Report of the Joint Inspection Team on its visit to Punjab during 15-21 February, 2013 to review the progress under the National Horticulture Mission



Districts visited by J.I.T of National Horticulture Mission

1. Ludhiana 2. Ferozepur & Fazilka 3. Fatehgarh Sahib



National Horticulture Mission Ministry of Agriculture Department of Agriculture & Cooperation Krishi Bhawan, New Delhi-110001

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OBSERVATIONS

- Indeed it was disgusting to see the plight of maintenance of banana plantation due to lack of technical know-how. About 65% plants perished due to cold / frost. Small bunches are having incidence of various diseases like cigar end rot and other pest problems.
- 2. Kinnow cluster visited in Abohar and Fazilka areas demanding assistance for purchase of power sprayer under NHM.
- Visit of Kinnow / guava orchards under area expansion programme in Abohar (Fazilka), Ludhiana and Fatehgarh- Sahib Districts provided better hope for production and productivity of fruits.
- Plantation of intercrops need to be finalized for Kinnow in consultation with SAU's /ICAR with more emphasis on vegetable / pulses and oil crops keeping in view the demand of farmers.
- 5. Nurseries supported under NHM need proper care, maintenance and control of disease / pests. It is observed that Kinnow planting materials supplied by various nurseries are of inferior quality planting material from accredited nurseries needs to be supplied.
- 6. Availability of saline ground water for irrigating the crop is yet another impediment for development of horticulture. As a result, there is a tremendous increase in the demand for construction of community tanks. Therefore, farmers take good care of the water sources created with lining filled up with canal water, use of drip irrigation along with establishment of community tanks is a welcome sign.
- In Kinnow growing region of Punjab, lot of Kinnow waste is generated from Canneries / orchards and dumped on roadside. There is an urgent need to explore the possibilities of its utilization in consultation with SAU's /CIPHT.

- 8. There is a great demand of pack houses in the State. The specification / design need to be got approved vis-vis a cost and other detail before sanctioning the component.
- 9. Banana plantation is done in flat beds instead of on bunds. This may be looked into.
- 10. More trainings on Bee as pollination support is need of the day so that productivity is increased in many folds.
- 11. Team observed that toxic pesticides are being used not in Kinnow but also in vegetable production areas. Therefore, IPM needs to be augmented to reduce pesticide load from food chain.
- 12. Nutrient deficiency Symptom (Zn) was noticed in Kinnow at few places. Advised for corrective measure to avoid hunger sign.

ACTIONABLE ISSUES

- 1. Better progress is desirable under certain components like IPM/INM infrastructure, pollination support and setting up of model nurseries in private sector. State has yet to develop good infrastructure for vermi units to produce compost and bio formulations.
- Bio-control lab sanctioned at Regional Fruit Station at Abohar is still waiting to take off. SHM need to intervene and see that production of bioagents starts soon.
- Bacterial canker, greening and Phytophthora diseases are spreading fast in Kinnow which need immediate control measures. It is necessary to spray plants regularly against leaf minor which helps in spreading the diseases.
- Disease / pests map showing incidence and Intensity need to be prepared in region where DFLs / PHCs are located. Latest IPM technologies developed on horticulture / vegetable crops to be made available to farmers.
- Monthly calendar for training and exposure visit needs to be prepared for field officers / farmers / gardeners.
- 6. State should arrange to upload the monthly NHM physical / financial progress at the district level on the NHM web site.
- 7. All sites should have display board with logo of NHM.

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The Joint Inspection Team (JIT) comprising Dr. Om Prakash, Chief Consultant, National Horticulture Mission and Shri P.S. Kohli, Senior Resource Person, National Horticulture Mission visited Punjab during 15-21st February, 2013 to review the progress under National Horticulture Mission and other programmes in the State. Dr. K.G. Singh, Senior Research Engineer, Department of Soil and Water Conservation Engineering, PAU, Ludhiana joined the Team. Dr. L. S. Brar, Director Horticulture & Mission Director, Punjab coordinated the visit of the Team in Ludhiana , Fazilka, Sri Fatehgarh Sahib districts of the State.

STATE PROFILE

Geographical area of State is 5036 thousand hectares with estimated population of about 2.43 crores. The State has 20 districts and is classified as a sub tropical region. There are three types of agro-climatic zones i.e. Arid-irrigated zone, Sub mountain Zone and Central Zone. The soil is mostly sandy loam with pH range 8-9. Therefore, it has good potential for cultivation of various horticultural crops.

Potential of Horticulture in Punjab

Horticultural crops are being grown in the State in about 2.77 lakh hectares area with an annual production of 51.74 lakh tonnes. The horticulture sector is contributing significantly to GDP in agriculture of the State. Commodity-wise details are given below.

Crops	Area ('000ha)	Production
		('000 MTS)
Fruits	71.47	1409.86
Vegetables	178	3674.53
Flowers (Seed Production)	2.04	10.05
Spices & Aromatic crops	18.37	68.21
Flowers (fresh fruit)	7.12	1.29
TOTAL	277.25	5173.64

The Punjab State leads in citrus production among the fruit crops with the largest production of Kinnow. This crop occupies an area of 38837 ha contributing 64.20% of the total fruit production of Punjab. Likewise Potato is the major leading vegetable crop of Punjab having an area of 84110 ha with 60.11 % the vegetable production. Apart from Kinnow, other fruit crops like Guava, Peach and Pear has significant area in the state.

Strength of Horticulture

Due to the sandy loam soil and agro climatic condition, Punjab State leads in Kinnow production. Based on the regional natural growing conditions state has established Estates of different fruit viz. Citrus Estate, Litchi Estate and Pear Estate for holistic development. End to end approach has been followed resulting in uplifting the socio economic status of the farmers. Besides this, it also leads in potato seed production and supply seed to the other states. State is self sufficient in planting material. There are 85 nurseries in public & private sector. Apart from this about 7 T.C units have been established which supplying true to type are planting material of Potato, Banana & Papaya etc.

Focus Crops of the State

Main fruit crops of the State are Kinnow, Peach, Pear & Guava. Main vegetable crop of the State is potato apart from the Pea, Cucurbits, & Carrot etc . Besides this seed production of flowers is also done which has great export potential. Flower seeds are exported to Holland. Among spices turmeric & garlic are grown. Emphasis will be given to promote high yielding and certified varieties. District-wise details of crops covered under National Horticulture Mission (NHM) are given below. Only the crops having potential are covered under NHM with end to end approach.

No.	Crop Clusters	Districts	Crops
1.	Fruits	Hoshiarpur, Bathinda, Mukatsar &	Kinnow
	(Perennials)	Abohar.	
		Jalandhar, Ludhiana, Nawan Shahar,	Peach
		Patiala.	
		Ludhiana, Sangrur, Patiala, Mohali	Guava
		Amritsar, Tarn Taran & Jalandhar.	Pear
	Fruits (Non	Ludhina, Mohali (S.A.S Nagar) &	Banana
	Perennials)	Fatehgarh Sahib.	
2.	Vegetables	Jalandhar, Hoshiarpur, Ludhiana &	Potato
		Bathinda	
3.	Flowers	Patiala, Ludhiana, Mohali, Fatehgarh	Gladiolus,
		Sahib & Sangrur.	Marigold
4.	Spices	Ludhiana, Amritsar, Hoshiarpur &	Garlic &
		Gurdaspur. Garlic & Turmeric.	Turmeric.

Approved Clusters and Crop Matrix under NHM

Selection of Crops for Intervention under NHM and Rationale

The focus crops were selected under NHM on the basis of following parameters:

- 1. Market linkages (existing and potential)
- 2. Production advantage potential in the domestic market
- 3. Export potential.

Sr. No.	Focus Crops	Market Linkages			Domestic Market	Export Potential	
		AEZ Export	Mandis	Proces- sing units	Cold Storage / Ref. Van	Potential	
1	Kinnow	-				High	High
2	Guava	-	\checkmark	-	-	High	-
3	Pear	-	\checkmark	-	-	Medium	-
4	Peach	-	\checkmark	-	-	High	-
5	Potato		\checkmark	-	\checkmark	High	High
6	Flowers (fresh)	-			V	High	High
7	Flowers (Seed)	-	-	-	-	-	High

Export potential

Focus Crops	Relational
Kinnow	 Thrust on exports through improvement in pre and post harvest practices. Strong domestic market for Kinnow from Punjab. High nutritional value and having anti cancerous, cholesterol lowering properties.
Potato	 Large scope for area expansion and productivity improvement and processing. - increase export focus of seed potato to other countries.

Strengths	Weaknesses		
 Soil profile as well as conditions of the state for growing different horticultural crops. Adequacy of quality planting material from the Government as well as private registered nurseries. The average yield of kinnow fruits of the state is substantially higher than all India average. Farmers in the state are coming forward for huge investment for horticultural activities. More farmer groups/farmers societies are coming forward to adopt end to end approach. Based on natural growing climatic conditions, Estates of different fruits such as Kinnow, Litchi & Pear have been established to provide state & art machinery and technical know how under one umbrella. 	 The linkage between farmers and R&D institutions is currently weak due to shortage of technical staff. Due to non amendment of APMC Act wholesale /terminal market could not be established Post harvest management facilities like cold storages, pre-cooling units, grading/sorting, ripening units, processing units etc. are not being properly utilized mainly for horticultural crops. The marketing channels are not well developed. There is a less awareness on Hi-tech horticulture among the growers likewise, lack of awareness about quality consciousness among consumers. Interrupted supply of electricity for irrigation is problem with the growers of the state 		
 Opportunities Scope for trial testing of new horticultural crops especially flowers & vegetable for acclimatization in the state. Rainfed areas especially Kandi Belt can be utilized for promotion of horticultural crops such as Aonla and 	 Challenges Depleting water table in the state is great matter of concern to combat to save water resources in the coming years. Sudden/Drastic changes in the climate are major challenges. Extreme hot or frost conditions cause much loss to the 		

Peas. Cultivation of flowers & high value vegetables under protected conditions i.e. protected cultivation. To impart training to staff & farmers through S.A.U. Production and productivity of horticulture crops can be increased. To promote organic farming & GAP certification for export of produce. Development diseases such kinnow, early needs to be emponent of produce. To control example.

• To set up infrastructure for post harvest management, marketing & processing industries for horticultural crops.

orchards. Need to develop varieties which can withstand extreme climatic conditions.

- Development of varieties free from diseases such as Phytophthora in kinnow, early/late blight in potato, needs to be emphasized.
- To control excessive use of chemical fertilizer & pesticides in horticulture crops especially vegetables also need to checked.
- Lack of online market information.

Strategy for Horticulture Development

The objective of the National Horticulture Mission is to double the production & productivity of horticulture crops.

There is an end-to-end approach under mission covering production, post harvest management, processing and marketing to assure appropriate returns to growers/producers; Promote Research and Development (R&D) of technologies for production, post-harvest management and processing in potential belts/clusters; Enhance acreage, coverage, and productivity in potential belts clusters. To achieve the objectives and goals of NHM, Strategy and Road Map has been prepared for next 3 years. The objective of preparing the Strategy and Road Map is to develop a demand-driven approach for horticultural products. The Strategy has been prepared based on the SWOC analysis and includes the following:

- Increase the area under horticultural crops.
- ✤ Identification of Market linkages of production areas in the State with
 - Agri Export Zones
 - Existing post harvest management infrastructure, processing facilities.
 - Whole sale/Terminal Markets, Existing Mandis.
- Mapping of production clusters of various horticultural crops with markets
- ✤ To enhance the productivity with good agricultural practices (GAP).
- ✤ Transfer of technology through exposure visits, show & seminars.
- ✤ Identify missing links between farmers and processors, traders and retailers.
- High tech horticulture under protected conditions.

Existing Planting Material Production Units (nurseries) in the State

Disease free planting material is pre-requisite for establishment of healthy orchard resulting in quality production. There are about 85 Govt. as well as private registered nurseries in the state from where good quality disease free planting material is supplied to the growers. Apart from this T.C. units are also proving helpful in meeting the arising demand of planting material.

Nursery Act & Certification of Planting Material

The Nursery Act of the State was old & needed amendments. The required amendment has been incorporated in the act. This act is submitted to the State government for approval. After renewal of the nursery act, the nursery owners could be punished with fine or imprisonment if he sells the inferior planting material. Certification of planting material has been made mandatory prior to sale of fruit plants. While procuring the planting material from private nurseries as well as Govt. nurseries, due procedure is adopted for certifying the material by a Technical Committee consists of SAU's representative.

The Directorate of Horticulture has already issued instructions to Private Nurseries/District horticulture heads to get the nurseries accredited from NHB prior to the sale of fruit plants otherwise they will not be eligible for the sale of planting material.

Existing Infrastructure for Post Harvest Management & Marketing in the State

Pack Houses:

Under NHM 194 Pack Houses have been set up in the State for fruits and vegetables. These Pack Houses will reduce the post harvest losses to some extent. Pack house is the basic need of horticultural sector for collection grading & sorting of the produce. There is big potential of the activity in the state.

Cold Storages:

The total capacity of cold storage facilities was about 1393000 MT before launching the NHM scheme i.e. before 2005-06. Over 80% of this capacity is utilized by potatoes alone. Thus, at present, total 465 cold storages are available in the State. Few more projects have also been submitted to Govt. of India for sanction

Sr. No	Number of Cold Store Before NHM	Capacity (M.T)	Number of ColdStoreAfterNHM	Capacity (M.T)
1.	425	1393000	465	1536992

Markets/Mandis

There are 110 Agriculture Produce Marketing Committee (APMC) markets/mandies in the State. The current processing is less than 2% of the total horticulture production. There is potential for increase in the number of processing units especially for Kinnow, Potato, Turmeric, Aonla, Garlic and Coriander with linkage to the proposed Food Parks.

S. No.	Name of Processor	District	Product
1.	Punjab Agro Juices	Ferozepur	Kinnow Juice
	Limited Village Alamgarh		Concentrate, other
			fruits and vegetable
			Juice Concentrate.
2.	Punjab Agro Juices	Hoshiarpur	-Do-
	Limited Unna Road		
3.	Farmer Agriculture	Hoshiarpur	Turmeric processing.
	produce organization,		
	Kangmai		
4.	Iqbal Randhawa	Hoshiapur	-Do-
	processing unit, Phuglana		
5.	Kinnow Waxing and	Shri Mukatsar Sahib	-Do-
	Grading Center, Badal.		
6.	Kinnow Waxing and	Shri Mukatsar Sahib	-Do-
	Grading Center, Badal.		
7.	Kinnow Waxing and	Ferozepur	-Do-
	Grading Center, Talhiwala		
	Jattan, Teh. Fazilka		
8.	Kinnow Waxing and	Hoshiarpur	-Do-
	Grading Center, Kangmai		
9.	Kinnow Waxing and	Hoshiarpur	-Do-
	Grading Center, Chhauni		
	Kalan,		

Road Map Ahead:

Progress of various activities made under NHM during 2005-06 to 2011-12 & proposal programme for next 3 years.

Based on the potential for horticulture development in the State, (area already covered, infrastructure available for PHM, Markets & Processing Units), detailed analysis has been made. In order to increase production & productivity of various horticulture crops and to assure appropriate return to the growers, it is proposed to link all the production clusters under NHM with the existing infrastructure and proposed to be created under NHM.

Status of National Horticulture Mission in Punjab

The Centrally Sponsored Scheme of National Horticulture Mission (NHM) is being implemented in 16 districts on a Mission mode approach to address all the issues related to holistic development of Horticulture in the State since 2005-06.

The programme in the State of Punjab is being implemented by the State Horticulture Development Society through District Mission Committees involving farmers, Societies, NGOs, Grower Associations, SHGs, State institutions etc. The programme is being implemented in 16 districts. The district covered under the programme includes Firozpur, Bhatinda, Muktasar, Amritsar, Hoshiarpur, Gurdaspur, Kapurthala, Ludhiana, Jalandhar, Patiala , Fatehgarh Sahib, Taran Taran, Faridkot, Nawasahar, Sangrur and SAS Nagar Mohali.

The focus crops identified under the programme includes Citrus, Guava, Ber, Pear, Grapes, Litchi, Flowers, Spices and Aromatic plants.

Major activities being undertaken in the programme are production and distribution of planting material, vegetable seed production, area expansion, rejuvenation of old and senile orchards, creation of community water resources, protected cultivation, IPM/INM, organic farming, development of post harvest management & marketing infrastructure and human resource development.

Physical Progress

Salient progress till 2011-12 is as follows:-

- An additional area of 0.36 ha of identified horticulture crops are covered.
- 3 nurseries have been established for production of quality planting materials.

- An area of 10270 ha. has been covered under rejuvenation of old and senile orchards.
- Organic farming has been adopted in an area of 6300 ha for promotion of organic cultivation of horticultural crops.
- IPM practices have been adopted in an area of 2000 ha.
- 22 IPM/INM infrastructure facilities such as Leaf tissue analysis labs, disease forecasting units have been created.
- 415 community water structures have been created.
- Harvest Under the component of Post Management, 302 units including pack houses, cold storage units, refrigerated vans, primary/ mobile processing units, ripening chambers, pre cooling units attach to cold storages and mobile pre cooling units) have been established.
- 47 market infrastructures have been set up.

Financial Progress

During 2005-06 to 2011-12, an amount of Rs. 186.21 crore was released to the State. The State has reported an expenditure of Rs. 180.03 crore till March 2012.

An allocation of Rs. 74.00 crore has been approved including GOI share of Rs. 62.90 crore for Annual Action Plan 2012-13. Funds to the tune of Rs. 57.90 crore has been released during the current financial year and out of which an expenditure of Rs. 42.09 crore has been reported.

Year	Outlay	Release	Expenditure
2005-06	60.74	28.69	6.97
2006-07	59.74	11.50	17.75
2007-08	68.54	24.10	17.14
2008-09	78.02	14.12	25.48
2009-10	38.54	25.78	36.09
2010-11	42.50	35.00	37.03
2011-12	46.75	47.02	39.57
2012-13	62.90	57.90	42.09

Year wise details of Outlay, Funds Released and Expenditure under NHM in Punjab

Highlights of the State

Punjab produces about 5.11 m. MT of horticultural produce from an area of 0.27 m. ha. accounting for 2.12% of horticulture produce in the country. Major share of production is from vegetables (70.23%) and fruit (26.89%)

- 84.13 lakh MT of fruits have been traded in organized markets with average price of Rs. 25.70/kg.
- 12.84 lakh MT of vegetables have been traded in organized markets with average price of Rs. 9.20/kg.

Potato

- Punjab is the fourth largest producer of Potato in the country and accounts for 5% of the total production of potato in the country. The production of potato is 585 of the total vegetable production in the State.
- The production of the potato in the state is 2.09m. MT grown in an area of 0.08m. ha. The productivity of the crop is 25.0 t/ha.
- The production of potato is concentrated in the belts of Jalandhar, Hoshiarpur, Ludhiana and Patiala.
- Frequent occurrence of frost is a constraint. Use of micro-irrigation has helped to contain the problem to some extent. The available infrastructure for post harvest management of potatoes in the state is inadequate.
- 4.61 lakh MT of potatoes have been traded in organized markets with average price of Rs. 3.79 /kg.

Cauliflower

- The state produces about 2.29 % of the total production of Cauliflower in the country and 5.3% of the total vegetable production in the state.
- The productivity is 17.78 MT/ha. which is the second highest in the country after West Bengal.

- The production of cauliflower is concentrated in Gurdaspur, Fatehgarh Sahib and Nawansher.
- 0.77 lakh MT of cauliflower have been trade in organized markets with average price of Rs. 8.87 /kg.

Peas

- Punjab accounts for 5.7% of the total production of Peas in the country.
- The state produces about 0.20 m. MT of peas from an area of 0.02 m. ha. having productivity of 10.2 MT/ha.
- The major peas growing belts in the state are Jalandhar, Amristsar and Hoshiarpur.
- 0.01 lakh MT of peas have been traded in organized markets with average price of Rs. 15.26/kg.

Citrus

- Punjab is leading producer of orange mandarin and accounts for 28% of the production of orange mandarin production in the country with productivity of 21.2 MT/ha.
- Punjab is ranked at third place in production of Citrus in the country and accounts for 12.1% of the total production in the country.
- The production of citrus forms 65.58% of the total fruit production of the state. The state produces 0.90m. MT of citrus in the state in an area of 0.04m. ha. The productivity of the crop is 20.1 MT/ ha which is second highest after Karnataka.
- The main fruit of citrus group grown in the Punjab is Kinnow. The crop is being grown in the belt of Firozepur, Faridkot and Hoshiarpur. Debittering plants have been set up at Faridkot and Hoshiapur for processing of kinnows.
- 0.68 lakh MT of citrus have been traded in organized markets with average price of Rs. 1.82/ kg.

Guava

• Punjab accounts for 6.9% of total production of Guava in the country and the sixth most guava producing state in the country.

- The state produces about 0.17m MT of guava from an area of 0.008 m. ha. having productivity of 21.8 MT/ ha which is the second highest after Madhya Pradesh in the country.
- 0.09 lakh MT of guava have been traded in organized markets with average price of Rs.
 7.88/ kg.

Litchi

- Punjab is ranked fifth in litchi producing state in the country and is contributing about 4.8% to total litchi production in the country.
- The production of litchi is about 0.04 MT from an area of 0.002 m. ha. having productivity of 14.7 MT/ha which is highest among the litchi producing state in the country.

DISTRICT PROFILE OF LUDHIANA

GEOGRAPHY AND CLIMATE

AGRO-CLIAMTIC ZONES

Punjab State is divided into five Agro-Climatic Zones viz. Which are as follows:-

- 1. Western Himalayas Sub-humid Zone Growing Period 160-210 Days
- 2. Northern Plain Dry Sub-humid Zone Growing Period 120-160 Days
- 3. Northern Plain Semiarid Zone Growing Period 90-120 Days
- 4. Western Plain Arid Zone Growing Period 60-90 Days
- 5. Northern Plain Arid Growing Period 60 Days

Ludhiana district lies in the Northern Plain Dry Sub-humid and Semiarid Zones of Punjab. Administratively, the district has been divided into seven sub divisions and twelve development blocks. Tot al population of the district as per 2001 census is 30.33 Lac. It has 915 fully electrified villages out of which 897 are inhabited villages with 876 Gram Panchayats (GPs). Wheat and Paddy are the two main crops occupying 84.7% and 81.9% of the net area

sown. The entire cultivated area is under assured irrigation. The cropping intensity is 191.4%. The district is also an industrial hub of Punjab and called Manchester of India with 42,210 small scale industries and 146 medium-large scale registered units producing a large variety of items like bicycle, agricultural implements, tractor spare parts, sewing machines, automobile parts, over lock machines, hosiery and hosiery machines, Vanaspati oils, tyres, electronic goods, flour rice, rice bran oil and cattle feed etc. There is network of 47 banks having 526 branches including 54 Co-operative Bank, 8 Primary Agricultural Development Banks (PADB) and 464 Cooperative Agriculture Services Societies covering all the 12 blocks of the district.

The total geographical area of the district is 3767 sq. km, which is divided into the flood plains of the Sutlej and upland plain area. The average rainfall of the district is 544 mm. The fertilizer consumption of the district is 229 kg per ha of cropped area, which is the highest in the country. The district has 3 lakh ha of net area sown; almost 100% is double cropped, whereas some area is triple cropped in a year. T he water table is going down at an alarming rate in Ludhiana district and even more seriously around the Ludhiana city blocks. There are 72378 operational holdings of whom, $1/3^{rd}$ are the small and marginal ones of less than 2 ha. Ludhiana is an industrial town with about 15 lakh population, which is a large domestic market for agriculture produce, in a range that goes up to the significant proportion of luxurious consumers.

Sr.	Item	Characteristics	Value
No.			
1.		Geographical area (Sq km)	3767 Sq. Km (368000 ha)
	A.	Net sown area	306,000 ha
	В	Area sown more than once	289,000 ha
	C	Total cropped area	595,000 ha
	D	Cropping intensity	194.4%
		(GCA/NSA)	
2		Administrative	
	A.	No. of block	12
	В	No. of villages inhabited and	896
		electrified	
	C	No. of Panchayats	875
	D	No. of villages with potable	754
		water supply	

Profile of district with characteristics and value

3.		Rainfall (mm)	Normal 799.3
4.		Agro-climatic region and zone	Central Alluvial plains
5.	А.	Population Census 2001 (in '000')	3,033
	В	Scheduled Caste	758
	С	Literate	2,036
	D	Literacy (%)	72.76
6.		Classification of workers	
	A.	Cultivators	149611
	В	Of whom small & marginal	71927/33%
		ones	
	С	Agricultural labourers	226927
	D	Artisans	NA
	Е	House hold / cottage industries	3705
	F	Allied agro activities	11004
7.		Irrigation (000 ha)	
	A.	Net irrigated area	306
	B.	By canals	10
	C.	By wells	-
	D.	Tubewells	296
8.		Chemical fertilizers (kg per	229
		ha)	
9.		Vegetables support facilities	
		Cold Storage Unit	45
		Govt. Fruit Nursery (P.B.	02 (PAU & State Hort.
		Sector)	Deptt.)
		Govt. Potato & Vegetable	1 at Mattewara
		Farm Tianna Caltana Lab (DVT	1
		Sector)	
		Vegetable Export Oriented	02 (Field fresh Laddowal &
		Unit (Cold Chains in PVT.	Namdhari Farm Fresh
		Sect or)	Bhainin Sahib)
		Seed / fertilizers / pesticides	2075
		depots	
		Rural markets / mandis (No.)	151 (69+82)
		Regulated markets	12
		Sub-yards	82
10.		DAIRY	
	А	Cattle (Cows)	138223
	В	Buffaloes	562292
	С	Poultry birds	1730477
	D	Sheep/goat	23105
11		Predominant economic	Wheat and paddy are main
		activities	crops occupying 84% and

	79% of the net area sown Non-farm sector- Major		
	activities are hosiery and cycle Industries.		
Major fruits	Total orchard area=2250 ha Guava = 775 ha,		
	Ber=200 ha Stone Fruits =300 ha, Kinnow = 20 ha		
	Lime and Lemon= 93 ha Mango= 320 ha,		
Major Vegetables	Total Area=12000 ha. Prod: 350000 MT.		
Floriculture	Total Area=85 ha.		
Spices & Aromatic Crops	2200 На.		
Aromatic Plants Distillation Units (Mentha)	20		
Area under Protected cultivation of vegetables (poly house, Poli tunnel, Net House, Shade Net House,	59500 Sq. mt.		

STRENGTH, WEAKNESS, OPPORTUNITY AND CHALLENGES (SWOC) ANALYSIS

(A) NATURAL RESOURCES										
Strengths:										
1.	Well developed irrigation through tube-well as well									
	as canals.									
2.	Fertile soil									
3.	All most plain topography.									
4.	Well drained soil.									
5.	Scope for diversification of various agriculture and									
	horticulture crops									
6.	Adequate annual rainfall									
7.	Good quality irrigation water									
Weaknesses:										
1	Decreasing ground water table due to indiscriminate									
	use /over exploitation of very limited sources of									
	irrigation.									
2.	Degradation of soil fertility and health									
Opportunities										
1	Using perennial flow canals to generate electricity									
Challenges										
1	Over exploited Zones (for under ground water									

	availability)							
(B) FARMING S	YSTEM:							
Strengths:								
1	Inter-dependency of the components in the systems							
2	Food habits encourage the systems							
3	Suitable climate							
4	Scope for interstate trade of vegetables / food grain							
	by road							
5	Scope for basmati cultivation							
6	Scope for cultivation of Vegetables							
7	Scope for cultivation of maize							
8	Availability of road transport facility							
Weakness:								
1	It is depend on external labour More dependence on money lenders rather than on co-operative and commercial banks due to procedure problems.							
2	Lack of scientific knowledge and skill among farmers.							
3	Unorganized, scattered and individualistic approach of farmers							
4	Increase in prices of inputs							
5	Shorte supply of phosphates fertilizers							
6	Non-existence of Puniab Agro-Export Corporations							
Opportunities:								
1	Unplanned growth of non-agricultural land use may							
	lead to disturbance in the existing farming system.							
2	Fragmentation of holding due to law of inheritance							
3.	Resistance of weeds to weedicides							
4.	Pesticide resistance							
1.2 Potential of Ve	egetables:							
Strengths:	<u> </u>							
1	Cash crops							
2	Short duration and early							
3	Proper utilization of family labour							
4	Ready market near to city							
5	Changing foods habits in urban and rural areas and							
	demand for vegetables throughout the year							
6	Well developed assured irrigation facilities							
7	Good quality seeds are available for vegetable crops							
8	Scope for off-season cultivation							
9	Better Communication and transportation facilities							
Weakness:	•							
1	Labour intensive							
2	Lack of market intelligence network							
3	Uncertainty due to market fluctuation							

4	Individual production and marketing is difficult					
5	Highly perishable commodities					
5	Sectored meduation in unorganized menner					
0	Scattered production in unorganized manner					
7	Non-presence of marketing monitoring cells					
8	Quality food testing laboratory as per EUROGAPS					
	/ GLOBALGAPS standards not available.					
9.	Refrigerating vans for distant transportation not					
	available.					
10.	Lack of processing facility.					
11.	Require relatively more attention.					
12.	High production cost					
13	Farmers themselves do not attend to field operation					
	but depend on migratory labour.					
Opportunities:						
1	Contract farming is being practiced by private					
	companies as well as Govt. Agencies					
	(NHRDF/MARKFEED) in nearby area.					
2.	Processing and storage of potato (Credit Linked					
	back-ended subsidy @ 40% available under NHM.					
3.	Increasing demand with growing urbanization.					
4.	Mall and plaza culture.					
5.	Organic vegetables. (Financial Assistance for					
	Organic Production, Certification under NHM).					
6.	Off Seasonal Vegetables Under Protected					
	Cultivation for this Financial Assistance under					
	NHM available.					
Challenges.						
chanongos.						
1.	Natural calamities like hail, storm, frost, etc.					

Growth potentials, constraints and strategies for Vegetable Cultivation

Item	Present trends /	Constraints	Main Strategies
	potential		
Vegetables	Not very important	Need	Capital subsidy for
	sub sector at present	demonstrations and	Protected cultivation
	but can be helpful	popularization of	of Vegetables
	for small farmers	new methods of	increased upto 90%.
		cultivation in	
		Protected	
		Cultivation	

S.	Name of Block	Geographical	Cultivated	Number of	Area under
NO.		Area (00 na)	Area (000 ha)	villages	vegetables
1.	Ludhiana I	24	16	59	425
2.	Ludhiana II	52	40	175	1870
3.	Machiwara	30	27	133	1815
4.	Samrala	18	15	62	1259
5.	Khanna	25	22	83	695
6.	Doraha	23	21	55	1234
7.	Dehlon	27	23	72	475
8.	Pakhowal	24	21	50	800
9.	Sudhar	15	13	22	500
10.	Raikot	24	27	45	480
11.	Jagraon	36	32	48	889
12.	Sidhwan Bet	42	37	92	1458

Block Wise Information of Area /Villages

Progress Report under NHM during year 2011-12, Ludhiana District

Component	Unit	Target		Total Prog	Number of	
		Physical	Financial	Physical	Financial	beneficiaries
Veg. Seed production (Public sector)	На	44.7	2237160	44.7	2237160	0
Banana (TC) New Plantation (75%)	Ha.	12.6	393120	11.8	368160	17
Maintenance of Banana (T.C.) (25%)	Ha.	20.6	214291	20.6	214291	22
New Plantation (Guava) 60%	Ha.	1.6	15804	1.6	15804	1
Maintenance of Guava Orchard (20%)	Ha.	1.2	3950	1.2	3951	1
1. Green House						
(i) Tubular structure	Sq. mt.	9104	4256120	9104	4256120	5
2. Shade Net House				0	0	
(i) Tubular structure	Sq. mt.	1000	300000	1000	300000	1
(ii) Wooden structure	Sq. mt.	153	31365	153.00	31365	1
Plastic Tunnels	Unit	16	240000	16.00	240000	16
Cost of planting material of high value vegetable grown in poly house	Sq. mt.	11084	581910	11084.0	581910	6

Cost of planting material	Sq.	1000	157540	1000	157540	1
of high value Flowers	mt.					
grown in poly house						
Vermi compost units	No.	3	90000	2.0	60000	2
Pollination Support	No.	1040	1560000	1040	1560000	23
Through Bee keeping						
Bee Keeping	No.	7	49000	7.00	48085	7
Equipments						
Horticulture				0		
Mechanization						
(a) Plant Protection	No.	22	472500	24.00	411250	24
equipments (Power						
Sprayer)						
(b) Power Machines	No.	14	768146	14.00	745350	14
(Weeder) (Upto 20						
PHD)						
INTEGRATED POST				0	0	
HAREST						
MANAGEMENT						
1. Pack house	No.	34	4891661	31	4650000	31
2. Cold storage units	No.	12506	30014040	12506	30014040	4
3. Banana Ripening Unit	No.	3675	8820000	3675.00	8820000	1
4. Seed Grader	No.	2	1200000	2.0	1200000	2
Farmer Exposer Visit	No.	11	31930	11.00	31930	11
(Inter State)						
Mission Management		0	97409	0.0	75929	0
Gross Total			56425946		56022885	190

Progress Report under NHM during year 2011-12, Ludhiana District (Upto January 2012-13)

Component	Unit	Target		Total Prog	Number of beneficiaries	
		Physical	Financial	Physical	Financial	
Veg. Seed production (Public sector)	На	35.00	17500000	27.3	1686184	0
Banana (TC) New Plantation (75%)	Ha.	1.8	56160	0.8	24960	1
MaintenanceofBanana(T.C.)(25%)	Ha.	4.8	49927	4.4	45766	7
New Orchards (Kinnow)	Ha.	1.2	19083	1.2	19083	2

Maintenance of	Ha.	1.6	5267	1.6	5267	1
Guava Orchard						
(20%)						
Vermi compost units	No.	1	30000	0	0	0
Bee keeping	No.	750	1125000	750	1125000	15
Bee Keeping	No.	0	915	0	0	0
Equipments						
Protected						
Cultivation:						
Poly house		4182	1955085	4128	1929840	2
(Tabular)						
Shade Net House		1200	360000	1200	360000	1
(Tabular)						
Plastic Mulching		3.8	38000	3.8	38000	3
High value		2128	111720	2128	111720	1
vegetables Planting						
material grown in						
Poli house						
Horticulture		0	0	0	0	0
Mechanization						
(a) Plant Protection		25	437500	25	437500	25
equipments (Power						
Sprayer)						
(b) Power Machines		14	743906	13	683892	13
(Weeder) (Upto 20						
BHP)						
INTEGRATED		0	0	0	0	0
POST HARVEST						
MANAGEMENT						
Cold Storage Unit		14678	35228280	16848	35228280	6
(50%)						
Pack house		4	536837	0	0	0
HRD (Farmer		10	55144	10	50000	10
Training within						
India)						
Mission		0	156766	0	154415	0
Management						
Gross Total			42659590	0	41899907	87

Progress	Report	under	National	Mission	on	Micro	Irrigation	(NMMI)	in	Ludhiana
District- 2	2011-12									

Name of Scheme	Fin	ancial	Physical		
	Target	Achievement	Target	Achievement	
NMMI	150.89	105.73	353.30	297.38	

Source: Department of Soil and Conservation, Ludhiana

Vegetable Initiative of Peri Urban Cluster

The demand for vegetable crops is increasing day to day. Due to the challenges of increasing urban demand of vegetables and decreased area under vegetable cultivation, the sustainable supply of vegetables needs to be addressed.

Government of India has started a new scheme for vegetable cultivation in and around the one city in each state which is either capital city or any other city having population of over one million Government of India has already made the provision of Rs. 3.00 crore for this programme for the year 2011-12.

In view of this it is proposed to utilize the programme of **Vegetable Initiative for Urban Clusters** for the Ludhiana city and adjoining districts in order to meet out the demand of vegetables on sustainable basis from the area in and around the city.

There are seven sub-divisions i.e. Ludhiana (East), Ludhiana (West), Samrala, Khanna, Payal, Raikot and Jagraon. The district has been divided into 12 block i.e. Ludhiana (East), Ludhiana (West), Machhiwara, Samrala, Khanna, Doraha, Dehlon, Pakhowal, Raikot, Sudhar, Jagraon and Sidhwan Bet. Physical and Financial progress report under National Vegetable Initiative Scheme, Ludhiana, December, 2012.

S.	Components with	Unit	Target		Achiev	vement
No.	sub components	(Ha/No.)	Physical	Financial	Physical	Financial
1.	Base Line Survey					
2.	Promotion of	No. of	6000	130	6005	126
**	farmers Association	Farmers				
	/ Groups					
3.	Veg. Seedling	Ha.	1	52	0	0
	Production (Pvt.					
	<u>Sector)</u>					
4.	a) Veg. cultivation	Ha.	500	112.5	1260	283.5
	in open condition					
	open pollinated					
	varieties					
5.	a) Veg. Cultivation	Ha.	700	236.25	300	101.2
	in Open Condition					
	Hybrid varieties					
6.	Vegetables					
	Cultivation in					
	Protected Cover	C a rest	20000	02.5	9416	20.24
	$\begin{array}{c} a) \underline{Green} \underline{House} \\ (T_{rel}, S_{transition}) \end{array}$	Sq. mt.	20000	93.5	8410	39.34
	(<i>IUD. Structure</i>)	S a mat	40000	120	0	0
	(Tubulan Structure)	Sq. m.	40000	120	0	0
	for Vagetables					
-	<u>JOI Vegetudies</u>	Sa mt	128000	20.7	0	0
-	Cost of planting	Sq. mt	60000	20.7	0	0
	moterial & other	Sq. m.	00000	51.2	0410	4.42
	inputs of High					
	value Vegetables					
	Grown in Green					
	House / Poly house					
	/ Shade Net House					
	HRD- Training of	No.	470	7.05	140	0.49
	farmers					
	Post harvest					
	management					
	a) Pack House on	No.	90	135	3	4.5
	Farm					
	b) Cold Storage	MT	6000	144	0	0
	Units					
	c) Low Cost Onion	No.	10	5	0	0
	Storage Structure					

(25 MT)					
(Organic Farming					
a	a) Adoption of	Ha.	100	10	0	0
(Organic Farming					
b	o) Organic	Ha.	100	10	0	0
(Certification					
С	c) Vermi compost	No.	10	3		
J	Jnit					
d	l) HDPE Vermi	No.	16	0.8	0	0
E	Bed					
N	Marketing					
a	a) Rural Market /	No.	3	24	0	0
A	Apni Mandies /					
I	Direct Market					
b	b) Retail Markets /	No.	9	36	0	0
(Dutlets					
(Environmentally					
(Controlled)					
С	e) Static / Mobile	No.	20	3	0	0
V	Vending Carts /					
F	Platform with Cool					
(Chamber					
d	l) Collection /	No.	5	20	0	0
A	Aggregation Centre					
a	t Production					
	luster					
e	e) Motorlized	No.	10	5	0	0
1	Vending Carts					
]	Fotal			1200		559.45

Project Details:

Objective

- a) Addressing all concerns related to both the demand and supply of the vegetable in Chandigarh
- b) Enhancing vegetable production and productivity, improve nutritional security and income support to vegetable growers.
- 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 Chandigarh.

STRATEGY

- Baseline survey to assess the extant vegetable supply chain to city selected, identify bottlenecks and vegetable growing clusters, existing as well as potential.
- Organize vegetable growers into Farmers Association / Groups.
- Nurturing the groups for improving their marketing skills.
- Identify/select Aggregators and enable tie-up with Farmers Associations/ Groups.
- Supply of Hybrid / improved vegetable seeds for increasing production and productivity.
- Establishment of sorting, grading units and collection centrers with basic amenities.
- Measures for production and productivity enhancement by adopting improved cultivars, production technologies using precision farming techniques, protected cultivation, micro irrigation etc.
- Primary processing, sorting, grading, washing, packaging and value addition clusters.
- Logistics form farm to market including Post Harvest Management, Storage and Transport infrastructure, Aggregators for suitable tie ups in the supply-chain.
- Establishment of Farmers markets including Electronic platform for transparent transactions.
- Support to Urban local bodies to promote Controlled Atmosphere (CA), static/ mobile kiosks, vending carts etc.
- Support to institutions/ farmers associations/ cooperative / private sector for seed / seedling production, vegetable cultivation, INM/IPM, organic farming, GAP, capacity building etc.
- Addressing issues in the credit supply chain with support from financial institutions.

Visit of Integrated Mushroom Units

Integrated mushroom unit for spawn, compost production and training located at Punjab Agricultural University, Ludhian was visited. Discussed with Dr. Kapoor, In charge of Lab informed the Team about objectives and work done as given below.

- Establishment of an integrated spawn production unit for production of quality spawn for the growers of Punjab by strengthening the existing spawn lab at PAU.
- Strengthening of the compost mother unit for the supply of quality compost to the small satellite growers directly as well as through the KVKs of the state.
- Supply of spawn compost to small and marginal growers from PAU and selected KVKs.
- Training of farmers / entrepreneurs, rural youths and extension specialists, horticulture Officers and other functionaries for dissemination of the mushroom cultivation technology in Punjab.

Progress

- Short method composts was prepared in the month of October upto December (three cycles) to produce about 30 tonnes of composts.
- Spawn for button, oyster, milky and paddy straw mushrooms was produced at mushroom complex and multiplied to produce seed for spawning the above compost and the surplus quantity made available t o the growers. The spawn of the other varieties was also supplied to the growers.
- Spawned compost was distributed to small / marginal growers, trainees, kisan club members and also to KVKs of the region.
- Extensive training, lectures and demonstrations, exhibitions were conducted at PAU and at different KVKs as well as several other forum. In addition, farmer visits, to the facility was undertaken from day to day to promote the cultivation of mushroom as a subsidiary occupation and a agro-based industry.

Impact:

The creation of these facilities has augmented the mushroom production in the State.

- The provision of quality spawn of high yielding varieties has provided an impetus to the existing mushroom growers as availability of spawn is one of the major bottles necks in mushroom production currently.
- Superior quality compost prepared by short method with a biological efficiency of up to 40% has led to increased productivity by existing growers. This compost was also provided to trainees / small and marginal farmers who do not have composting facilities thus leading to a higher adoption of this horticultural venture.
- Training programmes has resulted in the development of human resource (skilled manpower) in the area of mushroom production and processing and provided technical details for rural youth / farmers and field functionaries.

Visited the Department of Plant Pathology, **Punjab Agricultural University**, **Ludhiana:** The project namely certifying of citrus nurseries against plant pathogens-Improved methods for detection of major plant pathogens/ nematodes of citrus in Punjab funder under National Horticulture Mission during February, 2012 was discussed.

Objectives.

- 1. To inspect mother block and plants in nursery and selected orchards.
- 2. Development of molecular and serological detection techniques for improving diagnosis of pathogens.
- 3. Total budget was Rs. 50 lakhs allotted for the project
- 4. Financial and physical achieved during the year was discussed. There is a tie up with NRCC for Research etc.

Progress under NVI

S.	S. Name of		No. of FIG			FIG verified			Left over							
No.	Company	Ludhiana	Patiala	Fatehgarh Sahib	Jalandhar	Sangrur	Ludhiana	Patiala	Fatehgarh	Jalandhar	Sangrur	Ludhiana	Patiala	Fatehgarh	Jalandhar	Sangrur
1.	ITS New Delhi	73	70	21	0	0	73	70	21	0	0	0	0	0	0	0
2.	ACTECH, Noida	6	0	0	95	70	6	0	0	95	70	0	0	0	0	0
	Total	79	70	21	95	69	79	70	21	67	69	0	0	0	0	0

FEROZEPUR & FAZILKA DISTRICT PROFILE

1	Geographical area	525000 hact/5303 sq kms.
	(a) No. of blocks	10
	(b) No. of villages (inhabited)	968
	(c) No. of villages electrified	968
	(d) No. of villages connected by all weather roads	968
	(e) No. of villages having supply of potable water	858
2	Rainfall (mm)	Annual average 33.70 mm
3	Agro climatic regions & zones	Northen arid zone
4	Population (2001 census)	
	(a) Male	926000
	(b) Female	820000
	(c) Total	1746000
	(d) Population density /sq km.	329
	(e) No. of families below poverty line	45651
5	Classification of workers (2001 Census)	
	(a) Cultivators	200670
	(b) of (a) small & Marginal Farmers	24036

	(c) Agricultural labourers		166853			
	(d) House hold cottage industries		14330)		
	(e) Other workers		265816			
6	Land utilization (2004-05)					
	(a) Geographical area		525000 I	Hact		
	(b) Net sown area		450000 I	Hact		
	(c) Forest land		10809 H	Iact		
	(d) Fallow land		20000 H	Iact		
	(e) Land put to non agriculture uses		45000 H	Iact		
	(f) Cropping intensity		194 %	, D		
7	Size of holding (2000-01)	No.	(%)	Area (ha)		
	(a) Marginal Farmers (less than 1 ha)	2996	3.97	2112.55		
	(b) Small Farmers (1-2 ha)	8741	11.58	11918.00		
	(c) Semi Medium Farmers (2-4 ha)	21820	28.92	56862.56		
	(d) Medium Farmers (4-10 ha)	28643	37.9	168826.16		
	(e) Large Farmers (10 ha and above)	13254	17.57	211838.54		
	(f) Total	74454	100	451557.79		
8	Irrigation (2004-05)					
	(a) Net irrigation area		44600	0		
	(b) By canals		32300	0		
	(c) By tube wells		322000			
	(d) By both canal & tube wells		288000			
	(e) Net area irrigated to net area sown		99.1%	, D		
9	Consumption of chemical fertilizers (2005-06)					
	(a) Consumption of Chemical Fertilizers	Kharif-	Kharif-N-64328,P-11205,K-1412			
	(Net. Tones)		Total	76945		
		Rabi N	N-68555, P-3	31484, K-806		

DISTRICT AND STATE INFRASTRUCTURE FACILITIES

S.	Infrastructure component	Ferozepur	State
		∝ Fazilka	
1	Electricity		
a	Percentage of villages electrified	100	100
b	Percentage of rural consumers to total consumers	74	65
2	Transportation		
a	Road density per 1000 sq.km.	907	1222
b	No o transport vehicles (registered vehicles of all types) per 1000	29820	61610
	sq.km.		
с	Villages connected by pucca roads	950	12319
		(98.3%)	99.2%)
3	Irrigation		
a	Irrigated area to net cropped area	99.4	95.9
b	Percentage area irrigated through groundwater	60.4	75.0
с	Percentage area irrigated through surface water	39.6	25.0
d	No. of tubewell per 100 Hact Cropped area	23.0	27.23
4	Communication		
a	No of telephone lines per hundred population (BSNL)	6.3	8.3
b	Population served per post office	5669	6156
с	Average area served per post office (sq. km)	17.22	12.72
5	Education		
a	Literacy rate	60.7	69.9
b	Literacy rate male	68.7	75.6
с	Literacy rate female	51.7	63.5
d	No of school (elementary education upto standard 8th) per 1 lakh	73	64.5
	population		
e	No of secondary and sr.sec. schools per 1 lakh population	14	16.3
f	No. of degree & professional colleges per 1 lakh population	1.26	0.88
g	Teacher pupil ratio upto class v	1:50	1:42
	Class v to viii	1:27	1:28
	Class ix to x	1:22	1:22
6	Health (2002)		
a	Birth rate (per 1000 persons)	21.4	20.8
b	Death rate (per 1000 persons)	7.00	7.1
c	Maternal mortality rate (MMR) per 1 lakh live births	NA	191
d	Infant mortality rate (IMR) per 1 lakh live births	51	51
e	Life expectancy at birth	NA	69.9
f	Sub centres/ primary health centres / community health centres	2	2.23
	per 1 lakh population		
g	No of dispensaries and hospitals per 1 lakh population	6	6.97
h	No of beds in hospitals per 1 lakh population	90	103.42

i	Doctors (allopathic system) per 1 lakh population	34	72.73
7	Water supply		
a	Percentage of villages having drinking water supply (fully/	73	70.2
	partially)		
8	Agriculture markets		
	No of agriculture markets per 100 sq. km	0.20	0.28
9	Poverty		
	Percentage of rural people below poverty line	31.9	28
10	Productivity of major agriculture crops in kg/ha (2004-05 latest		
	available date)		
	Wheat	4143	4221
	Rice	3954	3943
	Cotton (American) yield per ha/kg cleaned cotton	704	716

Area under Horticultural crops

S.	Сгор	Area		Sub	No. of Beneficiaries		
No.			GOI	State	RIDF	Total	
1.	Kinnow	576.07	8302164	2143354	5174118	15619636	401
2.	Cotton	15.07	487803	121951	505764	1115518	7
3.	Vegetable	63.16	1990151	493051	1160373	3643575	95
Tota	l	654.30	10780118	2758356	6840255	20378729	503

Availability of Planting Material in the District during 2012-13

Sr. No.	Сгор	Planting Material	Planting Material
		Available	Requirement
1.	Kinnow	357000	357000
2.	Sweet Orange	800	800
3.	Guava	7000	7000

Area, production and yield of Fruits in the District 2012

S.	Сгор	Area	Production	Yield
No.				
1.	Kinnow	22228	438162	19712
2.	Sweet Orange	1670	7615	12715
3.	Mango	0.60	6.0	10000
4.	Guava	540	10450	19352
5.	Pear	62	1666	26868
6.	Peach	136	2027	14949

7.	Plum	47	453	9640
8.	Grapes	66	1668	25234
9.	Ber	245	3798	15504
10.	Pomegranate	12	130	10862
11.	Aonla	10	118	11616
12.	Banana	5	96	17815
13.	Others	97	1102	11336
	Total	25119	472393	18506

Progress under NHM in the District during 2011-12

S.	Components	Tar	get	Achievement		
No.		Physical	Financial	Physical	Financial	
1.	Establishment of New					
	Garden (ha)					
	(i) Kinnow	1203	186.97	1177	186.76	
	(ii) Guava	4	0.35	4	0.35	
2.	Community water tank	56	400.41	42	303.01	
3.	Plastic Tunnel	-	.00200	-	-	
4.	Honey Bee Colony	-	.00200	-	-	
5.	Horticulture Mechanization	23	10.00	31	14.30	

Visit of Citrus Estate (Abohar and Tahliwala Jaltton)

This is a part of the Punjab Govt. is new approach to shift agriculture focus away from traditional water and soil depleting cropping pattern and to encourage non conventional farm activity for large scale citrus cultivation in the State. With an aim to improve the quality and productivity of citrus the Govt. of Punjab through Department of Horticulture has established five Citrus Estates in natural citrus growing areas of the state to provide all the infrastructural facilities under one roof to obtain more productivity and good quality of produce. Citrus Estates Abohar & Tahliwala Jattan Firozpur/ Fazilka are situated in kinnow belt. It was the joint effort of the progressive farmers of this area who convinced the Punjab Government regarding establishment of Citrus Estates in this kinnow growing area.
Activities

The meeting of the Executive Committee is conducted every month under the Chairmanship of Deputy Director Horticulture, who is also Chairman-cum-C.E.O., Citrus Estate. In this meeting various decisions for the proper functioning, purchase of new implements, progress made during the last month etc. are discussed, on the basis of discussions held the future course of action is framed. Further to implement the decisions taken in the monthly Executive Committee meetings the following committees comprising of farmer members drawn form the Executive Committee have been constituted.

Aims and objectives

- To provide quality nursery plants, various other inputs such as fertilizers, insecticides / pesticides, machinery equipment, packing material etc., either directly or through authorized sale outlets.
- To promote and propagate citrus plantation and citrus based industry.
- To make arrangements for treatment, packaging, storage, marketing, processing, preservation, transport and export of citrus.
- To formulate policy / action plan for promotion of citrus cultivation.
- To help establishment of cold storages, packing houses and processing factories concerned to citrus.
- To take steps for the promotion of technical know-how for the proper maintenance, packing, marketing etc., to the citrus growers.
- To undertake or assist in undertaking programmes and employment generation, growth and diversification of agriculture and industries based on citrus.
- To organize technology transfer through, training and extension to the growers.
- To promote organization of marketing chains both for domestic and export marketing of citrus.
- To build a skilled cadre for managing the citrus plantations.
- To accelerate the development of rainfed and kandi regions through citrus.

- To promote measures for increasing the utilization of irrigation potential, water conservation and its efficient management.
- To organize / catalyze the primary producers of citrus in suitable groups towards the performance of activities related to the achievement of the objectives of the Society.
- To pave the way for establishment of integrated producers' organizations with forward and backward linkages related to citrus, other fruits and vegetables which are used for blending with citrus juice.
- To prepare, print and publish papers, periodicals, monographs and books on citrus, other fruits and vegetables in furtherance of the objectives of the Society.

The shortage of staff was a big issue with the Department of Horticulture, Punjab and it was very difficult for their permanent staff to reach each and every farmer and provide them the expert advice. With the formation of Citrus Estate, this issue has been so far resolve by the appointment of Expert Technical Staff through the Department of Horticulture, Punjab on contractual basis. They try to provide the onsite solution to the various plant and soil related problems as to increase the citrus productivity and best quality produce.

Technical Know How

To provide technical know-how for pest control, plant diseases etc. Citrus Estate is working as a Scientific Centre, Disease Preventive Centre for the farmers of different circles / villages coming under the Estate.

Citrus Estate has also initiated the research on the effect of different harvesting dates on the physico-chemical quality characters of the kinnow fruit through Punjab Horticulture Post harvest Technology Centre, Punjab Agricultural University, Ludhiana. The main objective behind this research is to study the periodic changes towards maturity in the physico-chemical quality characteristics of Kinnow. This research will be very fruitful as regards to the marketing and processing of kinnow fruit.

Various awareness camps and seminars are also organized by the technical staff to educate the farmers regarding service provided by the Estate such as subsidies being provided by the Govt., recent developments in Citrus Industry, increasing the utilization of irrigation potential, water conservation and its efficient management etc. The information regarding the proper and timely use of insecticides and pesticides is also provided to the farmers during these awareness campuses. Technical staffs working under the Citrus Estate organizes camp every month in the village / circle allotted to them.

Mechanization

Mechanisation of the farming is need of the day now. Most of the farmers registered with the estate are small farmers and they can not afford to spend too much on the purchase of the costly and latest technology implements. Citrus Estate is playing an important role in the mechanization of the orchards by providing various latest technology implements. The description of implements with the Estate which are provided to the farmers at the maintenance charge is given as below:

Sr. No.	Name of the Implement	Units
1.	Tractors	5
2.	Rotavators	6
3.	Diggers	2
4.	Tractor mounted spray pumps	4
5.	Honda Engine spray pumps	4
6.	Tiller	1
7.	Sub soiler	1
8.	Leveller (Karah)	1
9.	Rotary Tillers	2
10.	Shrub master	2
11.	Disc Harrow	2
12.	Zinda	1
13.	Peas drill machine	1
14.	Wheat drill machine	1
15.	Disc plough	1
16.	Front Loader	1
17.	Prunner	1
18.	Washing pump	1
	Total	37

Pheromone Traps

In order to prevent the white fly attack on the kinnow orchards Citrus Estate is providing Pheromone Traps. These traps act as indicative measure to the farmers regarding the attack of the fruit fly.

Farmer's Feedback

The registered farmers are very much satisfied with the technical support and facilities provided to them.

Regional Station, Abohar

Visited Regional Station Abohar, met Director informed about the Station, came into existence at Abohar in 1961-62. Initially a Citrus progency-cum-nursery was started by the Department of Agriculture Punjab in 1946 on an area of 25 acres. Later in 1954-55, the ICAR launched a Co-ordinated Date-palm Improvement Scheme with its main centre at Abohar. This centre was upgraded by ICAR as sub-station for research on fruit crops on 29th July, 1960. In the year 1961-62, a full fledged Regional Fruit Research Station at Abohar for research on the improvement of fruits grown in the arid-irrigated region of North India namely Citrus, Grapes and Dates, came into existence. In December, 1962, with the formation of Punjab Agricultural University, Ludhiana, this Research Station came under its control. It is located at 74.12° E, 30.8° N with an altitude of 185.78 meter and receiving annual precipitation of 75-300 mm. At present, the station is spread over an area of 232 acres where an extensive research on various fruit crops viz., Citrus, grapes, date palm, peach, pear, plum, apricot, ber, guava, mango, aonla, wheat, cotton, etc. is being carried out.

The station was established with the objective to introduce, collect, characterize, conserve and evaluate the biodiversity of horticultural crops under arid irrigated region; to utilized the available biodiversity and improve the target crops for the development of high quality and productive types having tolerance to biotic and abiotic stresses; and to develop integrated pest and disease management technologies for horticultural crops under arid irrigated conditions.

The Station is committed to take up the basic and strategic research programs for enhanced production and productivity of fruit crops. To date this Station has made about 35 recommendations on fruits and 12 on kharif crops which have been included in the Package of Practices for fruits and kharif crops. The extension services are regularly rendered by the Station to farmers by visiting their field for solving their day to day problems.

Name of Fruit Crop	Area (Acres)
Citrus	63.0
Date Palm	11.5
Grapes	5.5
Guava	4.0
Pear	3.5
Plum	3.0
Ber	3.0
Peach	2.0
Aonla	2.0
Mango	1.0
Apricot	0.5
Deciduous Collection	1.0
Total	100.00
Cotton Selection	112.0
Building / Roads	20.00
Grand Total	232.0

Area covered under different crops:

MANDATE:

- 1. Introduction, collection and evaluation of germplasm of various fruit crops.
- Utilization of the available biodiversity and improvement of the target crops for the development of high quality and productive types having tolerance to biotic and abiotic stresses.
- 3. Standardization of the agro-horticultural techniques for various fruit crops.
- 4. Development of integrated pests and disease management technologies for horticultural crops.
- 5. Dissemination and Popularization of technology generated among the farmers.
- 6. Production of Basic, Breeder and Foundation Seed
- 7. Conduct of AICCIP Varietal and State Variental trials.
- 8. Evaluation of cotton genotypes and indigenous and exotic germplasms of American cotton for cultivation as a spring crop (January to Mid June).
- 9. Maintenance of genetic purity of varieties and parents of hybrids in cotton.

Infrastructural Facilities

This research station carries out research work on various aspects (Introduction and Evaluation of rootstocks & propagation techniques, nutrition, plant protection, quality improvement, post-harvest handling, etc.) of important fruit crops of arid-irrigated region of Punjab (Citrus, Grapes, Date-palm, Pear, Plum, Apricot, Almond, Ber, Guava etc.)

Field

At present, the research work on different fruits crops is being carried in the orchard at this research station in an area of 100 acres with the help of 4 spray pumps, 3 tractors along with the necessary agricultural implements.

Others

Two small screen houses were built at Abohar in 1968 to produce virus free fruit plants and for other viral studies. A small metrological observatory was set up in 199495. One Green and polyethylene house, one glass house, one shade net system and an Automatic Weather Station has been established during 2008.

Plant Health Clinic

Plant Health Clinic is an important component for fruit / vegetable growers in the region. The lab is headed by Nirmaljit Kaur, and P.K. Arora (Plant Protection Scientists) As stated by the Scientists that non availability of quick diagnostic facilities related to nutrient management, plant protection measures and various disorders of fruit facilities, there has been excessive use of fertilizers and pesticides causing an imbalance between soil health and plant growth.

The establishment of Plant Health Clinic at Regional Research Station has been very useful in diagnosing nutrient deficiency symptoms, identification of pests & diseases and phyto-toxicity symptoms in different plant parts including fruits. This has also created a facility for the identification of physiological disorders with the following objectives.

- To impart practical training to the farmers in the diagnosis of various disorders associated with fruit crops.
- To impart instant guidance to the fruit growers in relation to nutrient deficiency management in fruit crops.
- To help the fruit growers in adopting effective plant protection measures and their judicious application.
- To identify disorders due to natural conditions occurred to the fruit plants.
- To evaluate the storage disorders to different fruits causing heavy fruit loss during ambient and cold storage.

Progress

Plant Health Clinic Lab has been established at Regional Research Station Abohar after installation of all the equipment purchased. Plant Health Clinic is providing services to the fruit growers as and when required and till date more than 450 farmers have been advised regarding their day to day problems in relation to various aspects which they faced during the establishment & maintenance of their orchards. The farmer's area advised to procure the plant material from registered nursery and to get the soil tested before the plantation of the orchard in order to avoid long term losses.

All the Technology developed by PAU, Regional research Station, Abohar regarding the Production and Plant Protection aspects is being disseminated to the farmers through field days and farm visits. Laminated wooden blow ups, wall charts have been procured and are being adopted as tools for dissemination of the required information.

The major areas covered during the period under report are:

***Nutritional disorders:** Guided the farmers for analysis of the soil and leaf samples to know the macro-and micronutrient requirement of orchard and their management accordingly.

* Integrated insect and disease management in citrus and other fruit crops:

The orchardists have been guided regarding the control of the insect pests and diseases. Screening of Citrus orchards for Citrus Tristeza Virus (CTV) have been done.

* Fruit drop in Kinnow: Integrated fruit drop management in Kinnow.

Budget allocated / Expenditure Statement of Plant Health Clinic, RRS, Abohar

1.	Name of Scheme	Plant Health Clinic
2.	Budget Estimate	Rs. 15,20,000/-
3.	Year of Start	2009-10
4.	Duration of Scheme	Three years
5.	Head Office / D.D.O.	Director, Regional Research Station, Abohar
6.	Controlling Officer	Director of Research, PAU, Ludhiana

7.	Funding Agency	National Horticulture Mission			
8.	Allocated funds for the	Recurring contingency	Rs. 1,98,750/-		
	purchase (Rs.	Non Recurring	Rs. 12,55,000/-		
	15,20,000/-)	contingency			
		10% Institutional	Rs. 26,500/-		
		Charges			
		10% Establishment	Rs. 26,500/-		
		Charges			
		5% Library Charges	Rs. 13,250/-		

Contingency	Budget	Expenditure	Balance	Remarks
	allocated	(Rs.)	(Rs.)	
	(Rs.)			
Recurring	1,98,750/-	1,97,859/-	891/-	Amount spent as per detailed below.
Non-recurring	12,55,000/-	12,54,526/-	474/-	Amount spent as per detailed below.
Institutional	26,500/-	26,500/-		With Comptroller PAU, Ludhiana
Establishement	26,500/-	26,500/-		With Comptroller PAU, Ludhiana
Library	13,250/-	13,250/-		With Comptroller PAU, Ludhiana
Total	15,20,000/-	15,18,635/-	1365/-	

Bio control unit:

Visited biological Control Lab funded under National Horticulture Mission, (PAU Regional Research Station, Abohar) and met Principal Investigator: Dr. Parshotam Kumar Arora, Senior Entomologist, PAU Regional Research Station, Abohar.

Interacted about progress made in the lab where All the equipments has been purchased. Work for the construction of building has been completed except some minor civil and electrical works still pending. Production of bioagents is yet to start. The work on the evaluation of biopesticides (prepared by PAU and commercially available) against insect pest of vegetables (Cauliflower, Chilly, Peas and Tomato) and Kinnow mandarin is in progress for the last three years. The following trials has been conducted.

Evaluation of bio-efficacy of biopesticides against citrus psylla on Kinnow mandarin Treatments

T 1= Bio Catch 1.15 EC (Vertcillium lecanii) @ 5 ml/litre water

- T 2= Bio Magic 1.15 EC (Metarhiuzium anisopliae) @ 5 ml/litre water
- T 3= Nimbecidine @ 5 ml/litre water
- T 4= Horticultural Mineral Oil @ 5 ml/litre water
- T 5= Horticultural Mineral Oil @ 10 ml/litre water
- T 6= Kinnow Peel Extract @ 10 ml/litre water (Self prepared)
- T 7= Actara @ 0.3 g / litre water- As standard check

T 8= Control

Out of the bio-pesticides Horticultural Mineral Oil @ 10 ml/litre water is found very effective.

Evaluation of some bio-pesticides against citrus aphids on Kinnow mandarin

Treatments

- T 1= Bio Catch 1.15 EC (Vertcillium lecanii) @ 5 ml/litre water
- T 2= Bio Magic 1.15 EC (Metarhiuzium anisopliae) @ 5 ml/litre water
- T 3= Nimbecidine @ 5 ml/litre water
- T 4= Horticultural Mineral Oil @ 5 ml/litre water
- T 5= Horticultural Mineral Oil @ 10 ml/litre water
- T 6= Kinnow Peel Extract @ 10 ml/litre water (Self prepared)
- T 7= Actara @ 0.3 g / litre water- As standard check
- T 8= Control

Out of the bio-pesticides Horticultural Mineral Oil @ 10 ml/litre water is found very effective.

Management of Diamond back moth on Cauliflower with PAU BT and Halt

Treatments T 1= PAU BT @ 300 g/acre T 2= Halt @ 300 g/acre T 3= Control -PAU BT is found very effective.

Bio-efficacy of some Bio-pesticides against Aphids on Chilly:

Treatments

T 1= Bio Catch 1.15 EC (Vertcillium lecanii) @ 5 ml/litre water

T 2= Bio Magic 1.15 EC (Metarhiuzium anisopliae) @ 5 ml/litre water

T 3= Nimbecidine @ 5 ml/litre water

T 4= Horticultural Mineral Oil @ 5 ml/litre water

T 5= Horticultural Mineral Oil @ 10 ml/litre water

T 6= Actara @ 0.3 g / litre water- As standard check

T 7= Control

- Out of the bio-pesticides, Horticultural Mineral Oil @ 10 ml/litre water is found very effective and the control is comparable to Actara.

- (A) A. Survey of the area for collection and identification of biological control agents of pests of fruits and vegetables is in progress. Collected the major pests of vegetables (Cauliflower, Cabbage, Chilly, Peas, Okra and Tomato) and citrus, kept them in laboratory for emergence of parasites. No parasites are recorded up to now.
- (B) Farmers are made aware about the problems arising due to the indiscriminate use of pesticides and are encourage to adopt eco-friendly approaches for the management of insect-pests in the fruits and vegetables. The IPM strategies developed for management of insect-pests of fruits and vegetables are being disseminated among farmers through advisory visits and extension lectures at field days.

Details of Budget / Expenditure of the scheme "Biological control lab: Total budget allocated by NHM = Rs. 80 lakh

Leaf Analysis Laboratory

Visited Leaf Analysis Laboratory, met Dr. P. K. Monga, Director, J.S. Josan, Ms Nirmaljit Kaur and P.K. Arora, Dr. Monga informed that the deficiency of micronutrients effects the metabolic activity of the plants as a result plant health and fruit quality is affected. Since the productivity of horticultural crops is very high, so they take large quantity of nutrient elements from the soil and fertilization has become most valuable input. So, it is imperative to supply adequate quantity of essential nutrients to fruit trees to get maximum productivity of high quality. He informed that some nutrient like Ca, K and B do not show very remarkable deficiency symptoms but their insufficiency in the tree is reflected in form of poor fruit quality and lower productivity leading to lower economic returns to the fruit growers. The cost of fertilizer has increased significantly in the recent past. So, it is highly essential to identify the proper mineral nutrient biotic stresses like flooding, drought, frost, insect or disease attack could be easily confused with nutrient deficiencies. Hence, it becomes very essential to diagnose the nutrient element deficiencies before applying fertilizers. The labs has been established with the following objectives.

- 1. To analyze the leaf samples and identify disorders due to nutritional deficiency in fruit plants.
- 2. To enhance productivity and fruit quality through judicious nutrient management.
- 3. To impart instant guidance to the fruit growers in relation to nutrient management of orchards.
- 4. To advice the grower in adapting precision farming techniques.

Budget Allocated

1.	Name of Scheme	Tissue / Leaf Analysis	Laboratory	
		Abohar		
2.	Budget Estimate	Rs. 20 lacs		
3.	Year of Start	2009-10		
4.	Duration of Scheme	Three years		
5.	Head Office / D.D.O.	Director, Regional Rese Abohar	arch Station,	
6.	Controlling Officer	Director of Research, PAU	, Ludhiana	
7.	Funding Agency	National Horticulture Mission		
8.	Allocated funds for the	Recurring contingency	Rs.	
	purchase		1,50,000/-	
	(Rs. 20,00,000/-)	Non Recurring	Rs.	
		contingency	17,50,000/-	
		Miscellaneous charges	Rs. 50,000/-	
		10% Institutional	Rs. 20,000/-	
		Charges		
		10% Establishment	Rs. 20,000/-	
		Charges		
		5% Library Charges	Rs. 10,000/-	

Expenditure incurred under various heads:

Sl. No.	Name o	of Item	Spent Amount	Amount Unspent
1.	Recurring contingency	Chemicals	1,49,084/-	916/-
2.	Non Recurring contingency	Atomic Absorption Spectrophotometer Computer with printer and	17,49,922/-	78/-
3.	Miscellaneous charges	accessoriesWeighing balanceMixer GrinderMicrowave ovenHot PlateRefractometer	49980/-	20/-
4.	Institutional/Establishment/library charges	10%InstitutionalCharges10%Establishment	Rs. 20,000/- Rs. 20,000/-	Nil Nil

	Charges			
	5%	Library	Rs. 10,000/-	Nil
	Charges			
Total			19,98,986/-	1014/-

Progress :

For the establishment of the Tissue / Leaf analysis Laboratory under the category-Promotion of Integrated Nutrient Management, the required equipments and chemical have been purchase, properly installed and the lab is in working condition. The leaf samples from farmer field are analysed during the month of September which is the recommended time of leaf sampling.

During the period, more than 450 farmers have been advised regarding their day to day problems in relation to nutrient disorders facing in the establishment & maintenance of the orchards. The farmers were also made aware about the importance of leaf analysis in getting quality yield and they are being convinced at the citrus field days to avail the facility of leaf / tissue laboratory existing at RRS, Abohar.

FATEHGARH SHAHIB DISTRICT PROFILE

Area	:	1,14,779 ha.
Sub Division	:	04
Block	:	05
No. of village	:	454
Area under Agriculture	:	1,02,028 ha.
Area under Horticulture	:	100%
No. of farmers	:	22,473
Main crops	:	Paddy, wheat

Use of Chemical Fertilizers

	Chemical Fertilizers			
	Nitrogen(N)	Phosphate	Potas	Total (NPK)
Fatehgarh Sahib	37	11	2	50
(% Pumps)	2.72	2.53	2.70	2.68

Electrification / upgraded tubewells

	2001	2008	2009
Fatehgarh Sahib	22820	25785	29069
(% Pumps)	0.29	2.63	2.82

	Paddy	Bhindi	Sunflower	Potato
Area (in 000 ha)	86	85	2.0	3.9
% Punjab	3.07	2.41	9.13	4.69
Production (000 m MT)	391	419	4.4	101.7
% Punjab	3.48	2.76	11.40	4.80
Productivity kg/ha	4544	4932	2198	25716
Productivity (Punjab)	4010	4307	1763	25464

No. of Tractor per 1000 ha

Fatehgarh Sahib	Punjab	% increase
109	72	51.39

% of Operational land holding

Category	Fatehgarh Sahib	Punjab (%)
Marginal holding	10.69	13.42
Small holding	16.90	18.22
Semi medium	31.71	31.85
	33.92	29.45
	6.88	7.06

Sr. No.	Block	Sub- Tehsil	Tehsil/ Sub-	District
			Division	
1	Sirhind		Fatehgarh	Fatehgarh
			Sahib	Sahib
2	Khera		Fatehgarh	
			Sahib	
3	Khamano		Khamano	
4	Amloh	Mandi	Amloh	
		Gobindgarh		
5	Bassi Pathana		Bassi Pathana	

Administrative Structure Blocks of Fatehgarh Sahib

Area and Population

Tehsil/		Rural			Urban		Total	Rural	Urban
Distt:	Male	Female	Total	Male	Female	Total	Population	Population	Population
								as % to	as % to
								total	total
								Population	Population
Fatehgarh	73110	63308	136418	49825	26717	23108	186243	73.25	26.75
Sahib									
Amloh	54284	45227	99511	73366	40690	32676	172877	57.56	42.44
Khamano	40935	36064	76999	8842	4866	3976	85841	89.70	10.30
Bassi	39608	34414	74022	19058	9927	9131	93080	79.53	20.47
Pathana									

Area under different fruits (In Hectare)

Kinno	Lemon	Mango	Guava	Pear	Peach	Ber	Amla	Banana	Misc	Total Fruit
169	19	136	192	30	40	11	4	6	50	657

Area Under different Vegetable (In Hectare)

Potato	Onion	Other Vegetabl	Total	
		Winter	Summer	vegetable
4005	12	220	474	4711

Number of Operational Holdings

Marginal Below one Hect.	Small (1-2 Hect.)	Semi medium (2- 4 Hect.)	Medium (4- 10 Hect.)	Large (10 hect. and above)	All Holdings
2379	3799	7126	7623	1546	22473

Marketing Storage

Name of Markets	No. of Markets	Remarks
Sirhind	1	
Amloh	1	
Khamano	1	
Bassi Pathana	1	
Chanarthal	1	

Net Irrigated Area

Government Canals	Tube wells and wells	Other sources	Total	Percentage of net area Irrigated to net area sown
11	91		102	100

Energy

	(Million KWH)										
Domestic	Commercial	Industrial including Public water works	Agriculture	Other bulk supply and public lighting	Total	Percentage to total					
186.82	48.90	1331.26	250.47	3.59	1821.04	5.65					

Sl.	Component	Unit	Ta	rget	Achieveme	ent
No.			Physical	Financial	Physical	Financial
1.	Establishment of New	На				
	gardens					
	(i) Flower	Ha.	11	0.53	11	0.53
	(ii) Spices	Ha.	I	0.13	-	0.13
2.	Protected cultivation	Ha.				
	(i) Green House	Ha.	2	17.52	1	17.52
	(ii) Cost of material of	No.	10	4.86	8	4.20
	vegetable in green					
	house					
	(iii) Cost of material of	No.	02	2.50	-	2.50
	flowers in green house					
	(iv) Plastic Tunnel	No.	39	5.85	39	5.85
3.	Vermi compsot unit		11	3.30	11	3.30
4.	Beekeeping		339	5.82	339	5.82
5.	Post Harvest					
	Management					
	(i) Pack House		4	600	-	6.00
	(ii) Cold Storage		4	374.77	-	37477
6.	Mechanization		98	18.52	92	16.01

Progress Report under NHM during year 2011-12 in Fatehgarh Saheb District

Progress Report under NHM during year 2012-13 in Fatehgarh Saheb District

Sl.	Component	Unit	Ta	rget	Achievement	
No.			Physical	Financial	Physical	Financial
1.	Protected cultivation	Ha.				
	(i) Green House	Ha.	2	9.35	2	9.35
2.	Cost of material of vegetable in green	No.	-	0.53	-	0.53
2	Nouse		~	1.50	2	0.00
3.	vermi compsot unit		3	1.50	2	0.60
4.	Beekeeping		350	5.25	300	4.50
5.	Pack House		4	6.00	4	6.00
6.	Mechanization		-	-	1	0.58

Progress Report under National Mission on Micro Irrigation (NMMI) in Fatehgarh Saheb District during 2010-11

Name of Scheme	Fir	nancial	Physical	
	Target	Achievement	Target	Achievement
Sprinkler	Potato	4	8.43 ha	3.60

Meeting with MD, Punjab

- MD reiterated that cost norms for establishment of nurseries needs to be revised. For model nursery, Rs. 50 lakh should be fixed.
- Income from nurseries should not go to Government instead a resolving funds should be created for nurseries established under NHM.
- SLEC may be delegated for approval of exposure visits of farmers outside the state.
- There may be modification in the size of water tanks to be established under NHM.
- Poor publicity of NHM progress
- NMMI is being implemented by Deptt. of Soil & Water Conservation in the state.
- Pomegranate is being propagated in the state.
- New Technology needs to be introduced under protected cultivation.
- Clarification regarding power machines and power operated machines.

Fazilka

- Power sprayer in demand, it should be included for subsidy under NHM mechanization.
- Wheat as inter crop not recommended in Kinnow plantation.
- Quality planting material of kinnow to be ensured.
- No demand for various composts units in district. A few established are not working.
- Purpose for establishment of pack house are being finalized.
- KVK to conduct trial for use of kinnow waste in vermi compost units.

Ludhiana

- Norms / guidelines for establishment of cold storage are to be made clear to beneficiaries before establishment and subsidy to be released in time to avoid paying of interests on loan.
- Exclusive training funds for mushroom units.

- State Farmers commission recommended for banana plantation in the state.
- Norms for establishment of pack houses do not conform to NHM norms.
- Before releasing subsidy for poly house, shade net, an expert may be deputed for evaluation / specification.
- Listed companies may be deputed for construction of poly house with State.

Activities visited

- 1. Area Expansion of fruits, kinnow, Banana, guava
- 2. Vermi composts units
- 3. Water harvesting structures
- 4. Mechanization -power weeder, Potato seed grader, power spray pump
- 5. Pollination support through Bee keeping
- 6. Pack house
- 7. NMMI drip / sprinkler.
- 8. Cold storage
- 9. Poly house / shadenet
- 10. Citrus Estate Abohar and Tahliwala Jatton (Abohar and Fazilka)
- 11. IPM-Plant Health Clinic (2 Nos), Leaf tissue analysis and Bio control labs at PAU, Ludhiana and Abohar
- 12. Citrus, Packing line
- 13. NVI

District covered

Ludhiana, Fatehgarh Sahib and Fazilka (Ferozpur)

Photographs



Glimpse of activities visited by JIT



Glimpse of activities visited by JIT



Glimpse of activities visited by JIT







Kinnow grower

Annexure - I

Ludhiana District

S.N.	Details	Remarks
1	Name & address of Beneficiary whose field	Sh. Brinderjit Singh, Vill: Nurpur Bet,
	visited.	Ludhiana
2	Total land available with the beneficiary	1.6 ha.
	(ha).	
3	Crop Cluster under which covered.	Non perennial fruits/Mechanization
4	Name & variety of crop planted.	Banana – G-9
5	Source of planting material.	Nursery, Ludhiana
6	Number of planting material.	NA
7	Number of plants planted/ rejuvenated.	
8	Date of plants which survived (also	100%
	indicate percentage survival).	
9	Total amount of subsidy assistance due to	Rs. 49920/-
	the beneficiary as (Rs.)	
10	Amount paid and date of payment.	15.12. 2011
11	Mode of payment.	Cheque No. 832811
12	Source of Irrigation Water	Tube well
	(Bore well/ Tube well/ Canal)	
13.	Whether Drip/ Sprinkle System in use.	Drip but not in use
14.	Other inputs provided.	Power weeder
15.	Whether assistance available for Organic	
	Farming	
16	If so, area covered	
17.	Assistance available	
18.	Available marketing facility for the crop.	
19.	Other infrastructure available in the vicinity.	~
20.	General upkeep of the plot; Very good/	Good
	Good / Average/ Poor.	
21.	Any other relevant observation by the JIT.	• Poor maintenance
		• Plants drying and dying due to frost injury
		• Cigar end rote in fingers
		• Plants to be planted on bund at certain height
		• Wind break required
		• Power weeder working
		• Vermi compost unit recommended to use banana waste.

Area Expansion / Rejuvenation

S N	Details	Remarks
1	Name & address of Beneficiary whose field	Sh Sant Singh Vill: Banyewal
1	visited	Ludhiana
2	Total land available with the beneficiary	1.6 ha
	(ba)	1.0 IIa.
2	(iid). Crop Cluster under which covered	Emit
5	Crop Cluster under which covered.	Tiun
4	Name & variety of crop planted.	Guava
5	Source of planting material.	Certified nursery
6	Number of planting material.	330
7	Number of plants planted/ rejuvenated.	
8	Date of plants which survived (also	
	indicate percentage survival).	
9	Total amount of subsidy assistance due to	Rs. 3951/-
	the beneficiary as (Rs.)	
10	Amount paid and date of payment.	3 rd installment due
11	Mode of payment.	Cheque no; 5361077
12	Source of Irrigation Water	Tube well
	(Bore well/ Tube well/ Canal)	
13.	Whether Drip/ Sprinkle System in use.	Sprinkler –used in wheat (Organic
		certified)
14.	Other inputs provided.	Vermi compost unit -2007-08 Pack
		house in 2007-08
15.	Whether assistance available for Organic	
	Farming	
16	If so, area covered	
17.	Assistance available	
18.	Available marketing facility for the crop.	
19.	Other infrastructure available in the vicinity.	
20.	General upkeep of the plot; Very good/	
	Good / Average/ Poor.	
21.	Any other relevant observation by the JIT.	Healthy plants
		Training and pruning in plants
		required.

Area Expansion / Rejuvenation

S.N.	Details	Remarks
1	Name & address of Deposition whose field	Sh Doliit Sinch Will, Doliol
1	visited	Jii Daijit Singli, Vili, Dailoi, Ludhiana
2	Total land available with the beneficiary (ha).	1.6 ha.
3	Crop Cluster under which covered.	Fruit
4	Name & variety of crop planted.	Guava
5	Source of planting material.	Certified nursery
6	Number of planting material.	330
7	Number of plants planted/ rejuvenated.	
8	Date of plants which survived (also indicate	
	percentage survival).	
9	Total amount of subsidy assistance due to the	Rs. 15084/-
	beneficiary as (Rs.)	
10	Amount paid and date of payment.	3 rd installment due
11	Mode of payment.	Cheque
12	Source of Irrigation Water	Tube well
	(Bore well/ Tube well/ Canal)	
13.	Whether Drip/ Sprinkle System in use.	
14.	Other inputs provided.	
15.	Whether assistance available for Organic	
	Farming	
16	If so, area covered	
17.	Assistance available	
18.	Available marketing facility for the crop.	
19.	Other infrastructure available in the vicinity.	
20.	General upkeep of the plot; Very good/ Good	
	/ Average/ Poor.	
21.	Any other relevant observation by the JIT.	Healthy plants
		• Training and pruning of
		plants required

Area Expansion / Rejuvenation

Sr. No.	Details	Remarks
1	Name of the project	Potato Seed Grader,
2	Year of Implementation	2011-12
3	Project Period	One year
4	Name of Implementing Agency	Sh Bhavjit Singh,
5	Location of Project	Vill: Sarabha, Ludhiana
6	Total Project Cost	Rs 15 lakh/-
7	Amount Released by DAC	Rs. 6 lakh/-
8	Expenditure incurred Status	NA
9	Status	*In working condition *Capacity: 14 ton/hr.

Horticulture Mechanization

Plant Protection

Sr. No.	Details	Remarks
1	Name of the project	Power Spray Pump,
2	Year of Implementation	2011-12
3	Project Period	One year
4	Name of Implementing Agency	Sh Bhavjit Singh,
5	Location of Project	Vill: Sarabha, Ludhiana
6	Total Project Cost	Rs 35,000/-
7	Amount Released by DAC	Rs. 17,500/-
8	Expenditure incurred Status	NA
9	Status	*In working condition

Sr. No.	Details	Remarks
1	Name of the project	Pack House
2	Year of Implementation	2012-13
3	Project Period	One year
4	Name of Beneficiary	Sh Lakhvir Singh
5	Location of Project	Vill: Abhuwal, Ludhiana
6	Total Project Cost	Rs 3 lakh
7	Amount Released & date	Rs 1.5 lakh
8	Expenditure incurred	Rs. 1.5 lakh
9	Status	
	Capacity of unit	9x6'
	Commodity	Vegetables – Cabbage, Peas, potato, capsicum
	Equipments purchased	
	Condition of infrastructure	Good
	Whether NHM logo displayed	yes
	Whether funds disbursed to agency	yes
	Observations	Pack house constructed without adopting standard norms of NHM

Post Harvest Management Pack House/Cold Storage/Ref Van/ primary processing

Sr. No.	Details	Remarks
1	Name of the project	Pack House
2	Year of Implementation	2012-13
3	Project Period	One year
4	Name of Beneficiary	Sh Rajinder Singh
5	Location of Project	Vill: Abhuwal, Ludhiana
6	Total Project Cost	Rs 3 lakh
7	Amount Released & date	Rs 1.5 lakh
8	Expenditure incurred	Rs. 1.5 lakh
9	Status	
	Capacity of unit	9x6'
	Commodity	Banana, Guava
	Equipments purchased	
	Condition of infrastructure	Good
	Whether NHM logo displayed	yes
	Whether funds disbursed to agency	yes
	Observations	Pack house constructed without adopting standard norms of NHM

Post Harvest Management Pack House/Cold Storage/Ref Van/ primary processing

Protected Cultivation

Sr.	Details	Remarks
No.		
1	Name & address of Beneficiary whose field	Mrs. Neelam Kapoor,Vill:
	visited.	Jhandae. Ludhiana
2	Total land available with the beneficiary (ha).	1000 sq. mtr
3	Type of Protected cultivation activity (Hi-tech	Shade net house
	/ Normal GH, Shade net, Plastic	
	tunnel)	
4.	Year of establishment	2010-11
5.	Size of Structure (Sq. m)	1000 sq. mtr.
6.	Total cost	NA
7.	Agency involved in fabrication and	
	installation	
8.	Total subsidy paid and date of payment.	Rs 3 lakh, 6.12.2011 by cheque
9.	Crop being grown	Ornamental plants
10.	Condition of Structure	Good
11.	Condition of Crop	Good
12.	Tie up with market	Ludhiana
13.	General upkeep (Very good/ Good/ Average/	Good
	Poor)	
14	Any other relevant observation by JIT.	Well maintained
Protected Cultivation

Sr.	Details	Remarks
No.		
1	Name & address of Beneficiary whose field	Mrs. Neelam Kapoor, Vill:
	visited.	Jhandae. Ludhiana
2	Total land available with the beneficiary (ha).	520 sq. mtr
3	Type of Protected cultivation activity (Hi-tech	Poly house
	/ Normal GH, Shade net, Plastic	
	tunnel)	
4.	Year of establishment	2010-11
5.	Size of Structure (Sq. m)	520 sq. mtr.
6.	Total cost	NA
7.	Agency involved in fabrication and	
	installation	
8.	Total subsidy paid and date of payment.	Rs 2.43 lakh, 8.12.2011 by
		cheque
9.	Crop being grown	Floriculture
10.	Condition of Structure	Good
11.	Condition of Crop	Good
12.	Tie up with market	Chandigarh, Amritsar, Ludhiana
13.	General upkeep (Very good/ Good/ Average/	Good
	Poor)	
14	Any other relevant observation by JIT.	Well maintained
		• Poly house constructed
		needs evaluation/
		specification before final
		subsidy is released.

Protected Cultivation

Sr. No.	Details	Remarks
1	Name & address of Beneficiary whose field	Sh. Jasdeep Singh, Vill:
	visited.	Muskabad. Ludhiana
2	Total land available with the beneficiary (ha).	1584 sq. mtr
3	Type of Protected cultivation activity (Hi-tech	Poly house
	/ Normal GH, Shade net, Plastic	
	tunnel)	
4.	Year of establishment	2008-09
5.	Size of Structure (Sq. m)	1584 sq. mtr.
6.	Total cost	NA
7.	Agency involved in fabrication and	
	installation	
8.	Total subsidy paid and date of payment.	Rs 7.41 lakh, 20.10.2011 by
		cheque
9.	Crop being grown	Capsicum
10.	Condition of Structure	Good
11.	Condition of Crop	Good
12.	Tie up with market	Delhi
13.	General upkeep (Very good/ Good/ Average/	Good
	Poor)	
14	Any other relevant observation by JIT.	Well maintained
		• Pack house from NHM in
		2010-11.
		Crates from RKVY
		• Training in Protected
		cultivation /plant
		protection required.

Sr. No.	Details	Remarks
1	Name of the project	Cold Storage
2	Year of Implementation	2011-12
3	Project Period	One year
4	Name of Beneficiary	Punjab Cold Storage unit
5	Location of Project	Vill: Sidhawan Bet, Ludhiana
6	Total Project Cost	NA
7	Amount Released & date	R. 31.39 lakh
8	Expenditure incurred	NA
9	Status	Working
	Capacity of unit	1309 m. Mt (One chamber)
	Commodity	Potato and potato seed
	Equipments purchased	
	Condition of infrastructure	Good
	Whether NHM logo displayed	No
	Whether funds disbursed to agency	Yes
	Observation	*For expansion, Proposal of Rs 37
		lakh under consideration (1650 m MT)
		Due to late release of subsidy,
		beneficiary has to pay excess interest
		on loan.
		• Guidelines for specification
		/construction of cold storage need to
		be made clear to the beneficiaries

Post Harvest Management Pack House/Cold Storage/Ref Van/ Primary processing

Sr. No.	Details	Remarks
1	Name of the project	Cold Storage
2	Year of Implementation	2011-12
3	Project Period	One year
4	Name of Beneficiary	Mangat Cold Storage unit
5	Location of Project	Vill: Bondli, Ludhiana
6	Total Project Cost	Rs. 2.70 crore
7	Amount Released & date	Rs. 81.12 lakh
8	Expenditure incurred	NA
9	Status	Working
	Capacity of unit	3380 m. Mt - Multi Chamber
	Commodity	Potato and potato seed
	Equipments purchased	
	Condition of infrastructure	Good
	Whether NHM logo displayed	No
	Whether funds disbursed to agency	Yes
	Observation	*Capacity utilized

Post Harvest Management Pack House/Cold Storage/Ref Van/ Primary processing

Annexure - II

Fazlika District

Area	Expansion /	Rejuvenation
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S.N.	Details	Remarks
1	Name & address of Beneficiary whose field	Shri Aseem, Vill: Kullar, Fazlika
	visited.	
2	Total land available with the beneficiary (ha).	3.6 ha.
3	Crop Cluster under which covered.	Area expansion of Fruit
4	Name & variety of crop planted.	Kinnow
5	Source of planting material.	
6	Number of planting material.	900
7	Number of plants planted/ rejuvenated.	
8	Date of plants which survived (also indicate	100%
	percentage survival).	
9	Total amount of subsidy assistance due to the	Rs. 40,500/-
	beneficiary as (Rs.)	
10	Amount paid and date of payment.	31.3.2010
11	Mode of payment.	Cheque
12	Source of Irrigation Water	Drip – Canal irrigatiom
	(Bore well/ Tube well/ Canel)	
13.	Whether Drip/ Sprinkle System in use.	
14.	Other inputs provided.	
15.	Whether assistance available for Organic	
	Farming	
16	If so, area covered	
17.	Assistance available	
18.	Available marketing facility for the crop.	
19.	Other infrastructure available in the vicinity.	
20.	General upkeep of the plot; Very good/ Good	Well maintained
	/ Average/ Poor.	
21.	Any other relevant observation by the JIT.	Insect / Pest noticed.

S.N.	Details	Remarks
1	Name & address of Beneficiary whose field visited.	Hardeep Neol, Vill{ Ram Saran. Fazilka
2	Total land available with the beneficiary (ha).	10 acres
3	Crop Cluster under which covered.	Area expansion of Fruit
4	Name & variety of crop planted.	Kinnow
5	Source of planting material.	Departmental/ accredited nurseries from Hoshiarpur
6	Number of planting material.	1000
7	Number of plants planted/ rejuvenated.	
8	Date of plants which survived (also indicate percentage survival).	100%- 2008-09
9	Total amount of subsidy assistance due to the beneficiary as (Rs.)	Rs, 63,600/-
10	Amount paid and date of payment.	As above
11	Mode of payment.	Cheque
12	Source of Irrigation Water	
	(Bore well/ Tube well/ Canel)	
13.	Whether Drip/ Sprinkle System in use.	
14.	Other inputs provided.	
15.	Whether assistance available for Organic Farming	
16	If so, area covered	
17.	Assistance available	
18.	Available marketing facility for the crop.	
19.	Other infrastructure available in the vicinity.	3 Water Tanks(2009-10, 2010-11 and 2011-12)
20.	General upkeep of the plot; Very good/ Good / Average/ Poor.	Healthy plants, well maintained
21.	Any other relevant observation by the JIT.	 Inter crop of wheat - not recommended in kinnow plantation, Bacterial canker, ring spot virus, leaf minor in kinnow plants

S.N.	Details	Remarks
1	Name & address of Beneficiary whose field	Smt. Veerpal Kaur, Vill: Bhagsur,
	visited.	Fazilka
2	Total land available with the beneficiary (ha).	4ha
3	Crop Cluster under which covered.	Area expansion of fruit
4	Name & variety of crop planted.	Kinnow - MC
5	Source of planting material.	Private nurseries
6	Number of planting material.	1000
7	Number of plants planted/ rejuvenated.	
8	Date of plants which survived (also indicate	199%-2011-12
	percentage survival).	
9	Total amount of subsidy assistance due to the	Rs 63600/-
	beneficiary as (Rs.)	
10	Amount paid and date of payment.	As above
11	Mode of payment.	RTGS
12	Source of Irrigation Water	Canal water
	(Bore well/ Tube well/ Canel)	
13.	Whether Drip/ Sprinkle System in use.	Drip
14.	Other inputs provided.	
15.	Whether assistance available for Organic	
	Farming	
16	If so, area covered	
17.	Assistance available	
18.	Available marketing facility for the crop.	
19.	Other infrastructure available in the vicinity.	
20.	General upkeep of the plot; Very good/ Good	Well maintained
	/ Average/ Poor.	
21.	Any other relevant observation by the JIT.	To be sprayed for leaf miner.

S.N.	Details	Remarks
1	Name & address of Beneficiary whose field	Smt. Harinder Singh, Vill:
	visited.	Bhagsur, Fazilka
2	Total land available with the beneficiary (ha).	4ha
3	Crop Cluster under which covered.	Area expansion of fruit
4	Name & variety of crop planted.	Kinnow plantation in waste land
5	Source of planting material.	Private nurseries
6	Number of planting material.	2000
7	Number of plants planted/ rejuvenated.	
8	Date of plants which survived (also indicate	199%-2011-12
	percentage survival).	
9	Total amount of subsidy assistance due to the	Rs. 63600/=
	beneficiary as (Rs.)	
10	Amount paid and date of payment.	NA
11	Mode of payment.	RTGS
12	Source of Irrigation Water	Canal water
	(Bore well/ Tube well/ Canel)	
13.	Whether Drip/ Sprinkle System in use.	Drip
14.	Other inputs provided.	
15.	Whether assistance available for Organic	
	Farming	
16	If so, area covered	
17.	Assistance available	
18.	Available marketing facility for the crop.	
19.	Other infrastructure available in the vicinity.	Water harvesting structure
20.	General upkeep of the plot; Very good/ Good	Well maintained, Healthy plants
	/ Average/ Poor.	
21.	Any other relevant observation by the JIT.	Zinc deficiency in soil, Training /
		Pruning required

S.N.	Details	Remarks
1	Name & address of Beneficiary whose field visited.	Sh. Sushil Periwal, VIII: Khippawalli, Fazilka
2	Total land available with the beneficiary (ha).	16 acre
3	Crop Cluster under which covered.	Area expansion of fruit
4	Name & variety of crop planted.	Kinnow
5	Source of planting material.	Departmental nurseries
6	Number of planting material.	11,000
7	Number of plants planted/ rejuvenated.	
8	Date of plants which survived (also indicate percentage survival).	100% 2009-10
9	Total amount of subsidy assistance due to the beneficiary as (Rs.)	Rs. 1,45,000/-
10	Amount paid and date of payment.	
11	Mode of payment.	Cheque
12	Source of Irrigation Water (Bore well/ Tube well/ Canel)	Canal water
13.	Whether Drip/ Sprinkle System in use.	Drip
14.	Other inputs provided.	
15.	Whether assistance available for Organic Farming	
16	If so, area covered	
17.	Assistance available	
18.	Available marketing facility for the crop.	
19.	Other infrastructure available in the vicinity.	2 units of water tanks 2 units of vermi compost
20.	General upkeep of the plot; Very good/ Good / Average/ Poor.	Well maintained
21.	Any other relevant observation by the JIT.	 Farm waste recommended for vermi compost units KVK to conduct trial for using kinnow waste for vermi
		compost unitsVermi compost for self use

S.N.	Details	Remarks
1	Name & address of Beneficiary whose field	Sh Ashwanjit Singh, Vill: Nihal
	visited.	Kherra, Fazilka
2	Total land available with the beneficiary (ha).	4ha
3	Crop Cluster under which covered.	Area expansion of fruit
4	Name & variety of crop planted.	Kinnow
5	Source of planting material.	Departmental nurseries
6	Number of planting material.	1000
7	Number of plants planted/ rejuvenated.	
8	Date of plants which survived (also indicate percentage survival).	100%-2011-12
9	Total amount of subsidy assistance due to the beneficiary as (Rs.)	Rs 63,600/-
10	Amount paid and date of payment.	
11	Mode of payment.	cheque
12	Source of Irrigation Water	Canal water
	(Bore well/ Tube well/ Canel)	
13.	Whether Drip/ Sprinkle System in use.	Drip
14.	Other inputs provided.	
15.	Whether assistance available for Organic	
	Farming	
16	If so, area covered	
17.	Assistance available	
18.	Available marketing facility for the crop.	
19.	Other infrastructure available in the vicinity.	Water tank
20.	General upkeep of the plot; Very good/ Good / Average/ Poor.	Well maintained
21.	Any other relevant observation by the JIT.	• Wheat as inter crop
		• Drip being installed

S.N.	Details	Remarks
1	Name & address of Beneficiary whose field	Sh. Shyam Sundar, Vill: Ghattu,
	visited.	Fazilka
2	Total land available with the beneficiary (ha).	3.55 ha.
3	Crop Cluster under which covered.	Kinnow
4	Name & variety of crop planted.	Mandrin
5	Source of planting material.	Private nursery
6	Number of planting material.	850
7	Number of plants planted/ rejuvenated.	
8	Date of plants which survived (also indicate	100-0% 2011-12
	percentage survival).	
9	Total amount of subsidy assistance due to the	Rs 56,400/-
	beneficiary as (Rs.)	
10	Amount paid and date of payment.	
11	Mode of payment.	Cheque= 22/.12/2011
12	Source of Irrigation Water	Canal water
	(Bore well/ Tube well/ Canel)	
13.	Whether Drip/ Sprinkle System in use.	Drip
14.	Other inputs provided.	
15.	Whether assistance available for Organic	
	Farming	
16	If so, area covered	
17.	Assistance available	
18.	Available marketing facility for the crop.	
19.	Other infrastructure available in the vicinity.	
20.	General upkeep of the plot; Very good/ Good	Well maintained
	/ Average/ Poor.	
21.	Any other relevant observation by the JIT.	Leaf minor to be controlled

S.N.	Details	Remarks
1	Name & address of Beneficiary whose field	Mrs. Sunita, Vill: Ghattu, Fazilka
	visited.	
2	Total land available with the beneficiary (ha).	2 ha.
3	Crop Cluster under which covered.	Kinnow
4	Name & variety of crop planted.	
5	Source of planting material.	Private nursery
6	Number of planting material.	600
7	Number of plants planted/ rejuvenated.	
8	Date of plants which survived (also indicate	100-0% 2011-12
	percentage survival).	
9	Total amount of subsidy assistance due to the	Rs 31800/-
	beneficiary as (Rs.)	
10	Amount paid and date of payment.	
11	Mode of payment.	Cheque= 22/.12/2011
12	Source of Irrigation Water	Canal water
	(Bore well/ Tube well/ Canel)	
13.	Whether Drip/ Sprinkle System in use.	Drip
14.	Other inputs provided.	
15.	Whether assistance available for Organic	
	Farming	
16	If so, area covered	
17.	Assistance available	
18.	Available marketing facility for the crop.	
19.	Other infrastructure available in the vicinity.	
20.	General upkeep of the plot; Very good/ Good	Well maintained
	/ Average/ Poor.	
21.	Any other relevant observation by the JIT.	Leaf minor and ring spot noticed.

S.N.	Details	Remarks
1	Name & address of Beneficiary whose field visited.	Sh. Ram Sarup, Vill: Kokorian, Fazilka
2	Total land available with the beneficiary (ha).	4 ha.
3	Crop Cluster under which covered.	Kinnow
4	Name & variety of crop planted.	Mandrin
5	Source of planting material.	Private certified nursery
6	Number of planting material.	1000
7	Number of plants planted/ rejuvenated.	
8	Date of plants which survived (also indicate percentage survival).	100-0% 2012-13
9	Total amount of subsidy assistance due to the beneficiary as (Rs.)	Rs 63600/-
10	Amount paid and date of payment.	Subsidy yet to be released
11	Mode of payment.	RTGS
12	Source of Irrigation Water (Bore well/ Tube well/ Canel)	Canal water
13.	Whether Drip/ Sprinkle System in use.	Drip
14.	Other inputs provided.	-
15.	Whether assistance available for Organic Farming	
16	If so, area covered	
17.	Assistance available	
18.	Available marketing facility for the crop.	
19.	Other infrastructure available in the vicinity.	Water harvesting structure – subsidy yet to be released
20.	General upkeep of the plot; Very good/	Well maintained
21.	Any other relevant observation by the JIT.	Various deficiency symptoms
		noticed on foliage
		• Proper training of plantation required.
		• Leaf minor, viral disease and greening noticed in plants
		• Needs power sprayer

S.N.	Details	Remarks
1	Name & address of Beneficiary whose field visited.	Mrs. Shruti, Vill: Ghattu, Fazilka
2	Total land available with the beneficiary (ha).	2 ha.
3	Crop Cluster under which covered.	Kinnow
4	Name & variety of crop planted.	Mandrin
5	Source of planting material.	Private nursery
6	Number of planting material.	500
7	Number of plants planted/ rejuvenated.	
8	Date of plants which survived (also indicate percentage survival).	100-0% 22.12-11
9	Total amount of subsidy assistance due to the beneficiary as (Rs.)	Rs 31800/-
10	Amount paid and date of payment.	
11	Mode of payment.	DD=22/.12/2011
12	Source of Irrigation Water	Canal water
	(Bore well/ Tube well/ Canel)	
13.	Whether Drip/ Sprinkle System in use.	Drip
14.	Other inputs provided.	
15.	Whether assistance available for Organic	
	Farming	
16	If so, area covered	
17.	Assistance available	
18.	Available marketing facility for the crop.	
19.	Other infrastructure available in the vicinity.	
20.	General upkeep of the plot; Very good/ Good / Average/ Poor.	Well maintained
21.	Any other relevant observation by the JIT.	Leaf minor and Bacterial spot to
		be controlled.

S.N.	Details	Remarks
1	Name & address of Beneficiary whose field	Mrs. Suman Rani, Vill: Ghattu,
	visited.	Fazilka
2	Total land available with the beneficiary (ha).	4 ha.
3	Crop Cluster under which covered.	Kinnow
4	Name & variety of crop planted.	Mandrin
5	Source of planting material.	Private accredited nursery
6	Number of planting material.	1000
7	Number of plants planted/ rejuvenated.	
8	Date of plants which survived (also indicate	100-0%
	percentage survival).	
9	Total amount of subsidy assistance due to the	Rs 63600/-
	beneficiary as (Rs.)	
10	Amount paid and date of payment.	
11	Mode of payment.	RTGS
12	Source of Irrigation Water	Canal water
	(Bore well/ Tube well/ Canel)	
13.	Whether Drip/ Sprinkle System in use.	Drip
14.	Other inputs provided.	
15.	Whether assistance available for Organic	
	Farming	
16	If so, area covered	
17.	Assistance available	
18.	Available marketing facility for the crop.	
19.	Other infrastructure available in the vicinity.	
20.	General upkeep of the plot; Very good/ Good	Well maintained
	/ Average/ Poor.	
21.	Any other relevant observation by the JIT.	Good

Area	Expansion	/ Rejuv	enation
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S.N.	Details	Remarks
1	Name & address of Beneficiary whose field	Mrs. Richa, Vill: Ghattu, Fazilka
	visited.	
2	Total land available with the beneficiary (ha).	4 ha.
3	Crop Cluster under which covered.	Kinnow
4	Name & variety of crop planted.	Mandrin
5	Source of planting material.	Private accredited nursery
6	Number of planting material.	1000
7	Number of plants planted/ rejuvenated.	
8	Date of plants which survived (also indicate	100-0%
	percentage survival).	
9	Total amount of subsidy assistance due to the	Rs 63600/-
	beneficiary as (Rs.)	
10	Amount paid and date of payment.	
11	Mode of payment.	RTGS
12	Source of Irrigation Water	Canal water
	(Bore well/ Tube well/ Canel)	
13.	Whether Drip/ Sprinkle System in use.	Drip
14.	Other inputs provided.	
15.	Whether assistance available for Organic	
	Farming	
16	If so, area covered	
17.	Assistance available	
18.	Available marketing facility for the crop.	
19.	Other infrastructure available in the vicinity.	
20.	General upkeep of the plot; Very good/ Good	Well maintained
	/ Average/ Poor.	
21.	Any other relevant observation by the JIT.	Good

Area	Expansion	/ Rejuvenation
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S.N.	Details	Remarks
1	Name & address of Beneficiary whose field	Sh. Lokesh, Vill: Ghattu, Fazilka
	visited.	
2	Total land available with the beneficiary (ha).	4 ha.
3	Crop Cluster under which covered.	Kinnow
4	Name & variety of crop planted.	Mandrin
5	Source of planting material.	Private accredited nursery
6	Number of planting material.	1000
7	Number of plants planted/ rejuvenated.	
8	Date of plants which survived (also indicate	100-0%
	percentage survival).	
9	Total amount of subsidy assistance due to the	Rs 63600/-
	beneficiary as (Rs.)	
10	Amount paid and date of payment.	
11	Mode of payment.	RTGS
12	Source of Irrigation Water	Canal water
	(Bore well/ Tube well/ Canel)	
13.	Whether Drip/ Sprinkle System in use.	Drip
14.	Other inputs provided.	
15.	Whether assistance available for Organic	
	Farming	
16	If so, area covered	
17.	Assistance available	
18.	Available marketing facility for the crop.	
19.	Other infrastructure available in the vicinity.	
20.	General upkeep of the plot; Very good/ Good	Well maintained
	/ Average/ Poor.	
21.	Any other relevant observation by the JIT.	Noticed viral diseases

S.N.	Details	Remarks
1	Name & address of Beneficiary whose field visited.	Sh. L. Modi and 7 others, Vill: Ghattu, Fazilka
2	Total land available with the beneficiary (ha).	20 ha.
3	Crop Cluster under which covered.	Kinnow cluster
4	Name & variety of crop planted.	
5	Source of planting material.	PAU, Abohar
6	Number of planting material.	7000
7	Number of plants planted/ rejuvenated.	
8	Date of plants which survived (also indicate percentage survival).	100-0% 2012-13
9	Total amount of subsidy assistance due to the beneficiary as (Rs.)	Subsidy yet to be released.
10	Amount paid and date of payment.	
11	Mode of payment.	RTGS
12	Source of Irrigation Water	Canal water
	(Bore well/ Tube well/ Canel)	
13.	Whether Drip/ Sprinkle System in use.	Drip
14.	Other inputs provided.	
15.	Whether assistance available for Organic Farming	
16	If so, area covered	
17.	Assistance available	
18.	Available marketing facility for the crop.	
19.	Other infrastructure available in the vicinity.	Water tank
20.	General upkeep of the plot; Very good/ Good	Well maintained
	/ Average/ Poor.	
21.	Any other relevant observation by the JIT.	• Inferior quality of plants
		• Leaf minor
		• Wheat as inter crop

Sr. No.	Details	Remarks
1	Name of the project	Vermi compost Unit
2	Year of Implementation	2010-11
3	Project Period	One year
4	Name of Implementing Agency	Sh Shailesh Kumar,
5	Location of Project	Vill: Khippanwali, Fazlika
6	Total Project Cost	Rs 60000/=
7	Amount Released by DAC	Rs. 30,000/-
8	Expenditure incurred Status	Rs. 1.16 lakh
9	Status	
	Crops covered	Kinnow
	• No of farmers involved	
	• Name & address of certifying agency	
	• Whether any certificate issued	

Sr. No.	Details	Remarks
1	Name of the project	Vermi compost Unit
2	Year of Implementation	2010-11
3	Project Period	One year
4	Name of Implementing Agency	Sh Sushil Kumar,
5	Location of Project	Vill: Khippanwali, Fazlika
6	Total Project Cost	Rs 60000/=
7	Amount Released by DAC	Rs. 30,000/-
8	Expenditure incurred Status	Rs. 1.17 lakh
9	Status	
	Crops covered	Kinnow
	• No of farmers involved	
	• Name & address of certifying agency	
	• Whether any certificate issued	

Sr. No.	Details	Remarks
1	Name of the project	Vermi compost Unit
2	Year of Implementation	2012-13
3	Project Period	One year
4	Name of Implementing Agency	Sh Yashpal,
5	Location of Project	Vill: Nihalkherra, Fazilka
6	Total Project Cost	Rs 60000/=
7	Amount Released by DAC	Rs. 30,000/-
8	Expenditure incurred Status	Rs. 72357/-
9	Status	
	Crops covered	Kinnow, Guava
	• No of farmers involved	
	• Name & address of certifying agency	
	• Whether any certificate issued	Unit not working, earthworms
		died due to high temperature.
		Directed to restart,
		Water tank, drip to be installed.

Sr. No.	Details	Remarks
1	Name of the project	Water harvesting structure
2	Year of Implementation	2012-13
3	Project Period	One year
4	Name of Implementing Agency	Sh Harmanpreet Singh
5	Location of Project	Vill: Khippanwali, Fazlika
6	Total Project Cost	Rs. 16.75 lakh
7	Amount Released by DAC	Rs 12 lakh
8	Expenditure incurred Status	Rs. 16.72 lakh
9	Current Status of Project	
	• Dimension (L x B x W)	257x124x10'
	Capacity	
	Command Area	
	• Whether linked with new plantation or	Kinnow, wheat
	old plantation	
	• Whether funds disbursed	Yes

Sr. No.	Details	Remarks
1	Name of the project	Water harvesting structure
2	Year of Implementation	2012-13
3	Project Period	One year
4	Name of Implementing Agency	Mrs. Shruti
5	Location of Project	Vill: Ghattu, Fazlika
6	Total Project Cost	Rs. 23.14 lakh
7	Amount Released by DAC	Rs 15 lakh
8	Expenditure incurred Status	Rs. 22.51 lakh
9	Current Status of Project	
	• Dimension (L x B x W)	230x220x9'
	Capacity	
	Command Area	
	• Whether linked with new plantation or	Kinnow, wheat
	old plantation	
	• Whether funds disbursed	Yes

Sr. No.	Details	Remarks
1	Name of the project	Water harvesting structure
2	Year of Implementation	2010-11
3	Project Period	One year
4	Name of Implementing Agency	Sh Gajinder
5	Location of Project	Vill: Khullar, Fazlika
6	Total Project Cost	Rs. 18.20 lakh
7	Amount Released by DAC	Rs 10 lakh
8	Expenditure incurred Status	Rs. 16.75 lakh
9	Current Status of Project	
	• Dimension (L x B x W)	257x124x10'
	Capacity	
_	Command Area	
	• Whether linked with new plantation or old plantation	Kinnow, wheat
	Whether funds disbursed	Yes
	Observation	*Gap filling required in kinnow
		plantation
		*Pruning required offshoots to be
		removed.
		*Leaf minor, poor maintenance

Sr. No.	Details	Remarks
1	Name of the project	Water harvesting structure
2	Year of Implementation	2011-12
3	Project Period	One year
4	Name of Implementing Agency	Sh Aman Kumar
5	Location of Project	Vill: Ramsara, Fazlika
6	Total Project Cost	Rs. 14.01 lakh
7	Amount Released by DAC	Rs 13.25 lakh
8	Expenditure incurred Status	Rs. 13.28 lakh
9	Current Status of Project	
	• Dimension (L x B x W)	200x200x11
	Capacity	
	Command Area	
	• Whether linked with new plantation or	Kinnow, wheat
	old plantation	
	• Whether funds disbursed	Yes

Sr. No.	Details	Remarks
1	Name of the project	Water harvesting structure
2	Year of Implementation	2011-12
3	Project Period	One year
4	Name of Implementing Agency	Sh Rajinder Kumar
5	Location of Project	Vill: Ramsara, Fazlika
6	Total Project Cost	Rs. 6.96 lakh
7	Amount Released by DAC	Rs 8.15 lakh
8	Expenditure incurred Status	Rs. 9.4 lakh
9	Current Status of Project	
	• Dimension (L x B x W)	200x200x11
	Capacity	
	Command Area	
	• Whether linked with new plantation or	Kinnow, wheat
	old plantation	
	• Whether funds disbursed	Yes

Sr. No.	Details	Remarks
1	Name of the project	Water harvesting structure
2	Year of Implementation	2012-13
3	Project Period	One year
4	Name of Implementing Agency	Mrs. Veerpal Kaur
5	Location of Project	Vill: Bhagsar, Fazlika
6	Total Project Cost	Rs. 16.75 lakh
7	Amount Released by DAC	Rs 11.50 lakh
8	Expenditure incurred Status	Rs. 12.38 lakh
9	Current Status of Project	
	• Dimension (L x B x W)	1,95,636 cu. Ft.
	Capacity	
	Command Area	
	• Whether linked with new plantation or	Kinnow, wheat
	old plantation	
	• Whether funds disbursed	Yes

Sr. No.	Details	Remarks
1	Name of the project	Water harvesting structure
2	Year of Implementation	2012-13
3	Project Period	One year
4	Name of Implementing Agency	Sh Ashwanjit Singh
5	Location of Project	Vill: Nihalkherra, Fazlika
6	Total Project Cost	Rs. 22.48 lakh
7	Amount Released by DAC	Rs 15 lakh
8	Expenditure incurred Status	Rs. 22.75 lakh
9	Current Status of Project	
	• Dimension (L x B x W)	247x211x7'
	Capacity	
	Command Area	
	• Whether linked with new plantation or	Kinnow, wheat
	old plantation	
	• Whether funds disbursed	Yes

Sr. No.	Details	Remarks
1	Name of the project	Power Weeder
2	Year of Implementation	2011-12
3	Project Period	One year
4	Name of Implementing Agency	Sh Surjit Singh,
5	Location of Project	Vill: Balluwama, Fazilka
6	Total Project Cost	Rs 76000/=
7	Amount Released by DAC	Rs. 38,000/-
8	Expenditure incurred Status	Rs. 38000/-
9	Status	*In working condition *Used in Kinnow plantation * As per beneficiary, it is labour saving and cost saving device *Phytophthora in kinnow plantation noticed, avoid root injury and contact of stem with water.

Horticulture Mechanization

Beekeeping

Sr. No.	Details	Remarks
1	Name of the project	Pollination support through
		beekeeping
2	Year of Implementation	2012-13
3	Project Period	One year
4	Name of Implementing Agency	Sh Harbans Lal,
5	Location of Project	Vill: Malluckpur, Fazilka
6	Total Project Cost	Rs 75000/=
7	Amount Released by DAC	Rs. 75,000/-
8	Expenditure incurred Status	Rs. 75000/-
9	Status	*In working condition
		*50 boxes
		* Production : 36 kg per box
		*Selling rate: Rs. 90-92/kg.
		*Marketing in Abohar
		*Training in pollination required,
		no knowledge in division of
		colonies

Sr. No.	Details	Remarks
1	Name of the project	Pack House
2	Year of Implementation	2012-13
3	Project Period	One year
4	Name of Beneficiary	Sh Dharminder Singh
5	Location of Project	Vill: Tehhliwalan Jatan, Fazlika
6	Total Project Cost	Rs 3 lakh
7	Amount Released & date	Rs 1.5 lakh
8	Expenditure incurred	Rs 4.31 lakh
9	Status	
	Capacity of unit	18x90
	Commodity	Kinnopw
	Equipments purchased	Crates from RKVY
	Condition of infrastructure	Good
	Whether NHM logo displayed	yes
	Whether funds disbursed to agency	yes

Post Harvest Management Pack House/Cold Storage/Ref Van/ Primary processing

Annexure - III

Fatehgarh Sahib District

Plant Protection

Sr. No.	Details	Remarks
1	Name of the project	Green House
		1000 sq. mtr.
2	Year of Implementation	2010-11
3	Project Period	One Year
4	Name of Implementing Agency	Sh. Sucha Singh
5	Location of Project	Vill ; Badeenpur, Fatehgarh sahib
6	Total Project Cost	Rs. 8.91 lakh
7	Amount Released by DAC	Rs. 3.25 lakh
8	Expenditure incurred Status	Rs. 3.25 lakh
9	Status	Capsicum plantation
10	Observation	 Dieback, Virus, fungus in plants
		• Structure damaged due to strong winds

Sr. No.	Details	Remarks
1	Name of the project	Pack House
2	Year of Implementation	2011-12
3	Project Period	One year
4	Name of Beneficiary	Sh Sucha Singh
5	Location of Project	Vill ; Badeenpur, Fatehgarh sahib
6	Total Project Cost	Rs 3.09 lakh
7	Amount Released & date	Rs 1.5 lakh
8	Expenditure incurred	Rs. 1.5 lakh
9	Status	
	Capacity of unit	9x6'
	Commodity	Vegetables – capsicum
	Equipments purchased	
	Condition of infrastructure	Good
	Whether NHM logo displayed	yes
	Whether funds disbursed to agency	yes
	Observations	Pack house constructed without adopting standard norms of NHM

Post Harvest Management Pack House/Cold Storage/Ref Van/ primary processing

Sr. No.	Details	Remarks
1	Name of the project	Vermi compost unit
2	Year of Implementation	2011-12
3	Project Period	One year
4	Name of Implementing Agency	Sh Sucha Singh
5	Location of Project	Vill ; Badeenpur, Fatehgarh sahib
6	Total Project Cost	Rs 60,000/-
7	Amount Released by DAC	Rs 30,000/-
8	Expenditure incurred Status	Rs. 75,000/-
9	Status	
	Crops covered	vegetables
	No of farmers involved	
	• Name & address of certifying agency	
	• Whether any certificate issued	
	Observation	Compost for self use
Sr. No.	Details	Remarks
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1	Name of the project	Vermi compost unit
2	Year of Implementation	2011-12
3	Project Period	One year
4	Name of Implementing Agency	Mrs. Daljeet Kaur
5	Location of Project	Vill ; Badeenpur, Fatehgarh sahib
6	Total Project Cost	Rs 60,000/-
7	Amount Released by DAC	Rs 30,000/-
8	Expenditure incurred Status	Rs. 75,000/-
9	Status	
	Crops covered	vegetables
	No of farmers involved	
	Name & address of certifying agency	
	• Whether any certificate issued	
	Observation	*Compost for self use and also selling @Rs. 2/kg. * Earthworms purchased @Rs. 500/kg

Project Status of Organic Farming

Post Harvest Management

Sr. No.	Details	Remarks
1	Name of the project	Cold Storage
2	Year of Implementation	2011-12
3	Project Period	One year
4	Name of Beneficiary	Sh. Karan Singh
5	Location of Project	Vill: Bhambri, Fatehgarh Sahib
6	Total Project Cost	Rs.270 Lakh
7	Amount Released & date	Rs. 77.66 lakh
8	Expenditure incurred	Rs 162 lakh
9	Status	Working
	Capacity of unit	3420 MT
	Commodity	Potato/ Seasonal vegetables
	Equipments purchased	
	Condition of infrastructure	Good
	Whether NHM logo displayed	Yes
	Whether funds disbursed to agency	Yes

Pack House/Cold Storage/Ref Van/ Primary processing

Horticulture Mechanization

Sr. No.	Details	Remarks
1	Name of the project	Potato Seed Grader,
2	Year of Implementation	2011-12
3	Project Period	One year
4	Name of Implementing Agency	Sh Karamveer Singh,
5	Location of Project	Vill: Bhambri, Fatehgarh Sahib
6	Total Project Cost	Rs 17 lakh/-
7	Amount Released by DAC	Rs. 6 lakh/-
8	Expenditure incurred Status	Rs 6 lakh
9	Status	*In working condition *Capacity: 14 ton/hr.

Micro Irrigation

Sr. No.	Details	Remarks
1	Name & address of beneficiary visited.	Sh Amrit, Vill: Bhamarasi
2	Total land available with the beneficiary (ha).	4.93 ha.
3	Type of MI system availed Drip/ Sprinkler	Drip
4	Crop(s) covered	Potato
5.	Total area covered (ha)	4.93 ha.
6	Crop Spacing (for drip)	
7	Year of establishment	2011-12
8	Name of Manufacturer/ Supplier	Jain Irrigation system
9	Total subsidy paid & date of payment	Rs. 2.72 lakh
10	Mode of payment	Cheque
11	Status of crop	Good
12	General upkeep (Very good/ Good/ Average/ Poor)	Good
13.	Any other relevant observation by JIT.	Well maintained