

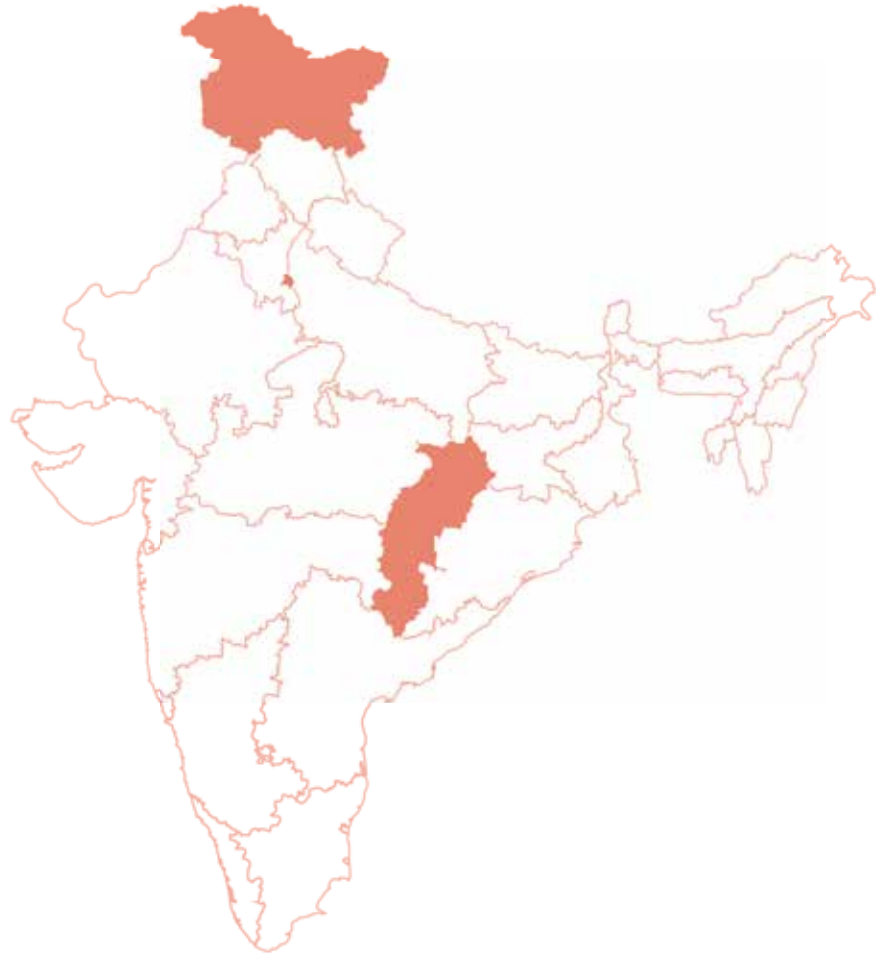
Impact Assessment Study of Vegetable Initiative for Urban Clusters

Chhattisgarh | Delhi
Jammu & Kashmir



SFAC
लघु कृषक
कृषि व्यापार संघ

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Preface

The initiative has successfully completed one year and since its implementation, good progress has been made in all the aspects including mobilization of farmers, formation of Farmers' Interest Groups (FIGs)

The Vegetable Initiative for Urban Clusters (VIUC) scheme was launched in the year 2011-12 under Rashtriya Kirshi Vikas Yojana (RKVY) to enhance the production and productivity of vegetables and augment farmers' income along with assuring sustainable supply of vegetables in the identified consumption centers at affordable prices. Small Farmers' Agribusiness Consortium (SFAC) has been designated the nodal agency for providing necessary technical and managerial support to the State Governments in the implementation of the scheme and was assigned the tasks of facilitating the State Governments in conducting Baseline Survey to develop a holistic understanding of vegetable value chains for the identified consumption centers and also mobilize small and marginal farmers to formally take up entrepreneurial activity through collective bargaining. The Baseline Survey was meant to be the basis for a "before and after" assessment in respect of few critical parameters.

The implementation of this initiative was distinctly designed in such a way that membership based Farmer Producer Organizations (FPOs) have been made primary beneficiaries and epicenter of the whole initiative and the other components of the scheme have been linked to these FPOs. This initiative envisages mobilizing over 1.00 lakh farmers all over the country targeting formation of 98 FPOs (each with an average membership of 1000 farmers). SFAC is also working in close co-ordination with State level nodal agencies appointed by respective State Governments in the implementation of the scheme at State level. Resource Institutions (RIs) empanelled by SFAC are facilitating the mobilization of farmers by providing them training and capacity building support, linking them to input suppliers, technology providers and market players.

The initiative has successfully completed one year and since inception considerable progress has been made in all the aspects including mobilization of farmers, formation of Farmers Interest Groups (FIGs), initiation of collective agri-input purchase and vegetable marketing. The process of federating FIGs into FPOs has been initiated in some States.

With the objective of appraising the progress of the initiative in all the States upto March 2013, SFAC commissioned the present Impact Assessment Study of VIUC through a Technical Support Agency (TSA) in the States of Chhattisgarh,

Delhi and Jammu & Kashmir.

During the course of the study, personal interaction were made with all the concerned State and District officials and Resource Institutions responsible for mobilizing the farmers. Primary data of field survey of farmers and other beneficiaries and secondary data from State Horticulture/Agriculture Department was also collected, analyzed and report compiled.

A comprehensive report integrating individual State reports has been prepared highlighting the physical and financial achievements and the ground level challenges and issues of the stakeholders and recommending suitable corrective measures to enhance the performance of the scheme.

Glossary of Terms Used in This Report

CFT – Cohesion Foundation Trust

FIG – Farmers' Interest Group

FPO – Farmers' Producers' Organisation

ICAR – Indian Council of Agricultural Research

IGS – Indian Grameen Services

ISAP – Indian Society of Agribusiness Professionals

ITSL- International Traceability Systems Ltd

KCC – Kisan Credit Card

KVK – Krishi Vigyan Kendra

MIS – Management Information Systems

NHM – National Horticulture Mission

RI – Resource Institution

RKVY – Rashtriya Krishi Vikas Yojana

SLEC – State Level Executive Committee

Executive Summary

It has been more than a year since the Vegetable Initiative for Urban Clusters was launched by the Government of India with an objective to assess the demand supply aspect of vegetables, production enhancement, and establishment of efficient supply chain, technology dissemination and augmentation of farmers' income along with an ensuring supply of quality vegetables in the identified consumption centres at affordable prices.

The purpose of the Impact Assessment Study is to evaluate the impact of the scheme in terms of productivity and area expansion; innovative technical intervention along with impact on the farmer' income and effect on the supply chain of vegetables.

To achieve the desired goal of the study, a mixed approach of secondary research, primary survey and focus group discussion were used along with sample size of 50-55 across the stakeholders in the four States – Chhattisgarh, Delhi Jammu and Kashmir division. Out of the total sample size of 40, 40, 45, 46, 40 and 40 numbers of farmers were surveyed to understand the impact of the scheme at the ground level.

The following table provides a snapshot of the State -wise figures of funds released, expenditure incurred, FIGs and FPOs. All these figures pertain to the progress made by the States at the time of undertaking this assignment, for The FY 2011-12.

Table 1 State- wise Details of Funds Released and Expenditure Incurred

	Release (Rs in lakh)	Expenditure (Rs in lakh)	Farmers Interested Group (FIG)	Farmer Producer Organizations (FPOs)
India	30000	20122	5826*	79*
Chhattisgarh	1250.45	1250	412	4
Delhi	200.00	0	195	2
Jammu	600.00	274.77	87	1
Kashmir	600.00	547.43	95	Under process

Note: * This figure excludes the figures of farmers' groups being promoted without involvement of SFAC

Chattisgarh

Impact of the Scheme:

- ◆ It has been observed that both the area and production of vegetables decreased by 38 and 30 percent, respectively when compared with the previous year. However, during the same period, productivity per unit area has increased by 13 %.
- ◆ As per the progress report provided by the State, almost 13000 sq ft area has been covered under protected Cultivation technology. However, there has not been any significant impact in the area. Farmers are still carrying out age old traditional practices of Cultivation.
- ◆ A total of 6070 farmers have been mobilized to form 412 farmers' groups, which have been registered as four Farmers' Producers' Organizations and one FPO is under the formal process of registration in the State. However, only 1-5 percent of the vegetable growing farmers have mutually started collective procurement of farming inputs and selling their produce.
- ◆ RIs have worked in establishment of linkage of farmers with banks for availing credit and financial services. Approximately 35% farmers have been linked with KCC for their credit requirement. Insignificant efforts have been made for establishing linkage for collective procurement of farm inputs and joint marketing of their produce.
- ◆ In order to provide maximum possible benefits of the farmers cultivating vegetables, VIUC scheme has been converged with other RKVY and NHM schemes for vermibeds, mini-kits with farm inputs, drip irrigation equipments and time to time exposure visits to commercially successful vegetable business conducting organisations in rural areas of the State or outside the State . In addition to this, the farmers have been linked with farmers' club of NABARD.

Recommendations

- ◆ Component of Training and capacity- building of farmers needs to be strengthened; this should also include exposure visits of farmers to production facilities as well as existing commercially successful FPOs.

- ◆ The staff of the implementing agency and RI should undertake exposure visits for gaining knowledge on latest Cultivation, organising farmers for collective procurement of farm inputs and pooling of produce for joint marketing and management of the FPO.
- ◆ Cross pollination of practices and ideas from other similar States like Kerala, Karnataka and Goa can help improve the effectiveness of the initiative.
- ◆ There is a need to increase focus on components such as Post Harvest Management quality management by the farmers.
- ◆ Training on Cultivation practices, collectivisation of farmers, creating operational farmers' collectives, which are in demand from farmers.
- ◆ Suitable mechanism/system should be developed to link vegetable growing farmers with institutional buyers, exporters, processing and value adding units, organised/mainstream markets, as this component has been hardly implemented in the first year of the scheme.
- ◆ At the State level, mechanism for monitoring implementation of different components under the scheme along with a regular and punctual MIS should be developed by the State Implementing Agency for better and effective supervision on the progress of the scheme.
- ◆ There is a need for better coordination between the Directorate of Horticulture & Farm Forestry and the RIs for successful implementation of planned components under the approved scheme.

Delhi

Impact of the Scheme

- ◆ Resource Institutions have Mobilised 1862 farmers under the scheme which have been federated. Farmers' Producers' Organisation (FPO) is registered in South West Districts. The impact on the collective approach is visible here, although the collectivisation initiatives are already in place and almost 90 percent farmers are working towards joint procurement and production but they are carrying out the marketing of the produce individually.

- ◆ The resource institutions are working aggressively in organizing buyer- seller and service providers meetings , bank account of all the FIGs have been opened but no formal linkage has been established for input procurement and marketing till date.

Recommendation

- ◆ Strong recommendation for the registration of farmers in FIGs to start the scheme on an urgent basis.
- ◆ Department officials and RIs will have to work aggressively for the input supply (especially in Najafgarh area) as farmers are purchasing fertilizers and other input materials from Haryana.
- ◆ There is a need of more orientation of farmers regarding Post Harvest Management activities, more number of training and exposure visits should be provided.
- ◆ There should be coordination between department officials and RI.

Jammu

Impact of the Sheme

- ◆ As per the data provided by the State Department, for the cluster where the scheme has been implemented, it is clearly visible that the total area has increased by 2 percent from baseline year and the production has also increased by 8 percent during the period for assessment. Productivity per unit area grown has increased by 6 percent.
- ◆ As observed from the field visit, the farmers have learnt applying scientific and modern package of practices and organic inputs for Vegetable Cultivation, the impact could be clearly observed from the increase in productivity of the vegetables.
- ◆ Resource Institution RI has contacted and mobilised 1500 farmers under the scheme which have been federated into 87 FIGs. One Farmers' Producers' Organisation (FPO) has already been registered. The impact on the collective approach in farming and marketing is partially visible in this registered FPO. Collective and mutually beneficial initiatives

are already in place in the form of joint transportation, input purchase and marketing.

- ◆ Through the scheme, approximately 1500 farmers and most of their family members and casual helpers have been provided direct and indirect employment through Vegetable Cultivation.

Recommendations

- ◆ There is a need to arrange and provide linkages for input services in terms of seeds, fertilizers, irrigation and, financial services for loans, empanelment of private input companies, linkage with micro- financing institutions and tie-up with universities and private input supplier companies for demonstration of new techniques in Vegetable Cultivation.
- ◆ For enabling and easing the supply chain for transport of produce from field to market, there should be provision of owned or hired vehicles, common infrastructure for sorting, grading and packaging activities.
- ◆ For strengthening of the marketing services, it is necessary to create and establish a continuous and long term sustainable supply chain, it is recommended to establish linkage with retail outlets, introduction and retention of more market players, and institutional linkages and tie-ups.
- ◆ For proper administration of the scheme, there must be a proper and timely distribution of funds. District level officials should be guided to work cohesively with the appointed RIs for effective implementation and distribution of benefits to member farmers'.

Kashmir

Impact of the Scheme

- ◆ As per interaction with farmers and the Department officials of the State, it has been reported that the area and production under vegetables has increased from the area and production prior to the implementation of the scheme.
- ◆ As observed from the field visit, farmers have learnt and are applying modern package of practices and Cultivation under protected condition on a large scale. Seedling production

in poly-houses has helped the farmers to grow early season vegetable crops which consequently lead to early providing of produce in markets, which have very high prices.

- ◆ The department has contacted and Mobilised around 1800 farmers under the scheme and these farmers have been grouped into 95 FIGs. Although these groups have been formed, the collective approach to conduct agribusiness is not visible here.

Recommendation

- ◆ The department officials should target for the convergence of the VIUC scheme with the other ongoing schemes of the Government such as HTMHNE, micro-irrigation and rain water harvesting scheme in the project area of the State.
 - ◆ The Nodal agency should include provision of establishing local retail markets and aggregation/collection centres in each cluster under the Action Plan.
 - ◆ No progress has been made on collective action and registration of FPOS; Resource
- institutions will have to seriously work hard for strengthening the system of value chain for backward as well as forward linkages.
- ◆ Since, Srinagar is a tourist place and arrival of tourists is very high, marketing linkages with hotels and retail food chains should be developed for a regular supply of fresh or may be organic vegetables.
 - ◆ It is strongly recommended that, considering the topography and terrain of the State, phased implementation of the VIUC scheme be planned. An Action Plan be developed so that it covers all the components, the emphasis may be on covering the planned target of vegetable growing farmers, include additional prospective farmers, concentrate on larger volume on a regular and on a daily basis, have closer and practical implementation of all the components under the scheme, develop long term and sustainable linkages with service providers, and ensure logistics and marketing arrangements.

Chapter 1

Introduction

This chapter describes the genesis, objectives and components of the initiative along with the scope of work on this assignment.

Background

Vegetable Initiative for Urban Clusters (VIUC) was launched in the year 2011 with an approval of Rs. 300 Crore for the year 2011-12. This was dovetailed under Rashtriya Kirshi Vikas, Yojana (RKVY) to enhance production and productivity of vegetables and augmentation of farmer income along with an assured sustainable supply of vegetables to consumers at affordable prices. This initiative was proposed to cover one city in each State during the year 2011-12, which should either be the State capital or any other city having population of over one million. In case, no city in a State satisfied this criteria, then other urban cluster closer to one million population would be selected for the purpose.

Objectives of the VIUC

The objectives of the initiative are:

- a. Addressing all concerns related to both the demand and supply side of the vegetable sector in selected cities.
- b. Enhancing vegetable production and productivity, improve nutritional security and income support to vegetable farmers.
- c. Encouraging establishment of an efficient supply chain thereby leading to employment opportunities and incomes for intermediate service providers, and safe, good quality, fresh as well as processed agri produce at competitive price for urban consumers.
- d. Promote, developing and disseminating technologies for enhancing production and productivity of vegetables in peri-urban areas of major cities.
- e. Assisting States in addressing the entire value chain, right from the stage of pre-production to the consumers table through appropriate interventions.
- f. Creating employment generation opportunities for skilled and unskilled persons, especially unemployed youth.

Components of VIUC

In order to achieve the desired objectives, VIUC included various components related to enhancing production and productivity, organic farming, post-harvest infrastructure, transportation, storage and marketing support and linkages. The components also include various kinds of trainings & capacity building for farmers. The detail list of components included under VIUC has been provided in Annex – I along with this report.

Objectives of this Assignment

The initiative aims to establish and augment a sustainable supply of vegetables to the major urban consumption centres with emphasis on increase in production and productivity along with the income enhancement of the farmers. The scheme has completed more than one year, therefore, The ministry of Agriculture, Government of India has decided to assess the impact of the initiative against the set objectives of the scheme. Technical Support Agency (TSA - MSG) carried out the Impact Assessment Study with the following scope of work.

The scope of work of Impact Assessment Study is to assess the:

- ◆ Increase in vegetable yield of beneficiary farmers and increase in total production;
- ◆ Interventions of technologies for increasing yield and improved quality of vegetables;
- ◆ Impact on member farmers' income;
- ◆ Interventions made for improving efficiency of supply chains of vegetables;
- ◆ New jobs created in vegetable supply chain from field to retail end, and
- ◆ Improved availability of quality vegetable at affordable prices to consumers
- ◆ Overall impact on vegetable pricing in targeted urban areas.

Chapter 2

Approach and Methodology

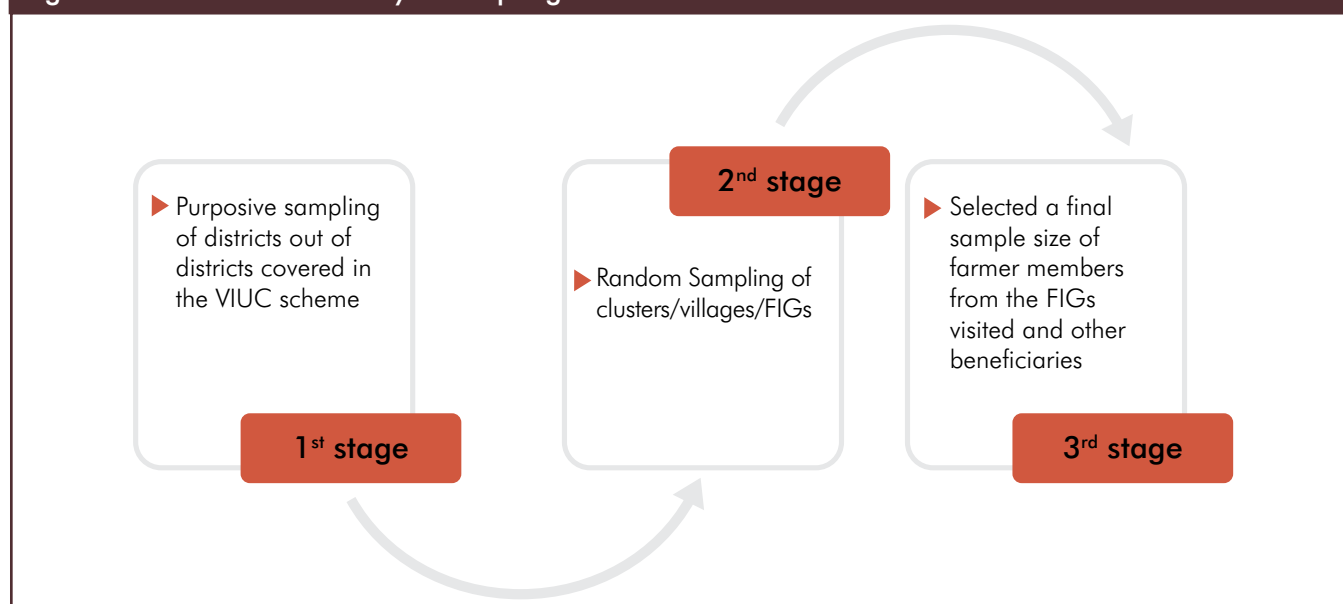
This chapter describes the approach and methodology adopted for assessing the overall impact of the initiative.

Approach & Methodology

The approach used to conduct the Impact Assessment Study entails to review the extent to which the project has so far contributed to tangible and intangible goals through the evaluation of physical and financial progress. The study also targets to assess the enhanced understanding of the initiative amongst various stakeholders. A combined approach of quantitative and qualitative analysis using secondary and primary research techniques were used to assess the overall impact of the Initiative. The methodology included following steps:

- ◆ **Secondary Research:** analysis of available documents in the form of Baseline reports, State Action Plans and progress reports available with SFAC;
- ◆ **Primary Survey:** of various stakeholders with the help of structured questionnaires, Focus Group Discussions (FGDs) and case studies from the field;

Figure 1 Three fold Multi-Layer sampling



- ◆ **Analysis:** of data collected from secondary sources, primary surveys and observations of FGDs and field visits;
- ◆ **Assimilation and Report Writing**

Sampling and Tools

For the purpose of survey work, a three- fold multilayered sampling was adopted:

Table 2 Number of Respondents in Various States

Respondents	Chhattisgarh	Delhi	Jammu division	Kashmir division
Implementing agency officials (State, District, Block)	4	1	8	8
Resource Institutions (State, District, LRPs)	4	40	3	
Farmers Members (Farmers Interest Groups-FIGs)	40	1	40	40
Scheme beneficiaries (other than farmers such as infrastructure owners, aggregators, consolidators, etc.)	-	2	-	-
Total	48	44	51	48

A survey was initiated by conducting an initial one-on-one meetings with officials of the Nodal Agency at State and District level. This was followed by separate meetings with RIs and beneficiaries.

Representatives from TSA-MSG, SFAC visited the targeted districts of the State and interacted with all the stakeholders - District and State Government officials, RIs, farmers and other beneficiaries of the scheme directly and indirectly to assess the impact of the Scheme. The following clusters were selected in different States for the Impact Assessment Study:

1. **Chhattisgarh:** Technical Support Agency (TSA - MSG) visited the project area which is spread in the district of Raipur and Dhamtari.
2. **Delhi:** Technical Support Agency (TSA - MSG) visited the project area which is

spread in the district of South West Delhi and North West Delhi.

3. **Jammu division:** Technical Support Agency (TSA - MSG) visited the selected villages in the project area which is spread over seven districts viz; Jammu, Samba, Kathua, Reasi, Udhampur, Rajouri and Doda
4. **Kashmir division:** Technical Support Agency (TSA - MSG) visited the project area covered under the scheme.

Before the start of the field visit and survey, one-on-one interactive meetings were carried out with all the concerned government. Officials (State and District level). Similar meetings were conducted with RIs in the presence of State level, Nodal officer during which objectives of the Impact Assessment Study, Progress about the VIUC scheme, Field Plan and Data Requirement from various stakeholders were discussed.

Chapter 3

Chhattisgarh

Project Area and Stakeholders

This section describes the implementation structure and functioning of the scheme's components at different levels and the major stakeholders involved in the project.

VIUC Scheme in Chhattisgarh

VIUC in Chhattisgarh is being implemented across eight districts in the State since 2011-12. Joint Director Horticulture, State Horticulture Mission, Government of Chhattisgarh has been appointed as the Nodal Officer for implementing the project in the State. At the District level, Assistant Director Horticulture/Deputy Director Horticulture are the Nodal Officers looking after the implementation of different components of the scheme.

Baseline Survey

To identify major vegetable production districts and contiguous clusters of vegetable growing villages, an independent agency, carried out the Baseline Survey in Chhattisgarh. Baseline Survey highlighted the existing supply chain and other problems/constraints and identified the vegetable growing clusters within the district. During the interaction with the Nodal Agency Officials, it was observed that areas / clusters, which were identified under the Baseline Survey, have been taken up for the purpose of implementation of the scheme.

State/Districts/Clusters

The initiative is being implemented in eight districts viz; Raipur, Bilaspur, Dhamtari, Mahasamund, Durg, Rajnandgaon, Kabirdham, and Kanker. The major vegetable clusters around these districts with a distance ranging from 30-70 km are supplying vegetables to respective urban clusters, including Raipur, the capital city of the State.

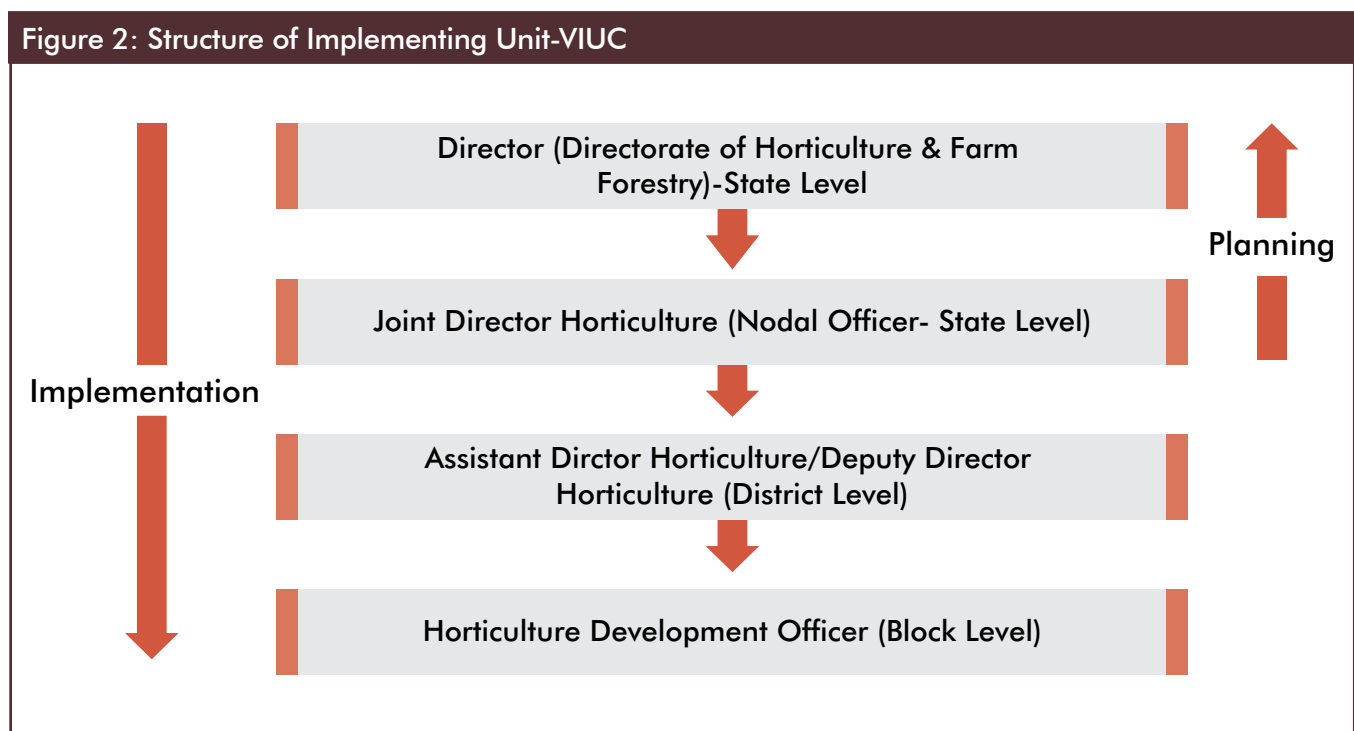
Implementing Partners of VIUC in Chhattisgarh

The Directorate of Horticulture & Farm Forestry, Government of Chhattisgarh has been appointed as the Nodal Agency for implementing the project in the State and Joint Director Horticulture is the Nodal Officer looking after the scheme at the State level. At the District level, Deputy Director Horticulture/ Assistant Director Horticulture are looking after the implementation of the scheme. At the block level, Horticulture Development Officers and Regional Horticulture Extension Officers have been appointed for implementation of different components under the scheme.

Table 3: Stakeholders and their Coverage Area

Role	Name of Organization	Districts Covered under VIUC Scheme
Nodal Agency	Directorate of Horticulture & Farm Forestry	Raipur, Bilaspur, Dhamtari, Mahasamund, Durg, Rajnandgaon, Kabirdham, Kanker
Resource Institution	Indian Grameen Services	Raipur
Resource Institution	Cohesion Foundation Trust	Dhamtari and Bilaspur (some clusters)

A detailed implementation structure has been depicted in the following figure:



Planning and Implementation of Activities: The planning of the project activities to be undertaken under the scheme is proposed at the District level, where the Assistant Director Horticulture/Deputy Director Horticulture prepares the draft plan and submits it to the Joint Director Horticulture for consolidation of information from all the identified and selected Districts in the State. From Joint Director, State plan is submitted to State Level Executive Committee (SLEC) headed by the Director, Directorate of Horticulture & Farm Forestry, who is the final authority for consideration and approval of the proposed plan

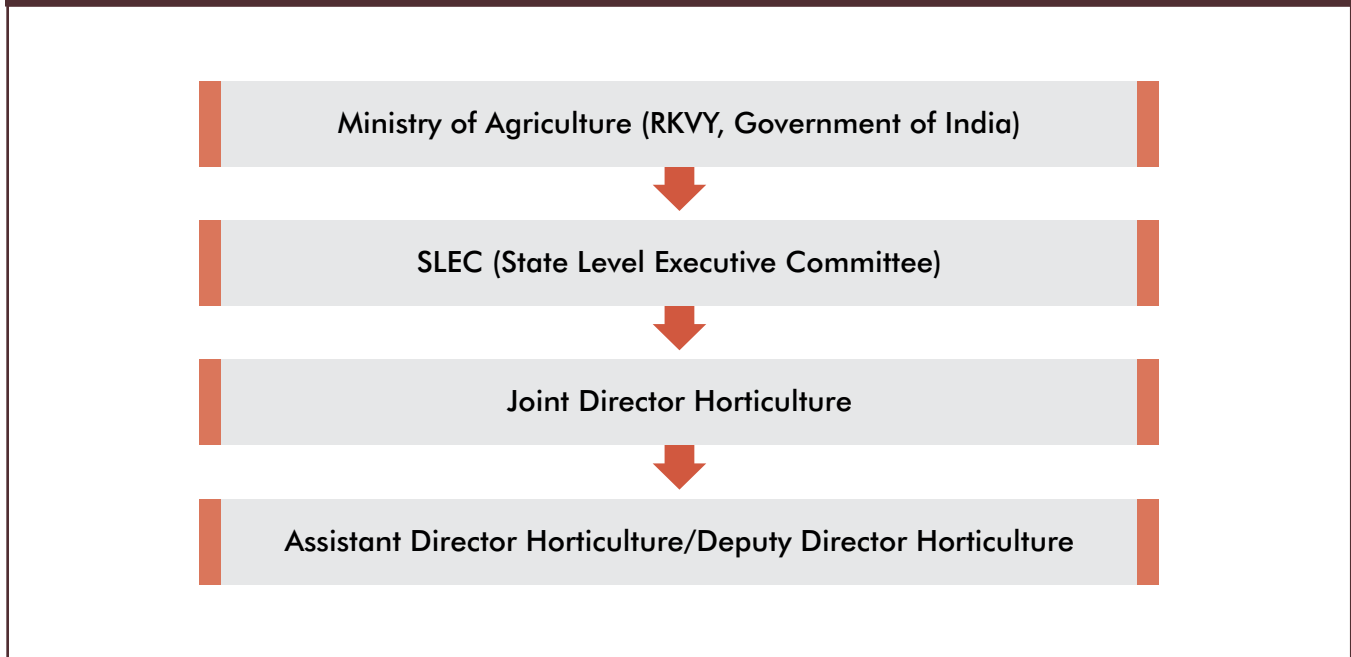
for implementation. The Approved State Plan is finally submitted to the RKVY Cell for approval and sanction of funds.

Flow of Funds

The flow of funds is depicted in the figure below:

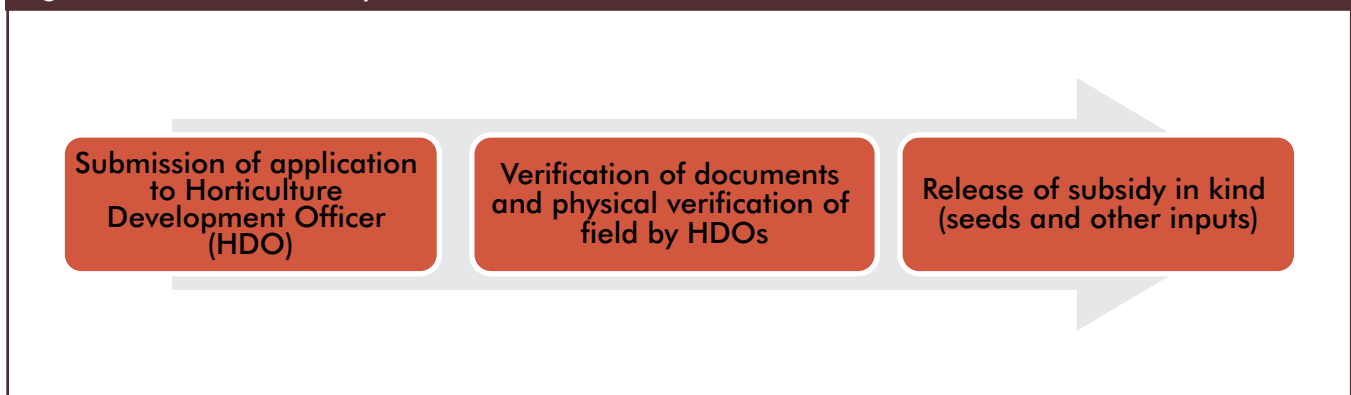
Budget Outlay and Expenditure (2011-12): The total budget outlay approved for the State for the year 2011-12 was Rs 1250.45 lakhs. No separate provision for funds for administrative purpose of the scheme has been made.

Figure 3: Flow of Funds



Release of Subsidy to Beneficiary

Figure 4 Release of Subsidy



The applications for subsidy are received through The Horticulture Development Officer. Once the applications are received and scrutinised by conducting physical verification of the information provided by the farmer, then it is forwarded to The Deputy Director Horticulture. Subsidy is provided in the form of seeds, seedlings, fertilizers, vermi-compost, bio-fertilizers and other allied farming inputs to the beneficiary farmers.

Resource Institutions

For contacting the vegetable growing farmers on a large scale and their mobilization for promotion of Farmer Interest Groups (FIGs) and Farmers' Producers' Organisations (FPOs), two Resource Institutions have been appointed by SFAC. These are Indian Grameen Services (IGS) and Cohesion Foundation Trust (CFT). Targets to be achieved by these RIs in terms of contacting farmers and their mobilisation, FIGs & FPOs formation as well as current achievements during the year are given below:

Table 4 (i) Current Status of FIGs and FPOS Formation

Particulars	IGS		CFT	
	Target	Achievement (registered)	Target	Achievement (registered)
FPO	2	2	3	2
FIG	200	208	200	204
Total Farmers	3000	3009	3000	3061

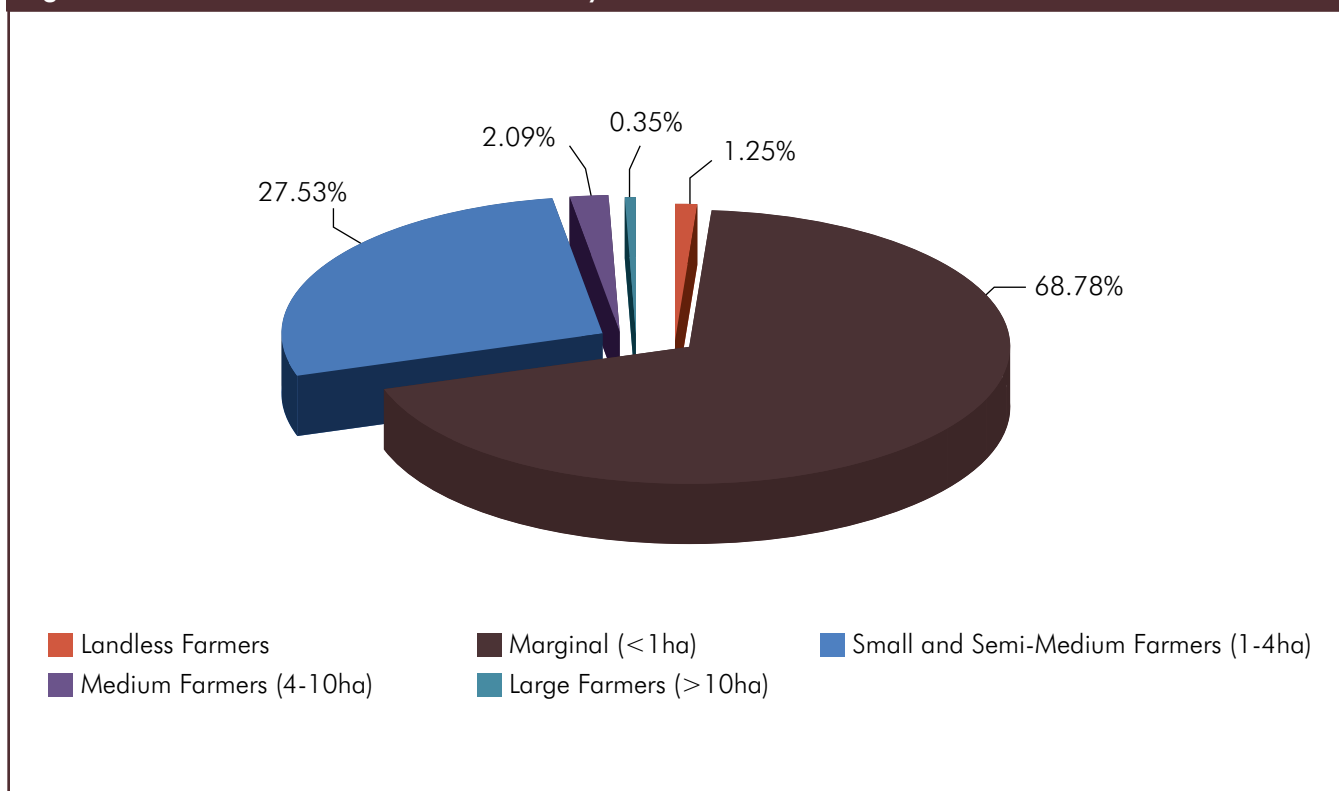
Source: Secondary information from RI

Table 4 (ii) Coverage of Farmers and participation in Capacity Building

Particulars	Units	IGS	CFT
Districts		1	2
Clusters	Nos	3	3
Total Farmers	Nos	3009	3061
Break up of total farmers			
Landless farmers		76	
Marginal (< 1 Ha)	Nos	2759	1416
Small and semi-medium Farmers (1-4 Ha)	Nos	174	1497
Medium Farmers (4-10 Ha)	Nos		127
Large Farmers (> 10Ha)	Nos		21
Meetings Conducted			
FPOs	Nos	11	54
FIGs	Nos	---	1280
Farmers	Nos	---	1280
% of members regularly participating in meetings			
FPOs	%	90	90
FIGs	%	80	75
Farmer	%	80	75
Capacity- Building for FIGs / FPOs			
FIG members oriented / trained & aware on VIUC	Nos	2106	3061
Group leaders oriented/trained on FIG/FPO concept and management	Nos	---	125
FIG/FPO members oriented / trained on Account Keeping in VIUC	Nos	2106	3061
FIG members trained on some or other best practices (for production, value addition and marketing) under VIUC	Nos	602	---
FIG members jointly procuring inputs		427	171
Bank Account Opened (Status)			
FPOs	Nos	2	3
FIGs	Nos	61	75
Total Saving	Rs. Lacs	7.46	4.34

Source: Secondary information from RI

Figure 5: Distribution of Farmers Covered by RIs



Source: Secondary information from RIs

More than 95 percent farmers covered under VIUC are small, marginal and semi-medium. Some landless farmers, who have taken land on lease or under some agreement or understanding, have also been covered under the scheme. Under VIUC scheme, the major emphasis is on socio-economic development of small and marginal farmers. It indicates that the initiative is progressing in the right direction, as most of the small and marginal farmers have been given priority for enrolment, due to their small land holding sizes.

As per letter (Annex-IV) provided by the Directorate of Horticulture & Farm Forestry, a Baseline Survey was conducted in the eight districts of the State. However, FPO promotion and its organization has been taken up only in three districts viz; Raipur and Dhamtari and some clusters of Bilaspur. After assessing the progress and scope of Vegetable Cultivation in the State, four more districts have been proposed for FPO promotion and their organisation. These four districts are Durg, Bilaspur, Rajnandgaon and Kabirdham. For the purpose of including these proposed additional districts under the VIUC scheme, The Directorate

of Horticulture & Farm Forestry has requested for permission and approval from SFAC for FPO promotion in these four districts.

Performance of Scheme

This section investigates the overall success of the VIUC scheme in the State, in terms of physical and financial achievement.

Farmers benefit directly from the following eleven components of the scheme Figure 6 below.

Proposed and Approved Action Plan

As per the 'proposed Action Plan' for the year 2011-12, the State Directorate of Horticulture and Farm Forestry proposed to take up almost all the activities/components for the implementation of VIUC with the total financial outlay of Rs 1250.45 lakhs. The share of all the components is illustrated in Figure 7 below.

Figure 6 Performance of the Scheme

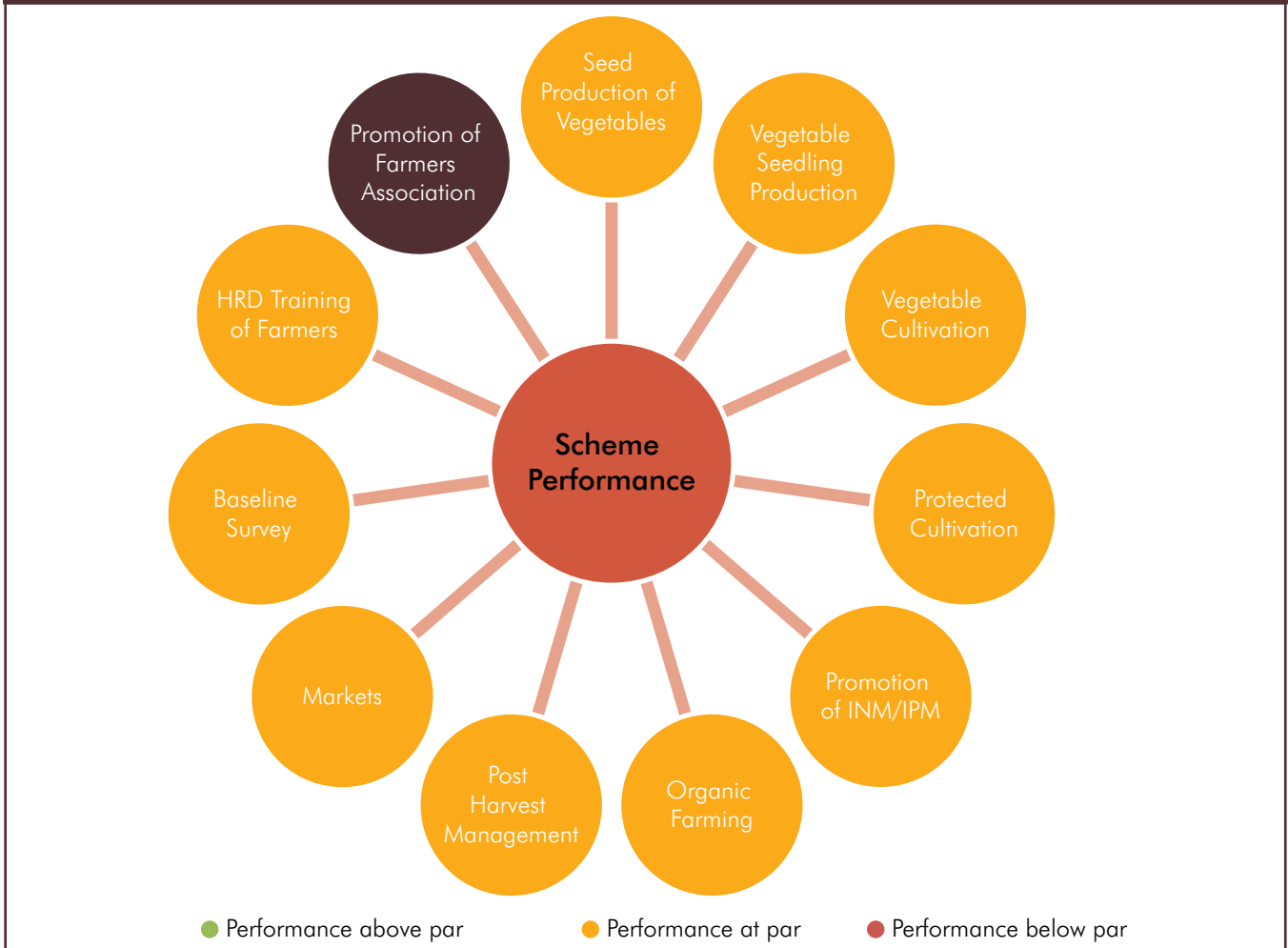
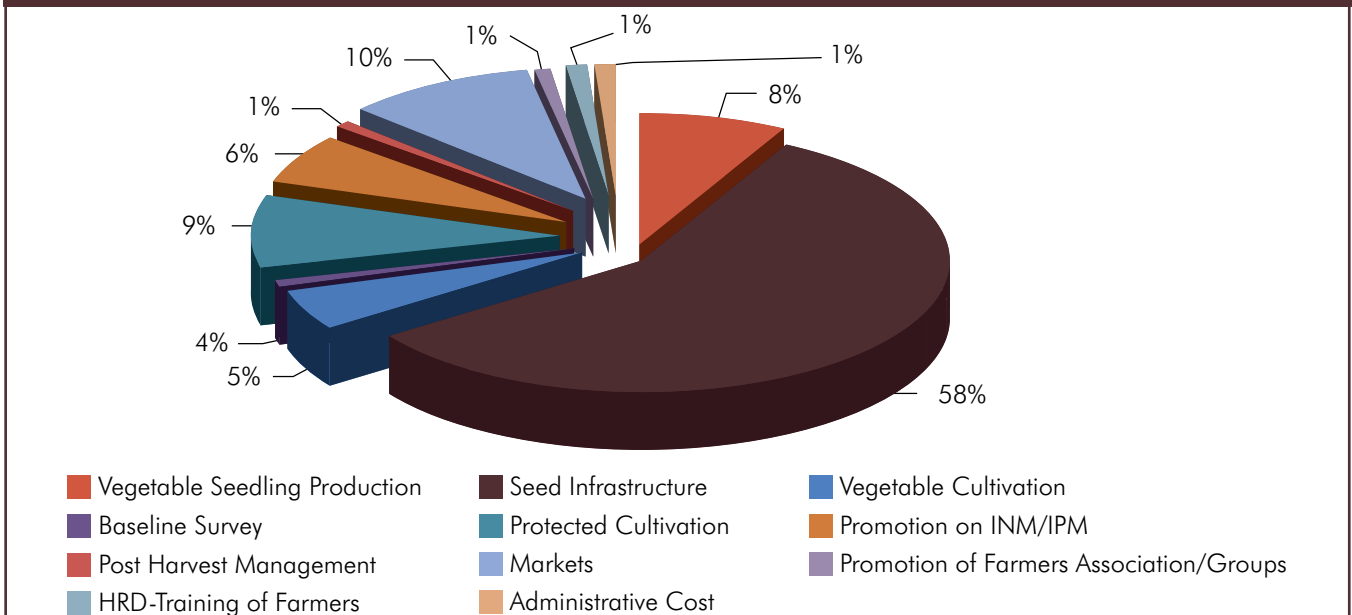


Figure 7: Approved Action Plan for Chhattisgarh 2011-12



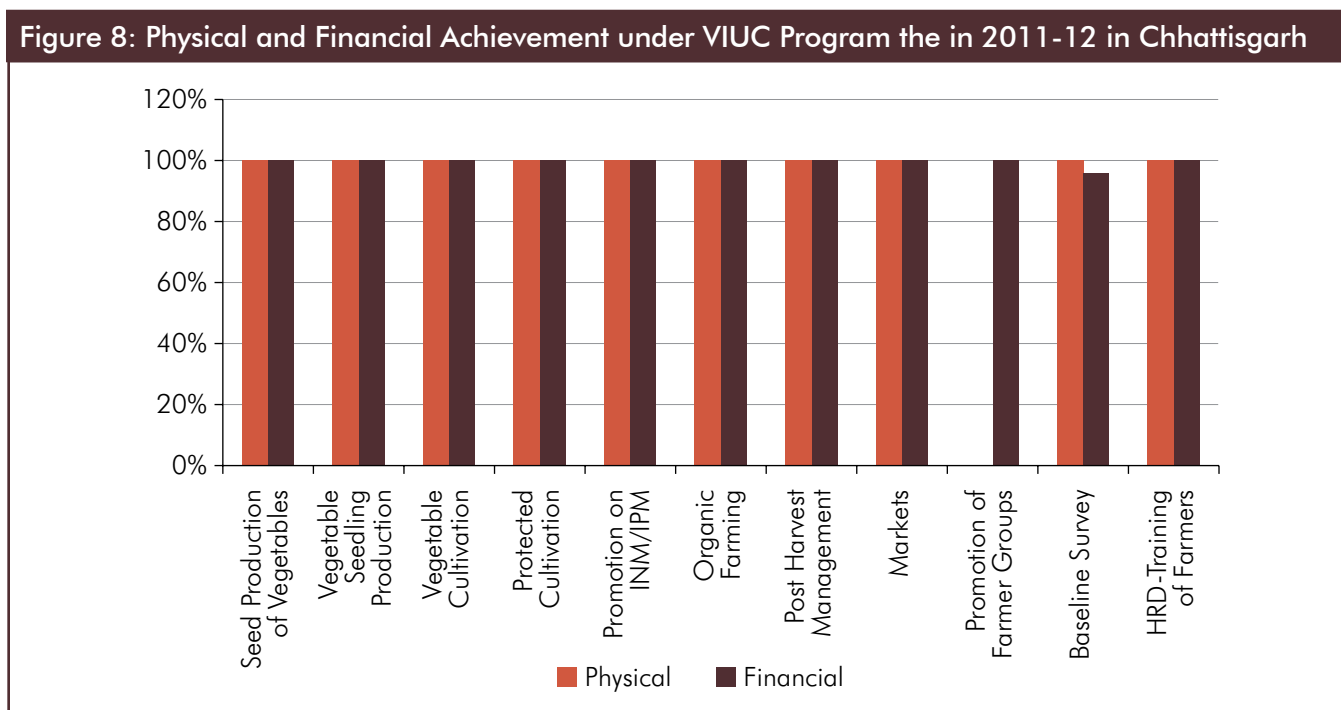
Source: Directorate of Horticulture & Farm Forestry, Raipur

Of the total approved financial outlay of Rs 1250.45 lakhs, maximum fund has been allocated for the component under Vegetable Cultivation (58%), followed by promotion of farmers' group (10%), organic farming (9%) and vegetable seedling production (8%). Equal amount of fund has been allocated to seed production, promotion of INM/IPM, markets, Baseline Survey and HRD and training of farmers i.e. 1%. For protected Cultivation and Post Harvest Management 5%

and 6% funds have been allocated, respectively. No separate provision of funds has been made for administrative purposes under the scheme.

A detailed component-wise Physical targets & Financial outlays for the year 2011-12 is given in Annex- I.

The present status of financial and physical achievements of different components during the year is given in the following figure;



Component-Wise Physical And Financial Targets and Achievements (2011-12)

The following table illustrates the component wise performance for FY 2011-12.

Table 5: Component wise Physical and Financial targets and Achievement

Component	Physical Performance	Financial Performance
Seed Production of Vegetables	100 percent achievement As per the approved plan, physical target under this component was to cover 25 ha area, of which entire area has been covered.	100 percent achievement Financial allocation for seed production was Rs 12.50 lakhs, of which total funds have been utilized.
Vegetable Seedling production	100 percent achievement As per the approved plan, physical target under this component was to cover 1 ha area for vegetable seedling production, of which entire area has been covered.	100 percent achievement Financial allocation for establishment of seed infrastructure was Rs 104.00 lakhs, of which entire fund has been utilized.

Component	Physical Performance	Financial Performance
Vegetable Cultivation	<p>100 percent achievement</p> <p>Physical target under this component was to cover 5760 ha area for expansion of both open pollinated and hybrid vegetables, of which entire area has been covered.</p>	<p>100 percent achievement</p> <p>Financial allocation under this component was Rs 720.00 lakhs, of which total fund has been utilized.</p>
Protected Cultivation	<p>100 percent achievement</p> <p>Physical target under this component was to cover 13000 sq m area, of which entire 13000 sq m area has been covered.</p>	<p>100 percent achievement</p> <p>Financial allocation under this component was Rs 60.35 lakhs, of which total fund has been utilized.</p>
Promotion of INM/IPM	<p>100 percent achievement</p> <p>Physical target under this component was to cover 1000 ha area for promotion of INM/IPM techniques, of which total 1000 ha area has been covered.</p>	<p>100 percent achievement</p> <p>Financial allocation under this component was Rs 10.00 lakhs, of which total Rs 10.00 lakhs has been utilized.</p>
Organic Farming	<p>100 percent achievement</p> <p>Physical target under this component was to cover 2204 ha area, of which entire 2204 ha area has been covered.</p>	<p>100 percent achievement</p> <p>Financial allocation under this component was Rs 114.00 lakhs, of which total Rs 114.00 lakhs has been utilized.</p>
Post Harvest Management	<p>100 percent achievement</p> <p>Physical target in PHM was under the following components</p> <ul style="list-style-type: none"> i Pack house: Physical target under this component was to establish 25 units of pack house, of which entire 25 units have been established. ii Pre cooling unit: Physical target under this component was to establish 5 units of pre-cooling unit, of which entire 5 units have been established. iii Mobile- pre cooling unit: Physical target under this component was to establish one mobile pre-cooling unit, of which one unit has been established. 	<p>100 per cent achievement</p> <p>Financial allocation in PHM was under the following components:</p> <ul style="list-style-type: none"> i Pack house: Financial allocation under this component was Rs 37.50 lakhs, of which total funds have been utilized. ii Pre-cooling unit: Financial allocation under this component was Rs 30.00 lakhs, of which entire Rs 30.00 lakhs has been utilized. iii Mobile-pre cooling unit: Financial allocation under this component was Rs 9.60 lakhs, of which entire Rs 9.60 lakhs has been utilized.
Market Infrastructure	<p>100 percent achievement</p> <p>Physical target under market was under the following components:</p> <ul style="list-style-type: none"> i Rural markets/Apni Mandi/Direct market: Physical target under this component was to establish one rural Mandi, of which the same has been established. ii Retail markets/outlets: Physical target under this component was to establish one retail market, of which the same has been established. 	<p>100 percent achievement</p> <p>Financial allocation in market was under the following components:</p> <ul style="list-style-type: none"> i Rural markets/Apni Mandi/ Direct market: Financial allocation under this component was Rs 8.00 lakhs, of which entire fund has been utilized. ii Retail markets/ outlets: Financial allocation under this component was Rs 4.00 lakhs, of which entire fund has been utilized.

Component	Physical Performance	Financial Performance
Promotion of Farmers' Association/Groups	No information received from the Nodal Agency Physical target under this component was to form 60 farmers groups.	100 percent achievement Financial allocation under this component was Rs 120.00 lakhs, of which entire fund has been utilized.
HRD & Training of Farmers	100 percent achievement Physical target under this component was to provide training to 1400 farmers, of which training has been provided to 1400 farmers.	100 percent achievement Financial allocation for this component was Rs 10.50 lakhs, of which, total fund has been utilized.
Baseline Survey	100 percent achievement Financial allocation for Baseline Survey was Rs 10.00 lakhs, however the survey was completed utilising Rs 9.55 lakhs only.	

Out of the total fund of Rs 1250.45 lakhs, total expenditure is of Rs 1250.00 lakhs i.e. 99.96 percent of the total financial target has been achieved.

Summary

- ◆ As per the proposed Action Plan, total financial outlay for the year 2011-12 was Rs 1250.45 lakhs. Maximum fund, 58% of the total allocation was allocated for Vegetable Cultivation component.
- ◆ Total utilization of the funds during the year has been Rs 1250 lakhs, which is 100 percent achievement of the total target proposed under the action plan.
- ◆ This is shows that physical and financial performance under different components of the scheme in the State is at par as all the components have been covered completely except promotion of farmers' group organisation.
- ◆ Regarding promotion of farmers' associations in the project area, although there must be some achievement under this component of the scheme, as the financial achievement is 100 percent. However, no data or any information has been provided by the State, the Nodal Agency on physical progress under this component.

Situational Analysis of the Scheme

This chapter illustrates the situational analysis of

the initiative in the identified and selected project area under the scheme. It is an analysis of the State and condition of the farmers/beneficiaries after implementation of the initiative, identification of the major issues related with the components and analysis of key stakeholders. A situational analysis has been derived with the help of the primary survey, secondary information, observations and discussions during field visits by the Team.

The findings of the primary survey of farmers have been discussed in the following sections:

Findings of Primary Survey

For the purpose of Impact Assessment Study, around 40 farmer members (FIGs) were surveyed in different clusters of Raipur and Dhamtari districts. The major observations made during the survey have been discussed in following section:

Land Holding: Average land holding size of the surveyed farmers is 1-1.5 acre. All the famers of the area belong to marginal farmers' category. Also, as per the secondary data provided by the State, other small and medium farmers have also been covered under the scheme. Majority of the small and marginal farmers have been covered under the scheme and this fulfils one of the criteria of VIUC program.

Irrigated Land And Area under Protected Cultivation: Out of the total cultivable area, 100 percent area has been observed to be under irrigation. Majority of the farmers use tube wells,

canal and nearby river as major source of water for irrigation purposes.

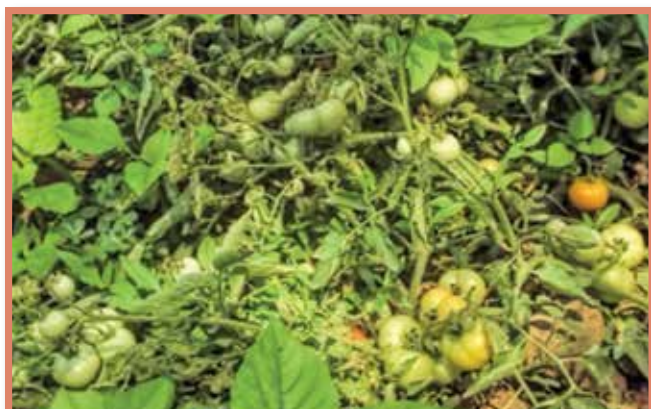


Figure 9: Plant grown from the Inputs provided by The Department

Protected Cultivation: Of the total cultivated area, no area has been covered under protected Cultivation. Although, there was provision of construction of protected Cultivation structures in the Action plan, but no such structures have been found to be set up in the surveyed area by the Team.

Seeds Used: Almost 80 percent of the surveyed farmers, with whom the Team met during the survey, informed that they are using hybrid seeds of vegetables. Earlier, this was 55%, which has improved considerably. Some farmers are using local/traditional varieties of chilli, onion and leafy vegetables. All the farmers of the surveyed area are procuring seeds from local input suppliers and Government Departments.

Although, some farmers are using local variety of onion and chilli, majority of the farmers are using hybrid seeds. This can be correlated with the adoption of modern package of practices, which is possible due to the timely training provided by Resource institution and State Government Department.

◆ Only 25 percent farmers are procuring the seeds collectively, it is showing that the concept of group approach has not been perceived well by the farmers.

Input Procurement: More than 80 percent of the vegetable growing farmers in the surveyed area are procuring the inputs like fertilizers and pesticides, packaging materials, and material

required for irrigation, etc. from local 'Dealers' or farm input suppliers, individually. It has been observed that adoption of group approach for farming inputs procurement, except for seeds, is completely absent among these farmers in the surveyed area.

Adoption of Integrated Pest Management: None of the farmers in the surveyed clusters are practicing integrated Pest Management (IPM) techniques and organic farming. Although under the Action plan for the implementation of the scheme, there is a component of promotion of area under integrated pest and nutrient management, no such achievement has been observed in the surveyed area, by the team.

Adoption of On-farm Management Practice: Only 10 percent of the farmers are using on-farm management practices wherein they are using drip and sprinkler irrigation for tomato, brinjal and okra. Use of mulches, Shed net house, low cost tunnels, etc. have been confined to progressive and large farmers, only.

Post Harvest Losses and Value Addition: As per the data of surveyed farmers, the extent of Post Harvest Losses in major crops like tomato, bitter gourd, okra, brinjal and bottle gourd etc. have reported a decline of more than 80 percent. Earlier this loss was varying from 26-33% but now it has reduced to 5-12%. This indicates that the crop-product loss has now been reduced, substantially.

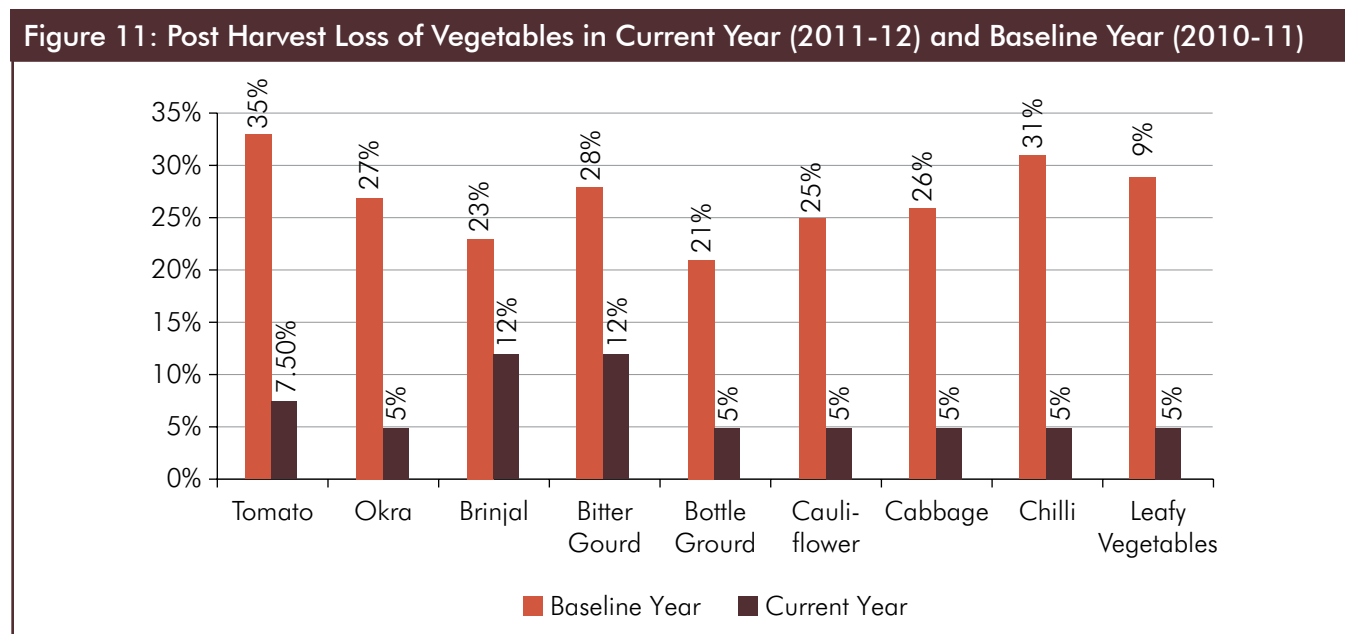


Figure 10: Training on Post Harvest Processing

The component of Post Harvest Management of vegetables has improved among farmers through the training provided by Resource Institutions and exposure visits of farmers at different institutes.

It was observed that farmers are not conducting any value addition activity at the farm level.

The following figure depicts the comparison of Post Harvest Loss of vegetables in current year with baseline year.



Packaging of Produce: It was observed that most of the farmers use plastic crates for packaging of tomato. For other produces, like okra, brinjal, bitter gourd, bottle gourd etc nylon sacks and/or gunny bags are used. Average cost incurred per plastic crate is around Rs 300/-. State Government is not

providing any subsidy on plastic crates. Some farmers have, it was reported during discussions with the farmers, purchased used crates (second hand). A single crate carries approximately 25 kg of produce. For nylon sacks, average cost is Rs 10/- per bag, which are 'used fertilizer' bags.



Figure 12: Used plastic crates

Selling of produce: Almost 100 percent of the surveyed farmers are selling their produce to wholesale market up to a distance of more than 10 km. Although, the Action Plan has a component of establishment of marketing infrastructure like Rural markets/ Apni Mandi and retail markets but the surveyed farmers' area have not reported the availability or establishment of such infrastructures in the project area.

- ◆ Almost all the farmers are carrying their produce in private and public transport vehicles and sell through commission agents/aarhtias.
- ◆ Farmers are getting payment on the spot cash basis; the price is fixed on auctioning by the Commission Agent and by negotiation basis, too.

- ◆ A major problem, which the farmers have reported is that they are dependent on middlemen. Farmers are suffering heavy loss from this mode/system of supply chain, as the Commission Agent charges 8% of the auction price plus Rs 15 per bag and crate. In addition to this, 1 kg free sample of 25 kg produce is retained by the wholesale traders. No market linkages have been developed in the surveyed area by the Nodal Agency or RIs.

The work done on improving the value chain through establishment of infrastructure by The Department and marketing linkages by Resource institutions is almost absent in the State.

Government Support & Incentives: Almost all the farmers of the surveyed area are aware about Government support and activity and major source of information access is Resource institutions and Government officials working in the area. This is a significant achievement because as reference to the baseline report none of the farmers were



aware about Government support and various other schemes. Now all the farmers are receiving support from Government and availing benefits from schemes.

Awareness about VIUC Scheme: Only 50 percent farmers of surveyed areas mentioned that they are aware about VIUC scheme and its objectives. Almost 50% of the farmers have already participated in formation of Farmers' Groups.

Resource Institution: Two Resource institutions, Indian Grameen Services and CFT, are working in the surveyed area. Regular meetings on monthly and fortnightly basis are organized. FIG members have clarity on the objectives of the scheme and members are based on mutually shared interest. Bank account of all the members has been opened. Although, the farmers mentioned linkages with aggregators for selling of their produce, but they were unable to mention any name of the person or Company.

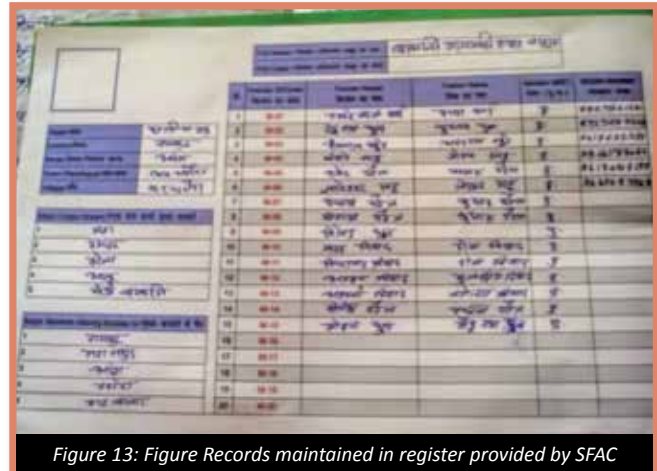


Figure 13: Figure Records maintained in register provided by SFAC

Training and Training need Assessment: All the farmers have been provided different types of training by Resource Institutions, Government officials and experts from ICAR. The training is being provided on improved practices for Vegetable Cultivation, FPO administration & management and record keeping. Register provided by SFAC is being maintained by FIG members. There is a strong need for providing proper training on collective pooling of the produce, based on market accepted norms about quality, joint procurement of farming inputs and development of suitable linkages for selling their products.

Overall, from the primary survey, it is emerging that the performance of Resource Institution and Directorate of Horticulture is not very satisfactory in terms of motivation of farmers for joint input procurement and output selling facilities. A marginal increase in the productivity of vegetables has been observed.

Observations of the Field Visit

In Chhattisgarh, the project is being implemented

by the Directorate of Horticulture & Farm Forestry, with support from Resource Institutions. As per

the interaction with Department and RI officials, following points have emerged.



Detailed Observations of Field Visit

In Chhattisgarh, the initiative is being implemented in eight districts namely Raipur, Mahasamund, Dhamtari, Durg, Rajnandgaon, Kabirdham, Kanker

and Bilaspur. Of these, collective initiative for procurement of farm inputs and marketing of the produce and FPO promotion is being undertaken in three districts namely Raipur, Dhamtari and some clusters of Bilaspur. Additionally, four districts (Durg, Bilaspur, Rajnandgaon and Kabirdham)

have been proposed for these activities in the forthcoming year.

- ◆ A total of 412 farmer groups have been formed covering around 6070 farmers of Raipur, Dhamtari and Bilaspur. Majority of the small and marginal farmers have been covered under the scheme.
- ◆ Farmer groups are working actively for proper administration and management of the group. Share collection is in process and separate committees have been established on various issues.

Group leaders have been selected through a democratic process and regular FIG meetings have been organized. But very few farmers have clarity about the objectives of VIUC scheme, so far.



Figure 15: Training on Package of Practices by RI

- ◆ Although the training and exposure visits have been organized by Resource institutions and the State Department on a monthly basis on the aspects of Cultivation practices and collectivization but still there is need of better orientation of the farmers for applying modern package of practices on their fields. The farmer groups have been linked with ICAR and KVK for on-farm solution of the problems. These farmers have been mobilized into groups but the concept of group activities is entirely absent in these clusters. Majority of the farmers are carrying out individual purchasing of

inputs as well as selling their produce. This is the main reason for dominance of middlemen and wholesale traders in the area.



Figure 16: Training on Mushroom Cultivation at PNB Training Centre and Exposure visit at Bana Farm (Dhamtari)

- ◆ The State Directorate is providing good quality inputs like seeds and seedlings for production. More than 80 percent farmers of the Raipur, Dhamtari and Bilaspur clusters have been covered under input distribution in the scheme.
- ◆ In the area of infrastructure creation, protected Cultivation structures, Post Harvest Management and marketing infrastructure were targeted in the action Plan but none of these structures were observed in the surveyed areas during the field visit by the Team.
- ◆ Regarding the development of market tie-ups and linkages, at the time of undertaking this

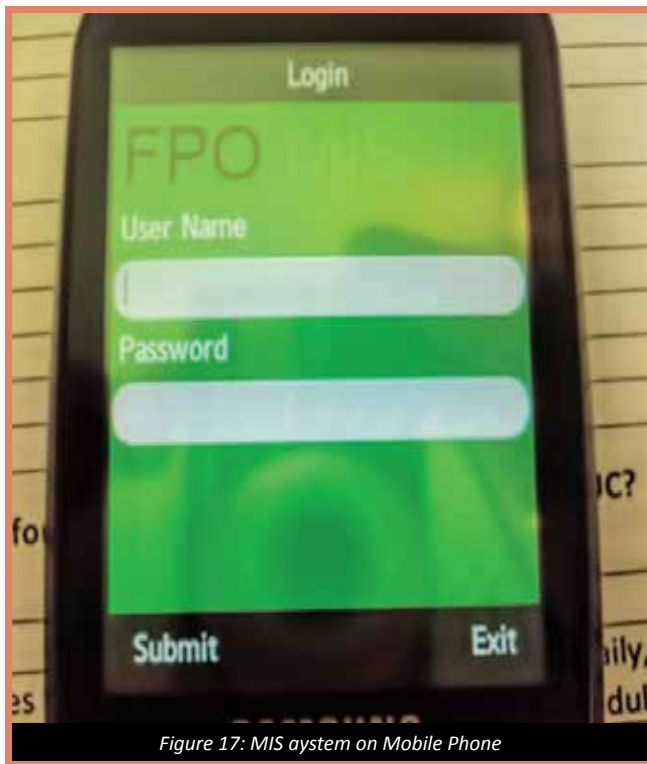


Figure 17: MIS system on Mobile Phone

assignment there was no visible achievement. Buyer seller meetings have not been organized for establishing forward and/or backward linkages.

- ◆ For management and monitoring of the system, District and Directorate Level Officers visit the field on a regular basis. An MIS system, developed by SFAC, for reporting progress on each and every activity implemented or being taken up, is hardly used for monitoring by Resource Institutions.

Challenges/Issues

Overall, the progress report provided by the State Government shows “at par” progress for all the components. However, after interaction with farmers and field visits, it was observed that there was no significant progress under most of the components being implemented under the scheme.

The various challenges faced by the State in the implementation of VIUC in Chhattisgarh are as under:

- ◆ Although the officials from the Directorate of Horticulture and Resource Institution have

put in their efforts in promoting the scheme, however, their lack of understanding and initiative on various aspects of value chain such as value addition, primary processing, market facilitation and collectivisation is limiting the impact of the initiative.

- ◆ Some components of the initiative have remained untouched in the first year of implementation, such as creation of market infrastructure like pack houses, collection centres, static/mobile kiosks; logistics management like mobile vans, refrigerated vans; processing and value addition like primary sorting, grading of produce; and establishment of market linkages with institutions and organised sector like retail chains, processors and exporters, etc.
- ◆ Some of the farmers have been able to come together in the form of FIGs, but have been unable to actually converge their efforts in terms of collective farm inputs procurement or selling of the produce. In order to achieve this objective, the implementing agency needs to orient and understand themselves first and thereafter the farmers could be made to understand regarding the benefits of collectivisation and other components under the scheme.
- ◆ **Aggregation of Inputs/Produce:** At the time of undertaking this assignment, very limited aggregation of farm inputs and collective selling by farmers had taken place.
- ◆ **Linkages with Institutional and Mainstream Markets:** At the time of undertaking this assignment, the FIGs had not established any linkages for sale of farm produce. The farm produce is sold individually by the farmers directly in mandis or local markets.
- ◆ At the time of undertaking this assignment, the implementing agency at the State level did not have a robust MIS in place. This affects flow of information and, therefore, hampers effective decision-making. Regular and punctual progress reporting about activities being undertaken under each and every component under the scheme should be consistently carried out and delays should not be accepted by the Implementing Agency/SFAC.
- ◆ During the field visits, it has been observed that the ‘coordination’ between the Government Officials and the RIs is unsatisfactory. This is

probably the single major factor affecting smooth implementation of different components under the scheme and ultimately the overall impact of the programme in the State.

Summary

- ◆ The Action Plan and progress report provided by the Nodal Agency is showing at par progress of all the targeted components, but the field observations are portraying completely different situation in the project area visited by the Team in the State.
- ◆ In spite of a heavy expenditure under infrastructure creation and training component, impact of the initiative is not noticeable.
- ◆ Although four Farmers' Producers' Organizations have been registered, any group activity by the farmers is hardly visible.
- ◆ For improving the bargaining/negotiating initiative, no activity shows any collective effort and therefore no positive outcome for development of backward and forward linkages.

Impact of VIUC

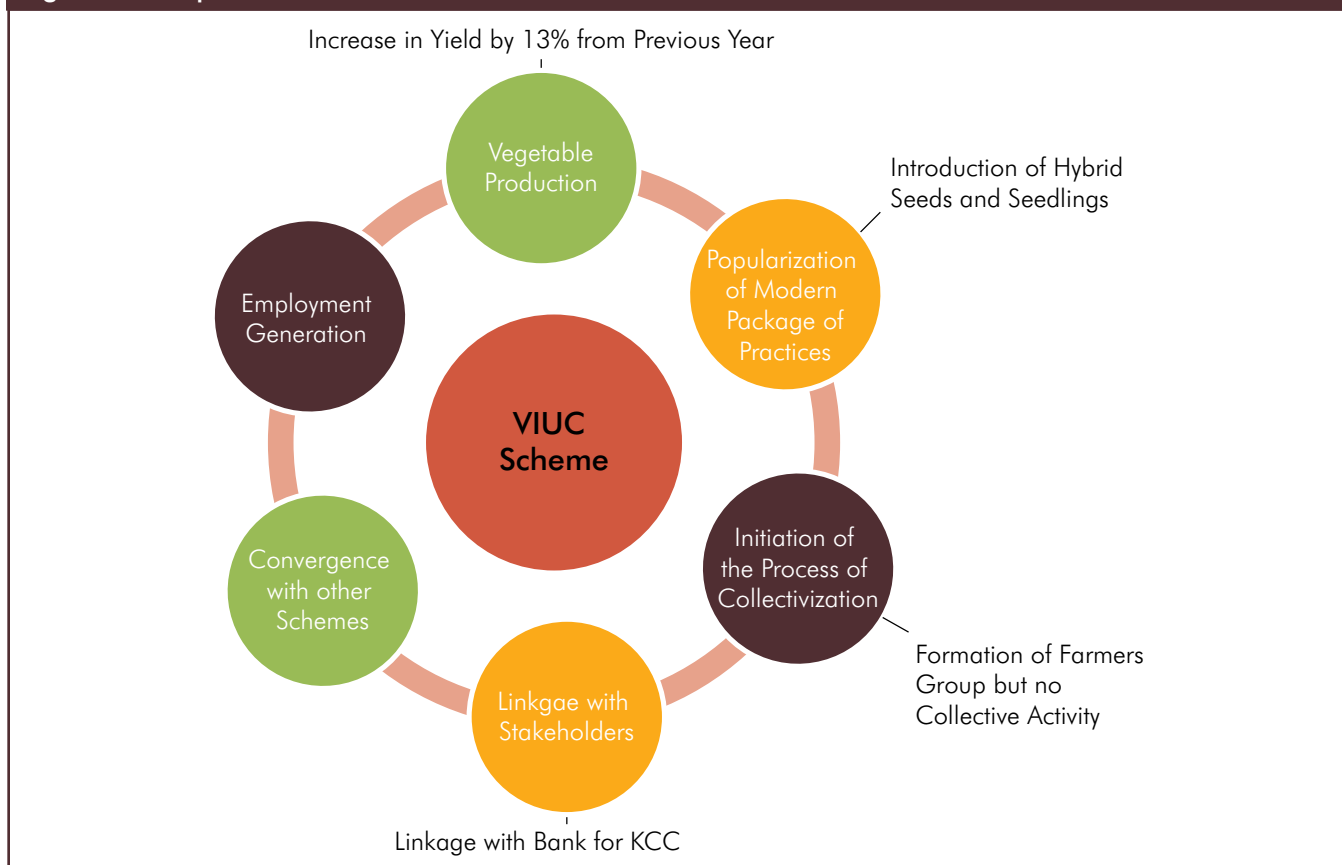
This section investigates the impact of VIUC on major areas relating to increased production of vegetables, availability of quality inputs, linkages for procurement and marketing, savings and improvement in socio-economic status of the member farmers and employment generation induced by the initiative.

VIUC has been framed to cover all the segments of vegetable supply chain, right from farmers' field up to retailing of vegetables. The major emphasis is on training of the vegetable growing farmers on improved Cultivation and quality production practices, post harvest management, value addition along with ensuring availability of quality inputs, creation of market infrastructure and linkages. for the purpose of assessing impact of various components under the VIUC scheme.

The results on performance under different major components and situational analysis have been assimilated.

The following figure outlines the direct impact the of initiative in terms of the following six components.

Figure 18: Impact of the Scheme

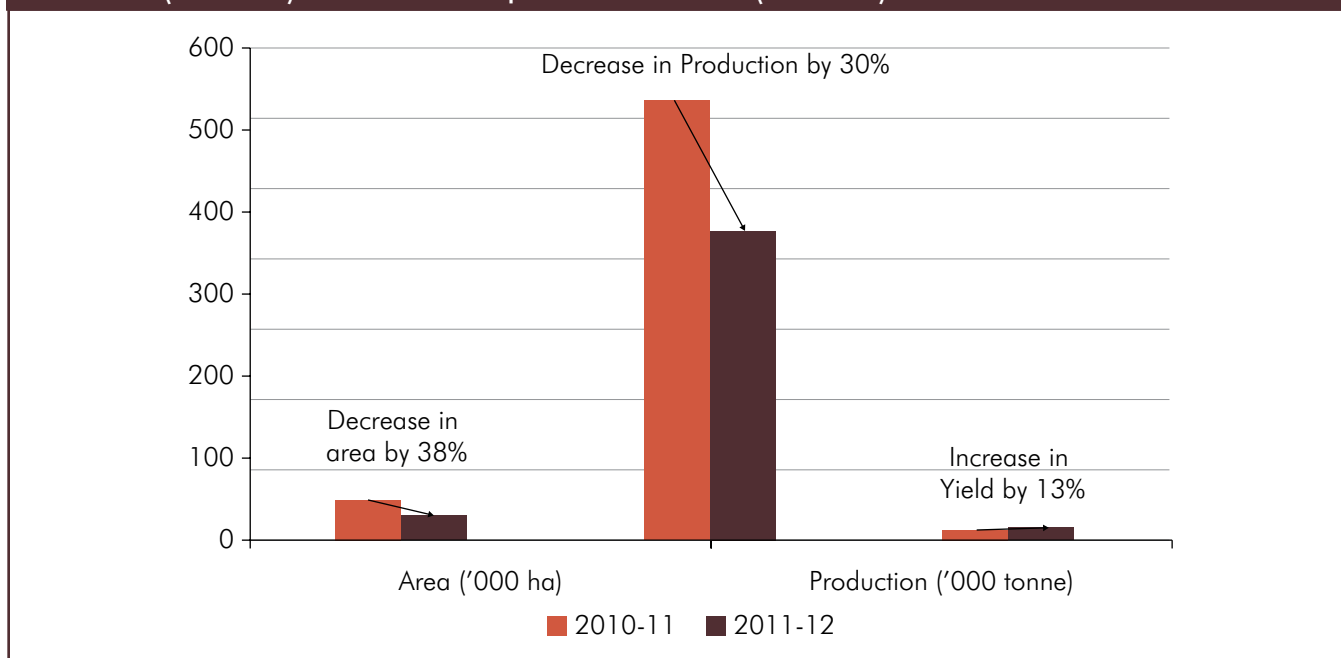


Vegetable Production

As per the secondary data provided by the State Nodal Agency on vegetable production in the baseline year (2010-11) and implementation year (2011-12)

(2011-12), area and production of vegetables has decreased, however a marginal increase has been observed in productivity.

Figure 19: Area, Production and Yield of Vegetables in Raipur and Dhamtari in Baseline Year (2010-11) and Scheme Implementation Year (2011-12)



From the above figure, it is observed that both the area and production of vegetables decreased by 38 and 30 percent, respectively when compared with the previous year's data. However, during the same period, productivity has increased by 13%. The increase in productivity is due to the use of hybrid seeds and seedlings provided by the State Directorate in the form of farm input distribution.

- ◆ Regarding adaptation and the application of modern package of practices for Cultivation of vegetables, the situation does not seem to have improved and still remains the same. Very few farmers have adopted modern Cultivation practices. Although regular training and exposure visits have been provided by the Resource Institutions, however, the impact is not visible.
- ◆ Decrease in per unit area production of vegetables is mainly due to pre and Post Harvest Losses in vegetables grown. It may be the main reason of divergence of farmers to other agricultural crops and reduction in area under vegetables.

- ◆ In spite of tie-up of farmers with KVK, ICAR, Research Institutes, PNB Training Centre and Mahamaya College of Agriculture for training and exposure visits to them, farmers are not able to convert the skills learnt into practice at their own farms.
- ◆ Regarding the use of protected Cultivation structures and off season vegetable production, knowledge among farmers is almost negligible and they are not able to realize the potential of these facilities.
- ◆ In addition this, price realization of vegetables is also low due to predominance of middlemen and traders in the marketing chain.

As from the secondary data provided by Resource Institutions, hardly 20% of the farmers have been provided training on improved practices of production and marketing. This indicates that the orientation and training requirement of the farmers concerning the use of modern package of practices, integrated nutrient and pest management, input supply and ease of selling has not been given much consideration, consequently leading to reduction

in area and total production of vegetables in the project area.

Popularization of Modern Package of Practices and Protected Production Technology

As per the progress report provided by the State, almost 13000 sq ft area has been covered under protected Cultivation but its impact was not visible in the area. Farmers are still carrying out age old traditional practices of Cultivation. As per the Baseline Survey report, innovative Cultivation technologies are mostly confined to some progressive and large farmers. Therefore, it appears that there is no impact of such activities on small and marginal farmers, who are the major target beneficiaries of the scheme.

Initiation of the Process of Collective Production & Marketing

A total of 6070 farmers have been mobilized and enrolled into 412 farmers groups, which have been registered as four FPOs. One more FPO is under the process of registration. But only 1-5 percent of the farmers have started joint procurement of inputs and output selling. Process of collectivization is visible only in terms of the formation of farmers' groups, but the objective of making this group is not clearly understood by farmers. The impact of this initiative on collectivization activity is almost negligible.

Linkage with Stakeholders

For facilitating the availability of various inputs and services from pre- harvest to Post Harvest Management and marketing of produce, it is necessary to establish linkage with Government Agencies, banks, retail outlets, financial institutions and other Research Institutes. In this perspective, Resource Institutions have worked towards linking farmers with banks for availing credit and financial services. Approximately 35% farmers have been linked with KCC for their credit requirement. Efforts have been made by for

establishing linkage for input procurement and selling of produce. Meetings have been organized with Du Pont, Sudarshan Chemicals, Syngenta, VNR Seeds, however, there is no tangible achievements have been made in this context.

Convergence of Schemes

For maximum benefits to the farmers, VIUC scheme has been converged with other RKVY and NHM schemes for vermibeds, mini-kits, and drip irrigation equipments along with exposure visits. In addition to these schemes, the farmers have been linked with farmers' club promoted by NABARD.

Employment Generation

There was no noticeable or visible improvement on any activity resulting in additional employment generation in the project area of the State.

Overall, the impact of the scheme is very vague as the progress report provided by the State Government shows 'at par' progress for all the components. However, after interaction with farmers and field visits, it was observed that there was no significant progress in any of the components under the scheme.

Recommendations

In Chhattisgarh, VIUC is yet to gain momentum in terms of retailing of produce through mobile vans/kiosks and popularisation of high yielding seed varieties and better or improved production practices. The State has not been able to significantly impact other areas like vegetable productivity per unit area, improvement in quality, primary value addition at the farm level, market linkages with institutions and organised/mainstream markets and collectivisation of farm inputs procurement.

Some of the recommendations, based on analysis of data and observation during field visit are as below:

- ◆ Component of training and capacity- building of farmers needs to be strengthened; this should also include exposure visits of farmers to production facilities as well as existing commercially successful vegetable handling

FPOs. Training is required on modern package of practices for vegetable production, protected Cultivation as well as on functioning of FIGs/ farmers' cooperatives and FPOs.

- ◆ It is seriously suggested that the staff of the Implementing Agency and RIs should initially be thoroughly oriented about the implementation process and importance of the activities under each of the component under the scheme. All the staff involved in the implementation process of different components should also undertake exposure visits for gaining knowledge on modern production, processing techniques and technologies for improved production and marketing of vegetables. This may provide encouragement and the necessary impetus for them to motivate farmers' groups, further.
- ◆ Cross pollination practices and ideas from other similar States like Kerala, Karnataka and Goa can help improve the effectiveness of the initiative. For example, homestead and terrace kitchen gardens as practiced in Kerala, protected Cultivation techniques practiced by Karnataka, retail selling approach by Goa, etc. can be implemented in Chhattisgarh. This will help the State attain self sufficiency in vegetables and fruits.
- ◆ There is a need to increase focus on components such as Pre & Post Harvest Management, training in improved vegetable Cultivation practices, collective production and marketing of produces by the farmers, establishing collection centres, packhouses, on farm sorting/grading as per requirement of the consumers, collective use of packaging material and transport are some of the major initiatives that need to be introduced to improve the efficiency in the production and marketing chain in the vegetable sector in the State.
- ◆ Mechanism should be developed for linking vegetable growing farmers with institutional buyers, exporters, processing and value adding units, organised/mainstream markets, as these aspects have been hardly covered in the first year of the implementation of the scheme.
- ◆ At the State level, mechanism for monitoring along with proper MIS should be developed by the State Implementing Agency to supervise the progress of the scheme on a regular interval basis.
- ◆ There is a need for better coordination between the State Directorate and the RIs for successful implementation of the scheme. Although the RIs are taking a proactive role for implementation of different components under the scheme, the State Directorate should support and cooperate with the RIs in their efforts.

Chapter 4

Delhi

Project Area and Stakeholders

This section describes the implementation structure and functioning of the project at different levels and the major stakeholders involved in the project.

Baseline Survey

To identify major vegetable production districts and clusters, an independent agency, carried out the Baseline Survey in Delhi. Baseline Survey highlighted the existing supply chain and other bottlenecks and also identified the vegetable growing clusters within the districts. During the interaction with the Nodal Agency, it was observed that areas /clusters, which were identified under the Baseline Survey, have been taken up for the purpose of implementation of the scheme.

State/Districts/Clusters

For the year 2011-12, the scheme was being implemented in two districts of Delhi i.e. North West

Delhi and South West Delhi. Major vegetable clusters in these districts, ranging from 10-20 km, are supplying vegetables to targeted urban clusters i.e. Delhi.

Implementing Partners of VIUC in Delhi

Table 6: Stakeholders and their Coverage Area

Role	Name of Organization	District Covered under VIUC Scheme
Nodal Agency	FVS, Dept. of Horticulture	North West Delhi & South West Delhi.
Resource Institution	International Traceability System Limited (ITSL)	North West Delhi & South West Delhi.

The detailed implementation structure for Delhi cannot be objectively ascertained due to insufficient information provided by the State.

Flow of Funds

Budget Outlay and Expenditure (2011-12): The

total budget outlay approved for the State for the year 2011-12 was Rs 200.00 lakhs.

The detailed flow of funds for Delhi cannot be objectively ascertained due to insufficient information provided by the State.

Release of Subsidy to Beneficiary

The detailed release of subsidy to beneficiary for Delhi cannot be objectively ascertained due to insufficient information provided by the State.

of Farmers' Interest Groups (FIGs) and Farmers' Producer Organisations (FPOs), International Traceability System Limited (ITSL) has been appointed by SFAC. Targets of RI in terms of farmers' mobilisation, FIG & FPO formation as well as current achievements are given below:

Resource Institutions

For the mobilization of farmers and promotion

Table 7 (i) Current Status of FIG and FPO Formation

Particulars	ITSL	
	Target	Achievement (registered)
FPO	-	2
FIG	-	195
Total farmers	-	3500

Source: Secondary information from RI

Table 7 (ii) Coverage of Farmers and Participation in Capacity Building

Particulars	Units	Resource Institutions		Total
		South-West Delhi	North-West Delhi*	
Districts		--		--
Cluster	Nos.	--	--	--
Total Farmers	Nos.	1862	1638	3500
Break -up of total farmers				
Marginal (< 1 Ha)		1329		
Small		421		
Medium		112		
Meetings Conducted				
FPOs	Nos	1		
FIGs	Nos	1		
Farmer	Nos	1		
% of members regularly participating in meetings				
FPOs	%	80		
FIGs	%	90		
Farmer	%	90		
Capacity -Building for FIGs / FPOs				
FIG members oriented /trained & aware on NVI scheme	Nos	1862		
Group leaders oriented /trained on FIG/FPO concept and management	Nos	106		
FIG/FPO members oriented / trained on account keeping in NVI scheme	Nos	106		

Particulars	Units	Resource Institutions		Total
		South-West Delhi	North-West Delhi*	
FIG members trained on some or other best practices (for production, value addition and marketing) under NVI scheme	Nos	1862		
FIG members covered for input distribution under NVI scheme				
FIG members jointly procuring at least one of their inputs				
Linkages and networking of FIGs/FPOs				
FIG members linked with KCC (Bank linkage)	Nos	1080		
FIG members linked with other schemes	Nos			
Farmers jointly marketing their produce	Nos			
Farmers adding value to their produce	Nos			
Buyer /seller meets organized	Nos	8		
Market Tie Ups and Market Linkages Developed	Nos	2		
No of Farmers practicing Protected Cultivation	Nos			
Area under protected Cultivation	Ha			
No of Farmers Using Hybrid Seeds	No	587		
No of Farmers practicing Organic Cultivation	No			
Area under Organic Vegetable Farming	Ha			
No of Farmers using INM/IPM Cultivation	No			
No of Farmers using Post Harvest Management Infrastructures	No			
No of Farmers availed subsidy under NVI Scheme	No	1862		
Amount of Subsidy received by farmers	Rs.(Lacks)			
No of employment generated in various activities under VIUC	No			
No of farmers linked with KVKs or other Research Institutes	No	1862		
Bank Account Opened (Status)				
FPOs	Nos	2		
Total Saving	Rs.	2100		
FIGs	Nos			

Source: Secondary information from RI

Note: * Data not provided by RI for North West Delhi

Performance of the Scheme

This chapter investigates the overall success of the VIUC in terms of physical and financial achievement.

Farmers benefit directly from the following six components of the scheme. The performance of these six components is illustrated in the following figure.

Figure 20 Performance of the Scheme

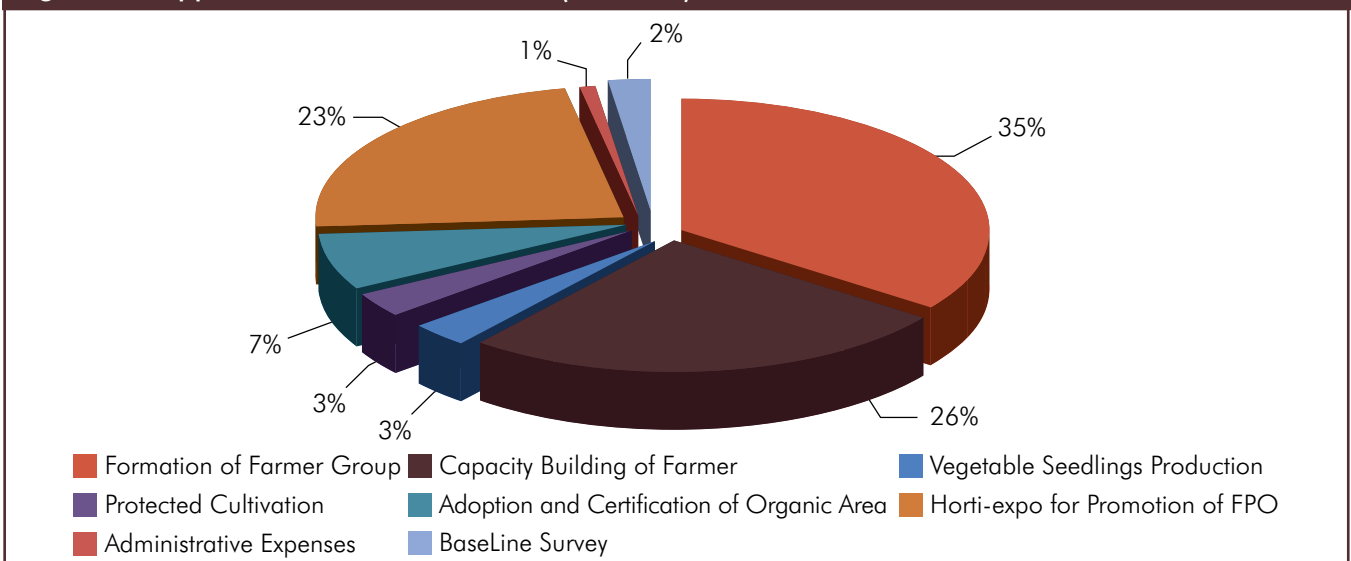


Proposed and Approved Action Plan

As per the proposed Action Plan for the year 2011-12, the Department proposed to take up the major

activities/components as per the requirement of the State for the implementation of VIUC with the total financial outlay of Rs 200.00 lakhs. The share of all the components is illustrated in Figure 6 below.

Figure 21: Approved Action Plan of Delhi (2011-12)



Source: Nodal Agency, Delhi

Of the total approved financial outlay of Rs 200.00 lakhs, maximum fund has been allocated for the component of formation of farmers' group (35%) followed by capacity- building of farmers (26%), horti-expo for formation of FPO (23%), adoption and certification of organic area (7%), protected Cultivation & vegetable seedlings production (3%), Baseline Survey (2%) and administrative expenses (1%). As it is noticeable, higher funds have been allocated for formation of farmers' group.

The progress of VIUC in Delhi cannot be objectively ascertained as physical and financial information for the State has not been provided by the implementing agency. This has happened as the implementing agency was not satisfied with the work done by the RI (ITSL). The funds are on hold till the time a verification exercise, undertaken by the Horticulture Department, Govt. of Delhi, is completed.

Summary

As per the proposed Action Plan, total financial outlay for the year 2011-12 was Rs 200.00 lakhs .

- ◆ Maximum fund was allocated for formation of farmers' group.
- ◆ The RI (ITSL) had commenced with formation of farmer group.
- ◆ The implementing agency has held back the release of funds, due to unsatisfactory

performance by RI. A verification exercise to this effect is in progress.

Situational Analysis of the Scheme

This section illustrates the situational analysis of the initiative. It is an analysis of the State and condition of the farmers/ beneficiaries after implementation of the initiative, identification of the major issues related with the components and analysis of key stakeholders. Situational analysis has been derived with the help of primary survey, secondary information and observations during field visits.

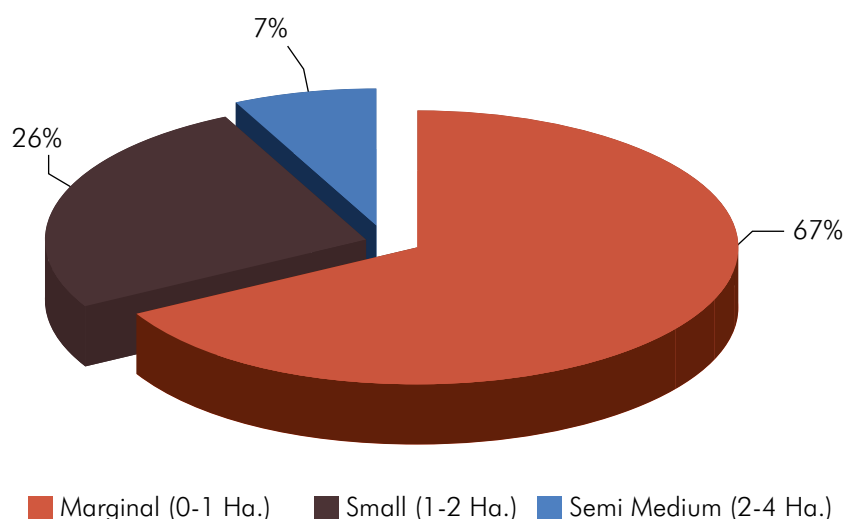
Findings of primary survey of farmers have been discussed in the following sections:

Findings of Primary Survey

For the purpose of Impact Assessment Study, around 40 farmer members (FIGs) were surveyed in different clusters of Delhi. The major points emerged out of the survey have been discussed in the following section:

Land Holding: Average operational holding size of the surveyed farmer's area is around 1 – 1.5 ha. Almost 67 percent of the farmers belong to the category of marginal farmers 26 percent are from small farmer's category and rest 7 percent are from semi-medium category

Figure 22: Distribution of Farmers Covered by RIs



Cost of Cultivation: Cost of vegetable Cultivation has been calculated based on cost of land preparation, inputs, irrigation and labour employed

by the farmers during farming operations (land preparation to harvesting).

Table 23: Average Cost of Cultivation

S.No	Vegetables	Land Preparation	Seed Used	Fertilizer & FYM Used	Plant Protection Chemicals used	Irrigation	Total
1	Tomato	16000	7500	10000	15	12000	45515
2	Onion	25000	5000	20000	7500	9000	66500
3	Bottle Gourd	7500	900	12000	5500	5000	30900
4	Cauliflower	15000	12500	4000	17000	5000	53500
5	Spinach	2500	600	2000	1000	1000	7100
6	Fenugreek	2500	2000	2000	1000	1000	8500
7	Peas	7500	2400	2000	5000	5000	21900
8	Okra	7500	2100	2000	12000	6000	29600
9	Brinjal	7500	2500	2500	12000	6000	30500
10	Cucumber	6000	40000	60000	25000	6000	137000
11	Cabbage	5000	12000	7500	16000	10000	50500
12	Coriander	5000	6500	2000	1000	1000	15500

Source: Primary Survey

Note: In the above table the figures are in Rs. per Ha.

Seeds Used: Almost 100 percent of the surveyed farmers are using hybrid seeds. All the farmers purchase seeds from government agencies and local retailers.

Input Procurement: Regarding the procurement of seeds, fertilizers, pesticides, irrigation, tractor, packaging and credit facility, all the farmers are purchasing the inputs collectively from different sources. Farmers from Ghumanhera village in Najafgarh are purchasing fertilisers from Haryana collectively. As per the interaction with the farmers,

they are purchasing it on a very high risk as they physically transfer the goods during the night. The impact of collectivisation can be seen here clearly as most of the farmers are carrying out collective procurement of major agri-inputs. The efforts made by the resource institutions are clearly visible in the context of group formation and group activities.

Post Harvest losses and Value Addition- As per the data of surveyed farmers, the extent of Post Harvest Losses varies from 2 to 10 percent across various crops as mentioned below:

Table 24: Post Harvest Loss in major vegetable crops

S.No	Crop	Percent Post Harvest Loss
1	Tomato	8%
2	Onion	3%
3	Bottle Gourd	5%
4	Cauliflower	3%
5	Spinach	10%
6	Fenugreek	10%
7	Peas	5%
8	Okra	5%

S.No	Crop	Percent Post Harvest Loss
9	Brinjal	8%
10	Cucumber	5%
11	Cabbage	2%
12	Coriander	10%

Value Addition at Field Level: Value addition at field level is done mostly by sorting and grading. These produce include tomato, bottle gourd, cauliflower, brinjal and cucumber, etc. Most of the farmers use gunny and plastic bags for packaging.



Figure 25 Packing of brinjal

Marketing of the Produce: Almost 90 percent of the farmers sell their produce in the Mandi/Haat; very few farmers are selling their produce directly to consumers.

Majority of the farmers travel 5 to 20 km to sell their produce.

More than 80 percent of the farmers are marketing their produce using private vehicle in groups, others are using public and other modes of transportation. This is a good example of group activity regarding a major component of marketing, which requires a substantial sum of money.

Almost 80 percent of the farmers sell their produce to aarhtia /commission agents and 20 percent of farmers sell to wholesale market.

Major mechanism of fixing the price is by negotiation between farmers and commission agent/traders.

Marketing Model and Infrastructure: At present the issue being faced by the farmers is the predominance of traders, who offer a fixed price of produce to the farmers. This pricing mechanism is not in favour of the farmers as they are compelled to accept the prices offered by the traders.

Awareness Regarding VIUC: Regarding VIUC scheme, more than 75 percent of the farmers are aware about the scheme. As per them the major objective is to improve the socio-economic status of the farmers.

Resource Institution: The Resource Institution ITSL is working for farmers' mobilization, group formation and FPO promotion in the area. Regular FIG meetings are organized and they have clarity about the objectives of the scheme.

Bank Account and Saving: Bank account of all the farmers of the south west district has been opened but only 1080 out of 1862 farmers have benefitted by KCC.

Marketing Linkages: As mentioned by farmers during discussions, there is a tie-up with Bharti Wall-mart and Reliance Fresh for sale of produce. They also mentioned that the tie-up with Mother Dairy was discontinued due to sorting and grading issues. Through these linkages farmers are able to save commission and transportation cost.

Observations of the Field Visit

As per the direct interaction with department officials, resource institutions and farmers, following points have been observed:

Figure 26: Observations of the Field Visit



Observations of the field visit

Mobilization of Farmers and Group Formation

Group meetings and trainings have been organized at grass root level on fortnightly and monthly intervals for awareness generation about the activities/components under the scheme. Around 1862 farmers have been mobilised. Lack of coordination between implementing agency and Government officials has been observed. However, it has now been planned for better and improved implementation of different components under the scheme. Farmers are being benefitted and their participation has been increasing in group activity.



Figure 27 FIG Group Meeting

Functioning and Coordination of Resource Institutions

Resource institutions have sufficient understanding about the different components under the scheme and they have been doing their work satisfactorily. They have been working on awareness generation, contacting farmers and mobilising them for group formation, establishing input and output linkage.

Functioning of FIGs

Potential members have been selected based on shared interest.

Regular village meetings have been organized to discuss the programme. Around 80% of the members have clarity about the scheme and functioning of FIG and FPO concept.

- ◆ In meetings, Vegetable Cultivation related problems, FIG functions, group procurement and marketing activities have been discussed.

Linkage for Farm Input Procurement and Marketing

For establishing linkages regular cluster meetings have been organized.



Figure 28: Farmer at Field

- ◆ Meetings with few service providers have been organized and linkage with KCC has been initiated.
- ◆ There is a tie up with Bharti Wall-mart and Reliance Fresh for sale of produce. The tie up with Mother Dairy was discontinued due to sorting and grading issues.

Challenges/Issues

- ◆ Lack of adequate employment sources and no alternatives of earning, the labourers/helpers are available only on high wages. It adds to the increase in the total cost of production of vegetable crops by the growers in the project area.
- ◆ Lack of irrigation facility is an important problem in the project area of the State. As per the interaction with the farmers almost everybody informed about the irrigation problem.
- ◆ In order to achieve collectivisation of farmers, the implementing agency and RI need to orient and understand themselves first and thereafter the farmers could be imparted the knowledge regarding the benefits of collectivisation and other components under the scheme.
- ◆ Aggregation of Inputs/Produce: At the time of undertaking this assignment, very limited aggregation of farm inputs and collective selling by farmers had taken place.
- ◆ At the time of undertaking this assignment, the implementing agency at the State level did not have a robust MIS in place. This affects flow of information and therefore hampers effective decision making. Regular and punctual progress reporting about activities being undertaken under each and every component under the scheme should be consistently carried out and delays should not be accepted by the Implementing Agency/SFAC.

Summary

- ◆ Major vegetable clusters have been selected on the basis of the availability of land, connectivity to road and ease of reach to the nearest market.
- ◆ Farmers are being benefitted and participation has been increasing in group activity.

- ◆ Resource institutions have been working on awareness generation, farmer's mobilization, group formation, establishing input and output linkage.
- ◆ Farmers are mainly facing the problem of marketing and procurement of fertilizers. Irrigation is also an important problem.

VIUC has been framed to cover all the segments of vegetable supply right from farmers' field up to retailing of vegetables with major emphasis on training of farmers on good production practices, post harvest management, value addition along with ensuring availability of quality inputs, creation of marketing infrastructure and linkages. For the purpose of assessing impact of VIUC, the results of performance and situational analysis has been assimilated.

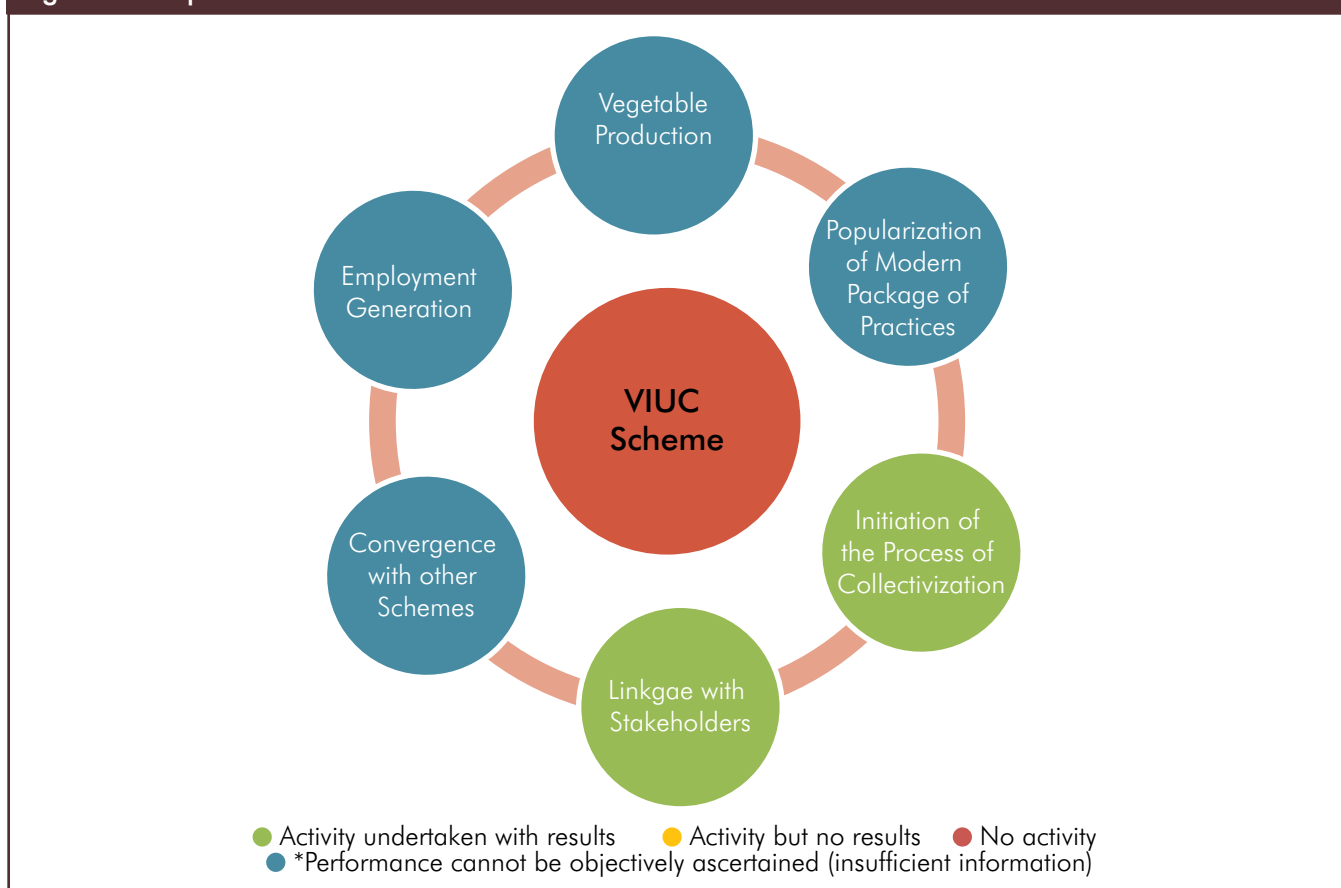
Impact of the VIUC

This section investigates the impact of VIUC on broader areas relating to increased production of vegetables, availability of quality inputs, linkages for procurement and marketing, savings and improvement in socio-economic status of farmers and employment generation induced by the initiative.

Impact of the VIUC

The following Figure outlines the direct impact of the initiative in terms of the following six components

Figure 29 Impact of the Initiative



Vegetable Production

The Directorate of Horticulture and Plantation Crops, Government of Delhi have not been able

to share any information regarding vegetable production and area under VIUC in 2011-12. Therefore, actual impact of vegetable production,

area and productivity in the State under VIUC, for 2011-12, cannot be objectively ascertained.

Popularization of Modern Package of Practices and Protected Production Technology

As per the Action Plan provided by the State, almost 1200 sq m area was to be covered under protected Cultivation but its impact was not visible in the area. Farmers are still carrying out age old traditional practices of Cultivation. As per the Baseline Survey report, innovative Cultivation technologies are mostly confined to some progressive and large farmers. Therefore, it appears that there is no impact of such activities on small and marginal farmers, who are the major target beneficiaries of the scheme.

Initiation of the Process of Collectivization

A total of 1862 farmers have been registered as 2 FPOs (under Societies Registration Act), in South West District (Najafgarh). Many farmers have started joint procurement of inputs and output selling. Process of collectivization is visible only in terms of the formation of farmers' groups. The impact of this initiative on collectivization activity is visible.

Linkage with Stakeholders

For inclusive development of the entire process from production to marketing, emphasis has been mainly given on output selling. As mentioned by farmers during discussions, there is a tieup with Bharti Wall-mart and Reliance Fresh for sale of the produce. They also mentioned that the tie up with Mother Dairy was discontinued due to sorting and grading issues.

Convergence with other Schemes

Convergence of VIUC with other schemes in the project area of the State was not observed during the visit to the State.

Impact on Employment Generation

There was no noticeable or visible improvement on any activity resulting in additional employment generation in the project area of the State.

Overall, the impact of the scheme cannot be objectively ascertained. Even the interaction with farmers and field visits revealed that there was no significant progress in any of the components under the scheme.

Recommendations

Though the scheme is progressing towards a positive direction but there are certain components which need improvement for comprehensive development.

- ◆ There is a need for better coordination between the State Directorate and the RIs for successful implementation of the scheme. Although the RIs are taking a proactive role for implementation of different components under the scheme, the State Directorate should support and cooperate with the RIs in their efforts.
- ◆ It is seriously suggested that the staff of the Implementing Agency and RIs should initially be thoroughly oriented about the implementation process and importance of the activities under each of the component under the scheme. All the staff involved in the implementation process of different components should also undertake exposure visits for gaining knowledge on modern production, processing techniques and technologies for improved production and marketing of vegetables. This may provide encouragement and the necessary impetus for them to motivate farmers' groups, further.
- ◆ Cross pollination practices and ideas from other similar States like Kerala, Karnataka and Goa can help improve the effectiveness of the initiative. For example, homestead and terrace kitchen gardens as practiced in Kerala, protected Cultivation techniques as practiced by Karnataka, retail selling approach by Goa, etc. can be implemented in Chhattisgarh. This will help the State attain self sufficiency in vegetables and fruits.

- ◆ The farmers are facing much problem in irrigation, to resolve this, the Department officials will have to work aggressively for the convergence of VIUC scheme with the other ongoing micro-irrigation and rain water harvesting scheme
- ◆ In spite of the linkages created, farmers are facing difficulty in marketing of the produce and transportation facility. The Nodal Agency should include provision of motorized vending cart/aggregation/collection centre in each cluster in the Action Plan. In addition to this, low cost transport vehicles should be provided by the Department.
- ◆ Resource institution will have to work aggressively for strengthening the system of value chain for backward as well as forward linkages. More number of meetings with the service providers (input suppliers, aggregators, vegetable buyers, banks & financial institutes, research institutes etc.) should be organized to get an outcome in the form of establishment of linkage.
- ◆ There must be a proper coordination between State department and Resource Institution.
- ◆ At the State level, mechanism for monitoring along with proper MIS should be developed by the State Implementing Agency to supervise the progress of the scheme on a regular interval basis.

Chapter 5

Jammu

Project Area and Stakeholders

This section describes the implementation structure and functioning of the project at different levels and role of the major stakeholders involved in the project.

VIUC Scheme in Jammu

VIUC in the State of Jammu & Kashmir is being implemented in Jammu and Kashmir Divisions, separately as they are two geographically separate locations. In VIUC scheme in Jammu Division, Jammu city has been taken as the urban cluster which has population of 1,526,406. The Directorate of Agriculture, Government of J & K has been appointed as the Nodal agency for implementing the project in the State and Director of Agriculture is the Nodal officer to look after the overall implementation of the scheme.

Baseline Survey

To identify major vegetable production districts and contiguous clusters within, an independent agency, carried out the Baseline Survey in Jammu Division. Baseline Survey highlighted the existing supply chain and other related problems. During the interaction with the Nodal Agency and Resource Institute, it was observed that areas/clusters, which were identified and selected, were correct under the Baseline Survey and the same have been taken up for the purpose of implementation of the scheme.

20 to 120 km, are supplying vegetables to target urban cluster i.e. Jammu.

Implementing Partners of VIUC in Jammu

In Jammu, Department of Agriculture has been assigned the task of overall implementation of VIUC scheme. Director of Agriculture (DA) is the designated Nodal Officer for the implementation of the initiative at the State level. At District level, District Agriculture Officer (Extension) is the Nodal Officer who coordinates arrangement of input supplies at District level and Chief Agriculture officer (CAO) is the budget controlling officer. The Sub Divisional Agriculture Officer is looking after fund release and disbursement at sub divisional level. At the Zone level, Agriculture

Division/Districts/Clusters

The scheme is being implemented in seven districts of Jammu Division i.e; Jammu, Samba, Kathua, Reasi, Udhampur, Rajouri and Doda. Major vegetable clusters around Jammu, ranging from

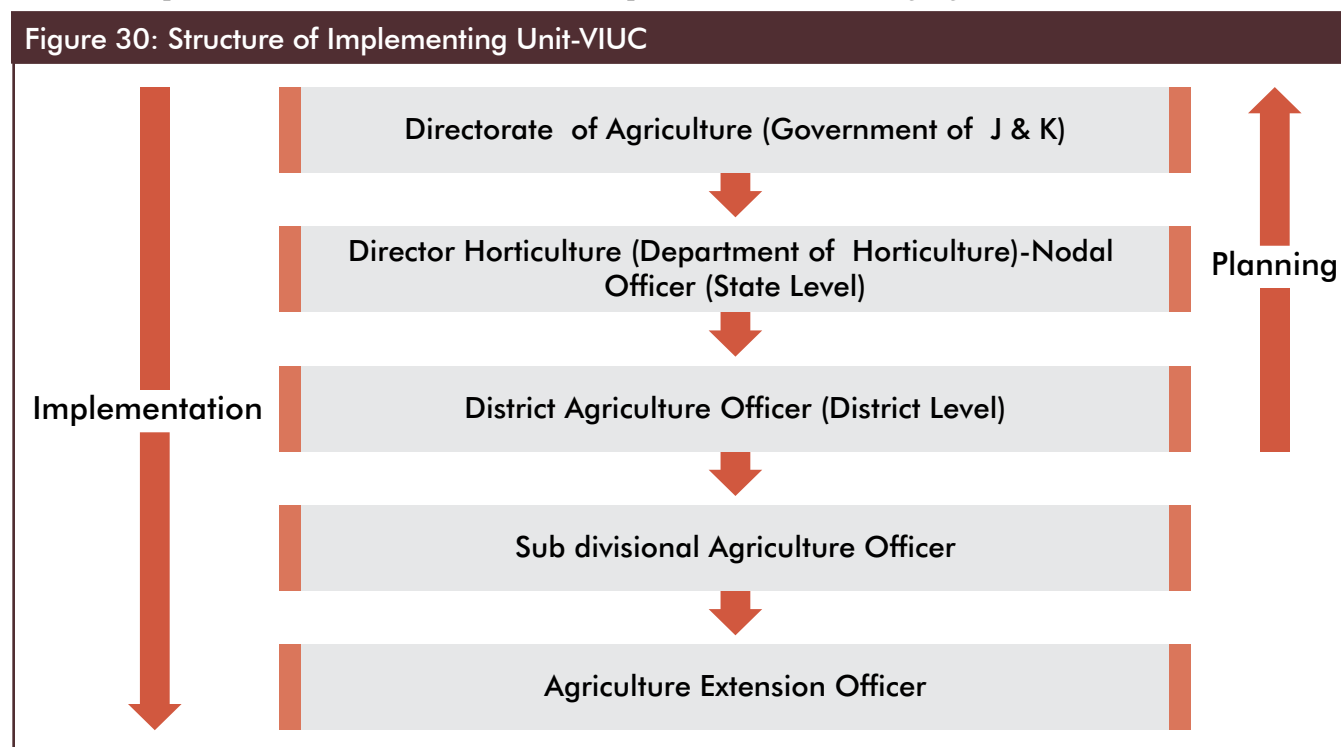
Extension Officer and Joint Agriculture Extension Officer are responsible for implementation of the VIUC. For implementation of VIUC scheme in the Jammu Division, staffs from State Department of Agriculture, District and Block level are involved in implementation of various components of the scheme in Districts and clusters selected in the districts of Jammu Division.

In order to contact and mobilize farmers, formation of groups, training and capacity building and establishing market linkages, etc. one Resource Institution (RI) ACTECT has been appointed by SFAC in the State covering different vegetable production clusters in Jammu Division. The role of different stakeholders and area of coverage has been summarised in the following table.

Table 10: Stakeholders and their Coverage Area

Role	Name of Organization	Districts covered under VIUC scheme
Baseline Survey	ISAP	Jammu, Samba, Kathua, Reasi, Udhampur, Rajouri and Doda.
Nodal Agency	Directorate of Agriculture, Government of J & K, Director Agriculture (DAO- Nodal Officer at District level)	Jammu
Resource Institution	ACTECH	Jammu, Samba, Kathua, Reasi, Udhampur, Rajouri and Doda. (Rajouri and Doda has been added later)

Detailed implementation structure, has been depicted in the following figure:



Planning and Implementation of Activities under different Components of the Scheme

The planning of the project activities starts at

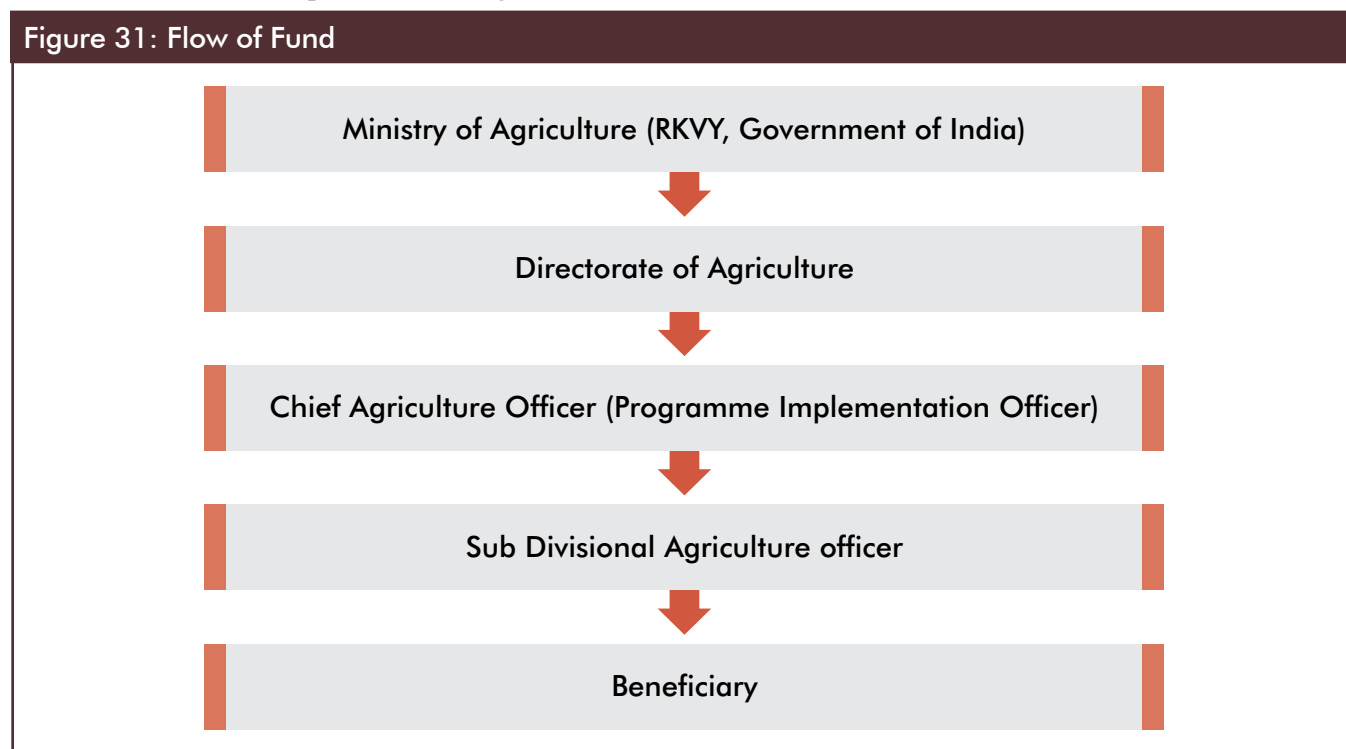
the district level where District Agriculture Officer (DAO) prepares the Draft District Plan and submits it to The District Level Planning Committee (DPC) for consideration, approval and

forwarding the same to Director Agriculture of the Division. After approval from DPC, The plan is submitted to Director Agriculture (Division Level) for consolidation and preparation of Division plan, which is further consolidated in the State plan. From Director Agriculture, State plan is submitted

to The State Level Sanction Committee (SLSC) which is the final authority for approval of plan for implementation. The approved State Plan is finally submitted to The Ministry of Agriculture (RKVY, Government of India) for approval and sanction of funds.

Flow of Funds

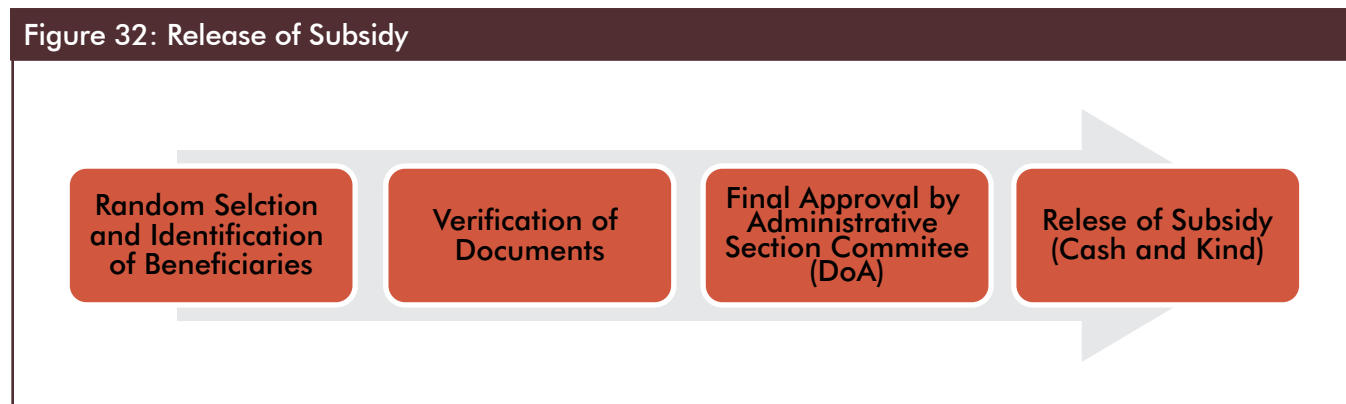
The flow of funds is depicted in the figure below



Budget Outlay and Expenditure (2011-12): The total budget outlay approved for the Jammu Division for the year 2011-12 was Rs. 600.00

lakh. A provision of 1.25 % of the total budget outlay has been retained for administration purposes.

Release of Subsidy to Beneficiary



Resource Institution

For the mobilization of farmers, promotion of Farmers' Interest Groups (FIGs) and Farmers' Producers' Organisations (FPOs), ACTECH

(ACTECH Information System) has been appointed by SFAC. Targets of the RI in terms of farmers' mobilisation, FIG & FPO formation as well as achievements during the year are given below:

Table 11 (i) Current status of FIG and FPO Formation

Particulars	ACTECH	
	Target	Achievement (registered)
FPO		-
FIG	85	87
Total farmers	1500	1500

Source: Resource Institute

Table 11 (ii) Coverage of Farmers and Participation in Capacity Building

Particulars	Unit	Resource Institution
		ACTECH
District		7 (2 districts are added later)
Total Farmers	Nos	1500
Meetings Conducted		
FPOs	Nos	
FIGs	Nos	193
% of members regularly participating in meetings		
FPOs	%	---
FIGs	%	60
Farmer	%	60
Capacity- Building for FIGs / FPOs		
FIG members oriented/trained & aware on NVI scheme	Nos	11
Group leaders oriented/trained on FIG/FPO concept and management	Nos	5
FIG/FPO members oriented / trained on Account Keeping in NVI scheme	Nos	5
FIG members trained on some or other best practices (for production, value addition and marketing)	Nos	20
Bank Account Opened (Status)		
FPOs	Nos	
FPOS (Share Collection)		
FIGs	Nos	31
Total Saving	Rs. Lacs	
FIG members linked with KCC		60
FIG members linked with other schemes		32
No of Farmers practicing Protected Cultivation		18
No. of farmers linked with KVKs or other Research Institutes		710

Source: Secondary information from RI

Performance of VIUC Scheme

This section investigates the overall success of the VIUC in terms of physical and financial achievement.

Farmers benefit directly from the following ten components of the scheme. The performance of these ten components is illustrated in the following figure:.

Figure 33: VIUC Performance

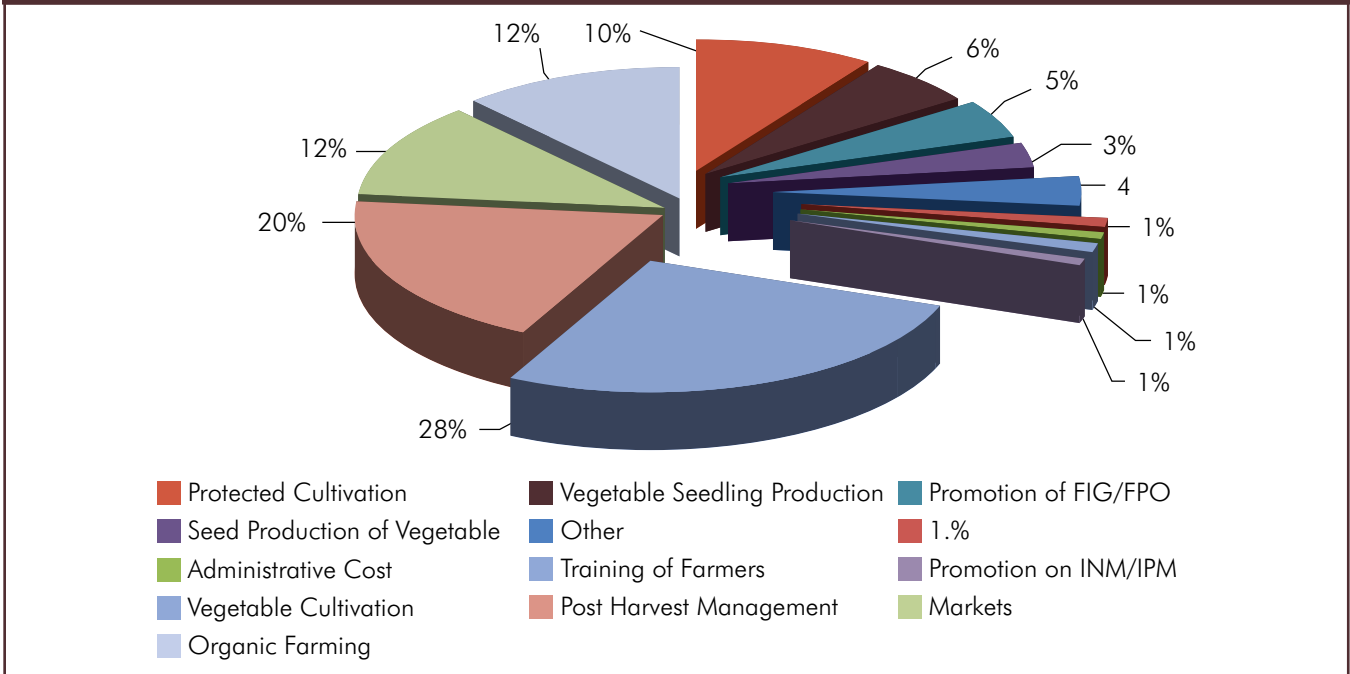


Proposed and Approved Action Plan

As per the proposed Action Plan for the year 2011-12, the Department of Agriculture proposed to take up almost all the activities/components

for implementation of VIUC scheme with the total financial outlay of Rs 600.00 lakh for Jammu Division. The apportioned shares allocated for major components under the scheme are illustrated in Figure 6 below.

Figure 34: Approved Action Plan



Of the total approved financial outlay of Rs 600.00 lakh for the 2011-12, 28 percent fund has been allocated for vegetable Cultivation followed by 20 percent in post harvest management, 12 percent organic farming and marketing individually and 10 percent in protected Cultivation. A small fund has been allocated for other supportive and services components.

Detailed component-wise Physical targets & Financial outlay for year 2011-12 is given in Annex- I. Although, the present status of financial

achievement of different components is depicted in the following bar graph, in which targets and achievements are noticeably evident.

Protected Cultivation, Vegetable Cultivation, organic farming, Post Harvest Management and Market have been depicted in Figure 7 (A) and component delineated in Figure 7 (B) are Vegetable seedling production, Promotion of INM/IPM, Promotion of FIG/FPO, Seed production of vegetables, Baseline Survey, HRD training, Administrative cost of management.

Figure 35 (A): Financial Targets V/s Achievements, 2011-12

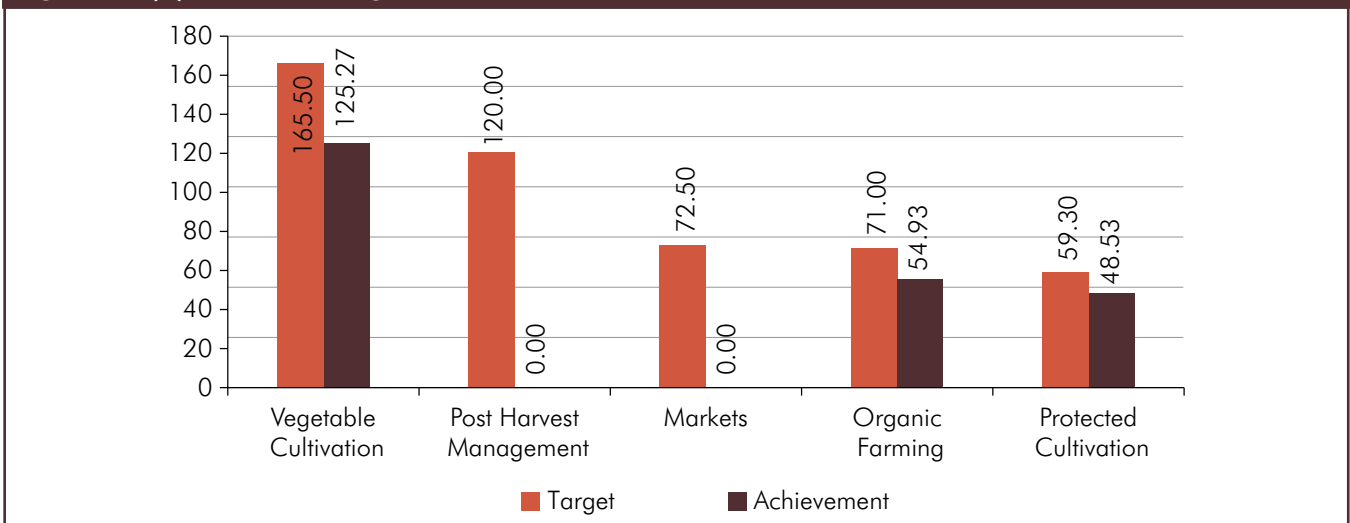
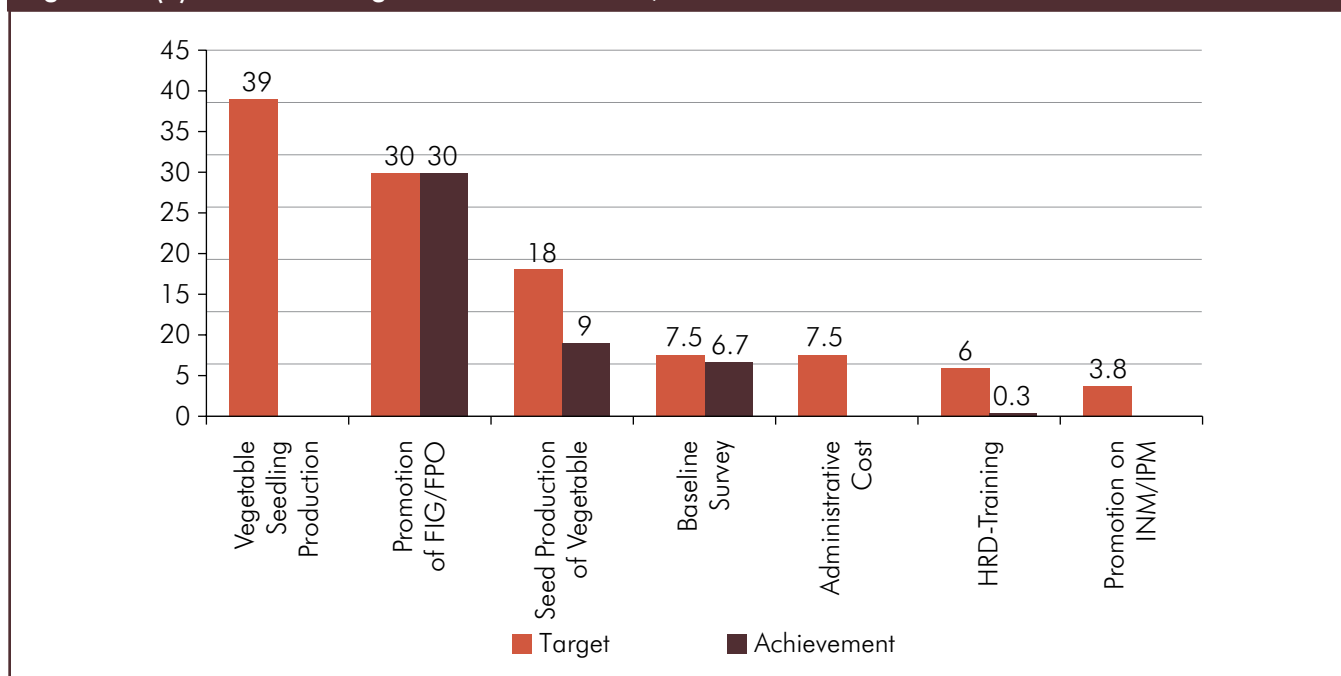


Figure 35 (B): Financial Target V/s Achievements, 2011-2012



Component-Wise Physical and Financial Targets and Achievements During-2011-12

The following table illustrates the component-wise performance for the FY 2011-12.

Table 12: Component-wise physical and financial targets and achievements

Component	Physical Performance	Financial Performance
Vegetable Cultivation	77 percent achievement The physical target for expansion of Vegetable Cultivation was to cover 100 ha and 423.7 ha under open pollinated and hybrid Cultivation respectively, of which 92.8 ha under open pollinated and 310 ha under hybrid Cultivation has been covered.	76 percent achievement Financial allocation for this component was Rs. 165.5 lakh, of which Rs. 125.274 lakh has been utilized.
Vegetable Seedling Production	0 percent achievement The physical target was to cover 0.5 ha area under this which remained untouched.	0 percent achievement The financial allocation for this component was Rs. 39 lakh, out of which no funds have been utilised as yet.
Seed Production of Vegetable	43 percent achievement The physical target was to cover 42 ha area under this component, of which 18 ha has been covered.	50 percent achievement The financial allocation was Rs. 18 lakh, out of which Rs. 9 lakh has been utilized.
Protected Cultivation	103 percent achievement The physical target for protected Cultivation was under the following components: Naturally ventilated system Physical target was to establish	82 percent achievement Financial allocation of protected Cultivation was under the following components: Naturally ventilated system Financial target for this component was

Component	Physical Performance	Financial Performance
	<p>structure in 1000 sqm area which remains unachieved.</p> <p>Greenhouse structure Tubular structure- Physical target for this component was to establish the structure in 2200 sqm area; of which area of 3120 has been covered.</p> <p>Bamboo Structure- Physical target for this component was to establish the structure in 8000 sqm area; of which area of 8660 sqm has been covered.</p> <p>Shed net house Tubular structure- Physical target for this component was to establish structure in 4000 sqm area, of which 6800 sqm area has been covered.</p> <p>Bamboo Structure- Physical target for this component was to establish the structure in 8000 sqm area; of which area of 10360 sqm has been covered</p> <p>Cost of planting material grown in poly-house/shade net Physical target was to cover 5000 sqm area for growing plant under protected Cultivation which has not been done.</p>	<p>Rs. 7.33 lakh which was not utilized.</p> <p>Green house structure Tubular structure- Financial allocation for this structure was Rs 10.30 lakh, of which Rs. 10.265 lakh fund has been utilized.</p> <p>Bamboo Structure- Financial allocation for this structure was Rs 15 lakh, of which Rs.11.435 lakh fund has been utilized.</p> <p>Shed net house Tubular structure- Financial allocation for this component was Rs 12 lakh, of which Rs. 11.860 lakh fund has been utilized</p> <p>Bamboo Structure -Financial allocation for this structure was Rs 12 lakh, of which Rs. 11.435 fund has been utilized.</p> <p>Cost of planting material grown in poly-house/shade net Financial allocation for this component was Rs. 3.75 lakh utilisation of which has not yet started.</p>
Promotion of IPM	<p>0 percent achievement Physical target for promotion of IPM was to cover 750 ha area which remained untouched.</p>	<p>0 percent achievement Financial allocation for this component was Rs 3.75 lakh, no funds have been utilised under this component.</p>
Organic Farming	<p>290 percent achievement Target for organic farming was under the following components-</p> <p>Adoption of organic farming- Physical target for this component was to cover 100 ha, of which 667 ha area has been covered.</p> <p>Vermi-compost units- Physical target for this component was to establishment of 170 units, out of which, the total 117 units have been created.</p>	<p>77 percent achievement Financial allocation for the following components were as follows:</p> <p>Adoption of organic farming- Financial allocation for adoption of organic farming was Rs 20 lakh, of which entire fund has been utilized.</p> <p>Vermi-compost units- Financial allocation for this component was Rs 51 lakh, of which Rs. 34.930 fund have been utilized.</p>
Post Harvest Management	<p>0 percent achievement Physical target for Post Harvest Management was to establish 5000 MT cold storage units and 3 vegetable processing units.</p>	<p>0 percent achievement Financial allocation for this component was Rs 120 lakh which was not utilized.</p>
Market Infrastructure	<p>0 percent achievement Physical target for this component was to establishment of 15 collection centres in the area and provide 25 motorized vegetable vending carts.</p>	<p>0 percent achievement Financial allocation for this component was Rs 72.50 lakh which was not utilized.</p>

Component	Physical Performance	Financial Performance
Promotion of Farmers' Association/ Groups	100 percent achievement Physical target for this component was to associate around 1500 farmers into groups, of which, total 1500 farmers have been mobilised and associated into groups (FIGs).	100 percent achievement Financial allocation for this component was Rs 30 lakh, of which total fund has been utilized.
HRD & Training of Farmers	25 percent achievement Physical target was to conduct training of 400 farmers, of which, 100 farmers have been covered	5 percent achievement Financial allocation for this component was Rs 6 lakh, of which only 0.320 lakh funds has been utilized.
Baseline Survey	100 percent achievement Financial allocation for this component was Rs 7.50 lakh, of which Rs. 6.722 lakh fund has been utilized.	
Mission Management/ Administrative Cost	0 percent achievement Financial allocation for this component was Rs 7.50 lakh which was not utilised.	

Source: Progress report of VIUC Jammu

Out of the total fund of Rs 600 lakhs, approved and allocated for Jammu Division they received only Rs. 300 lakh, of which for the year 2011-12, total expenditure incurred was reported to be Rs 274.777 lakhs i.e. 46 percent of the total financial target has been achieved.

Summary

- ◆ As per the proposed Action Plan, total financial outlay for the year 2011-12 was Rs 600 lakhs.
- ◆ About 28 percent fund was allocated for vegetable Cultivation.
- ◆ Total utilization of the fund during the year under reporting was Rs 247.777 lakh, which is 46 percent of the total budgeted amount approved and allocated.
- ◆ There is an outstanding achievement in the organic farming component where they have achieved 290 percent in physical with mere expenditure of 77 percent of allocated budget under this component.

Situational Analysis of VIUC in Jammu

This section illustrates the situational analysis of VIUC scheme in Jammu Division. It is an analysis of the State and condition of the farmers/beneficiaries after implementation of the initiative, identification

of the major issues related with the components and analysis of key stakeholders. The situational analysis has been derived with the help of the primary survey, secondary information, discussions and observations during field visits to the project area.

The findings of primary survey of farmers have been discussed in the following sections:

Findings of Primary Survey

For the purpose of Impact Assessment Study, around 40 farmer members (FIGs) were surveyed in Jammu Division. The major points that emerged out of the survey have been discussed in following section:

Land Holding: Average operational holding size of the surveyed farmer's area is around 0.75 ha and all the farmers belong to small and marginal category (70 percent marginal farmers and 30 percent small farmers).

As Jammu is situated in hilly terrain, mostly broken patches of farmer fields were observed; therefore, one can conclude that operational holding size with the farmers growing vegetable is small.

Irrigated Land: Out of the total cultivable area from surveyed farmers, 100 percent area is under irrigation and out of 40 farmers, around 70 percent of the farmers were observed to be using canal and spring sources for irrigation purposes.

Cost of Cultivation: Cost of vegetable Cultivation has been calculated based on cost of land preparation, inputs, irrigation and labour employed by the farmers during farming operations (all activities performed from land preparation to harvesting). For crops like cabbage, radish and tomato, knol-khol, cost of production has been reduced significantly compared to cost of production

during base-year. A detailed comparison of current and base year cost of production has been mentioned in the section of Impact Assessment in this chapter. Average production cost mentioned by the surveyed farmers is as illustrated in Table 5 below. The detailed calculations have been given in ANNEX- III.

Table 13 Average cost of Cultivation

Crop	Seed (Rs./ha)	Fertilizer (Rs./ha)	Pesticide (Rs./ha)	Land Preparation (Rs./ha)	Irrigation (Rs./ha)	Labour (Rs./ha)	Average cost of Cultivation (Rs./ha)
Cabbage	12500	2000	5000	5000	2000	12000	38500
Cucumber	12000	5000	5000	5000	2000	15000	44000
Hag Saag	2000	2000	5000	5000	2000	10000	26000
Kadam	8000	2000	5000	5000	2000	10000	32000
Knol- Khol	8000	2000	5000	5000	2000	8000	30000
Palak	5000	2000	5000	5000	2000	10000	29000
Raddish	5000	5000	2000	3000	2000	10000	27000
Tomato	10000	2500	8000	10000	2000	10000	42500

Source: Primary Survey

Seeds Used: Almost 53 percent of the surveyed farmers are using improved or hybrid seeds and source of procurement of seeds has been observed to be the local Seed Dealer. As per the farmers, all seeds are procured from local dealer by them but as per the district and block official seeds are arranged and provided to them by the Agriculture Department.

Adoption of On-farm Management Practices and Organic Farming: Farmers have started adopting improved production practices with the help of RI and Government officials. Around 45 percent of the farmers in surveyed area are practicing IPM/INM. Some farmers have also started adoption of organic farming. Major source of providing organic inputs is arranged and supplied by the private agency at a cost. Adoption of protected Cultivation has also started and 12 percent surveyed farmers were using green house, poly sheets and shed net house infrastructures for protected Cultivation. Farmers have not mentioned any other on-farm management practices for vegetable Cultivation like drip and sprinkler irrigation, use of mulching and low cost tunnels, etc.

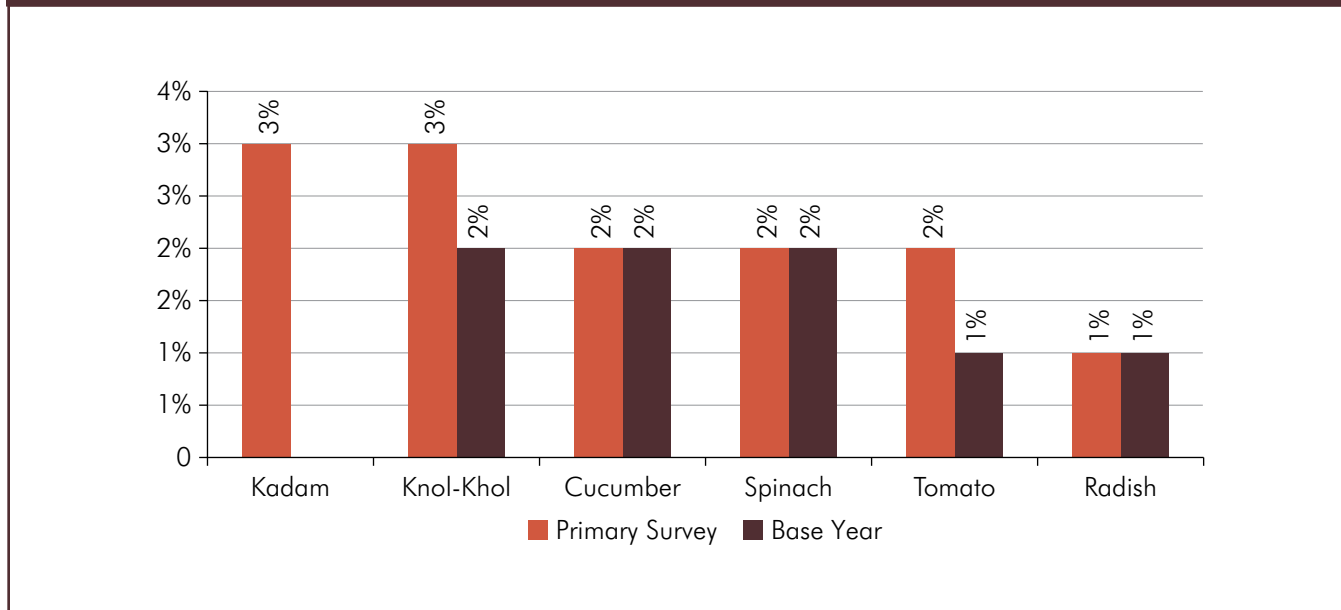
Post Harvest Losses and Value Addition: As per the data of primary survey, the extent of Post Harvest Losses varies from crop to crop as mentioned below:

It was found that the extent of Post Harvest Losses have not changed, in some cases Post Harvest Losses has rather increased as per primary survey compare to baseline.

Value Addition at Field Level: Value addition at field level in the surveyed area is being done only in the form of sorting. There were no other means or activity of value addition by the farmers in surveyed area. Selling/marketing of produces as loose (without grading or properly packaging) was being carried out by almost 100 percent of the vegetable growing farmers.

Mode of Transportation: Almost 100 percent farmers in the surveyed area market their produce individually using their own/hired vehicles for the market at the distance of 5-10 km and above distances.

Figure 36: Post Harvest Loss of major Vegetables in %



Source: Primary survey

Marketing of Produce: For marketing of the produce, around 100 percent of the vegetable growing farmers are taking their produce to the local mandi /haat, the village level markets and major mode of payment (around 100 percent) is by spot cash by negotiation between buyer and seller.

A major challenge in the marketing of the produce are faced by farmers are poor marketing infrastructure, lack of Collection/Assembling Centre and cold storage facilities and dependency on Middlemen.

Awareness about VIUC: During the survey and field visits to different clusters in the selected Districts, all the farmers mentioned that they are not aware about the details of the objectives and various components under the VIUC scheme. However many of them were beneficiary farmers from the VIUC scheme. This is a serious issue for proper implementation of the VIUC scheme. Contacting vegetable growing farmers, particularly during training sessions, the RI and Officers from Directorate of Agriculture should make all the farmers attending the training session organised about the details and benefits from each component under the VIUC scheme.

Resource Institution: ACTECH is the resource institution working in the area.

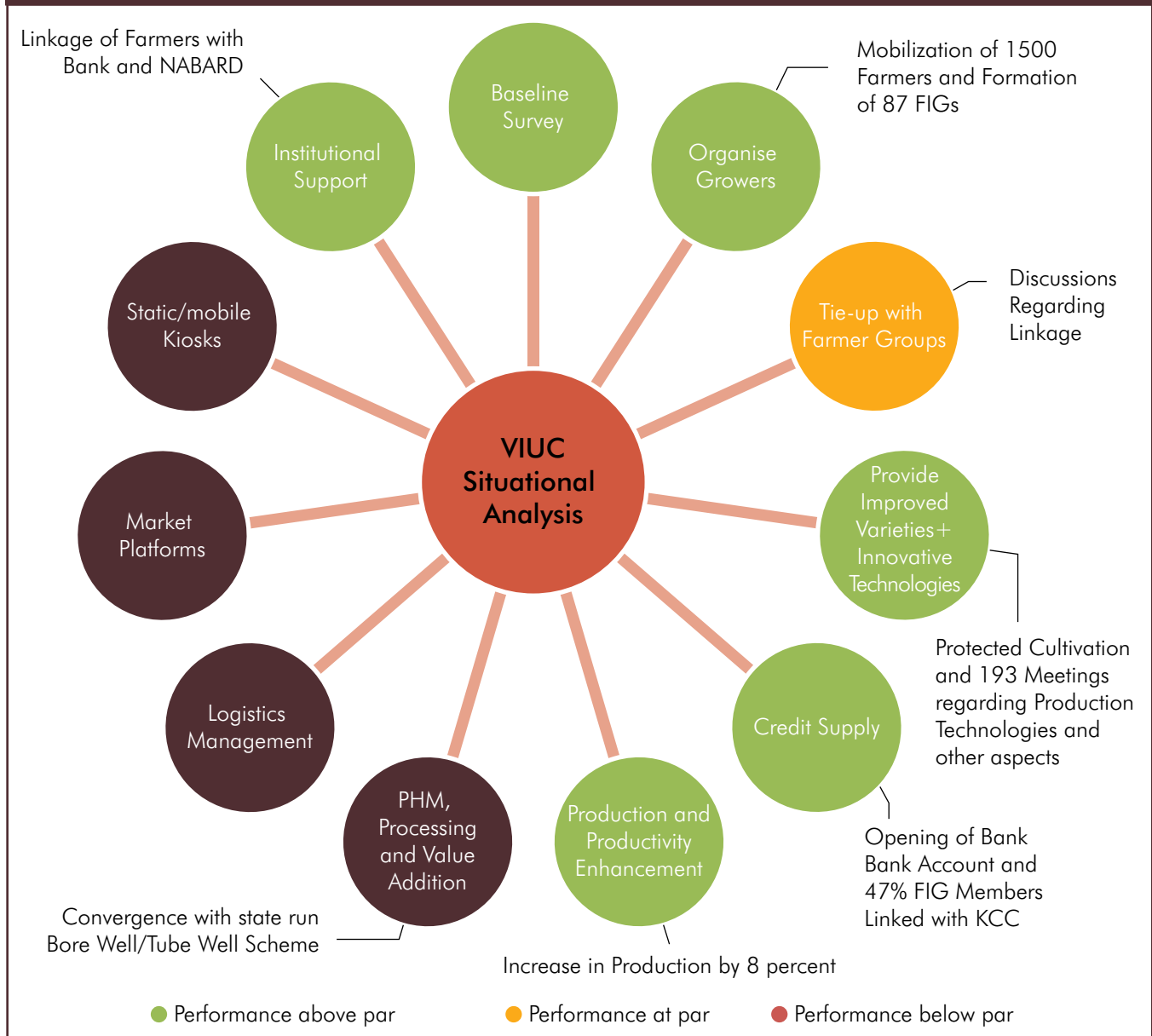
- ◆ Around 50 FIGs of the surveyed area were registered to farmers club of NABARD.
- ◆ Meetings with service providers, suppliers, MFI/bankers were not organized.
- ◆ Only 47 percent of the farmers have been provided KCC.
- ◆ Very few 'User' and 'Supplier' meetings were organized.

Training and Training need Assessment: Training to FIGs and FPOs have been provided by RI with an average of 60 percent members participating for one day at the village level on all aspects of Cultivation, product quality improvement, record and account keeping. Initial introductory meetings of farmers were conducted along with department officials to introduce them about the importance of implementation of the programmes under the scheme.

Observations from Field Visit

The following figure depicts the observations based on field visit and interaction with State officials, RI and vegetable growing farmers. It is sketching the present condition of the Jammu Division in terms of direct impact as well as the activities which are under the process of implementation.

Figure 37: Observations of the Field Visit



Detailed Observations of Field Visit

Mobilization of Farmers and Group Formation

Around 87 FIGs and one FPO have already been formed and one FPO has been registered by the RI. Around 300 FPO member farmers have also received their Share Certificates and membership cards (with Bar Code). Farmers have clarity on concept of collectivisation however due to spread and distances these farmers were not aware of FPO Committee Members. Most of the farmer members have been regularly facilitated with the trainings

and group meetings organized at grass root level on fortnightly and monthly intervals for awareness generation. Given the wide geographical spread of the production cluster and very thin distribution of farmers mobilised (around 1500 farmers spread over 7 districts), it is becoming very difficult for RI to get all the farmers together at a common platform. Therefore, the situation is serious and State Government and RI needs to re-strategise feasibility of operating the FPO. State Government can consider increasing number of farmers to be mobilised under the scheme in an upcoming action plan and these farmers should be attached to the

existing FPO. Accordingly, formation of new FPOs can be proposed based contiguity of clusters. .



Figure 38: Training and capacity building on Profitable Vegetable Cultivation

Training and Capacity Building

Training and capacity building programs are being conducted for both FPO and FIGs. The themes of such programme are viewed to be ‘need based’ depending upon the local scenario and farmer’s requirement. Approximately 70 percent of the FIG members have participated in such programme and around 80 percent group leaders of FIGs have been trained for FIG management, records and account keeping and some other related management practices. Technical training has also been arranged and provided to farmers in Reasi and Udhampur by experts from KVK.



Figure 39: Distribution of Organic Vermi bed and Seeds to FIG Members

Disbursement of Inputs and Subsidy

Arrangement and the distribution of farming inputs have been carried out by the Agriculture Department and FIG members have been provided with inputs in the form of seeds, poly sheets and organic vermi-beds. A cash subsidy is directly disbursed to FIG by Sub Divisional Agriculture Officers through their Bank Account.

During field visits, complaints of nepotism came into notice as farmers were complaining that distribution of raw material for poly/green house; poly sheets has been distributed to the farmers who are not members of FIG and are known to department officials. Corrective measures are required at the division level in these matters, as such issues may become a serious impediment and lose faith and confidence in implementation agencies of the VIUC scheme in the area.

Second issue that came into light, was that a large volume of seeds were diverted and provided to private/local Seed Dealer rather than giving the same to vegetable growing farmers. Many of the farmers did not avail the service with sufficient quantity of seeds and also the seeds were not available at required time of sowing the crops.

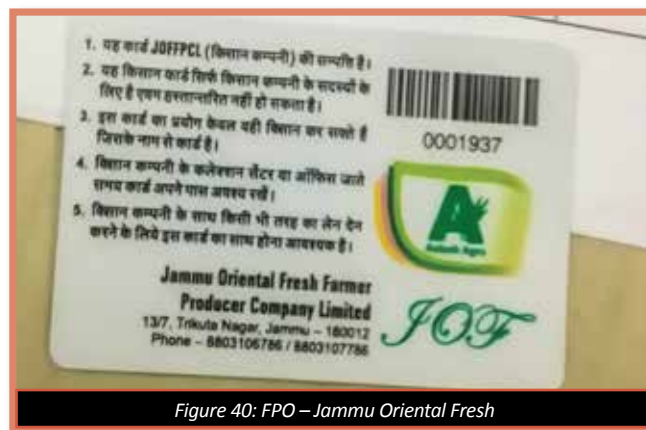


Figure 40: FPO – Jammu Oriental Fresh

Functioning and Coordination of Resource Institution

Resource Institution has sufficient understanding about the scheme and they are doing their work satisfactorily. They are working on awareness generation, contacting vegetable grower farmers and their mobilization into group formation; establishing input and output linkage (no achievement, so far). RI is also planning to start three collection centres shortly for starting collective collection of vegetables

and supplying it to the bulk buyers, including supplying vegetables to army canteen.

One FPO has already been registered comprising of 1500 farmers and all 87 FIG covering 5 districts (Jammu, Samba, Kathua, Udhampur and Reasi) as The Jammu Oriental Fresh.

ACTECH (RI) has also developed an online integrated MIS cum ERP solution for the FPO, which has detailed information regarding member farmer, crop planning, agri-input procurement and output marketing.

Functioning of FIG

- ◆ A total of 1500 farmers have been registered.
- ◆ Regular village meetings have been organized to discuss the programme. Many of the farmer members have clarity about the scheme and functioning of FIG concept. It is suggested that more frequent meetings, may be for a very short period on the meeting days, which would be helpful to kindle the fire and encourage the farmer members to participate and appreciate the FPO concept.
- ◆ Some of the FIGs have made membership fee of Rs. 1000 compulsory among them.

Infrastructure Creation:

For protected Cultivation of vegetables greenhouse (tubular and bamboo) and shed net house (tubular and bamboo) structures have been established. Around 200 sqm tubular green-houses, 500 sqm bamboo green house structure, 200 sqm and 400 sqm tubular and bamboo shed net house structures, respectively, have been established in Kathua.



Figure 41: Shed net house

Around 240 sqm and 600 sqm, tubular and bamboo green- house structures and 200 sqm and 440 sqm, tubular and bamboo shed net house have been established in Samba, respectively.

These structures are without any doubt benefitting the vegetable growing farmers. With the help of these structures, farmers are now able to produce vegetable seedling before the commencement of season which ensures early arrival of the vegetables in the market and fetch a good price them.

Marketing of Produce

Currently neither any linkages for marketing have been established nor has any marketing infrastructure been created under the project. During the discussion with the Government Officials at the State level, it

was highlighted that the Department wants FPO to get mature and have sufficient funds with it to contribute its share in creating various marketing related infrastructure.

HRD Training to P)project Management Unit (PMU)

Initially, before the beginning of the Initiative, introductory training had been conducted for all PMU. Apart from that no further training of the PMU has been conducted for any kind of technical up gradation and further dissemination of knowledge about various components under the scheme's implementation.

Challenges/Issues

The scheme is progressing slowly in the right direction, however; there are some major challenges which have been slowing down and retarding the progress of the scheme.

Lack of understanding of scheme among field staff of Agriculture Department: Field staff who are engaged and working at grassroot level are not well versed and trained about the implementation structure of the scheme.

Insufficient Fund Allocation for contacting and Mobilization of Farmers and FPO activities: Scheme is being implemented in seven districts and target for mobilisation of farmers is only 1500. This is making a real challenge for RI to deploy

required resources in a geographically widespread area with limited financial resources.

Large spread of FPO Village Coverage: One FPO which has been formed comprise of all initial 5 district with 1500 number of farmers spread over the whole of the Jammu Division. This FPO has a very large and scattered command area which is not only difficult to maintain but also impractical to manage and may raise questions on better coordination and execution of company's management. It is suggested that the RI must reconsider their decision and organise FPOs in contiguous production cluster. State Implementing agency should also consider increasing number of farmers to be mobilised under the scheme for making FPO activities feasible.

Lack of Coordination among RI and Districts Official: There is a very good understanding and coordination of State Nodal Agency and RI at the State level, however this is missing at the district level and below. The negative impact of this difference is already visible on the ground.

Summary

- ◆ Major vegetable clusters have been selected on the basis of the availability of land, volume of production, connectivity to road and ease of operations as the State is located in a hilly terrain
- ◆ Disbursement of necessary farming inputs in the form of seeds among farmers has not been on time in sufficient quantity. Nepotism has came into existence while distribution of input among farmers.
- ◆ Resource institution has been working on awareness generation, contacting farmers and mobilization for group formation, however the wide geographical spread is a big challenge given a very small number of farmers to be mobilised under the scheme.
- ◆ For protected Cultivation greenhouse and shed net houses (tubular and bamboo structure) have been established in Jammu, Samba and Kathua districts.
- ◆ Activities relating to post harvest infrastructure and marketing has not yet started, which need focus of Nodal Agency as well as of RI to accelerate the action in these areas.

- ◆ Insufficient allocation of the funds for contacting farmers and their mobilization and FPO activities, lack of proper coordination, nepotism and huge transportation cost are the critical constraints for proper implementation of the activities under this component.

Impact of the VIUC Scheme

This section investigates the impact of components covered under VIUC scheme on broader areas relating to arranging and supply of quality farm inputs, linkages developed for consolidation and marketing, savings accrued through conducting the vegetable FPOs, improvement in socio-economic status of farmers and employment generation induced by the initiative made under the scheme.

VIUC has been framed to cover all the segments of vegetable supply chain, right from farmers' field and up to its final absorption by the market with major emphasis on training for good and quality production practices, post harvest management, value addition with creation of marketing infrastructure and its linkages. For the purpose of assessing impact of VIUC, the results of performance and situational analysis along with general dissemination of values that would be generated through implementation of the scheme have been assimilated.

The following figure outlines the direct impact of the VIUC scheme in the major six components Figure 42 below:

The details of these components are described in the following sections:

Vegetable Production:

According to the data of primary survey (for Baseline and Current Year under assessment) for the districts where scheme is being implemented, the area and production under vegetable Cultivation have increased. As per 2010-11 data, area under vegetable Cultivation was 32000 ha which has increased to 32500 ha in 2011-12, showing a 2% growth over the previous year. The production of vegetables in the baseline year was 640028 MT which has increased to 690049 MT Tonnes, an increase of 8%. Productivity per unit area of the

Figure 42: Impact of the Scheme

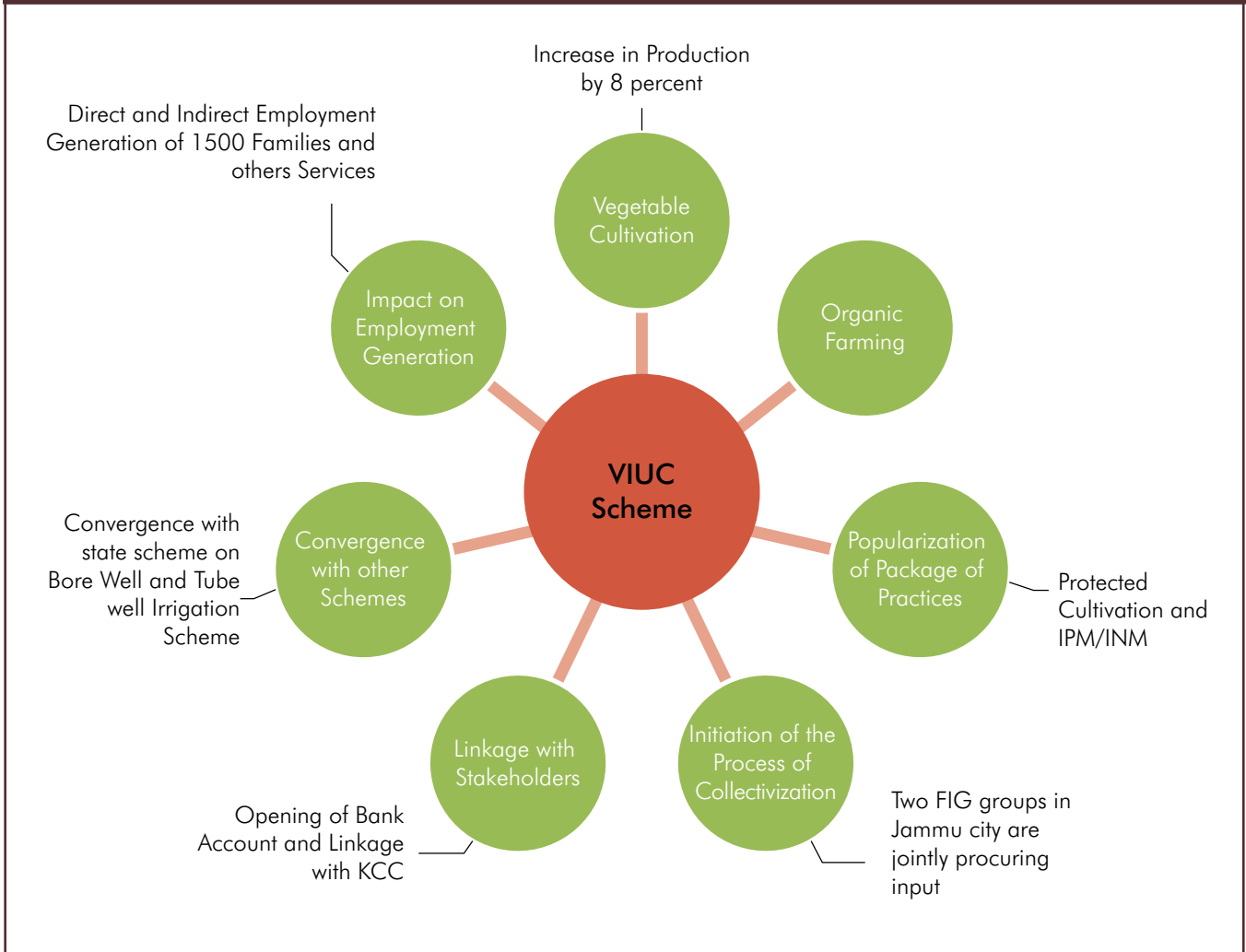
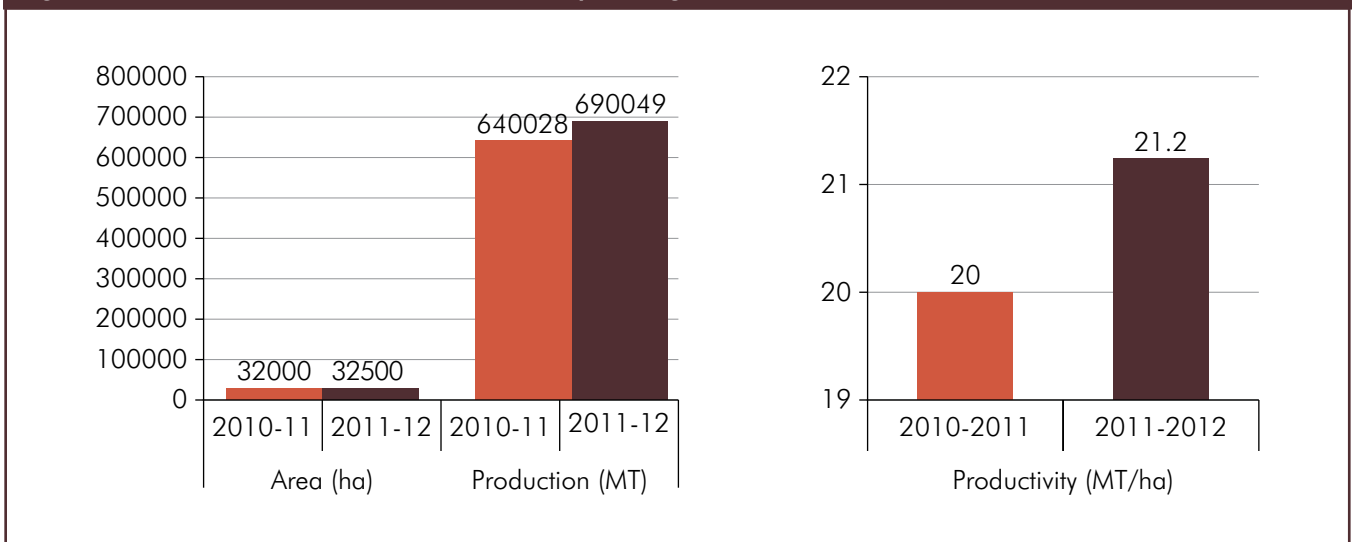


Figure 43: Area, Production and Productivity of Vegetable in Jammu Division



vegetables has increased by 6%. This increase in area, production and productivity can be attributed to increase in number of vegetable producing farmers and addition of non-traditional areas into vegetable production domain in Jammu Division. The enhancements in the vegetable production and productivity has mainly happened due to VIUC scheme and synergized with adoption of modern package of practices such as poly/green house, shed net house, IPM/INM and organic farming.

Quality Inputs

The scheme has been really promoting introduction and augmentation of modern production practices, improvement over the traditional vegetable Cultivation system to some extent by adoption and use of improved and hybrid seeds, organic farming, IPM/INM and protected Cultivation. For vegetable production, seeds, poly sheets for protected Cultivation and vermi- bed have been provided by Agriculture Department of the State to FIGs.

It was reported in the Baseline Survey that the farmers in the area were not much aware of modern package of practices but due to implementation of VIUC scheme, most of the farmers have started using hybrid and improved seeds. This indicates that farmers are becoming aware of the importance of using improved and hybrid seeds and other package of practices such as seedling production which is an important indicator of the penetration of the scheme which has substantially contributed to the achievement for both RI and District Level Official of the State Agriculture Department.

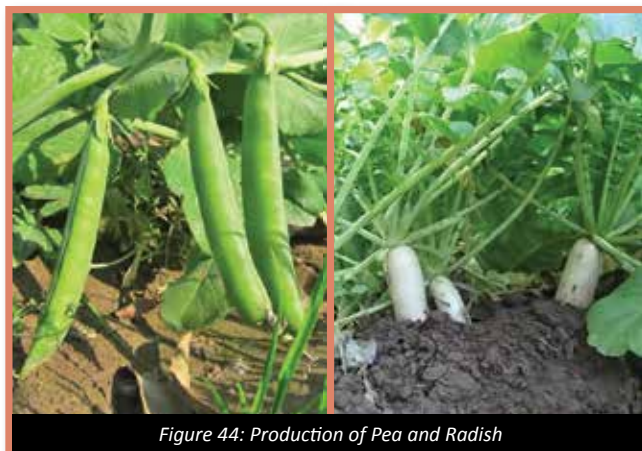
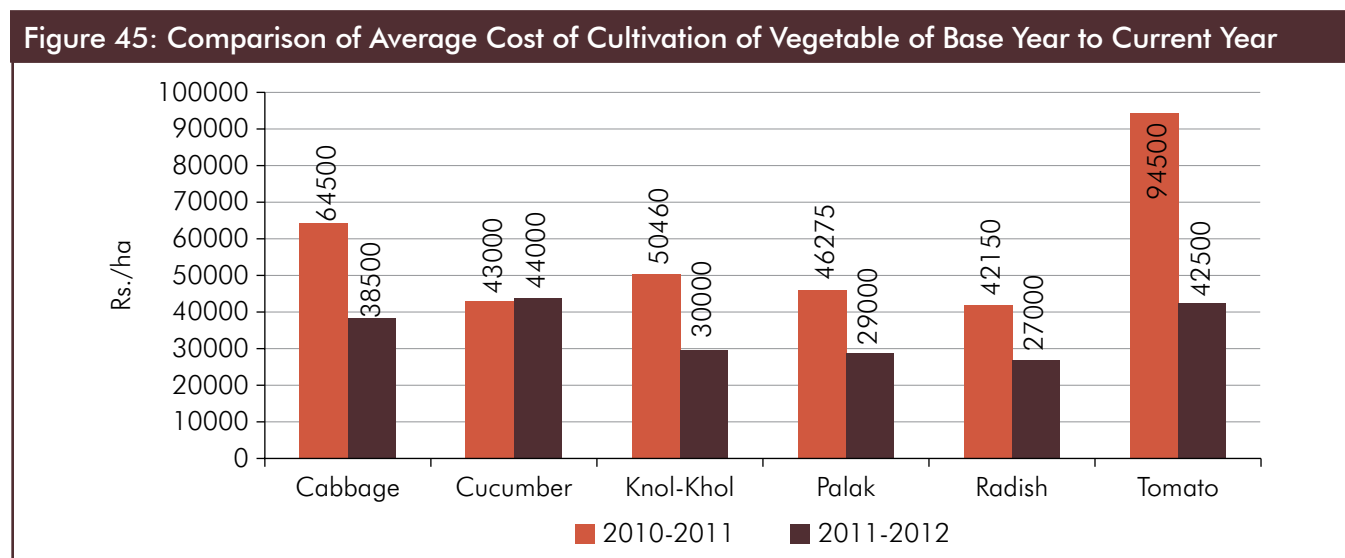


Figure 44: Production of Pea and Radish

Production Cost

During the survey, the cost of production of various vegetables in the project area was captured and compared with the cost of production of vegetables mentioned in the Baseline Survey report. The production costs have comparatively reduced during project period for some vegetables like cauliflower, carrot and radish. Cost of production has reduced in the range of about 30-50%. This reduced cost of production can be attributed to financial support from Government, which farmers are availing in the form of subsidy for seeds and vermi- bed, etc. While at some locations in the project area covered, cost of production of cucumber has remained unchanged.

Difference in cost of production from baseline year to current year has been depicted in the graph below:



Adoption of Modern Package of Practices and Protected Production Technology

As per interaction with various stakeholders in the scheme, it was found that the scheme is positively affecting the understanding of farmers regarding modern package of practices, IPM/INM and protected Cultivation methods. Farmers are finding the scheme beneficial. With the help of poly/green and shed net house, farmers are now able to produce seedling earlier followed by early harvesting of vegetable that fetch good prices in the market.



Figure 46: Training on Pheromone Trap

Around 710 farmers are practicing IPM/INM at their own level with the assistance of the RI, only. This activity is not carried out by State Department of Agriculture.



Figure 47: Vermi-bed

Initiation of Process of Collectivization

In Jammu around 1500 farmers have been mobilized by RI. Total 87 FIGs have been formed which are just about to be involved in collective production and marketing of their produces. Few FIGs have engaged in joint procurement of farm inputs materials in Jammu and some of the FIGs are involved in collective transportation and marketing of their produce. Farmers of Jammu Oriental Fresh FPO are carrying out joint production of tomato, knol-khol and cauliflower in 380 ha area. They are also carrying out joint transportation and marketing of 35 MT of tomato, knol-khol and cauliflower.

Linkage with Stakeholders

Establishing linkage between various stakeholders participating in implementation of the scheme service providers, micro- financing institutions, banks and research institute was considered necessary for convenient and efficient implementation of major processes under various components of the scheme.

Regarding linkages, 31 FIGs have their own Bank Accounts, around 60 FIG members have been linked with KCC and some 50 FIGs are registered with NABARD farmers' club. In addition to these, 710 farmers are directly linked with KVKs.

Impact on Employment Generation

Since the scheme is under implementation for the past one year only, therefore, it is not possible to assess the impact on employment generation. Till now, the scheme has directly provided employment opportunities to people especially in the areas of Vegetable Cultivation and protected Cultivation methods. This is also providing employment opportunity and income generation to the landless farmers.

Summary

- ◆ Area and production under Vegetable Cultivation have increased. As per 2010-11

data, area under Vegetable Cultivation was 32000 ha which has increased to 32500 ha in 2011-12, with growth of 2 percent. Production of vegetables in the baseline year was 640028 MT which has increased to 690049 MT, showing an increase of 8 percent. This increase in area and production can be attributed to the increase in number of vegetable producing farmers and addition of non-traditional areas into vegetable production domain in Jammu Division due to VIUC scheme synergized with adoption of modern package of practices such as poly/greenhouse, shed net house and organic farming.

- ◆ Farmers are reaping benefits from protected structures in raising seedling early and of good quality followed by its harvesting which fetches good prices in the vegetable market, when supplied earlier than the main season.
- ◆ The production costs have been substantially reduced during the project period, particularly for vegetables like cabbage, knol-khol, tomato, palak and radish. Cost of production has reduced considerably, about 30 to 50 percent when compared to last year's cost of production. This reduced cost of production can be attributed to timely supply of quality inputs and their distribution in the project area and financial support from the Government.
- ◆ Collective production and marketing has been observed still at nascent stage. With time and mutual understanding amongst the farmer members, the process will gain momentum when all participants in the business see and understand the micro- benefits accruing from collective initiatives. Presently some FIGs are involved in collective purchasing of farm inputs, transportation and marketing of their produce.

Recommendations

In Jammu Division of the J & K State, the VIUC scheme is gaining momentum through the constant efforts of State and District officials and the RI. There are some components which require more attention and efforts.

Scheme Implementation:

- ◆ Component of Training and capacity- building of farmers needs to be strengthened; this

should include exposure visits of farmers to commercially well established production facilities as well as existing FPOs. Training is required on modern package of practices for vegetable production, protected Cultivation as well as on management and functioning of FIGs and FPOs;

- ◆ There is a need to work on other components such as inclusion of Post Harvest Management, Market infrastructure and motorized vending cart (which was taken as component but not executed).
- ◆ It has been observed that coordination, cooperation and desired support between RI and District Level Official is unsatisfactory and it requires intervention in identification of roles, responsibility and accountability from each of the person engaged in implementation of any component of the scheme. This can only be done with intervention, training and capacity- building with the objectives of the scheme and exposing them with the holistic view of VIUC.

FPO Strengthening:

- ◆ Exposure visits of FPO are necessary to make them aware of their role and responsibilities and also for enhancement of their understanding on various aspects of the initiatives envisaged under the scheme.
- ◆ FPO has already been formed but member farmers of FIGs do not know who the board members of the FPO are. To make them aware of it, regular and frequent trainings, meeting and group activities should be organised. This will not only increase their awareness but also enhance their social relationship and mutual understanding of each other in a positive manner.

Marketing:

- ◆ Mechanism should be derived for linking farmers to the market, as this aspect has totally been neglected in the first year of implementation of the scheme.
- ◆ RI should arrange buyer/seller meetings in coordination with the State Department of Agriculture for establishment of various kinds of linkage and for direct market tie-ups.

Chapter 6

Kashmir (Srinagar)

Project Area and Stakeholders

This section describes the implementation structure and functioning of the project at different levels and the involvement and contribution of the major stakeholders in implementation of various components stipulated in the VIUC project for Kashmir.

Baseline Survey

To identify major vegetable production districts and clusters and vegetable clusters within them, an independent agency, carried out the Baseline Survey in Kashmir. Baseline Survey highlighted the existing supply chain, other problems and constraints and also identified the vegetable growing clusters within the identified districts. During the interaction with the Nodal Agency, it was observed that areas/clusters, which were identified under the Baseline Survey, have been taken-up for the purpose of implementation of the scheme.

State/Districts/Clusters

For the year 2011-12, the scheme was being implemented in six districts of Kashmir Division i.e. Srinagar, Baramulla, Badgam, Ganderbal, Pulwama and Bandipora. Major vegetable clusters in these districts, ranging from 20-60 km, are supplying vegetables to targeted urban cluster i.e. Srinagar.

the State level. At the District level, District Agriculture Officer (Extension, Department of Agriculture) is the Nodal Officer looking after the implementation of the scheme and Chief Agriculture Officer is the Budget/Funds controlling officer at District level. Sub Divisional Agriculture Officer is the 'Implementing Officer' who is looking after the fund release and disbursement at sub divisional level. Agriculture Extension Officer is the implementing officer at Zone or cluster level.

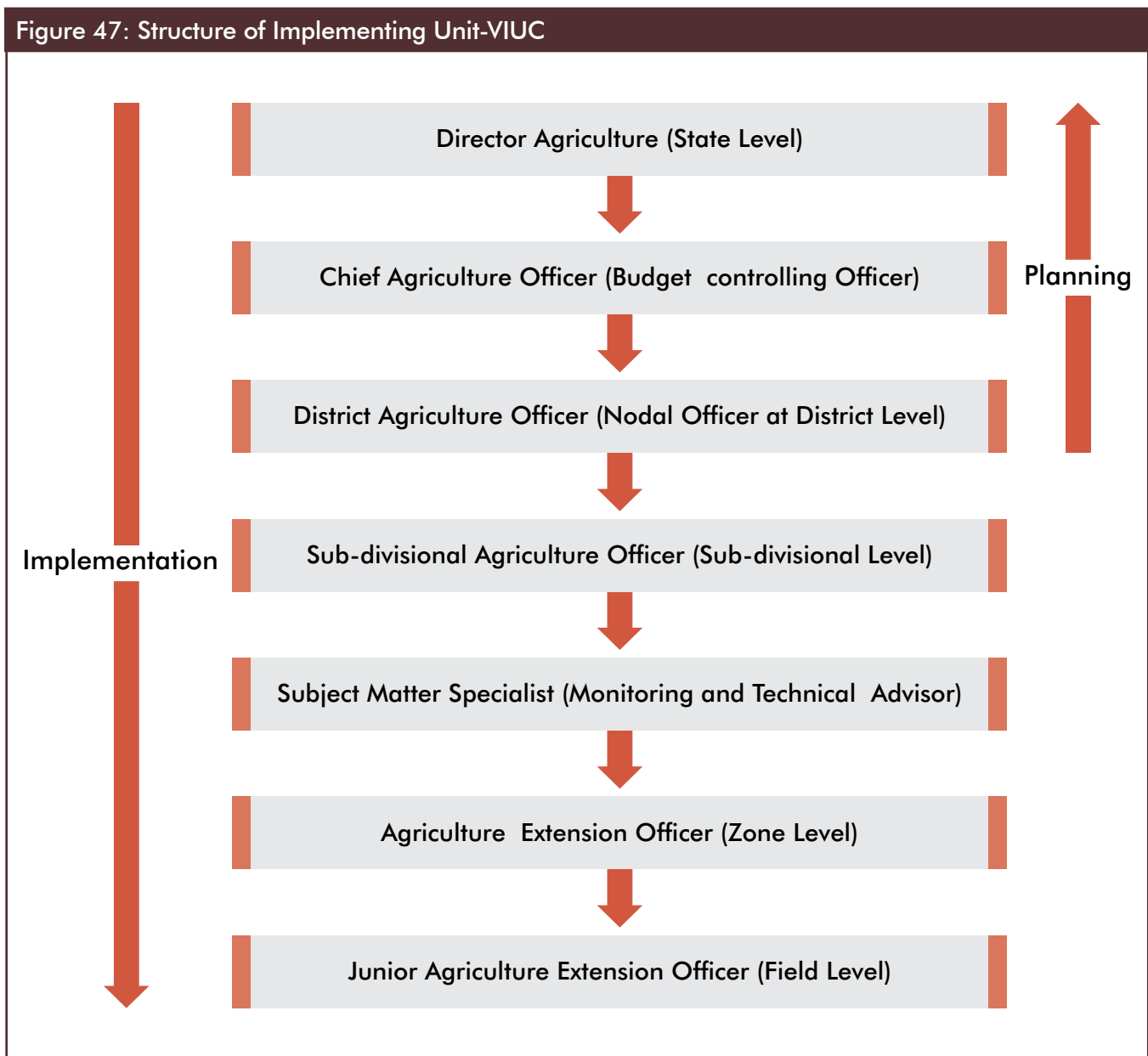
Implementing Partners of VIUC in Kashmir

Director Agriculture is the Nodal Officer at

Table 14: Stakeholders and their Coverage Area

Role	Name of Organization	District covered under VIUC scheme
Baseline	ISAP	Srinagar, Baramulla, Badgam, Ganderbal, Pulwama and Bandipora
Nodal Agency	Department of Agriculture	Srinagar, Baramulla, Badgam, Ganderbal, Pulwama and Bandipora
Resource Institution	ACTECH	Srinagar, Baramulla, Badgam, Ganderbal, Pulwama and Bandipora

A detailed implementation structure, has been depicted in the following figure:



Planning and Implementation of Activities:

The planning of the project activities starts at the District level where District Agriculture Officer (DAO) prepares the District Plan and submits it to the District Level Planning Committee (DPC) for consideration and approval. After approval from DPC, plan is submitted to Director Agriculture (State Level) for consolidation and preparation of the Plan for the State. From Director Agriculture, State plan is submitted to the State Level Sanction

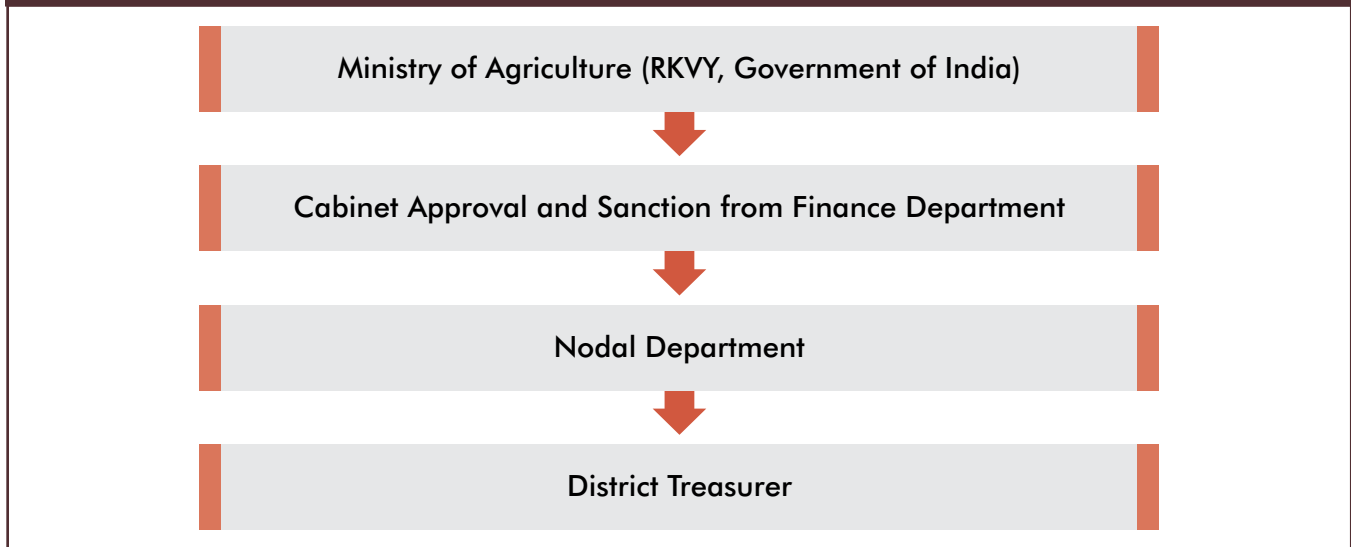
Committee (SLSC) which is the final authority for approval of the Plan’s implementation.

The approved State Plan by the State level DPC is finally submitted to the Ministry of Agriculture (RKVY, Government of India) for scrutiny and approval and sanction of the proposed funds.

Flow of Funds

The flow of funds is depicted in the figure below:

Figure 48: Flow of Funds



Budget Outlay and Expenditure (2011-12): The total budget outlay approved for the Kashmir Division for the year 2011-12 was Rs 600 lakhs. However, the funds have been released in two

instalments of Rs 300 lakh in 2011-12 and Rs 600 lakh in 2012-13, the second instalment also include funds of year 2012-13.

Release of Subsidy to Beneficiary

Figure 49 Release of Subsidy to the Beneficiary



The applications to become the perspective beneficiary of the project are received through Junior Agriculture Extension Officer. These applications are then forwarded to Agriculture Extension Officer. Once the applications are received and scrutinised by The Sub-divisional Agriculture Officer, the fund flow takes place directly through cheque, only.

Resource Institution

For the purpose of mobilization of farmers and promotion of Farmers' Interest Groups (FIG) and Farmers' Producers' Organisations (FPOs), ACTECH has been appointed asThe Resource

Institution (RI) by the SFAC. The RI has not provided any of the secondary information, therefore any progress by RI during the period for impact assessment cannot be analysed. While contacting the RI officials at the State and Headquarter level, it was highlighted that initially the number of farmers allocated to the RI was very small and it was not feasible for RI to initiate any work. Later, when the State Government increased the number of farmers to be mobilised for some time there was political unrest in the Division and movement in the selected area was restricted. However, at present, as the situation has improved, RI has started working on the ground.

Performance of Scheme

This section investigates and attempts to assess, the overall success of the VIUC in terms of physical and financial achievement.

The farmers benefit directly from the following eight components of the scheme. The performance of these eight components is illustrated in the following figure:.

Figure 50: Performance of the scheme

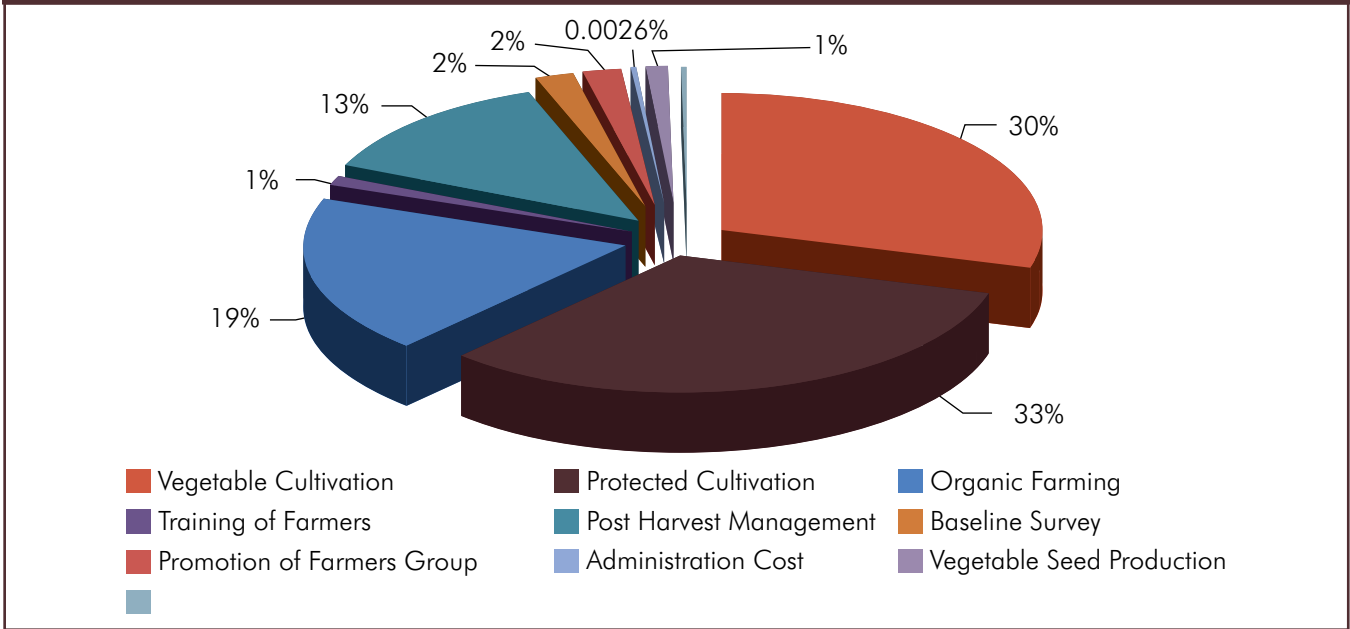


As per the proposed and approved Action Plan of Rs. 600 lakh, Kashmir has received only Rs. 300 lakh in the year 2011-12, of which the division was able to spend Rs. 244.03 lakhs. The second instalment of Rs 600 lakh has been received in the year 2012-13, of which the Division has been able to spend Rs 303.70 lakh. Therefore, total expenditure for 2011-12 Action Plan is Rs 547.73 lakh, which is showing a 91 percent financial achievement against a target of Rs.600 lakh.

Proposed and Approved Action Plan

As per the 'proposed Action Plan' for the year 2011-12, the Department has proposed to take up the major activities/components as per the requirement of the State for the implementation of VIUC with the total financial outlay of Rs 600.00 lakhs. The share of all the components is illustrated in Figure 6 below:

Figure 51: Approved Action Plan



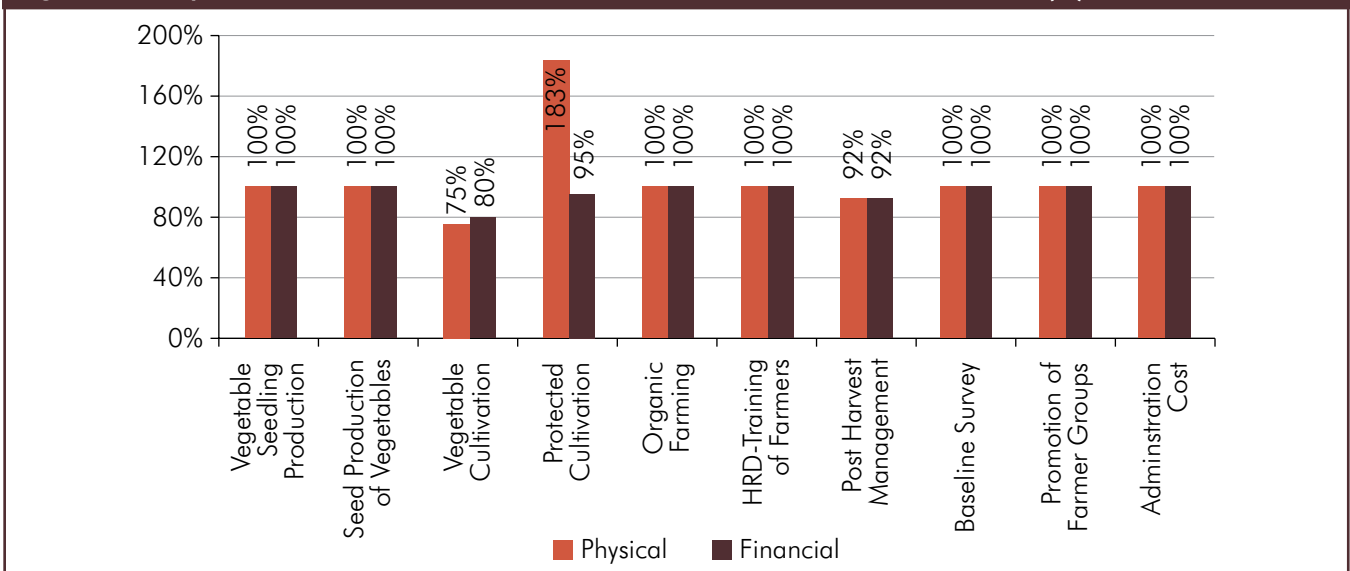
Source: Nodal Agency, Kashmir

Of the total approved financial outlay of Rs 600.00 lakhs, maximum fund was allocated for the component of protected Cultivation (33 %) followed by Vegetable Cultivation (30 %), organic farming (19%), PHM (13%). Other components of Action Plan were vegetable seedling production (1%), vegetable seed production (1 %) and training of farmers (1%). Further, approximately 2% of the fund had been allocated for conducting a Baseline Survey. As it is noticeable, higher funds

have been allocated for promoting protected Cultivation.

Detailed component-wise Physical targets & Financial outlays for the year 2011-12 is given in Annex- I. The present status of financial achievement of different components can be delineated from the following bar graph, in which physical and financial achievements, as reported are noticeably evident.

Figure 52: Physical and Financial Achievement of VIUC in Kashmir in 2011-12 (%)



Component Wise Physical and Financial Targets and Achievements (2011-12)

The following table illustrates the component- wise performance for the FY 2011-12.

Table 15: Component wise Physical and Financial Targets and Achievements

Component	Physical Performance	Financial Performance
Vegetables seedling Production	100 percent achievement As per the approved plan, target was to cover 4 ha area for vegetable seedling production, of which entire area has been covered.	100 percent achievement Financial allocation for this component was Rs 3.12 lakhs, of which total fund has been utilized.
Vegetable Seed Production	100 percent achievement Physical target was to cover 17 ha area under vegetable seed production, of which total area has been covered.	100 percent achievement Financial target under this component was Rs. 8.00 lakh which has been utilized completely.
Vegetable Cultivation	75 percent achievement As per the approved plan, 665 ha area was approved for expansion of open pollinated and hybrid Vegetable Cultivation, of which 501 ha area has been covered under both open pollinated and hybrid Vegetable Cultivation.	80 percent achievement The financial allocation for Vegetable Cultivation under open pollinated and hybrid Cultivation was Rs 181.575 lakh, of which Rs 145.07 lakh has been utilized.
Protected Cultivation	183 percent achievement Physical target under this component was to establish 1007 units, of which 1845 units have been established which is more than the target	95 percent achievement Financial allocation for this component was Rs 200.165 lakh, of which Rs 190.44 lakh has been utilized.
Organic Farming	100 percent achievement Physical target was to establish 370 vermi compost units, of which 370 units has been established.	100 percent achievement The financial allocation for this component was Rs 112.5 lakhs, of which almost Rs. 112.46 lakh fund was utilized.
Post Harvest Management	92 percent achievement The physical target under this component was to establish 50 pack houses, of which 46 pack houses have been established.	92 percent achievement The financial allocation for this component was Rs. 75 lakhs, of which Rs. 69 lakh has been utilized.
Training of Farmers	100 percent achievement The physical target was to provide training to 408 farmers which have been conducted for all 408 farmers.	100 percent achievement Financial allocation for this component was Rs 3.06 lakhs, of which entire budgeted fund has been utilized.
Promotion of Farmers Association/ Groups	100 percent achievement Physical target was to cover 600 farmers, of which 600 farmers have been covered.	100 percent achievement The financial allocation for this component was Rs 12 lakhs, of which entire fund has been utilized.
Baseline Survey	100 percent achievement Financial allocation for Baseline Survey was Rs 3 lakhs, of which entire fund has been utilized.	

Of the total fund of Rs 600.00 lakhs, only Rs. 547.73 lakh has been utilized i.e. 91 percent of the total financial target has been achieved.

Summary

- ◆ As per the proposed Action Plan, total financial outlay for the year 2011-12 was Rs 600.00 lakhs. Maximum fund was allocated for the protected Cultivation.
- ◆ Total utilization of the fund till date is Rs.547.73 lakhs, which is 91 percent of the total target.
- ◆ The funds have been provided and utilized in two instalments, first instalment of Rs 244.03 lakh has been utilized in the FY 2011-12, and second instalment of Rs 303.70 lakh has been utilized in FY 2012-13 from the unspent balance of 2011-12.
- ◆ Achievement below the planned target has been observed only in the component of Vegetable Cultivation and post harvest management.
- ◆ In case of protected Cultivation, achievement more than the planned target has been observed in establishment of naturally ventilated structure.

Situational Analysis of the Scheme

This chapter illustrates the situational analysis of the initiative. It is an analysis of the project area in the State and condition of the farmers/beneficiaries after implementation of the initiative, identification of the major issues related with the components and analysis of key role and contribution by other stakeholders. Situational analysis has been derived with the help of primary survey, secondary information and observations made during field visits in selected clusters of vegetable production areas.

Observations and findings of primary survey of farmers have been discussed in the following sections:

Findings of Primary Survey

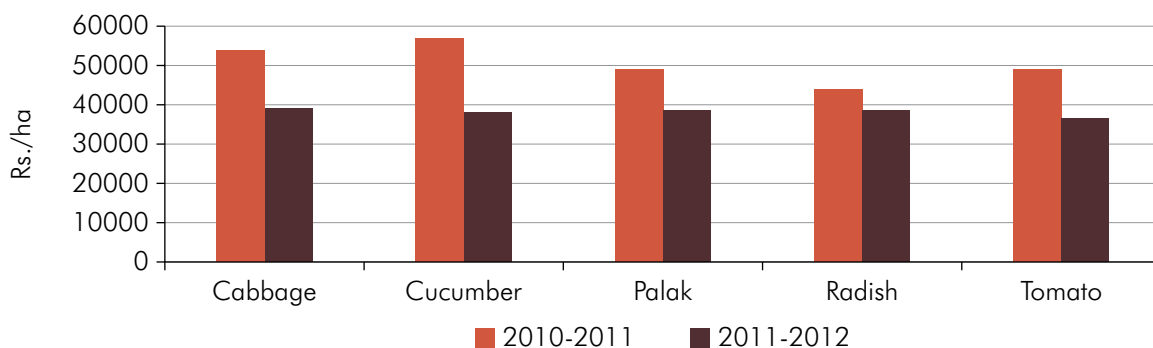
Land Holding: Average operational holding size of the surveyed farmer's area is around 0.4 ha. Almost 100 percent of the farmers belong to the category of marginal farmers. None of the medium or large farmers have been covered under the scheme. Of the total cultivable area, 100 percent of the land is owned by the farmers and they carry out Vegetable Cultivation.

Irrigated Land: Of the total cultivable area of the surveyed farmers, 100 percent area is under irrigation. Tube well and open well constitutes the major source of irrigation; none of the farmers have been carrying out protected Cultivation currently.

Cost of Cultivation: Cost of Vegetable Cultivation has been calculated based on cost of land preparation, Cultivation inputs, irrigation and labour employed by the farmers during farming operations (land preparation to harvesting). For some crops, seeds and other inputs have been provided by the Department of Horticulture, which has enabled and reduced the cost of Cultivation. From the graph below, it can be observed that the cost of Cultivation has reduced from the baseline year and reduction cost is because of the inputs and subsidy provided by the department for seeds, production of fertilizers and other inputs.

Average production cost mentioned by the surveyed farmer has been given in Annex IV.

Figure 53: Decrease in Cost of Cultivation from Baseline Year to Current Year



Seed Used: Almost 100 percent of the surveyed farmers use local/open pollinated seeds and all are procuring seeds preferably from local input supplier and sourcing from Government Department. As per the Baseline Survey report, earlier almost 70 percent of the farmers were procuring seeds from Government agencies. Dependency on Government for sourcing the seed has reduced amongst the farmers, over a period of time.

Input Procurement: Regarding the procurement of seeds, fertilizers, pesticides, packaging, all the farmers are purchasing the inputs individually from local inputs dealers. For irrigation, tractors and credit & finance facility, these farmers are taking help from neighbours, relatives and other private agencies. The impact of the collectivisation is completely absent in this group of farmers because the activities and training programme for mobilization and benefits of collective activities have not been started in the clusters selected under the scheme.

Adoption on Integrated Pest Management: None of the farmers of the area under the selected

clusters have adopted integrated pest management practices, only 10 percent of the farmers are carrying out organic farming on 0.25 ha area. However, no provision has been made for organic certification. Recently Government has approved a programme for promotion of organic agriculture in the division through ITSL, however no official is aware of the process, activities and expected outcome of the project.

Adoption of On-farm Management Practices: None of the farmers of the area are carrying out on-farm management practices like drip irrigation, sprinkler irrigation or any other improved practice except for protected seedling production. This indicates that the resource institution and Department of Agriculture have not yet sensitized the farmer's on providing training/exposure visits on modern package of practices of Cultivation, off season vegetables production and other practices for Vegetable Cultivation.

Post Harvest Losses and Value Addition: As per the data of surveyed farmers, the extent of Post Harvest Losses varies 5 to 10 percent in different crops as mentioned below:

Table 16: Post Harvest Loss in Major Vegetable Crops

S.No.	Crop	Percent Post Harvest Loss	
		On Baseline Survey	On Primary Survey
1	Tomato	26	10
3	Cucumber	12	5
4	Brinjal	11	10
5	Potato	12	5
6	Onion	11	10
7	Kale	11	10

From the Baseline Survey report, it has been observed that the Post Harvest Loss of vegetables has reduced by 5-10 percent, which was earlier more than 10 percent. But any substantial decrease in Post Harvest Losses has not been observed. This shows that the farmers have not been much trained on awareness regarding Post Harvest Management

practices and there is a vital requirement of setting up some post harvest infrastructure for cooling and storing for short duration. Construction of good number of pack-houses under the scheme has helped the farmers in reducing their post-harvest losses.

Value Addition at Field Level: Value addition at field level is done mostly by sorting and grading of the produce. These produce include cucumber, brinjal, tomato, onion, etc. Almost all the farmers use loose bags for packaging of the produce. For packaging of tomato, loose bags as well as corrugated boxes are being used. Loose packaging costs about Rs 150-200 per quintal of produce. Promotion of pack-houses under the scheme has helped farmers in better sorting-grading and packaging of the vegetables.

Marketing of the Produce: Almost 100 percent of the farmers sell their produce at the local Mandi at distance of 2-5 km.

- ◆ Since the volume of produce from individual farmers is very small among the surveyed farmers, therefore, they use public transport vehicle. This is a clear picture of the lack of group approach regarding a major component of marketing in which a large amount of money is incurred.
- ◆ Almost 100 percent of surveyed farmers sell their produce to aarhtia/commission agent. Huge cost on transportation of the produce compels them to sell the produce on low prices to commission agents in the nearby mandi on spot cash basis.
- ◆ Major mechanism of fixing the price is by negotiation between farmers and commission agents
- ◆ Major problem in marketing of the produce is dependency on middlemen. Low level of awareness regarding the marketing activities and lack of group approach by the growers are responsible for exploitation by the middlemen in the market.

Marketing Model and Infrastructure: Presently the farmers are facing the pricing problem with the traders in the market, as the farmers are selling the produce by themselves and that too individually, without any assistance of any marketing organization, therefore, the price is fixed between them through negotiation and this is not in favour of the farmers as they are compelled to get convinced on the price decided and declared by traders.

Government Support: As per the survey report, almost all the farmers of the area are aware about the Government support and the scheme and major source of information access is department officials working in the area and fellow farmers. Almost 38 percent of the farmers are beneficiaries of Technology Mission for Horticulture and other State Government programmes. As per the Baseline Survey report, the awareness of farmers regarding Government schemes was only among 23 percent of the farmers which has improved substantially. There is a limited understanding about VIUC scheme and its objectives amongst the farmers.

Resource Institution: The Resource institution, RI, Actech Information System is working for farmers' mobilization, group formation and FPO promotion in the area. Recently the regular cluster meetings of the farmers have started however the district level Department officials are not much aware of the activities.

Bank Account and Saving: Although none of the farmers reported about the opening of the bank account, however more than 50 percent of the farmers have KCC facility.

Marketing Linkages: No formal marketing linkages have been established, so far.

Training Need: Training activities of farmers have just started on product quality improvement, FPO administration/management and record keeping aspects.

Overall, from the primary survey, it can be concluded that the scheme has positively affected the vegetable area and production with improved availability of inputs and decrease in Post Harvest Losses and there by total cost of production. However, marketing aspects needs to be addressed and improved aggressively.

Observations of the Field Visit

As per the direct interaction with Department officials, resource institution and farmers, following points have been observed:

Figure 54: Observation of the Field Visit



Observations of Field Visit

In Kashmir, for the purpose of promotion of Vegetable Cultivation and supporting the farmers through various components under the scheme, existing commercial vegetable growers as well as feasible vegetable clusters in rural and peri-urban area have been given priority. These clusters have been selected on the basis of their potentiality in Vegetable Cultivation and farmers' interest.

In Kashmir Division of the State, the implementation of the VIUC scheme is more



Figure 55: Hybrid Vegetable Cultivation

focused on distributing subsidies. From the perspective of achieving targets of subsidy distribution, scheme has been implemented very effectively. Targets of distribution of subsidy for various components have been achieved very effectively. Various components, such as distribution of technical inputs for production enhancement per unit area, material for protected Cultivation as well as direct financial support for creation of vermi-compost structure, pack house as well as for motorised vending carts have contributed in increasing the production of vegetables, however, sustainability of all these activities has not been planned through, properly.

Overall, the VIUC scheme in Kashmir Division in the State is missing holistic approach, where in some key components such as farmers' training and awareness creation, collectivisation and linking farmers to other stakeholders as well as with the markets has been observed to be totally absent.

- ◆ Earlier, target given to RI for formation of farmers' group was very small, which was not very effective from implementation point of view of the scheme. However, now after discussions and due consideration, the target for promotion of farmers' groups has been revised and increased. The scheme has provided sufficient knowledge and experience and is most likely to gain momentum.



Figure 56: FIG Meeting and Discussion

- ◆ From the field visit and interaction with the Department officials and farmers, it has been observed that the staff engaged in implementation of the scheme is very attentive in case of distribution of subsidy and is

knowledgeable, scarcity of adequate number of persons at different levels of implementation of different components of the scheme is mainly responsible for slow implementation of schemes' components, particularly wherever there targets, as proposed in the Action Plan, have not been covered. No separate staffs have been engaged for implementation of VIUC scheme by the Department and, it is observed that for proper coordination of field activities, additional staff is required.

- ◆ Regarding the disbursement of subsidy and inputs, farmers do not find any difficulty because after proper verification of field and scrutiny of application, subsidy is transferred to famers in the form of cheque. In addition to this, seeds, vermi-compost and other inputs have also been provided to farmers. Benefited farmers do appreciate the initiative under the VIUC scheme.
- ◆ Among the infrastructure creation component, protected Cultivation structures and pack houses have been constructed. Under protected Cultivation, small poly houses have been constructed from the inputs provided by the Department. At individual level, farmers are highly benefitted by this structure as it is helping in the production of healthy seedlings, which saves the time and consequently helps in early production of vegetables. Early season vegetable fetch higher prices in the market.
- ◆ For facilitating transportation of vegetables to the market, large number of three wheelers have been provided on subsidy to individual farmers. Similarly, pack-houses have been constructed at individual farmer's house. However, it is more important to develop mechanism where these infrastructures can be used jointly by all the vegetable grower farmers of the cluster. Due to lack of collectivisation, these infrastructures are not being utilised, optimally.
- ◆ Regarding market facilitation and linking with traders and wholesalers, no efforts have been made. Marketing of vegetable is most important concern with farmers and need urgent thrust from the implementing agency.
- ◆ Regarding backward and forward linkages, no effort has been made in organizing buyer-seller meetings with input supplier or retail

outlets in the city. For marketing tie-ups and linkages, till now no concrete efforts have been made, because farmers are not well versed with, and have no knowledge and experience, the benefits of joint or collective activities,.

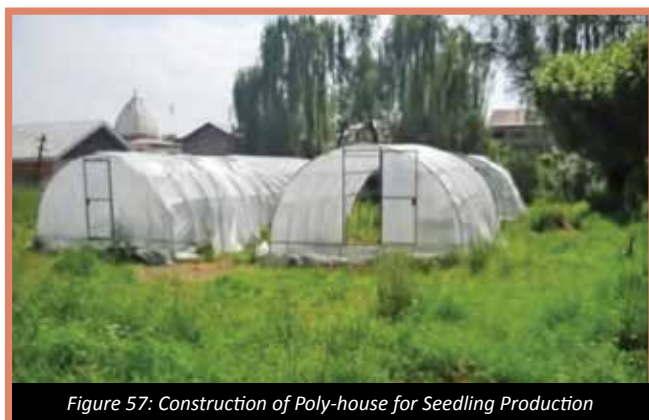


Figure 57: Construction of Poly-house for Seedling Production

- ◆ Very few farmers have started joint marketing to APMC market (Pinchu Mandi), Army Base Camp at Jammu and Srinagar, they are facing problem of transportation, however.
- ◆ There is very poor record keeping at all the level regarding progress of different components under the scheme. For management and monitoring of various components under the scheme, there is no separate MIS Group or Cell, Department Staff is itself engaged in monitoring the progress of the scheme.

Challenges/Issues

As it has been discussed above, only major components of the scheme were taken up in Kashmir, therefore, from the perspective of holistic development, along with the vegetable production, marketing and Post Harvest Management of the produce is also necessary. From implementation point of view of the scheme, there are some issues which need to be resolved effectively and successfully:

- ◆ Farmers' Collectivisation: Group formation and collectivisation of agri-input procurement, other intermediary services and out-put marketing is the key factor for the success of the scheme. In Kashmir, consideration and the very right approach is totally missing. RI will have to work very aggressively to ensure that all the farmers, who have got various benefits from components under the scheme,

are implemented together in FIGs and FPOs, organised, so far. These groups will also assist in sustaining the activity on its own once the Government support will be withdrawn.

- ◆ Linkages with Institutional and Mainstream Markets Resource institution has not made any attempt or effort for developing the marketing linkage with aggregators, retail outlets or any other type of institutional linkage. Kashmir, being one of the most visited tourist locations, RI must contact and develop commercial relationship as there is a great scope of developing linkage with hotels and other institutions for regular supply of vegetables.
- ◆ Lack of Manpower- The State Department and RI are facing the problem of knowledgeable and experienced manpower scarcity for conducting meetings and training at regular intervals for creating the awareness regarding modern and improved package of Vegetable Cultivation practices and importance of various components under the VIUC scheme.

Summary

- ◆ During the year, as reported by the Implementing Agency, around 1800 farmers have been mobilized into 95 farmers' groups. However, the farmers are not clear of objectives of forming groups. The very objective of this group organisation for collectively performing different production and marketing activities jointly is almost negligible. Mutual coordination and support is yet to be understood and practiced.
- ◆ Farmers have been benefited with the scheme in terms of subsidy and farming inputs provided by the Department.
- ◆ From seedling production component under protected Cultivation, farmers have gained profit by growing and selling early produce in the targeted market.
- ◆ Marketing component as well as development of marketing linkages is highly lacking in the State. This is an important component, as a matter of fact the very objective of 'the Initiative, is based on enhanced quality production, arrange marketing of the produces, increase farmers' income and create additional job opportunities' in the project area.

Impact of the VIUC

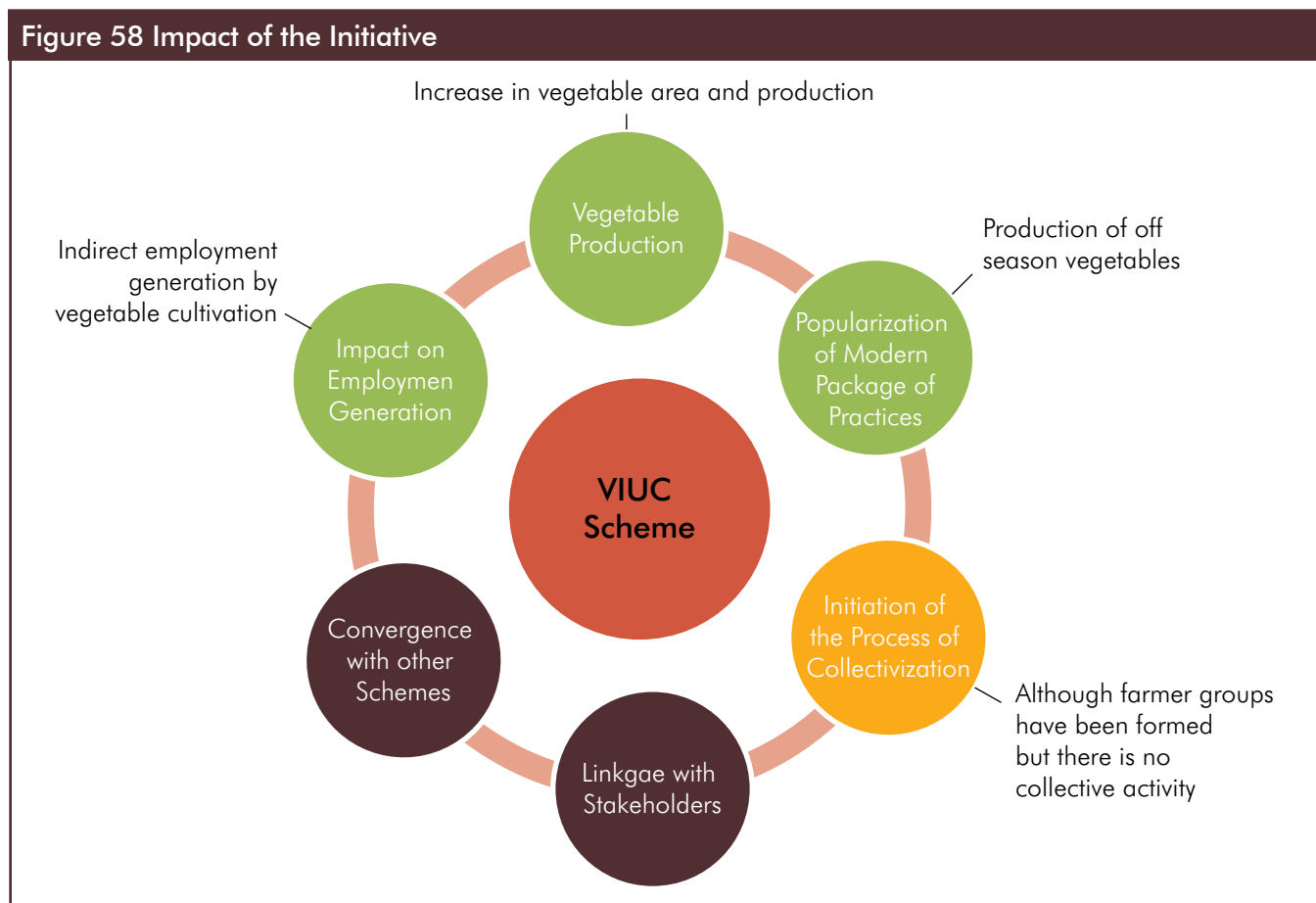
This section investigates and attempts to assess the impact of VIUC on broader areas relating to increased production of vegetables, availability of quality inputs, linkages for procurement and marketing, savings and improvement in socio-economic status of farmers and employment generation induced by the initiative.

VIUC has been framed to cover all the segments of vegetable supply chain right from the farmers' field up to retailing of vegetables with major emphasis on training of farmers on good vegetable

production practices, post-harvest management, value addition along with ensuring availability of quality inputs, creation of marketing infrastructure and allied supportive linkages. For the purpose of assessing impact of VIUC, the results of performance and situational analysis has been conducted, as per the data/information made available:

Impact of the VIUC

The Following figure outlining the direct impact of the initiative in terms of the following six components



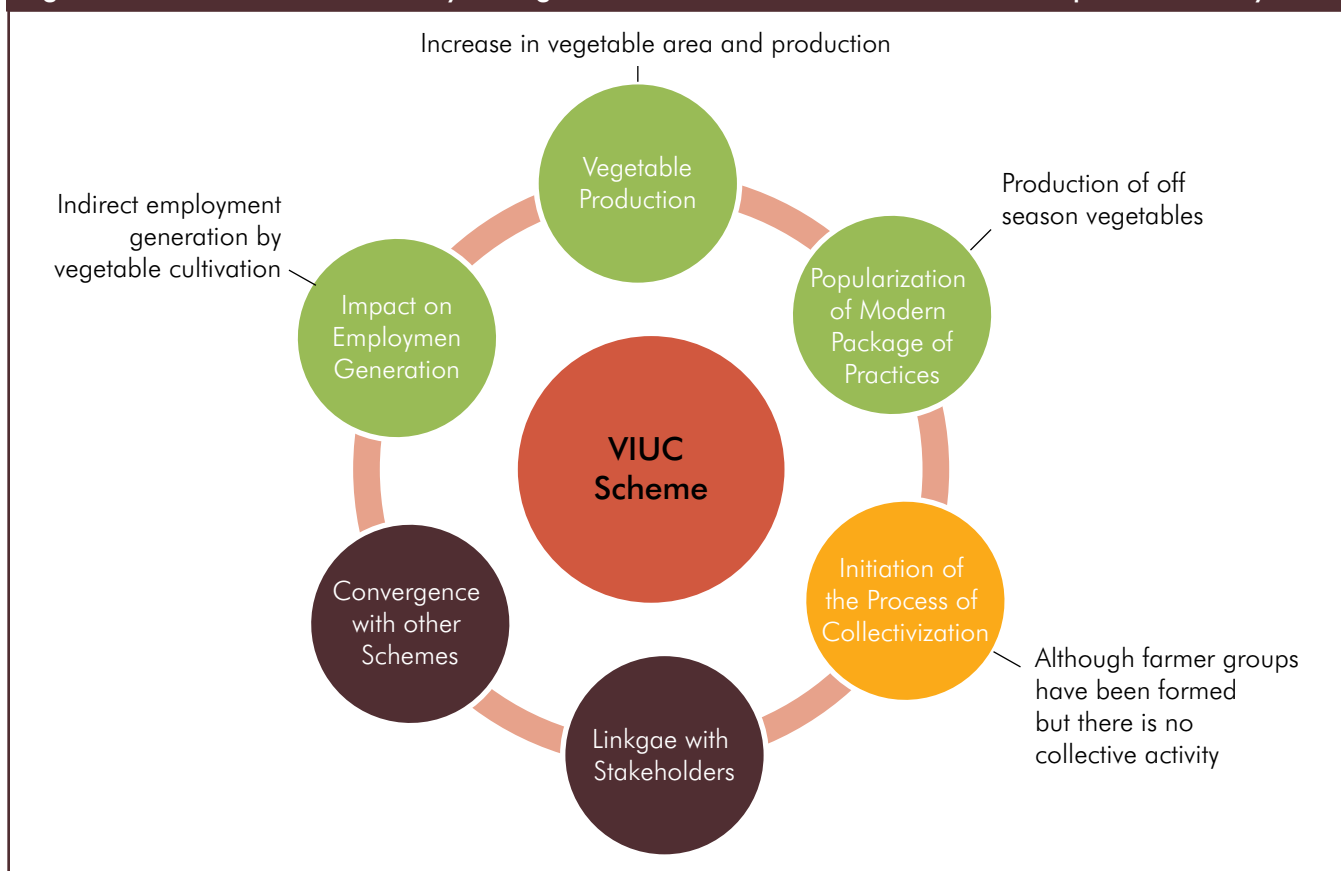
Vegetable Production

As per interaction with farmers and the Department officials, it has been reported that the area and production under vegetables has increased from the area and production prior to the implementation of the scheme. This has been observed from the primary survey data of the interaction with farmers.



Figure 59: Vegetable Cultivation from the Inputs provided by the Department

Figure 60: Increase in Productivity of Vegetable from Baseline Year to Scheme Implementation year



The increase in productivity is because of the adoption of modern and improved package of vegetables growing practices, efficient use of inputs arranged by the Department. The impact of the initiative, in terms of expansion of area under vegetables as well as production was noticeably evident as farmers are highly appreciative with the implementation of different components under the VIUC, and the interest and approach of the Department officials and RI.

Popularization of Modern Package of Practices and Protected Production Technology

As observed from the field visit, farmers have learnt and are applying modern package of practices and Cultivation under protected condition on a large scale, than earlier. The support provided by the Department in terms of poly sheets, seeds

and other inputs has helped the farmers in carrying out seedling production in poly-houses. Seedling production in poly-houses has helped the farmers to grow early season vegetable crops which consequently leads to early providing of produce in markets, which have very high and remunerative market prices.

However, there is still a need to improve on the training and capacity- building programme for the farmers. For this purpose, the Department shall actively engage SAU and other research institutes.

Initiation of the Process of Collective and Joint Agri-Business

The department has contacted and mobilised around 1800 farmers under the scheme which have been federated into 95 FIGs. Although these groups have been formed, the collective approach to conduct agribusiness is not very evident and

visible here. Farmers are not carrying out joint assembling or joint or mutual help for Cultivation on field. They are, so far, not able to realise the benefits of group/collective/joint agri-business activities. Very few farmers have started joint marketing of produce to Army Base Camp and APMC markets in Jammu and Srinagar, but there are no substantial achievement in this perspective, however.

Coordination and Linkages with Stakeholders

For integrated development of the entire process of an efficient production and the supply chain, from production to marketing, emphasis has been mainly given on timely arranging and providing of technical inputs and availability of produce for marketing purposes. To facilitate this entire chain of process and supporting activities i.e., linkage of farmers with financial institutions, Government officials, banks, and necessary support of service providers is considered necessary. Although, the RI has started working on this aspect now, no formal linkage or any sort of integration has been established for input procurement, credit facility and marketing during the year.

Convergence with other Schemes

The VIUC scheme has not been converged with any of the other ongoing Government schemes in the project area, so far.

Recommendations

Though the scheme is progressing gradually towards a positive direction but to observe the impact on farmers there are certain components which need immediate improvement for comprehensive development approach under VIUC scheme.

- ◆ The farmers are facing the problem of irrigation for the vegetable crops. In order to resolve this, the Department officials will need to suggest and recommend for the convergence of VIUC scheme with the other ongoing micro-

irrigation and rain water harvesting scheme in the project area of the State.

- ◆ For arranging and providing quality inputs for increased yields, as per preference and requirement, there is a need to organize meeting of the farmers and input supplying/servicing companies and empanelment of such companies in the scheme for input requirement as per farmers' preference.
- ◆ Marketing and transportation of the produce is the major problem faced by the farmers. The Nodal agency should include provision of establishing local retail markets and aggregation/collection centre infrastructure in each cluster in the Action Plan.
- ◆ As most of the farmers have poor a educational background, therefore, there is need of more and frequent orientation of farmers regarding package of practices for Vegetable Cultivation, off season vegetable production and Post Harvest Management activities, number of training and exposure visits should be arranged and organised. In addition to this, farmers groups can be tied-up with KVKs, research institutes and banks for on-farm solution of the problems and queries regarding credit supply.
- ◆ For strengthening the collective/joint beneficial activities, there is a need to organize more training and exposure visits of farmers to other FPOs for learning the functioning and benefits in conducting the collective agri-business.
- ◆ The RI will have to seriously work hard for strengthening the system of value chain for backward as well as forward linkages. More number of periodic meetings may be two/three on one day, with the service providers (input suppliers, aggregators, logistics and vegetable buyers, banks & financial institutes, research institutes, etc.) should be organized to establishment a firm linkage with these service providers.
- ◆ Since Srinagar is a tourist place and arrival of tourist is very high, marketing linkage with hotels and retail food chains should be developed for regular supply of fresh or may be organic vegetables.
- ◆ Additional manpower may be hired, as and when required, on contractual basis especially for VIUC scheme; this will help in timely

monitoring and technical assistance required in their fields themselves by the farmers.

- ◆ It is strongly recommended that, considering the topography and terrain of the State, phased implementation of the VIUC scheme be planned. An Action Plan be developed so that it covers all the components, the emphasis may be on covering the planned target of vegetable growing farmers, include additional prospective farmers, concentrate on a larger volume on a regular and daily basis, have

closer and practical implementation of all the components under the scheme, develop long term and sustainable linkages with service providers, ensure logistics and marketing arrangements. An area spread, covering more Districts, as observed by the 'visiting team' may not be conducive for and may dilute the efforts and the very objective for which the scheme has been planned – Vegetable Initiative for Urban Clusters.

Annexes: I

Chhattisgarh

A. Physical & Financial Outlay of the Scheme for Year 2011-12

S. No.	Item	Units	Target	
			Physical	Financial
1.	Seed production of Vegetables		25	12.50
2.	Vegetable seedling production	Ha.	1	104.00
3.	Vegetable Cultivation	Ha.	5760	720.00
	i Open field	Ha.		
	ii Hybrid veg.	Ha.		
4.	Protected Cultivation		13000	60.35
5.	Promotion on INM/IPM		1000	10.00
6.	Organic Farming		2204	114.00
	i Adoption of organic Farming	Ha.		
	ii Organic Certification	Ha.		
	iii Vermicompost Units (to be renamed as organic input production)	Nos.		
7.	Post Harvest Management			
	i Pack house	Nos.	25	37.50
	ii Pre-cooling unit	Nos.	5	30.00
	iii Mobile pre cooling unit	Nos.	1	9.60
8.	Markets			
	i Rural Market/Apni mandies/Direct markets	Nos.	1	8.00
	ii Retail Markets/outlets (environmentally controlled)	Nos.	1	4.00
9.	Promotion of farmers Association/Groups of 15-20 farmers/20 ha and tie up with financial Institution and aggregators (@ Rs. 2 lakh/group/annum) (no)	Nos.	60	120.00
10.	Baseline Survey (no)	Nos.	1	10.00
11.	HRD-Training of Farmers (no) @ Rs. 1500/per farmer for 2 days	Nos.	1400	10.50
	Total			1250.45

B. Physical Target and Achievement


S. No.	Item	Units	Physical	
			Target	Achievement
1.	Seed production of Vegetables		25	25
2.	Vegetable seedling production	Ha.	1	1
3.	Vegetable Cultivation	Ha.	5760	5760
	i Open field	Ha.		
	ii Hybrid veg.	Ha.		
4.	Protected Cultivation		13000	13000
5.	Promotion on INM/IPM		1000	1000
6.	Organic Farming		2204	2204
	i Adoption of organic Farming	Ha.		
	ii Organic Certification	Ha.		
	iii Vermicompost Units (to be renamed as organic input production)	Nos.		
7.	Post Harvest Management			
	i Pack house	Nos.	25	25
	ii Pre-cooling unit	Nos.	5	5
	iii Mobile pre cooling unit	Nos.	1	1
8.	Markets			
	i Rural Market/Apni mandies/Direct markets	Nos.	1	1
	ii Retail Markets/outlets (environmentally controlled)	Nos.	1	1
9.	Promotion of farmers Association/Groups of 15-20 farmers/20 ha and tie up with financial Institution and aggregators (@ Rs. 2 lakh/group/annum) (no)	Nos.	60	
10.	Baseline Survey (no)	Nos.	1	1
11.	HRD - Training of Farmers (no) @ Rs. 1500/per farmer for 2 days	Nos.	1400	1400

C. Financial Targets & Achievement of VIUC During 2011-12

S. No.	Item	Units	Financial	
			Target	Achievement
1.	Seed production of Vegetables		12.50	12.50
2.	Vegetable seedling production	Ha.	104.00	104.00
3.	Vegetable Cultivation	Ha.	720.00	720.00
	i Open field	Ha.		
	ii Hybrid veg.	Ha.		
4.	Protected Cultivation		60.35	60.35
5.	Promotion on INM/IPM		10.00	10.00
6.	Organic Farming		114.00	114.00
	i Adoption of organic Farming	Ha.		
	ii Organic Certification	Ha.		
	iii Vermicompost Units (to be renamed as organic input production)	Nos.		

7.	Post harvest management			
	i Pack house	Nos.	37.50	37.50
	ii Pre-cooling unit	Nos.	30.00	30.00
	iii Mobile pre cooling unit	Nos.	9.60	9.60
8.	Markets			
	i Rural Market/Apni mandies/Direct markets	Nos.	8.00	8.00
	ii Retail Markets/outlets (environmentally controlled)	Nos.	4.00	4.00
9.	Promotion of farmers Association/Groups of 15-20 farmers/20 ha and tie up with financial Institution and aggregators (@ Rs. 2 lakh/group/annum) (no)	Nos.	120.00	120.00
10.	Baseline Survey (no)	Nos.	10.00	9.55
11.	HRD - Training of Farmers (no) @ Rs. 1500/per farmer for 2 days	Nos.	10.50	10.50
	Total		1250.45	1250.00

D. Letter provided by Directorate of Horticulture & Farm Forestry for FPO promotion


संचालनालय उद्यानिकी एवं प्रक्षेत्र पानिकी, छ.म. रायपुर
 जी. ई. रोड, तेलीबांधा रेलवे क्वार्टर के पास, तेलीबांधा रायपुर
 फोन 0771-4225101 फैक्स 0771-4225102

क./उद्यान/तक/वेडअवलस्टर/2011-12/1308 रायपुर, दिनांक: 14/3/13

प्रति,

प्रबंध संचालक
 लघु कृषक, कृषि व्यापार संघ,
 एन.सी.यू.आई. ऑडिटोरियम बिल्डिंग, 5 वीं मंजिल
 3, श्री इस्टिडयूशनल एरिया, अनन्त क्रांति मार्ग,
 हीज खास, नई दिल्ली - 110 016,
 दूरभाष - 011-26068017, 26068037,
 फैक्स - 26062367,
 ईमेल - sfac@nic.in

विषय :- वेजिटेबल इनिशिएटिव इन पेरी अरबन एरिया योजना के क्रियान्वयन अंतर्गत एफ.पी.ओ. गठन का कार्य बाबत ।

—00—

वेजिटेबल इनिशिएटिव इन पेरी अरबन एरिया कार्यक्रम के अंतर्गत इडिवन सोसायटी आफ एग्रीबिजनेस प्रोफेशनल द्वारा वेतलाइन सर्वे का कार्य जिला - दुर्ग, बिलासपुर, रायपुर, राजनांदगांव, कांकेर, महासमुंद, कबीरघाम, रामतरी में किया जा चुका है, सर्वे के कार्य को देखते हुए निम्न जिलों में साग सब्जी उत्पादन की संभावनाएं हैं।

अतः जिला- दुर्ग, बिलासपुर, राजनांदगांव एवं कबीरघाम में एफ.पी.ओ. गठन हेतु आपके द्वारा नियत संस्थाओं को आवश्यक निर्देश देना चाहेंगे।

संचालक
 उद्यानिकी एवं प्रक्षेत्र पानिकी
 छत्तीसगढ़ रायपुर
 रायपुर, दिनांक :

पू. क./उद्यान/तक/वेडअवलस्टर/11-12/
 प्रतिनिधि :-

- स्टॉफ ऑफिसर प्रमुख सचिव एवं कृषि उत्पादन आयुक्त, छत्तीसगढ़ शासन, कृषि विभाग, मंत्रालय डी.के.एस भवन रायपुर की ओर सूचनार्थ सम्प्रेषित
- प्रोजेक्ट सीडर, एस.एफ.ए.सी., नई दिल्ली की ओर सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित।

संचालक
 उद्यानिकी एवं प्रक्षेत्र पानिकी
 छत्तीसगढ़ रायपुर

Annexes: II

Delhi

S.No.	Activity	Outlay as per action plan (Rs. In lakh)	Percentage Of Total
1	Baseline Survey	5.00	2.50
2	Formation of farmer group	70.00	35.00
3	Capacity building of farmer	52.50	26.25
4	Vegetable seedlings production	5.20	2.60
5	Protected Cultivation	6.00	3.00
6	Adoption and certification of organic area	14.00	7.00
7	Horti-expo for promotion of FPO	45.30	22.65
8	Administrative expenses	2.00	1.00
	Total	200.00	100.00

Annexes: III

Jammu

A. Physical & Financial Outlay and Achievement of the Scheme for Year 2011-12

VIUC progress in Jammu 2011-2012						
S. No.	Item	Units	Target		Achievement	
			Physical	Financial	Physical	Financial
1	Seed production of Vegetables	Ha.	42	18.00	18	9.000
2	Vegetable Seedling production	Ha.	0.5	39.00		
3	Vegetable Cultivation	Ha.				
	i Open field	Ha.	100	22.50	92.8	20.880
	ii Hybrid veg.	Ha.	423.7	143.00	310	104.394
4	Protected Cultivation					
	Naturally ventilated system	Sq.M	1000	7.33		
	Green House Structure	Sq.M				
	i Tubular structure	Sq.M	2200	10.30	3120	10.265
	ii Bamboo structure	Sq.M	8000	15.00	8660	14.971
	Shed net house					
	i Tubular structure	Sq.M	4000	12.00	6800	11.860
	ii Bamboo structure	Sq.M	8000	12.00	10360	11.435
	Cost of planting material and other inputs of high value vegetables grown in green house/poly house shed net house	Sq.M	5000	2.63		
5	Promotion on INM/IPM		750	3.75		
6	Organic Farming					
	i Adoption of organic Farming & Organic Certification	Ha.	100	20.00	667	20.000
	ii Vermicompost Units (to be renamed as organic input production)		170	51.00	117	34.930
7	Training of farmers within the State		400	6.00	100	0.320
8	Post Harvest Management					

S. No.	Item	Units	Target		Achievement	
			Physical	Financial	Physical	Financial
	i Cold storage units (Construction/expansion/ Modernization)	Nos.	5000	84.00		
	ii Refer vans/containers	Nos.				
	iii Primary/Mobile/ Minimal processing unit	Nos.	3	36.00		
9	Markets					
	i Collection/aggregation centre at production cluster @ Rs. 8 lakh/ unit	Nos.	15	60.00	0	-
	ii Motorized vending cart	Nos.	25	12.50	0	-
10	Promotion of farmers Association/ Groups (no)		15	30.00	15	30.00
11	Baseline Survey (no)		1	7.50	1	6.722
12	HRD - Training of Farmers (no) @ Rs. 1500/per farmer for 2 days					
13	Administrative Cost			7.50		
	Total			600.00		274.777

B. Area, Production & Productivity

S. No	Crop	Area(ha)		Production (MT)		Productivity(MT/ha)	
		2010-2011	2011-2012	2010-2011	2011-2012	2010-2011	2011-2012
	Kharif						
1	Okra	2351	2381	41088	42038	17.5	17.7
2	Tomato	1864	1874	40053	41037	21.5	21.9
3	Brinjal	1080	1102	22095	23097	20.5	21.0
4	Chilli	933	951	18042	19086	19.3	20.1
5	Capsicum	242	249	4007	4109	16.6	16.5
6	French bean	1205	1231	21531	22026	17.9	17.9
7	Cucumber	829	832	15542	16008	18.7	19.2
8	Bottle gourd	778	782	16234	17016	20.9	21.8
9	Tinda	206	226	4134	4205	20.1	18.6
10	Bitter Gourd	428	432	8089	8210	18.9	19.0
11	Water melon	281	297	6103	6205	21.7	20.9
12	Musk Melon	130	130	2812	2902	21.6	22.3
13	Ginger	340	357	6916	7039	20.3	19.7
14	Pumpkin	280	289	6419	6522	22.9	22.6
15	Turmeric	340	343	7033	7102	20.7	20.7
16	Onion	70	70	1337	1340	19.1	19.1
17	Knol-khol	130	130	2562	2565	19.7	19.7
18	Potato	1668	1729	26988	27061	16.2	15.7
	Sub total	13155	13405	250985	257568	19.1	19.2

S. No	Crop	Area(ha)		Production (MT)		Productivity(MT/ha)	
		2010-2011	2011-2012	2010-2011	2011-2012	2010-2011	2011-2012
1	Knol-khol	2320	2570	48212	56706	20.8	22.1
2	Cauliflower	2173	2173	52366	58012	24.1	26.7
3	Cabbage	1514	1514	40876	48876	27.0	32.3
4	Kale(Hag-sag)	283	283	4867	5367	17.2	19.0
5	Radish	2200	2200	45993	53645	20.9	24.4
6	Turnip	1046	1046	25368	27210	24.3	26.0
7	Carrot	550	550	11603	13333	21.1	24.2
8	Spinach	996	996	18943	20139	19.0	20.2
9	Methi	409	409	4260	4410	10.4	10.8
10	Onion	1725	1725	36882	37676	21.4	21.8
11	Garlic	646	646	11064	11828	17.1	18.3
12	Pea	1593	1593	26015	28081	16.3	17.6
13	Corriander	240	240	2431	2540	10.1	10.6
14	Potato	3150	3150	60163	64658	19.1	20.5
	Sub total	18845	19095	389043	432481	20.6	22.6
	Grand total	32000	32500	640028	690049	20.0	21.2

C. Cost of Production of Major Crops as Reported by Farmers (Rs/Ha)

Crop	Seed	Fertilizer	Pesticide	Land Preparation	Irrigation	Labour	Average cost of Cultivation
Cabbage	12500	2000	5000	5000	2000	12000	38500
Cucumber	12000	5000	5000	5000	2000	15000	44000
Hag Saag	2000	2000	5000	5000	2000	10000	26000
Kadam	8000	2000	5000	5000	2000	10000	32000
Knol- Khol	8000	2000	5000	5000	2000	8000	30000
Palak	5000	2000	5000	5000	2000	10000	29000
Radish	5000	5000	2000	3000	2000	10000	27000
Tomato	10000	2500	8000	10000	2000	10000	42500

Source: Primary survey

Annexes: IV

Kashmir

A. Physical & Financial Outlay and Achievement of the Scheme for Year 2011-12

S. No.	Item	Units	Target	
			Physical	Financial (Rs in lakh)
1.	Seed production of Vegetables	Ha	17	8
2.	Vegetable seedling production	Ha	4	3.12
3.	Vegetable Cultivation	Ha		
	i Open field	Ha.	380	85.5
	ii Hybrid veg.	Ha.	285	96.075
4.	Protected Cultivation			
	a Green House Structure	Sq.M		
	i Fan & Pad system	Nos.	2	7.325
	ii Naturally ventilated system	Nos.	1005	192.84
5.	Organic Farming			
	a Vermi-compost Units (for organic input production)	Nos.	370	112.5
6.	Training of farmers within the State		408	3.06
7.	Post Harvest Management			
	a Pack house	Nos.	50	75
8.	Promotion of farmers Association/Groups of 15-20 farmers/20 ha and tie up with financial Institution and aggregators (@ Rs. 2 lakh/group/annum) (no)		600	12
9.	Baseline Survey (no)		1	3
10.	Administrative Cost			1.58
	Total			600

B. Physical Target and Achievement

S. No.	Item	Units	Physical	
			Target	Achievement
1.	Seed production of Vegetables	Ha	17	17
2.	Vegetable seedling production	Ha	4	4
3.	Vegetable Cultivation	Ha		
	i Open field	Ha.	380	219
	ii Hybrid veg.	Ha.	285	282
4.	Protected Cultivation			
	a Green House Structure	Sq.M		
	i Fan & Pad system	Nos.	2	
	ii Naturally ventilated system	Nos.	1005	1845
5.	Organic Farming			
	a Vermi-compost Units (for organic input production)	Nos.	370	370
6.	Training of farmers within the State		408	408
7.	Post Harvest Management			
	a Pack house	Nos.	50	46
8.	Promotion of farmers Association/Groups of 15-20 farmers/20 ha and tie up with financial Institution and aggregators (@ Rs. 2 lakh/group/ annum) (no)		600	600
9.	Baseline Survey (no)		1	1

C. Financial Targets & Achievement of VIUC During 2011-12

S. No.	Item	Units	Financial (Rs in lakh)	
			Target	Achievement
1.	Seed production of Vegetables	Ha	8	8
2.	Vegetable seedling production	Ha	3.12	3.12
3.	Vegetable Cultivation	Ha		
	i Open field	Ha.	85.5	49.81
	ii Hybrid veg.	Ha.	96.075	95.26
4.	Protected Cultivation			
	a Green House Structure	Sq.M		
	i Fan & Pad system	Nos.	7.325	
	ii Naturally ventilated system	Nos.	192.84	190.44
5.	Organic Farming			
	a Vermi-compost Units (for organic input production)	Nos.	112.5	112.46
6.	Training of farmers within the State		3.06	3.06
7.	Post harvest management			
	a Pack house	Nos.	75	69

S. No.	Item	Units	Financial (Rs in lakh)	
			Target	Achievement
8.	Promotion of farmers Association/Groups of 15-20 farmers/20 ha and tie up with financial Institution and aggregators (@ Rs. 2 lakh/group/annum) (no)		12	12
9.	Baseline Survey (no)		3	3
10.	Administrative cost		1.58	1.58
	Total		600	547.73

D. Cost of Cultivation of Different Vegetables

Vegetables crops	Land Preparation (Rs/ha)	Seed Used (Rs/ha)	Fertilizer Used (Rs/ha)	Plant protection (Rs/ha)	Irrigation (Rs/ha)	Labour (Land Preparation to Harvesting) (Rs/ha)	Total (Rs/ha)
Tomato	8000	4000	3000	1500	2500	20000	39000
Okra	8000	4000	3000	1500	2500	18000	37000
Cucumber	8000	4000	2766	1600	2500	19333	38200
Brinjal	8000	4000	3000	1650	2500	20000	39150
Potato	8000	3833	2960	1583	2500	19600	38476
Kale	8000	3944	2908	1611	2500	19644	38608
Onion	8000	4000	2500	1500	2500	18000	36500

E. Area, Production and Productivity of Vegetables in Baseline Year (2010-11) and Scheme Implementation Year (2011-12)

Vegetable	2010-11			2011-12		
	Area (ha)	Production (Qtl)	Yield (Qtl/ha)	Area (ha)	Production (Qtl)	Yield (Qtl/ha)
Cucumber	1.97	5,538.00	2,811.17	2.42	6,770.00	2,797.52
Tomato	1.92	4,702.00	2,448.96	2.63	6,700.00	2,547.53
Okra	0.04	80.00	2,000.00	0.08	188.00	2,350.00
Brinjal	0.88	2,136.00	2,427.27	0.98	2,434.00	2,483.67
Potato	0.71	1,666.00	2,346.48	0.93	2,275.00	2,446.24
Kale (Saag)	0.50	1,020.00	2,040.00	0.60	1,400.00	2,333.33
Onion	0.01	25.00	2,500.00	0.01	25.00	2,500.00
Total	6.03	15,167.00	2,515.26	7.65	19,792.00	2,587.19



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