1. Highly Satisfactory
	2. Dissemination of non-chemical IPM package in 50-100 household in each project district	At least 20 technical field staffs from IPM CRSP, stake holders, and IDE cross projects will continue non-chemical IPM approach	Documentation of report	2. Satisfactory
	3. Capacity building of technical staff s, service providers, interaction with stakeholders, farmer to farmer program	At least 3 per year	Documentation of workshop report	3. Moderately Satisfactory
	4. Advisory meeting	At least 4 in a project period	Documentation of Planning workshop	4. Moderately Satisfactory
	5. Experience sharing workshop	At least 1 per year	Documentation of Monitoring report	5. Moderately Satisfactory
	6. Program Planning Workshop	At least 1 per year	Field visit technical report	6. Satisfactory
	7. Monitoring and Evaluation/ SWC	At least 1 per year	Posters, training manuals & booklets of IPM package.	7. Satisfactory
	8. Central level field visit	At least 3 per year		8. Satisfactory
	9. Publication	At least 1 in a project period	Reports	9. Moderately satisfactory
	10. Survey (key informants & Gender baseline survey		Survey report	<b>10.</b> Moderately satisfactory

**Annex 3: List of Persons interacted from IDE Nepal, project partners and different organizations during the study**

SN	Name	Organization
1	Dr. Luke A. Colavito	IDE Nepal
2	Bharat Upadhyaya	CEPREAD
3	Kosh Nath Ghimire	DADO Lalitpur
4	BK Gyawali	IDE Nepal
5	Binod Sharma	IDE Nepal
6	Shiva Shankar Bhattarai	CEAPRED Rupandehi
7	Kalpana Dhital	IDE Nepal, Kaski
8	Anirudra Maharjan	DDC Lalitpur
9	Pradeep Poudel	” ”
10	N. Gautam	DDC Kaski
11	Mahendra Kaudal	DADO Palpa
12	Thaman Karki	” ”
13	Bir B. Thapa	” ”
14	Khadga Jung Gurung	IDE Nepal Butwal
16	Shailendra Shrestha	” ” ”
17	Deepak Poudel	” ” ”
18	CK Devkota	CEPREAD Butwal
19	Yub R. Bhushal	ARS (Hort.) Pokhara

**Annex 4: List of the beneficiaries in community level focus group discussion during field visit by the evaluation team in the studies**

SN	Name	Organization/district
1	Sabitri Timilsina	Lele, Lalitpur
2	Sabitri Thapa	” ”
3	Bhawana Thapa	” ”
4	Arjun Khanal	CEAPRED staff Lalitpur
5	TN Ghimire	” ” ”
6	Rupa Thapa	CEAPRED staff Lalitpur
7	Surendra Rana	” ” ”
8	Sita Rana	” ” ”
9	Dewa K. Rana	” ” ”
10	Sabitri Dulal	” ” ”
11	Sita Dulal	” ” ”
12	Nina Bajgain	” ” ”
13	RP Timilsina	” ” ”
14	Bhagirath Dawadi	Ghachok, Kaski
15	Sabitra Lamsal	” ”
16	Radha Lamsal	” ”
17	Tika Lamsal	” ”
18	Radha Lamsal	” ”
19	Bashudhara Lamsal	” ”
20	Laxmi Lamsal	” ”
21	Hari P. Subedit	Sarketari, Syangja
22	Tara D. Subedi	” ”
23	Durga P. Subedi	” ”
24	Jamuna Subedi	” ”
25	Shiba P. Subedi	” ”
26	Sunita Bhushal	” ”
27	Dilli R. Koirala	Namuna Sahakari Syangja
28	Ramesh Koirala	” ” ”
29	Hari P. Subedi	” ” ”
30	Kamal Raj Khanal	DCPA Palpa
31	Rewant B. Bista	” ”
32	Bala Bhadra Sharma	” ”
33	Ram B. Bista	” ”
34	Rudra Thapa	IDE Palpa
35	Ram P. Ghimire	Sangam Mahila Coffee Samuha, Madanpokhara-7, Palpa
36	Ganga Puri	” ” ” ” ” ”
37	Juna Puri	” ” ” ” ” ”

38	Tilak Puri	”	”	”	”	”	”
39	Prem Pangen	”	”	”	”	”	”
40	Balkrishna Basnet	”	”	”	”	”	”
41	Laxmi Pathak	”	”	”	”	”	”
42	Pramod Pangen	”	”	”	”	”	”
43	Kamal Khanal	”	”	”	”	”	”
44	Maya Timilsina	”	”	”	”	”	”
45	Paro Pathak	”	”	”	”	”	”
46	Pabitra Timilsina	”	”	”	”	”	”
47	Sima Pangen	”	”	”	”	”	”
48	Sunita Devi	Anukampa Samuha, Basantpur, Rupandehi					
49	Radha Chaudhari	”	”	”	”		
50	Manjit Tharu	”	”	”	”		
51	Sunita Chaudhari	”	”	”	”		