

Report of the Joint Inspection Team on their inspection visit to Punjab (Amritsar, Tarantaran, and Fazilka) Districts during 09th –14th February, 2015 to review the progress of Mission for Integrated Development of Horticulture (MIDH), OFWM, and RKVY .



**Mission for Integrated Development of Horticulture (MIDH)
Department of Agriculture and Cooperation (DAC),**

Krishi Bhawan, New Delhi
Summary

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The Joint Inspection Team (JIT) comprising of the following members visited Chhattisgarh during 09th –14th February, 2015 to review the progress under the central and centrally sponsored particularly Mission for Integrated Development of Horticulture (MIDH), Micro Irrigation Scheme and Rashtriya Krishi Vikash Yojana schemes in the State.

Members of Joint Inspection Team:

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Components of MIDH, RKVY, OFWM, and other programme:

- Crop specific cluster at district level.
- ☐Nurseries management and progress including accreditation of nurseries.
- ☐Vermin compost units under SHM.
- ☐Flowers and vegetable production under protected conditions.
- ☐Use of plastic in mulching, irrigation and precision farming.
- ☐Placement of technical Staff at Management and also at field Level.
- ☐Other activities and KVK, s support including Financial Progress.
- On Farm Water Management (OFWM).

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

Year	Outlay(GOI Share)	Released	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	65.88
2013-14	63.75	30.00	24.80
2014-15	82.50	58.50	27.70(January 2015)

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.

Horticulture 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.

Area, Production and Productivity of Horticultural Crops:

Particulars	2004-05	2013-13	% increase	Targets next 5yrs.
Area(Lac Ha.)	2.10	2.95	41	3.40
Production(Lac MT)	33.84	55.20	63	71.40
ProductivityMT/Ha.	16	19	19	21

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.

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 ('000mts)
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

Statement showing the district wise Area, Av. Yield & Production of various Fruit crops for the year 2013-14 in the Punjab State.

A:Area in Ha.,Y: Av. Yield in Kg/h, P: Production in MT

Progress of NMMI during 2013-14 (Upto Feb., 2014) FINANCIAL PROGRESS (Rs. In Lacs)		
Fund Availability 2013-14	Approved	Release/ Available
Unspent balance (incl. Interest) on 01-04-2013		784.46 (revalidated)
Annual Action Plan 2013-14	2000.00	500.00 (Jan., 2014)
Total Gol funds available for 2013-14		1284.46

Expenditure 2013-14 (Upto Feb., 2014)	
Gol funds utilized	475.62
State funds utilized (due to non-clearance of bills at Treasury)	13.77
Total Amount utilized	489.39
Gol Unspent Balance as on 01/03/2014	808.84

Progress of NMMI during 2013-14 (Upto Feb., 2014)

Component	Benefited (Ha Area.)
Drip Irrigation	1580.28
Sprinkler Irrigation	17.85
Demonstrations	1.30
Total Area	1599.43

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.

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

Fruits :**Citrus :**

- Punjab is ranked at third place in production of citrus(Kinnow) in the country and accounts for 11.9% of total production of the country.
- The production of citrus forms 66.40% of total fruit production of the State. State produces 0.94 m. MT of citrus in the State in an area of 0.05 m. ha. The productivity of the crop is 20.4 MT/ha, which is second highest after Karnataka.

- Punjab is leading producer of mandarin orange and accounts for 29% of the production of orange mandarin production in the country, with productivity of 21.4 MT/ha. which is highest in the country.
- Production of orange mandarin is concentrated in the belts of Ferozepur, Hoshiarpur, Bathinda and Shri Mukatsar Sahib.
- Recommended varieties of orange mandarin in the State are Nagpur mandarin and kinnow.
- State also contributes about 1.9% of total mosambi production in the country with productivity of 8.00 MT/ha, which is the third highest after Karnataka and Andhra Pradesh.
- Major mosambi producing belts in the State are Fazilika (Abohar), Ferozepur, Faridkot and Hoshiarpur.
- The main fruit of citrus group grown in the Punjab is Kinnow.
- 1.26 lakh MT of citrus have been traded in organized markets with average price of Rs. 28.80/ Kg.

Guava:

- Punjab accounts for 6.9% of total production of guava and the sixth most guavas producing State in the country.
- State produces about 0.17 m MT of guava from an area of 0.008 m ha having productivity of 22.00 MT/ha which is the highest in the country.
- Production of guava is concentrated in the belts of Patiala, Ludhiana, Sangrur, SAS Nagar, Jalandhar, Sri Mukatsar Sahib, Ferozepur, Fazilika, Bathinda, Ropar and Hoshiarpur.
- Recommended varieties of guava in the state are sardar (L-49), Allahabad Safeda, Lalit, Shweta, Hissar Safeda and Hissar Surekha.
- 4127 MT of guava have been traded in organized markets with average price of Rs. 9.59/ Kg.

Litchi:

- Punjab is ranked fifth in litchi producing state and is contributing about 4.6% 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 14.4 MT/ha. which is highest among the litchi producing states in the country.
- Major litchi producing belts in the State are Gurdaspur, Hoshiarpur and Ropar.

- Recommended varieties of litchi in the State are Rose Scented, Dehradun and Calcutta.

Vegetables:

Cauliflower:

- State produces about 2.26% of the total production of cauliflower in the country and 4.3% of total vegetable production in the State.
- The productivity is 17.87 MT/ha in the State.
- The production of cauliflower is concentrated in Gurdaspur, Fatehgarh Sahib and Hoshiarpur.
- Varieties of cauliflower recommended for the state are Pusa Deepti, Improved Japanese, Pusa Shubra, Pusa Early Synthetic, Pusa Paushja, Pusa Snowball K-1, Snowball-KT-25, Pusa Himjyoti, Pusa Hybrid-2, Pusa Kartik Sankar, Kashi Kunwari, Hissar-1, Pant Shubra and Pant Gobhi-3.
- 1.30 lakh MT of cauliflower have been traded in organized markets with average price of Rs. 11.05/ Kg.

Peas :

- Punjab is the fifth largest producer of peas and accounts for 5.4% of total production of peas in the country.
- 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, Patiala, Amritsar, SBS Nagar and Hoshiarpur.
- Recommended varieties of peas in the State are Bonneville, Arkel, Pusa Pragati, Arka Ajit, Kashi Nandini, Pant Matar-2,3,4,5, Azad-P-2,4 and 5.

Potato:

- Punjab is the fifth largest producer of potato in the country and accounts for 5 % of total production of potato in the country. The production of potato is 57% of total vegetable production in the State.
- The production of the potato in the State is 2.10 m. MT grown in an area of 0.08 m. 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 Kapurthala.
- Recommended varieties of potato in the State are Kufri, Sindhuri, Kufri Chandamukhi, Kufri Jyoti, Kufri Badshah, Kufri Bahar, Kufri Ashoka, Kufri Pukhraj, Kufri Chipsona, Kufri Pushkar, Kufri Shailja, Kufri Chipsona-3, Kufri Surya, Kufri Khyati and Kufri Frysona.
- lakh MT of potato have been traded in organized markets with average price of Rs. 6.95/ Kg.

Community Water Storage Tank

Particulars	Achievement in 2013-14		Proposed in 2014-15	
	Physical (No.)	Financial (Rs. in lac)	Physical (No.)	Financial (Rs. in lac)
Community tanks	37	266.97	35	603.75

Protected Cultivation:

Particulars	Achievement 2013-14		Proposed in 2014-15	
	Physical (ha)	Financial (Rs. in lac)	Physical (ha)	Financial (Rs. in lac)
Protected cultivation	100.26	1239.93	242.11	2345.09

Crops Grown**Vegetables:****Coloured Capsicum, Tomato,****Cucumber****Flowers:****Gerbera, Carnation, Rose****Comparison**

Capsicum	Open Field Cultivation	Protected Cultivation
Yield/acre	80 Qtl	400 Qtl
Profit/acre	Rs. 55000	Rs. 6,40,000
Market span	April - June	Mid November - June

Mechanization in Horticulture

Particulars	Achievement in 2013-14		Proposed in 2014-15	
	Physical (No.)	Financial (Rs. in lac)	Physical (No.)	Financial (Rs. in lac)
Mechanization	1046	169.86	1156	431.20

Post Harvest Management

Particulars	Achievement in 2013-14		Proposed in 2014-15	
	Physical (No.)	Financial (Rs. in lac)	Physical (No.)	Financial (Rs. in lac)
Pack House	25	37.50	70	140.00
Cold Stores	17	1369.59	11	1026.00
Technology induction and modernisation of cold-chain	-	-	3	105.00
Ripening chamber	4	144.58	7	126.00
Others (Pre cooling unit, refer van etc.)	3	18.38	4	29.38
Total	49	1570.05	95	1426.38

Centres of Excellence in Punjab

Existing Centres of Excellence

Name of COE	Funds Approved (Rs. in lac)	Financial Progress (Rs. in lac)	Physical Progress
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COE for Vegetables, Kartarpur, Jalandhar	973.56	427.40	Net house, poly house, walk in tunnels, Chain link fencing, office building etc have been completed. Sale of seedlings has been started.
COE for Fruits, Khanaura, Hoshiarpur	1039.56	376.78	Net house, poly house, walk in tunnels, Chain link fencing, office building etc have been completed.
COE for Treatment of Brackish Water at Bathinda, PAU	1496.25	800.71	Installation of desalinization plant, solar panels, automated micro irrigation system have been completed. Soil testing lab is fully operational.

Proposed Centers Of Excellence

Name of COE	Total Funds Proposed (Rs. in lac)	Funds demanded during 2014-15 (Rs. in lac)
COE for Potato, Jalandhar	980.00	392.00
COE for Floriculture, Ludhiana	800.00	320.00

Status of Bee Keeping in Punjab

Present Status

- India is producing 72000 MT Honey from 47 lakh colonies having production of 15.32 kg per colony.
- Punjab is producing 14000 MT Honey from 4 lakh colonies having production of 35.00 kg per colony.

Export Status

Currently Punjab is exporting 18000 MT of honey which is more than 50% of total export of India (33000 MT).

Activity	Achievement in 2013-14		Proposed in 2014-15	
	Physical (No.)	Financial	Physical (No.)	Financial
Colonies and Bee Hives	37383	280.03	40000	320.00
Equipments	45	3.15	200	16.00
No. of Trainees (5 days training)	1700	34.00	3000	75.00

Physical and Financial Progress up to February 2014

Approved AAP 2013-14 : Rs. 75.00 Crore

Total Funds Released : Rs. 64.14 Crore (Gol Share 58.19 & State Share 5.95)

Component	Targets		Progress	
	Physical	Financial	Physical	Financial
Production of planting material (ha)	271	185.00	100	60.06
Area expansion and Maintenance (ha)	6300	566.48	3628	239.79
Community Water tanks (No.)	51	612.00	37	266.97
Protected cultivation (ha)	196	1138.87	100.26	1239.93
Global GAP Certification (ha)	300	15.00	300	15.00
Vermi Compost Units/vermi beds (No.)	150	32.50	68	7.40
Pollination support through beekeeping (No.)	20025	151.75	37383	283.18
Horticulture Mechanization (No.)	760	252.5	1046	169.86
HRD (No.)	1783	49.91	4954	112.64
PHM (No.)	255	2201.6	49	1570.05

Others	338	144.38	61.1	39.94
Mission Management		273.00		197.76
Centre of Excellence	3	1584.37	3	794.72
Grand Total		7500.04		5021.86

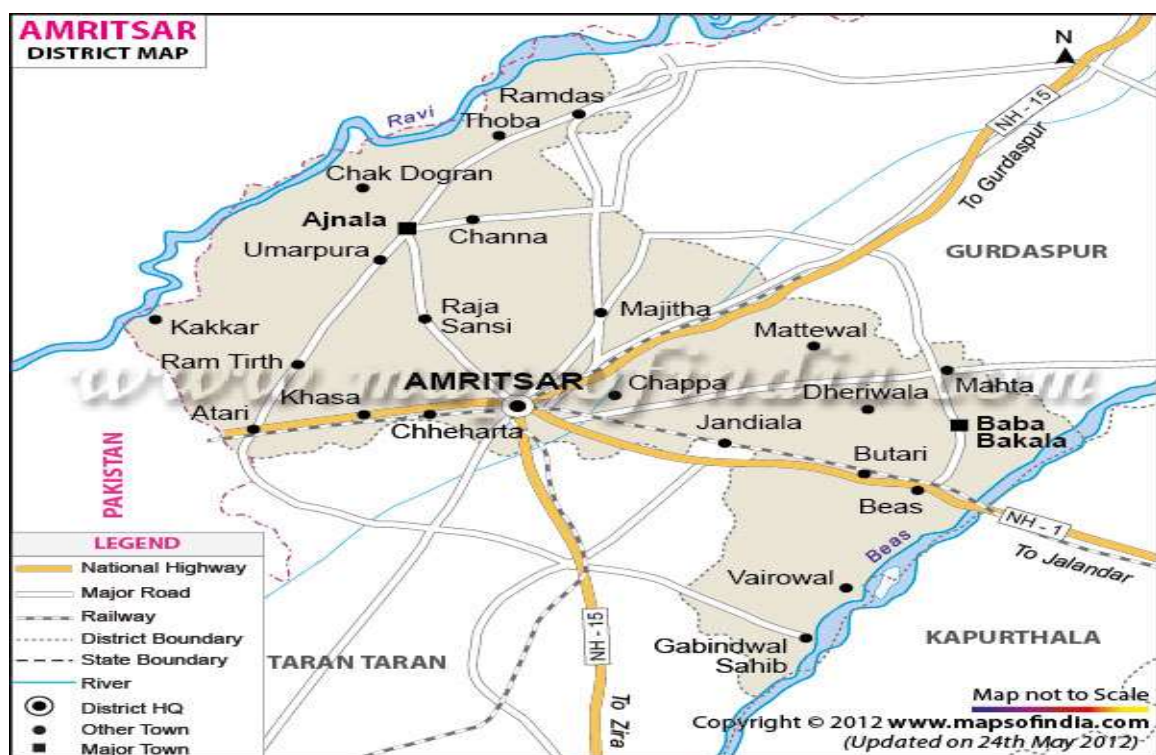
Financial Outlay 2014-15

Component	Targets	
	Physical	Financial
Production of planting material (No. & ha)	289	338.90
Area expansion and Maintenance (ha)	6393	669.93
Cultivation of Vegetable Hybrids	1500	300.00
Mushroom (Production/Compost/Spawn units)	11	84.00
Rejuvenation / replacement of senile plantation	600	120.00
Community Water tanks (No.)	35	603.75
Protected cultivation (ha)	246.11	2465.09
Vermi Compost Units/vermi beds (No.)	50	15.00
COE for Potato & Vegetables	2	712.00
Pollination support through beekeeping (No.)	40200	336.00
Horticulture Mechanization (No.)	1156	431.20
HRD (No.)	4523	119.00
PHM (No.)	95	1426.38
Others		264.80
Mission Management		394.30
Ongoing Projects- Centres of Excellence	3	400.00
Grand Total		8680.35

(Gol Share Rs. 7378.30 lac State Share Rs. 1305.05 lac)

Amritsar District:

Amritsar district is located in northern part of Punjab state and lies between 31° 28' 30" to 32° 03' 15" north latitude & 74° 29' 30" to 75° 24' 15" east longitude. Total area of the district is 2683 sq.km. Amritsar I, Amritsar II, Baba Bakala and Ajnala are four teshils of the district and Majitha, Attari, Tarsikka, Lopoke and Ramdas are Sub Tehsils in the district. There are eight development blocks namely Tarsikka, Rayya, Ajnala, Chogawaan, Majitha, Verka, Jandiala Guru and Harsha China. Total population of the district was 2,490,891 as per 2011 census.



Climate: The climate of the district is characterized by general dryness except in the brief south-west monsoon season, a hot summer and bracing winter. The year may be divided in four seasons. The cold season is from November to March. The period from April to June is the hot season. The south-west monsoon season is from about the beginning of July to the first week of September. Amritsar has a semiarid climate, typical of Northwestern India and experiences four seasons primarily: winter season (December to March) with temperature ranges from 0 °C to about 15 °C, summer season (April to June) where temperatures can reach 42 °C, monsoon season (July to September) and post-monsoon season (October to November). Annual rainfall is about 681 millimetres (26.8 in). The lowest

recorded temperature is -7.6°C , was recorded on 9 December 1996 and the highest temperature, 48.1°C , was recorded on 22 May 2013.

Climate data for Amritsar													
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Record high $^{\circ}\text{C}$	29.0	31.1	35.7	41.9	48.1	46.2	42.0	37.2	36.5	34.6	29.3	23.2	48.1
Average high $^{\circ}\text{C}$	19.4	21.6	26.5	33.8	38.7	39.4	35.0	34.2	34.5	32.3	27.1	21.3	30.3
Daily mean $^{\circ}\text{C}$	11.6	13.9	18.7	25.1	29.9	32.1	30.2	29.7	28.3	23.8	17.9	12.9	22.8
Average low $^{\circ}\text{C}$	3.7	6.0	10.9	16.3	21.1	24.6	25.3	25.1	22.2	15.1	8.7	4.4	15.3
Record low $^{\circ}\text{C}$	-3.5	-1.6	2.6	5.7	7.7	13.8	14.0	15.0	10.5	4.6	1.7	-2.7	-3.5
Rainfall (inches)	24	33	48	29	25	62	231	187	79	18	6	18	760
Avg. rainy days (≥ 1.0 mm)	2.8	3.7	5.0	3.5	2.8	4.6	11.4	9.1	4.3	1.4	1.2	2.0	51.8
% humidity	74	70	64	47	38	48	72	77	69	67	73	76	64.6
Mean monthly sunshine hours	181.7	192.7	219.4	265.0	294.7	269.0	215.5	227.7	240.8	253.2	220.1	182.2	2,762

Rainfall:

The average annual rainfall in the district is 541.9mm. The rainfall in the district increases generally from the south-west towards the north-east and varies from 435.5 mm at Khara to 591.7 mm at Rayya. About 74 per cent of the annual normal rainfall in the district is received during the period June to September and as much as about 13 per cent of the annual rainfall occurs during the period December to February. The variation in rainfall from year to year is large. Even 4 consecutive years of such low rainfall occurred once at Tarn Taran. It will be observed that the annual rainfall in the district was between 401 and 700 mm, there are 30 rainy days (i.e. days with rainfall of 2.5mm or more) in a year in the district. This number varies from 24 at Khara to 34 at Rayya..

Temperature:

There is a meteorological observatory in the district at Amritsar and the records of this observatory may be taken as representative of the meteorological conditions prevailing in the district in general. From about the end of March, temperatures increase steadily till June

which is the hottest month with mean daily minimum at 25.2c. The heat during the summer is intense and the hot dust laden winds which blow during the afternoons add to the discomfort .with the onset of the monsoon in the district by about the end of June or the beginning of July, there is appreciable drop in the day temperature. The nights are, however as warm during the monsoon as in summer and due to the increased moisture in the monsoon air, the weather is often oppressive. After the withdrawal of the monsoon early in September while the day temperatures remain as in the monsoon season, nights become progressively cooler. From October, there is a rapid drop in the temperatures. January is generally the coldest month with the mean daily maximum at 4.5c. During the cold season, the district is affected by cold waves in the rear of passing western disturbances and the minimum temperature occasionally drops down to a degree or two below the freezing point of water. Frosts are common during the cold season.

The highest maximum temperature recorded at Amritsar was 47.7 C on 21 May 1978. The lowest minimum was 3.3 C on 25 December 1984.

Humidity:

Relative humidity is generally high in the mornings, exceeding 70 per cent except during the summer season when it is less than 50 per cent. The humidity is comparatively less in the afternoons. The driest part of the year is the summer season when the relative humidity in the afternoons is about 25 per cent or less.

Cloudiness

The skies are generally partly to heavily clouded and occasionally overcast during the monsoon and for brief spells of a day or two in association with passing western disturbances during the cold season .During the rest of the year, the skies are mostly clear or lightly clouded.

Winds

Winds are generally light with some strengthening in the summer and early part of the monsoon season. In the post-monsoon and cold season, winds are light and variable in direction in the morning and mostly from the west or north-west in the afternoons. In April and May, winds are mainly from direction between north-west and north-east in the mornings and between west and north-east in the afternoons. By June, easterlies and south –easterlies also blow and in the south-west monsoon season. winds are more commonly from directions between north-east and south-east.

Special weather phenomena

Western disturbances affect the weather over the district during the cold season, causing widespread rain and gusty winds. Dust-storms and thunderstorms occur in the summer season. Occasional fog occurs in the cold season.

Soil:

Amritsar district falls in between Ravi river and Beas river. Ravi River flows in North West of the district and forms international border with Pakistan. Beas River flows in the eastern part of the district. There are three nalas which drains Amritsar district from north east to south west. Kiran Saiki Nala flows in the northern part of the district. Hudiara Nala and Kasur Nala drains the central part of the district where as Patti Nala drains south eastern part of the district. Upper Bari Doab canal is the main canal passing through central part of the district. Lahore branch and Kasur branch lower are the major distributaries of the Upper Bari Doab canal. Soils in the western part of the district are coarse loamy, calcareous soils, where as in the central part of the district soils are fine loamy, calcareous and are well drained. The soils are Ustochrepts to Haplustaff type.

Potential of Horticulture:

The area under various fruits is 0.96% of the total cultivated area of the Distt (223000 ha) and area under vegetables is 16805 ha, which seems to be negligible as compared to the total cultivated area of the Distt. Due to continuous decline in sub soil water, export potential of horticulture produce with the air cargo facility at international airport and entrance of big players like Reliance, Bharti group etc. in this venture as producers as well as retailer, will definitely give a boost in the near future to horticulture production .The status of major horticulture crops of this Distt. is as under: Vegetables: Total area of the Distt. under various vegetables is 16805 ha. The main vegetables growing blocks are Verka, Jandiala Guru, Majitha, Tarsikka and Rayya. All types of vegetables can be grown in this district successfully but potato, tomato , cauliflower are the major vegetables of the distt. The yearwise detail of area and production of major vegetables of Amritsar is as under: 2 0 Fruits: In Amritsar Distt. mostly all types of fruits can be cultivated but kinnow, guava , pear and peach are the leading fruits . The total area under various fruits during year 2006-07, 2007-08 , 2008-09 , 2009-10 and 2010-11 is 2032 ha , 2070 ha , 2087 ha ,2123 ha and 2151 ha respectively.

Flowers: Flowers like Roses ,Marigold and Gladiolous,etc. can be grown successfully in Amritsar Distt. but due to the non availabilty of ready market and their perishable nature, only farmers of those blocks which are nearest to Amritsar city are growing flowers . During 2010-11 the area under different flowers is 28 ha,out of this , major area is under marigold and gladiolus. Aromatic plants: The major aromatic crop grown in Amritsar Distt. is Celery. The total area under this crop is 2365 ha. The leading blocks growing this crop are Verka, Jandiala Guru, Tarsikka , Rayya and Majitha.

The total area under various fruits:

Year	Kinnow		Guava		Pear		Peach	
	Area (Ha)	Prod (MT)	Area (Ha.)	Prod (MT)	Area(Ha)	Prod(Ha)	Area(Ha.)	Prod. (MT)
2006-07	329	4935	411	7718	822	16440	68	1020
2007-08	395	6048	411	7583	824	18243	58	498
2008-09	418	6560	398	7380	804	17905	54	885
2009-10	557	7195	391	7548	806	18113	52	860
2010-11	504	7858	380	7472	820	18316	51	805

**Performa for use by Joint Inspection Team
Area Expansion / Rejuvenation**

Sr. No.	Details	Remarks
1	Name & address of Beneficiary whose field visited.	Manjit Singh S/o S. Chattar Singh, Village Sham Nagar, Block Majitha , District, Amritsar
2	Total land available with the beneficiary (ha).	
3	Crop Cluster under which covered.	Fruits
4	Name & variety of crop planted.	Pear (Patharnath)
5	Source of planting material	Govt. Garden + Nursery Attai AsR
6	Number of planting material.	1000 plans
7	Number of plants planted/ rejuvenated.	840
8	Date of plants which survived (also indicate percentage survival).	840 (100%)
9	Total amount of subsidy assistance due to the beneficiary as (Rs.)	Rs. 41580
10	Amount paid and date of payment.	Rs. 41580/- 21.10.14

11	Mode of payment.	Online (Epayment)
12	Source of Irrigation Water (Bore well/ Tube well/ Canel)	Tubewell
13.	Whether Drip/ Sprinkle System in use.	No
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.	Vegetable market at 20 km Distance
19.	Other infrastructure available in the vicinity.	
20.	General upkeep of the plot; Very good/ Good / Average/ Poor.	Very good
21.	Any other relevant observation by the JIT.	

**Performa for use by Joint Inspection Team
Area Expansion / Rejuvenation**

Sr. No.	Details	Remarks
1	Name & address of Beneficiary whose field visited.	Surinder Singh S/o Harbhajan Singh vill.- Hershachhing , Tehsil Ajnola District, Amritsar
2	Total land available with the beneficiary (ha).	1.4 hac
3	Crop Cluster under which covered.	Fruits
4	Name & variety of crop planted.	Guava, Allahabad Safeda.
5	Source of planting material	Ram Kishore Kailash Chandra
6	Number of planting material.	1500
7	Number of plants planted/ rejuvenated.	1500
8	Date of plants which survived (also indicate percentage survival).	1480 (98%)
9	Total amount of subsidy assistance due to the beneficiary as (Rs.)	33,600/-
10	Amount paid and date of payment.	33,600/- Date- 30.1.14
11	Mode of payment.	Online (E payment)
12	Source of Irrigation Water	Tubewell

	(Bore well/ Tube well/ Canel)	
13.	Whether Drip/ Sprinkle System in use.	No
14.	Other inputs provided.	
15.	Whether assistance available for Organic Farming	No
20.	General upkeep of the plot; Very good/ Good / Average/ Poor.	Well maintained
21.	Any other relevant observation by the JIT.	

**Performa for use by Joint Inspection Team
Area Expansion / Rejuvenation**

Sr. No.	Details	Remarks
1	Name & address of Beneficiary whose field visited.	Surinder Singh S/o Harbhajan Singh vill.- Basarke Giltan, Block- Vuke, Tehsil
2	Total land available with the beneficiary (ha).	4 ha
3	Crop Cluster under which covered.	Fruits
4	Name & variety of crop planted.	Pear (Patharnath)
5	Source of planting material	Punjab Agricultural University
6	Number of planting material.	1450
7	Number of plants planted/ rejuvenated.	1450
8	Date of plants which survived (also indicate percentage survival).	98%
9	Total amount of subsidy assistance due to the beneficiary as (Rs.)	59,400/- 14.3.14
10	Amount paid and date of payment.	59,400/-
11	Mode of payment.	Online (Epayment)
12	Source of Irrigation Water (Bore well/ Tube well/ Canel)	Tubewell
13.	Whether Drip/ Sprinkle System in use.	N.A
14.	Other inputs provided.	
15.	Whether assistance available for Organic Farming	No
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.	Very good
21.	Any other relevant observation by the JIT.	

**Performa for use by Joint Inspection Team
Protected Cultivation**

Sr. No.	Details	Remarks
1	Name & address of Beneficiary whose field visited.	Gurjit Singh S/o S. Saibjit singh Vill. Bal Sachanadar, Block Verke District- Amritsar
2	Total land available with the beneficiary (ha).	
3	Type of Protected cultivation activity (Hi-tech / Normal GH, Shade net, Plastic tunnel)	Normal polyhouse
4.	Year of establishment	2013-14
5.	Size of Structure (Sq. m)	1936 sq mt.
6.	Total cost	18,70,000
7.	Agency involved in fabrication and installation	VISE Boon Technologies
8.	Total subsidy paid and date of payment.	9,05,080/- Date: 14.3.14
9.	Crop being grown	Capsicum
10.	Condition of Structure	Excellent
11.	Condition of Crop	
12.	Tie up with market	
13.	General upkeep (Very good/ Good/ Average/ Poor)	Very good
14	Any other relevant observation by JIT.	

**Performa for use by Joint Inspection Team
Protected Cultivation**

Sr. No.	Details	Remarks
1	Name & address of Beneficiary whose field visited.	Kuldeep Singh S/o Harbano Singh vill. Jagdev Kalon, Block- Harsha District-

		Amritsar
2	Total land available with the beneficiary (ha).	
3	Type of Protected cultivation activity (Hi-tech / Normal GH, Shade net, Plastic tunnel)	Normal polyhouse
4.	Year of establishment	2014-15
5.	Size of Structure (Sq. m)	2297 sq MT
6.	Total cost	2041659/-
7.	Agency involved in fabrication and installation	Sktline Agro Engineer
8.	Total subsidy paid and date of payment.	969334/- Date- 12.1.2015
9.	Crop being grown	Gerbera
10.	Condition of Structure	Excellent
11.	Condition of Crop	Excellent
12.	Tie up with market	
13.	General upkeep (Very good/ Good/ Average/ Poor)	Very good
14	Any other relevant observation by JIT.	

**Performa roforma for use by Joint Inspection Team
Pack House/Cold Storage/Ref Van/ Primary processing
Post Harvest Management**

Sr. No.	Details	Remarks
1	Name of the project	A.K. cold Store
2	Year of Implementation	2013-14
3	Project Period	2013-14
4	Name of Beneficiary	Meena Arora
5	Location of Project	Vill. Ibban Kalan, Chabbal road Amritsar
6	Total Project Cost	230.31 Lac
7	Amount Released & date	49,00,800/- Date 21.10.14
8	Expenditure incurred	244.83 Lac
9	Status	
	Capacity of unit	2042 MT
	Commodity	Spices , Dry Fruits, Potato
	Equipments purchased	

	Condition of infrastructure	Excellent
	Whether NHM logo displayed	Yes
	Whether funds disbursed to agency	Yes

**Performa roforma for use by Joint Inspection Team
Post Harvest Management**

Pack House/Cold Storage/Ref Van/ Primary processing

Sr. No.	Details	Remarks
1	Name of the project	Bhupinder Singh S/o S. Inder Singh Vill. Tirathpur, Block Jandialaguru, Ask
2	Year of Implementation	2013-14
3	Project Period	2013-14
4	Name of Beneficiary	Bhupinder Singh S/o S. Inder Singh Vill. Tirathpur, Block Jandialaguru, Ask
5	Location of Project	Village - Tirathpur
6	Total Project Cost	
7	Amount Released & date	1,50,000/-
8	Expenditure incurred	4,35,730
9	Status	
	Capacity of unit	
	Commodity	Peas, Potato
	Equipments purchased	
	Condition of infrastructure	Good
	Whether NHM logo displayed	Yes
	Whether funds disbursed to agency	

**Performa for use by Joint Inspection Team
Micro Irrigation**

Sr. No.	Details	Remarks
1	Name & address of beneficiary visited.	Barkat Singh S/o Kulwant Singh
2	Total land available with the beneficiary (ha).	1 Hec.

3	Type of MI system availed Drip/ Sprinkler	Drip in line
4	Crop(s) covered	Potato
5.	Total area covered (ha)	1 Hec.
6	Crop Spacing (for drip)	1mx1m
7	Year of establishment	2014
8	Name of Manufacturer/ Supplier	EPC Mahendra Japneet Irrigation
9	Total subsidy paid & date of payment	52049 (50%)
10	Mode of payment	Cheque
11	Status of crop	Very good
12	General upkeep (Very good/ Good/ Average/ Poor)	Very good
13.	Any other relevant observation by JIT.	

Amritsar District Photographs





Tarantaran District:

Tarn Taran district lies between 31° 05', and 31° 30' 05" north latitude and 74° 30' and 75° 15' 05" east longitudes. The area is occupied by alluvial plains. It is bounded by Amritsar district in the north, Kapurthala district in the east, Pakistan in the west, and Firozpur district in the south. The district head quarter is located at Tarn Taran. The district is divided into 8 development blocks namely Gandiwind, Bhikiwind, Tarn Taran, Khadur Sahib, Naushera Pannuan, Chohla Sahib, Patti. and Valtaha. District covers the 2449 sq kms area. According to the 2011 census Tarn Taran district has population of 1,120,070.

Physiographically the area is a plain and is drained by the Patti Nadi flows from north east to south west and drain water to the river Sutlej. The area is irrigated by net work of Upper Bari Doab canal, and it is upto 71% in Patti block and about 59% in Tarn Taran block. The area is irrigated by ground water through 27500 MIU. The district has 100 % irrigation facility. The area receives about 545 mm normal rain fall out of which 74 % occurs during south west monsoon. The district area occupies the Indo-Gangetic alluvial plain of Quaternary age. The exploratory drilling at 8 sites for the identification of aquifer system, demarcation of their vertical and lateral extent, delineation of potential aquifer zones, evaluation of aquifer characteristics etc. was taken



LAND USE (SQ,Km.) a.Forest Area: 500 b.Net area sown: 2100 c. Cultivable area: 2060 4. MAJOR SOIL TYPES Arid Brown(SOLONIZED) 5. AREA UNDER PRINCIPAL CROPS 351800 ha

Soil Characters:

Saline and alkaline soils occur in the district. Soils with salt content exceeding 0.2% are considered to be high salt soils and this concentration is injurious for plant growth. Soils whose pH values exceeds 9.0 have been classified as high alkali soils. The alkalinity render the soil impervious. The alkali soils present in the area has low fertility as compared to normal soils. The Soils of the district are categorized as tropical arid brown (weakly SOLONIZED), and arid brown soil (SOLONIZED). These soils are deficient in NPK. 1.5 LAND USE, AGRICULTURE AND IRRIGATION Tarn Taran is primarily an agricultural district. Agriculture constitutes the main source of economy, and most of the area fit for agriculture is being cultivated.

The land utilization in the district is as follows:

Total area 244900 (in hectares). 2. Area under forests 500 3. Net area sown 210000 4. Total cropped area 400000 5. Net area irrigated by canals 116000 6. Net area irrigated by tube wells 94000 7. Gross irrigated area 400000 8. % of gross irrigated area to total cropped area 100% .

Climate:

The climate of the district can be classified as tropical steppe, semi-arid and hot Which is mainly characterized by general dryness except for a short period during southwest monsoon season, intensely hot summers and cold winters . There are four seasons in a year namely the cold season from November to March, hot season from April to June, south west monsoon season from the last week of June to the middle of September and the post monsoon season from September till the beginning of November. During cold season, a series of western disturbances affect the climate of the district. During the summer months i.e. from April to June, weather is very hot, dry and uncomfortable. The weather becomes humid and cloudy during July to September due to penetration of moist air of oceanic origin into the atmosphere. RAINFALL The normal annual rainfall of the district is 545 mm, which is unevenly distributed over the area in 30 days. The south west monsoon which contributes 74%, sets in last week of June and withdrawn in middle of September. July and August are the rainiest months. Rest 26% of annual rainfall occurs in the non-monsoon months in the wake of western disturbances and thunder storms. Normal Annual Rainfall : 545 mm

Temperature Mean Maximum : 40.5°C (May & June) Mean Minimum : 4.5 °C (January) Normal Rainy days : 30

District: Tarn Taran

1	Area under fruit (Hac.)	1597.87
2	Area under vegetable (Hac.)	7583
3	Area under Aromatic crops (Hac.)	1279
4	Area under flower	Marigold 4.2, Gladiolus 3.15
5	Govt. Garden & Nursery	25 Acre
6	Mushroom Unit	11
7	Cold Store	8
8	Poly house	3

**Performa roforma for use by Joint Inspection Team
Post Harvest Management**

Pack House/Cold Storage/Ref Van/ Primary processing

Sr. No.	Details	Remarks
1	Name of the project	Sona Chandi Warehousing solutions
2	Year of Implementation	2014-15
3	Project Period	
4	Name of Beneficiary	Smt. Kiran Arora Partner
5	Location of Project	Bala Chab
6	Total Project Cost	477.50 Lac
7	Amount Released & date	1,20,00,000 16.1.15
8	Expenditure incurred	
9	Status	
	Capacity of unit	5742 mt
	Commodity	
	Equipments purchased	
	Condition of infrastructure	
	Whether NHM logo displayed	
	Whether funds disbursed to agency	

**Performa roforma for use by Joint Inspection Team,Post Harvest Management,
Pack House/Cold Storage/Ref Van/ Primary processing**

Sr. No.	Details	Remarks
1	Name of the project	K K Agro foods & Cold Storage
2	Year of Implementation	2013-14
3	Project Period	
4	Name of Beneficiary	Kewal Krishan Sharma
5	Location of Project	Bala Chab
6	Total Project Cost	273.50 Lac
7	Amount Released & date	8725080 & 31.3.13, 27.9.13
8	Expenditure incurred	

9	Status	
	Capacity of unit	3719 mt
	Commodity	
	Equipments purchased	
	Condition of infrastructure	
	Whether NHM logo displayed	
	Whether funds disbursed to agency	

**Performa roforma for use by Joint Inspection Team
Post Harvest Management
Pack House/Cold Storage/Ref Van/ Primary processing**

Sr. No.	Details	Remarks
1	Name of the project	Kissan Cold Storage
2	Year of Implementation	2013-14
3	Project Period	
4	Name of Beneficiary	S. Ajaib Singh Partner
5	Location of Project	Ekal-Gadda
6	Total Project Cost	105 Lac
7	Amount Released & date	Rs. 2561360 & 31.3.13, 27.9.13
8	Expenditure incurred	
9	Status	
	Capacity of unit	1740 mt
	Commodity	
	Equipments purchased	
	Condition of infrastructure	
	Whether NHM logo displayed	
	Whether funds disbursed to agency	

**Performa for use by Joint Inspection Team
Protected Cultivation**

Sr. No.	Details	Remarks
1	Name & address of Beneficiary whose field visited.	Alwinder Singh S/O Jagjit Singh Pakhoke
2	Total land available with the beneficiary	

	(ha).	
3	Type of Protected cultivation activity (Hi-tech / Normal GH, Shade net, Plastic tunnel)	Normal Green House (Naturally Ventilated)
4.	Year of establishment	2013-14
5.	Size of Structure (Sq. m)	4000 sq mt.
6.	Total cost	37,40,000
7.	Agency involved in fabrication and installation	Boon Technologies
8.	Total subsidy paid and date of payment.	1870000 & 30.12.13
9.	Crop being grown	Kheera
10.	Condition of Structure	
11.	Condition of Crop	
12.	Tie up with market	
13.	General upkeep (Very good/ Good/ Average/ Poor)	
14	Any other relevant observation by JIT.	

**Performa for use by Joint Inspection Team
Area Expansion / Rejuvenation**

Sr. No.	Details	Remarks
1	Name & address of Beneficiary whose field visited.	Dilraj Singh S/o Hardip singh, Veinpoin
2	Total land available with the beneficiary (ha).	10ha.
3	Crop Cluster under which covered.	

4	Name & variety of crop planted.	Pear (Pathernekh)
5	Source of planting material.	Govt. Nursery (PAU)
6	Number of planting material.	
7	Number of plants planted/ rejuvenated.	1350
8	Date of plants which survived (also indicate percentage survival).	
9	Total amount of subsidy assistance due to the beneficiary as (Rs.)	19800-IIIrd installment
10	Amount paid and date of payment.	59400- 10.3.14-1 st 19800-16.1.15-2 nd
11	Mode of payment.	RTGS
12	Source of Irrigation Water (Bore well/ Tube well/ Canel)	Tube well
13.	Whether Drip/ Sprinkle System in use.	Drip system

Tarntarn District Photographs :





Fazilka District:

It is located at 30.403°N 74.025°E next to the border with Pakistan, the border being to its west. It has the district of Firozpur to its north, Sri Muktsar Sahib to its east and Rajasthan to the south and Pakistan to its west. It was situated by Fazal din. It was called Bangla. It is located in south-western Punjab (INDIA), about 325 km west of Punjab State Capital Chandigarh 85 km south-west of the district Headquarters Ferozepur and 200 km south of Amritsar. Fazilka is near the India-Pakistan border which is 11 km away. Population according to 2011 census, the total population of Fazilka district is 1063737.

Tehsils and Sub-Tehsils

Fazilka district has three tehsils and three sub-tehsils. List of tehsils of Fazilka is given below:

1. Abohar
2. Fazilka
3. Jalalabad

Soil and Climate:

It has extreme climate, with the summers being very hot and the winters very cold. The River Sutlej runs through the district and moves over to the Pakistan side through the Indo-Pakistani border. This region covers the tehsils of Fazilka, Muktsar, Bhatinda, Mansa and parts of Ferozepur which border Haryana and Rajasthan states in the south-west. The soil is predominantly calcareous, developed under hot and arid to semi-arid conditions. The pH value ranges from 7.8 to 8.5 which show that the soil is normal in reaction. Grey and red desert, calsisol, regosol and alluvial soils are found in this zone. The soil of south-western Punjab can further be sub-divided into two categories. Punjab State is divided into six Agro-Climatic regions viz. Sub Mountain undulating regions, Undulating plain region, Central Plain Region, Western Plain Region, Western Region and Flood Prone Region. However, district Fazilka falls under Agro-climatic regions i.e. Western Region and Flood plain region. Fazilka district lies in the South West frontier of Punjab. There are four blocks in district Fazilka. It has extreme climate, with the summers being very hot and the winters very cold. The River Sutlej runs through the district and moves over to the Pakistan side through the Indo-Pakistani border.

Fazilka district lies in the South West frontier of Punjab. The soil is predominately calcareous, developed under hot and arid to semi-arid conditions. The pH value ranges from 7.8 to 8.5 which shows that the soil is normal in reaction. Grey and red dessert, calsisol, regosol and alluvial soils are found in this zoom. The soil of south-western Punjab can further be sub-divided into categories.

Desert Soil: The soil covers Fazilka and south- western fringes of Muktsar tehsil of Faridkot district. The soil is deficient in nitrogen, phosphorous and potassium. Wind erosion is a serious problem specially during the hot summer.

Sierozem Soil: This soil is found in Bhatinda district and Faridkot and Muktsar tehsils of Faridkot and most parts of Ferozepur tehsil. The texture of the soil is sandy loan to sit. The soil is deficient in nitrogen, phosphorous and potash. In some irrigated tracts, alkalinity and salinity pose a problem. Wind erosion is again a serious matter in areas where this soil group is predominant.

Soil in different Blocks of District Fazilka

Sr. No.	Name of Block	Alluvial	Alkaline	Micro –nutrient deficient Soil
1	Fazlika	M-H	Normal	Zn
2	Jalalabad	M-H	N-A	Zn, Mn
3	Abohar	M-H	Normal	Zn, Mn, Fe
4	Khuian Sarwer	M-H	Normal	Zn, Fe

Note: L=Light; M=Medium; H=Heavy; N-A=Non alkaline



Land use- Classification

The detailed information of land use classification of Fazilka district is given below.

Block wise Land Utilization Statistics (Processing three year average)

Sr. No.	Particulars	Fazilka	Jalalabad	Abohar	Khuian	Total
1	Geographical Area	65,136	62,180	89,007	69,412	285735
2	Forest	174	221	76	66	537
3	Land put to non agri. use	8284	14200	10413	6921	39818
4	Cultivable waste land	1000	1800	774	951	4525
5	Net area sown	54751	44266	76620	60340	23977
6	Gross cropped area	115431	89123	152542	124569	481665

Land Capacity Classification

Blocks	Class -I	Class -II	Class -III
Fazlika	42346	12000	405
Jalalabad	35752	8090	424
Abohar	35489	36280	4851
Khuian Sarwer	25320	29916	4596

Low rainfall, irrigation by unfit underground water containing considerable quantities of soluble salts, unsuitable cropping pattern and erratic pattern irrigation practices followed by the farmers are the main factors responsible for alkalinity in soils resulting in deterioration of soil quality. Apart from the direct adverse effect on the crops, alkalinity also effect the nutrient availability in the soil.

Horticulture Crops

Fazlika district falls in the irrigated zone of Punjab State. Major fruits recommended for cultivation in the district ber (46 ha). The other important fruits grown in the district are Kinnow, Guava, Ber and Jamun. Important Vegetables grown in the Fazilka are Onion (6 hac) and other vegetable (715 ha).

Area, Production and yield of Major Horticulture crops in District. Fazilka

Blocks	Crops	Area (ha)		
		Total	Irrigated	%
Fazilka	Fruits	2000	2000	100
	Vegetable	157	157	100
Jalalabad	Fruits	70	70	100
	Vegetable	50	50	100
Abohar	Fruits	9600	9597	99
	Vegetable	111	111	100
Khuian Sarwer	Fruits	9031	9031	100
	Vegetable	114	114	100

Topography and Agro Climatic Characteristics:

The district has plane topography with slight taper at the rate of 2 ft per mile from North-East to South-West. The climate of the district is subtropical. The maximum temperature exceeds even 45 degree centigrade in the month of June and minimum temperature of 0 degree centigrade is normally recorded in December/January. The Monsoon starts in the mid of July with erratic breaks lasting up to September. The mean annual rainfall fluctuates around 237.98mm. The rainfall in the district generally increases from South-West towards North-East. About 70 percent of the annual rainfall in the district is received during the period from July to September, July months, mostly in the form of thunder showers. In the winter seasons, some rainfall occurs under the influence of westerly disturbances. However, the variation in the rainfall from year to year is large.

Land Use Pattern and land Holdings:

The total cultivated area of the district is 2.85 lakh hectare, of which the cultivated area is 2.48 lakh hectares and the forest area is 0.0054 lakh hectares (0.21% of total area), land put to non-agriculture use is 0.39 lakh hectares (14% of total area) and cultivable waste land is 0.045 lakh hectares (1.6%). The number of farmers holding agricultural land is 1.45 lakh.

Land holding pattern in Fazlika District:

Average Size of holdings	No. of Farmers	Area (in hec.)
Marginal less than 1 ha	71817	70, 000
Small (1-2 ha)	50,000	79,8881
Semi –Medium (2-4 ha)	19,000	51,000

Medium (4-10 ha)	2,500	16,000
Large (10 ha and above)	1,800	30,400
Total	1,45,117	2,47,781

Irrigation and Ground Water

Tubewells and canals are two main sources of irrigation in district. Out of total geographical area of 285 735 ha, almost 100% area of District-Fazlika is irrigated. Out of which 67% area is irrigated by Canal Water and 1% area is irrigated by tube well water. 18% area is irrigated with canal and tube well water.

The rainfall data of the district for the last four years have been presented in Table. The rainfall in the district was maximum in year 2013 and rainfall was less in other years.

Rainfall Pattern in Fazilka District (mm)

Sr. No.	Tehsil	2010	2011	2012	2013
1.	Fazilka	20.7	12.3	9.1	41.2
2.	Abohar	18.4	10.3	12.8	42.7
3.	Jalalabad	21.7	15.2	9.7	40.6

Area, production and yield of Fruits in the District 2013-14

Sr. No.	Crop	Area	Production	Yield
1	Kinnow	25831.65	509451	19722
2	Sweet orange	1547.65	19686	12720
3	Mango	0.60	6	10000
4	Guava	292.20	5702	19516
5	Pear	59.40	1591	26890
6	Peach	133	1992	14980
7	Plum	42.50	408	9660
8	Grapes	53.60	1353	25250
9	Ber	198.30	3078	15525
10	Pomegranate	1.10	11	10860
11	Anola	9.80	113	11620
12	Banana	1.00	17	17814
13	Others	79.65	903	11340
	Total	28250.45	544311	205897

Progress under NHM in the district during 2013-14

Sr. No.	components	Target		Achievement	
		Physical	Financial	Physical	Financial
1	Establishment of New Garden (ha)				
	(i) Kinnow	939.4	149.36	664	149.30
2	Community water tank	32	225.87	32	225.87
3	Green House	1	9.7	1	9.7
4	Pack House	3	4.5	3	4.5
5	Honey Bee Colony	5280	79.2	10	79.2
6	Horticulture Mechanization	36	22.28	36	22.28

Citrus Estate (Abohar and Tahiwala Jattan)

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 area of the state to provide all the infrastructural facilities under one roof to obtain more productivity and good quality of produce. Citrus Estates Abohar & Tahlwala Jattan Firozpur/Fazlika 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.

Activites

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 farmed. Further to implement the decisions take in the monthly Executive Committee meetings the following committees comprising of farmer members drawn from 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 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 resolved by the appointment of Expert Technical Staff through the Department of Horticulture, Punjab. 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.

Performa for use by Joint Inspection Team
Area Expansion / Rejuvenation

Sr. No.	Details	Remarks
1	Name & address of Beneficiary whose field visited.	Ajit S/o Jatinder Singh Waryan Khera, Abohar
2	Total land available with the beneficiary (ha).	10 acre, 4 ha.
3	Crop Cluster under which covered.	Citrus (Kinnow)
4	Name & variety of crop planted.	Kinnow
5	Source of planting material.	Private Nurseries
6	Number of planting material.	410 plants
7	Number of plants planted/ rejuvenated.	410 plants
8	Date of plants which survived (also indicate percentage survival).	100%
9	Total amount of subsidy assistance due to the beneficiary as (Rs.)	47,700/-
10	Amount paid and date of payment.	28620/-
11	Mode of payment.	Online transfer
12	Source of Irrigation Water (Bore well/ Tube well/ Canel)	
13.	Whether Drip/ Sprinkle System in use.	Yes
14.	Other inputs provided.	
15.	Whether assistance available for Organic Farming	No
16	If so, area covered	

17.	Assistance available	
18.	Available marketing facility for the crop.	Local marketing, to other states
19.	Other infrastructure available in the vicinity.	
20.	General upkeep of the plot; Very good/ Good / Average/ Poor.	Very good
21.	Any other relevant observation by the JIT.	

**Performa for use by Joint Inspection Team
Water Resources Development**

Sr. No.	Details	Remarks
1	Name of the project	Community Water Tank
2	Year of Implementation	2012-13
3	Project Period	2012-13
4	Name of Implementing Agency	Jain irrigation Ltd.
5	Location of Project	Village- Dhinawali, Abohar
6	Total Project Cost	2243940/-
7	Amount Released by DAC	12,000,00
8	Expenditure incurred Status	2243940/-
9	Current Status of Project	
	• Dimension (L x B x W)	208'x181'-6x15'-0"
	• Capacity	585000 cuft (1380 cum)
	• Command Area	39 acre
	• Whether linked with new plantation or old plantation	New plantation
	• Whether funds disbursed	Yes

**Performa for use by Joint Inspection Team
Area Expansion / Rejuvenation**

Sr. No.	Details	Remarks
1	Name & address of Beneficiary whose field visited.	Pardeep Kumar S/o Bhagwan Daas
2	Total land available with the beneficiary	5.00

	(ha).	
3	Crop Cluster under which covered.	Citrus
4	Name & variety of crop planted.	Kinnow
5	Source of planting material.	Private Nurseries
6	Number of planting material.	340
7	Number of plants planted/ rejuvenated.	340
8	Date of plants which survived (also indicate percentage survival).	100%
9	Total amount of subsidy assistance due to the beneficiary as (Rs.)	35775
10	Amount paid and date of payment.	21465
11	Mode of payment.	Online transfer
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.	Yes
19.	Other infrastructure available in the vicinity.	
20.	General upkeep of the plot; Very good/ Good / Average/ Poor.	Very good
21.	Any other relevant observation by the JIT.	

**Performa for use by Joint Inspection Team
Micro Irrigation**

Sr. No.	Details	Remarks
1	Name & address of beneficiary visited.	Om Prakash S/o Divala Ram, Dhingawali, Abohar
2	Total land available with the beneficiary (ha).	
3	Type of MI system availed Drip/ Sprinkler	Drip
4	Crop(s) covered	Kinnow
5.	Total area covered (ha)	
6	Crop Spacing (for drip)	
7	Year of establishment	2014-15
8	Name of Manufacturer/ Supplier	Finolex

9	Total subsidy paid & date of payment	48,994/- 28.01.15
10	Mode of payment	Online acc. transfer
11	Status of crop	2 years old crop
12	General upkeep (Very good/ Good/ Average/ Poor)	Very good
13.	Any other relevant observation by JIT.	

**Performa for use by Joint Inspection Team
Micro Irrigation**

Sr. No.	Details	Remarks
1	Name & address of beneficiary visited.	Ravinder Kumar S/o Sri Krishna Chandar
2	Total land available with the beneficiary (ha).	10 ha.
3	Type of MI system availed Drip/ Sprinkler	Drip
4	Crop(s) covered	Kinnow
5.	Total area covered (ha)	4.95 ha.
6	Crop Spacing (for drip)	
7	Year of establishment	2014-15
8	Name of Manufacturer/ Supplier	Jain Irrigation Ltd.
9	Total subsidy paid & date of payment	1,80,380/-
10	Mode of payment	
11	Status of crop	Good
12	General upkeep (Very good/ Good/ Average/ Poor)	Good
13.	Any other relevant observation by JIT.	

**Performa for use by Joint Inspection Team
Protected Cultivation**

Sr. No.	Details	Remarks
1	Name & address of Beneficiary whose field visited.	Sushil Kumar Periwal S/o Lakshmi Narayan Vpo KMIPPANWALI
2	Total land available with the beneficiary (ha).	
3	Type of Protected cultivation activity (Hi-	Poly house Tubular

	tech / Normal GH, Shade net, Plastic tunnel)	
4.	Year of establishment	Jan – 14
5.	Size of Structure (Sq. m)	2080m ²
6.	Total cost	19,41,357/-
7.	Agency involved in fabrication and installation	DMS Agro solution Patiala
8.	Total subsidy paid and date of payment.	9,70,400/-, 27.03.14
9.	Crop being grown	Cucumber
10.	Condition of Structure	Very good
11.	Condition of Crop	Very good
12.	Tie up with market	Yes
13.	General upkeep (Very good/ Good/ Average/ Poor)	Very good
14	Any other relevant observation by JIT.	

**Performa for use by Joint Inspection Team
Micro Irrigation**

Sr. No.	Details	Remarks
1	Name & address of beneficiary visited.	Ram Savroop S/o Mam Raj
2	Total land available with the beneficiary (ha).	10 ha.
3	Type of MI system availed Drip/ Sprinkler	Drip system
4	Crop(s) covered	(Citrus)Kinnow
5.	Total area covered (ha)	6 ha.
6	Crop Spacing (for drip)	6mx6m
7	Year of establishment	2013-14
8	Name of Manufacturer/ Supplier	Swati Drip Irrigation
9	Total subsidy paid & date of payment	4,00,000
10	Mode of payment	Online payment
11	Status of crop	Very good
12	General upkeep (Very good/ Good/ Average/ Poor)	Very good
13.	Any other relevant observation by JIT.	

Performa for use by Joint Inspection Team

Area Expansion / Rejuvenation

Sr. No.	Details	Remarks
1	Name & address of Beneficiary whose field visited.	Parkash Singh S/o Dharam Singh Village- Bahadukhera
2	Total land available with the beneficiary (ha).	3.8 ha
3	Crop Cluster under which covered.	Citrus
4	Name & variety of crop planted.	Kinnow
5	Source of planting material.	Private Nursery
6	Number of planting material.	1000 plants
7	Number of plants planted/ rejuvenated.	1000 plants
8	Date of plants which survived (also indicate percentage survival).	100%
9	Total amount of subsidy assistance due to the beneficiary as (Rs.)	80,400
10	Amount paid and date of payment.	60,400
11	Mode of payment.	Online transfer
12	Source of Irrigation Water (Bore well/ Tube well/ Canel)	Canel
13.	Whether Drip/ Sprinkle System in use.	Drip system
14.	Other inputs provided.	
15.	Whether assistance available for Organic Farming	
16	If so, area covere	
17.	Assistance available	
18.	Available marketing facility for the crop.	Yes
19.	Other infrastructure available in the vicinity.	
20.	General upkeep of the plot; Very good/ Good / Average/ Poor.	Very good
21.	Any other relevant observation by the JIT.	

Fazilka District Photographs











Observations and Actionable issues:

1. JIT observed that the overall implementation of the NHM programmes in the State is satisfactory.
2. Nursery established at Abohar Government farm needs to be properly managed for establishing disease free Kinnow planting material and accredited by National Horticulture Board. Shade net houses are badly damaged and needs immediate repairing, so the same may be utilizing for establishment of disease free Kinnow nursery.
3. Single farm family should not be supported for more than 4ha. area for kinnow fruit plantation under area expansion programme .Farm families from small and marginal farmers may be given priority to get subsidy support under area expansion programme for kinnow mandarin in abohar.
4. Suitable Intercrops in Kinnow and pear orchards at Fazilka and Amritsar districts may be suggested as per recommendations of PAU, Ludhiana given more emphasis on leguminous crops.
5. Comprehensive plan for rejuvenation of old and unproductive Kinnow orchards needs to be drawn up for implementation for Fazilka district. Rejuvenation manual is to be prepared for distribution to the farmers and field functionaries. Farmers and field staff need to be trained on management of senile orchards.
6. There is shortage of field level expert technical personnel's in the Department. Existing field staff should be provided better facilities (TA/POL support) so that they can cover more areas and vacant posts, may be filled up on priority basis.
7. It was observed that pack houses constructed from MIDH Scheme are not properly designed. A proper guideline is to be provided for standard design (standardized By NCCD) at districts level.
8. Farmers need to adopt diversification for horticultural crops (Processing varieties of Guava) to regulate market and get better return for their crop and avoid glut major crop in market at Abohar district.
9. Farmers are facing marketing problems for Kinnow fruits. Processing and marketing facilities needs to be created.GAP may be adopted for export of Kinnow mandarin.

10. Problems faced by beekeepers in transporting bee boxes outside the State for pollination, need to be addressed. It is suggested that necessary certificate may be issued by Department of Horticulture, for safe transit of bees.
11. Kinnow cluster needs more assistance for purchase of power sprayer from mechanization component of NHM. JIT observed that heavy load of pesticides are being used in Kinnow and for vegetable crops. Therefore, IPM/IMP schedule recommended by PAU, Ludhiana needs to be adopted to reduce pesticide load.
12. Deputy Director Taran Taran should strictly monitor for use of cold storages for horticultural commodities, where subsidy availed from MIDH. It was observed that Cold storage at Taran Taran are used to store food grains