



बागवानी मिशन
Horticulture Mission

GOVERNMENT OF INDIA

MINISTRY OF AGRICULTURE & FARMER WELFARE

MISSION FOR INTEGRATED DEVELOPMENT OF HORTICULTURE



JIT VISIT REPORT

**“Centre of Excellence for Fruits (Citrus), Khanauara, Hoshiarpur (Punjab)
and Indo- Israel Village of Excellence (IIVoE)”**

Submitted by:

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JIT Visit Report: Indo Israel Village of Excellence (IIVOE) under Centre of Excellence for Fruits (Citrus) at Khanaura, Hoshiarpur Punjab from 25th April to 29th April 2023

Name of GoI representatives for the visit: -

1. Dr. Priyanka Verma, Chief Consultant (MIDH), DA&FW
2. Ms. Shubhanjali Dixit, Consultant (MIDH), DA&FW

Objective of the visit: -

1. To review the financial and physical progress of CoE for Fruit (Citrus), Khanaura, Hoshiarpur.
2. To review progress of various ongoing activities in identified villages under Indo-Israel Village of Excellence (IIVOE) programme.
3. To identify various challenges faced by farmers in Citrus cultivation.

Overview of CoE, Khanuara: -

The Centre of Excellence for Fruits (Citrus) at Khanaura, Hoshiarpur spread over an area of 10 Hectare was sanctioned under Indo-Israel action plan during 2012-13 with a cost outlay of Rs. 1039.56 lakhs. The objective of the CoE is to adopt and demonstrate advanced Citrus production technologies in order to improve overall profitability per unit area and to strengthen Citrus value chain in Punjab by disseminating Post-harvest management technologies among farmers.

It is to be mentioned here that CoE (Citrus), Khanaura has identified 8 VoEs in 4 blocks of Hoshiarpur district, Punjab. Further, 4 VoEs (Bohan, Ahrana Kalan, Chaunni Kalan & Mehlanwali) have been identified in Hoshiarpur-2 Block, 2 VoEs (Darampur & Berampur) in Bhunga Block, VoE, Bains Khurd in Hoshiarpur-1 Block, and VoE Sikri at Hariana Block.

The officials from SHM, Punjab and CoE, Khanaura, accompanied the GoI representatives during the JIT visit are as below:

| S.No. | Name of the Officer | Designation |
|-------|---------------------|---|
| 1. | Dr. Avtar Singh | Deputy Director of Horticulture –Hoshiarpur, Punjab, Department of Horticulture |
| 2. | Dr. Balwinder Singh | Assistant Director Horticulture, Citrus Estate, Chhauni Kalan, Department of Horticulture |
| 3. | Mr. Jaspal Singh | Assistant Director of Horticulture, Citrus Estate, Bhunga, Department of Horticulture |
| 4. | Mr. Vikram Verma | Horticulture Development Officer (Soil Science), Citrus Estate, Chhauni Kalan, Department of Horticulture of Horticulture |
| 5. | Dr. Shelly | Horticulture Development Officer (Entomology), Citrus Estate, Chhauni Kalan, Department of Horticulture of Horticulture |
| 6. | Mr. Harjeet Singh | Horticulture Development Officer (Pomology) &Project Incharge , CoE Khanaura, Hoshiarpur |
| 7. | Mr. Lakhbir Singh | Horticulture Development Officer (Extension), Citrus Estate, Bhunga, Department of Horticulture of Horticulture |

Overview of the JIT visit to CoE Khanaura:

| Date | Agenda | Timing |
|------------|---|----------------------|
| 26.04.2023 | Brief visit with CoE officials at Citrus Estate, Chhauni Kalan and field visit in 4 VoEs of Block Hoshiarpur -2. | 09:00 AM to 07:00 PM |
| 27.04.2023 | Attended short presentation by Project Incharge at CoE Fruit (Citrus) Khanaura, followed by CoE facilities tour and field visit to 2 VoEs of Block Hoshiarpur -1 & Hariana. | 09:00 AM to 07:00 PM |
| 28.04.2023 | Field visit to 2 VoEs in Block Bhunga followed by a technical session with farmers& CoE officials at Citrus Estate, Bhunga. | 09:00 AM to 06:30 PM |

Observations of the visit: -**Day 1 (26.04.2023):**

An official meet was organized by Deputy Director of Horticulture (Punjab) at Citrus Estate Chaunni Kalan where a brief scenario of Citrus Plantation in VoEs at Hoshiarpur was presented. It was also mentioned that CoE Khanaura works in collaboration with two Citrus Estates formed by State Government i.e. Citrus estate Chaunni Kalan & Citrus Estate, Bhunga to manage various activities of IVOEs in 4 blocks of Hoshiarpur. Citrus estate Chaunni Kalan has developed a Soil testing laboratory and Bio Fertilizer manufacturing unit to support VOE farmers in managing their orchards under INM Component of MIDH.

After wards, a field visit to 4 VoEs i.e. Chaunni Kalan, Mehalanwali, Bohan & Arhana Kalan of Hoshiarpur-2 Block was organized wherein various components of CoE like area expansion of Kinnow, plastic mulching, Canopy management, Orchard rejuvenation, on farm pack house, tractor mounted sprayers, Integrated Pest Management (Fruit fly trap) and carrot washing machine under PHM Component were assessed followed by meet with local farmers benefited under IIVoE Programme.

The major constraints of farmers, observed were fencing of orchards to control cattle grazing, high cost of cultivation due to more electricity consumption by tube well irrigation and high cost of pesticides.

Day 2 (27.04.2023):

A meeting was held between Officials of GoI, SHM (Punjab), CoE and Citrus Estate (Chhauni Kalan) at premises of CoE (Khanaura) where Project Incharge, CoE via power point presented the progress and ongoing activities of the CoE underlying the Citrus scenario viz. area-production, Challenges encountered by Citriculture in Punjab, Achievements & Business model of CoE (Self- sustainable). Further, it was followed by a short visit to various facilities of CoE like civil infrastructure, hi-tech Poly house (1), shade net houses (3), screen houses (2), automated fertigation/irrigation controlled system (2), automated weather station, soil solarization platform, Vermicompost unit, PHM infrastructure with cold rooms, pre-cooling unit and grading waxing line for Citrus.

The CoE has adopted and demonstrated technologies like Raised bed plantation, Weed management by plastic mulch, fertigation system in nursery production and canopy management to improve the overall performance of Citrus crop and the same has been disseminated to farmers under IIVOE Programme. During the month March, 2023 CoE Khanaura has installed and demonstrated new Grading and Waxing unit for Citrus.

In the second half of Day 2, Team of officials from Ministry & CoE Incharge visited village Sikri & Bains Khurd and interacted with the farmers and assessed the technologies like Canopy management and Orchard rejuvenation of Kinnow, facilitated by CoE Khanaura on farmer's field.

Day 3 (28.04.2023):

A field visit was organized to VoEs of Block Bhunga wherein it was observed that CoE, Khanaura under IIVOE programme has benefited 22 farmers in the village Darapur & Berampur during the year 2021-2023 where the major emphasis was given on Kinnow orchards rejuvenation, providing good planting material of Kinnow, Daisy (Mandarin) and Sweet Orange. Subsidies are also provided to farmers under NHM scheme on farm mechanization component such as Knapsack sprayers, tractor operated spray pumps, power tillers, washing and grading units for Citrus fruits. It was informed that, Citrus Estate officials are engaged in soil testing of Citrus orchards in the VoEs, providing soil health card and guidance on IPM to the farmers.

A technical session was organized at Citrus Estate Bhunga, wherein GOI and CoE officials interacted with farmers of all eight villages adopted under IIVoE programme. Approx 30 farmers participated in the session wherein the major issues and challenges faced by farmers in Citrus cultivation were discussed.

The major constraints of the farmers were limited access to technicality & components of drip irrigation among farmers; lack of specialized scheme/component for boundary wall/fencing, solar pumps etc. and high cost of packaging material for their produce. CoE officials further suggested about the need of establishment of machinery bank among VOE's and Top up incentives for the overall development of IIVoE programme in Hoshiarpur District.

Recommendations by JIT officials:

1. CoE officials should focus on area expansion & promotion of other commercially important Citrus crops besides Kinnow to diversify the Citrus ecosystem in Hoshiarpur district.
2. As the major objective of CoEs established under IIAP is to transfer technology to farmers, hence, CoE Khanuara is advised to increase farmer trainings & on-field demonstrations in Citrus cultivation to atleast 1000 farmers on yearly basis.
3. CoE may create awareness and encourage farmers to procure quality planting material of Citrus either from CoE Khanuara or nurseries accredited by NHB, State Government or any other Government Institutes.
4. It is advised that CoE officials may further focus on promotion of INM in the VoEs viz. Bohan, Mehlanwali, Ahrana Kalan thereby installing more drip irrigation & automated fertigation units.
5. CoE should focus on proportional distribution of PHM components viz. Pack house, Pre-cooling units & grading and sorting units among identified VoEs for effective and better implementation of IIVoE programme.
6. For further technological advancement of the CoE, it is desired that MASHAV in collaboration with said CoE may introduce newly developed technologies & varieties as per need based assessment of Hoshiarpur region.
7. It was observed that there is huge gap between amount of fund sanctioned under Annual Action Plan (AAP) and Expenditure incurred therefore; it is advised that CoE Khanuara should focus on timely and effective disbursement of funds.
8. For better implementation of IIVOE programme in Hoshiarpur region, SHM officials can make provision in their Annual Action Plan for separate funding of the VoE Programme under MIDH.

Onsite Inspection of the VoE at Hoshiarpur-2 Block



Kinnow orchard rejuvenation at VoE Ahrana Kalan



Area expansion with Intercropping of Summer Squash crop at VoE Mehlanwali



Pack house under PHM component of MIDH in VoE Bohan



Carrot Washing & Grading Machine PHM component of MIDH in VoE Bohan



Tractor Mounted Power Sprayer (400 lit) in VoE Mehlanwali



Orchard training & Canopy management technique in VoE Mehlanwali

Onsite Inspection of the VoE at Bunga Block



Kinnow (Daisy cultivar) orchard plantation at VoE Darapur



Knap Sack Sprayer (20 lit) under the INM component of MIDH in VoE Bhains Khurd



Tractor Mounted Power Sprayer (600 lit) in VoE Berampur



Power tiller under Farm Mechanization component of MIDH in VoE Berampur



Farmer's Meet with GoI & CoE officials at Citrus Estate, Bhunga



Discussion on various challenges faced by farmers of Hoshiarpur district on Citriculture and Horticultural crops.

Infrastructure of the Centre of Excellence, Khanuara



GoI representatives with Deputy Director Horticulture, Project Officer CoE, Khanuara and other staff members



Open field plantation of Kinnow at CoE, Khanuara with flourishing cultivars- Daisy, W- Murcot & Early Gold



CoE, Khanuara Citrus Nursery in shade net house (8390 m²)



In line drip irrigation and fertigation system in nursery



High –tech polyhouse (primary nursery)(1080 m²)



Screen house with mother blocks (Shomouti, Sweetie & PAU-1)



Rain water harvesting pond at CoE, Khanuara



Automated irrigation and fertigation system at CoE, Khanuara



PHM Infrastructure at CoE, Khanuara



Cold room facilities for Citrus fruits at CoE, Khanuara



On site Citrus Washing & Grading Unit in VoE Darapur



Citrus Grading and Waxing line at CoE, Khanuara