



MIDH Support for enhancing fruit production by way of quality planting material & use of water efficient technologies

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World Horticulture Scenario

1

2100 (933 fruits, 1177 vegetables)

Million tonnes of F&V produced globally (JNC & FAO, 2024)

2

17%

India share of F&V in global food production (FAO, 2024)

3

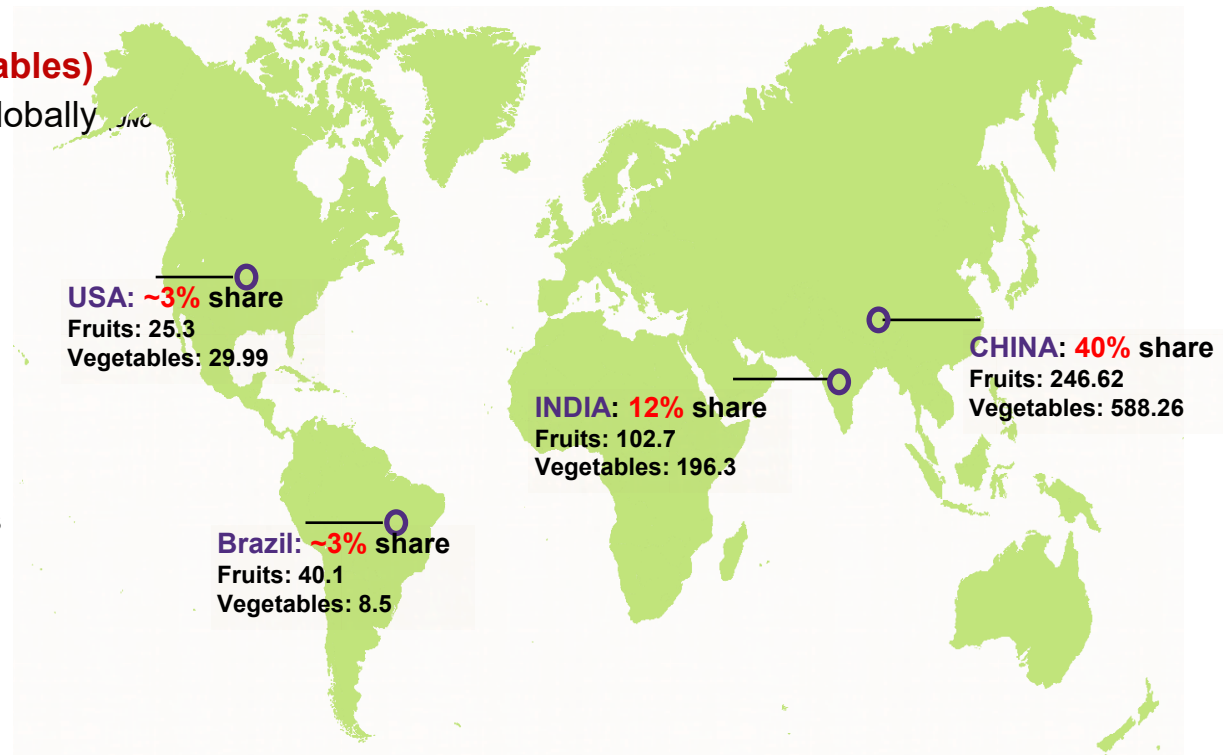
up to 32%

F&V produced in developing countries are lost in the supply chain between harvest and consumption (FAO, 2024)

4

7-8%

Of the total global F&V produced, is traded Internationally (FAO, 2024)



Major Fruits & Vegetables Producing countries
Production Figures (Million MT)

Source: APEDA(2024), Statista(2023), FAO (2024)



Indian Horticulture Scenario



India is **2nd** largest producer of horticulture crops



India cranks first in the production of Bananas (25.56%), Mangoes (including mangosteens and guavas) (44.46%) Papayas (38.64%).



18% of the area under horticulture contributes to **33%** to Gross Value Added (GVA) in agriculture



Country recorded its highest ever horticulture production of **367.67 million tonnes** from an area of **28.43 million hectares** in 2024/25



India's share of horticulture export in global trade stands at **1.8%** & **0.5%** for vegetables & fruits respectively, which is significantly lower than other producer countries.

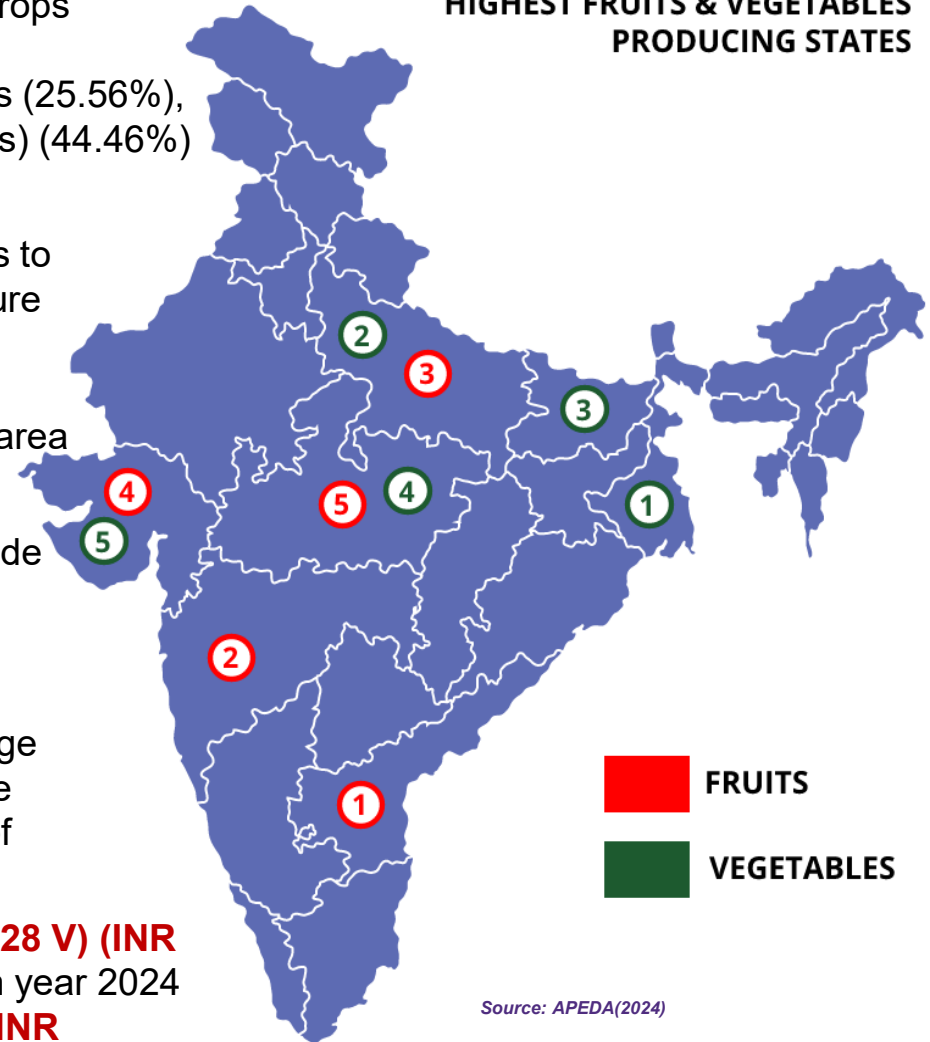


Post-harvest losses of fruits & vegetables range **5-20%** on account of inadequate infrastructure for post-harvest handling and value addition of produce



India exported . **~1815 USD Million (986 F+828 V) (INR 15609 Crore)** of fresh fruits and vegetables in year 2024 and import's worth **~\$1430 million (1159 F) (INR ~14300 Crore)** in 2024

HIGHEST FRUITS & VEGETABLES PRODUCING STATES



Source: APEDA(2024)

Projected Scenario in 2030



Indian Population is projected to be more than **1.5 Billion**
(UNO)



Demand of F&V will rise to **> 425 Million**

MT
(ICAR-New Delhi)

Shortfall of about **50 Million MT** of Fruits & Vegetables

Fruits

Gap: ~15 Million MT

(ICAR-New Delhi)

Vegetables

Gap: ~35 Million MT

Fruits Processing Demand

2X

(CISH-ICAR)

from current processing levels (25 Million MT)



Quality planting material production will play key role to fulfill gap



Government Initiatives for Achieving Vision 2030

Major Schemes

Mission for Integrated Development of Horticulture
Financial Assistance of \$1464.7 Million (INR 10982 Cr) in next 5 years

Cluster Development Programme
Total investment of \$1.3 Billion (INR 10000 Cr)

Agriculture Infrastructure Fund
Financial Support of \$13 Billion (INR 1 Lac Cr)

Formation and Promotion of 10,000 new Farmer Producer Organizations (FPOs)

Operation Green Scheme
Extended from TOP to 22 other Perishable Commodities

Agricultural and Processed Food Products Export Development Authority (APEDA)
Sponsored schemes and programmes

2030



Development of **100+** horticulture clusters



Establishment of Fruit & Vegetables Cluster Brands



Major Player in F&V Global Export with reduced Imports



Robust & Sustainable Ecosystem

- Improved Infrastructure
- Research & Development
- Commercial Cultivation for imported crop



Sustainable Value Chains for



Historical Perspective of MIDH

Mission for Integrated Development of Horticulture

MIDH: a Mission, that subsumes and integrates all activities in Horticulture.

CDB

- 1981: Coconut Development

HMNEH

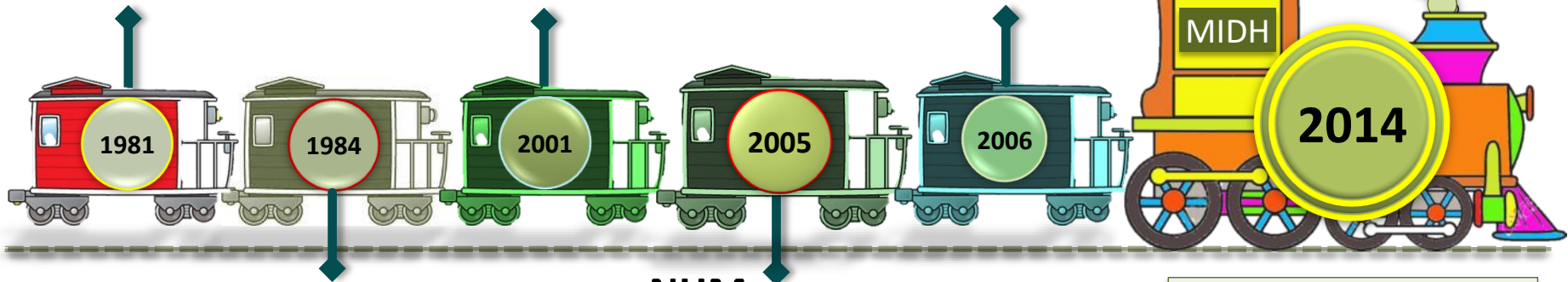
- 2001-02, as TMNE for horticulture (in north eastern states)
- 2003-04, added Himalayan States

CIH

- 2006-07, for HRD in Horticulture

Individual schemes for horticulture subsumed into

MIDH



NHB

- 1984: commercial horticulture

NHM

- 2005-06, mission to give direction & promote development of horticulture (in 18 states).

Various schemes integrated to harness the potential of horticulture in the country.

Mission Objectives:

- 1 Holistic growth of horticulture sector through area based regionally differentiated strategies.
- 2 Improve productivity by way of quality germplasm, planting material and water use efficiency through Micro Irrigation.
- 3 Enhance horticulture production, augment farmer's income and strengthen nutritional security
- 4 Aggregation of farmers into farmer groups like FIGs/FPOs/FPC
- 5 Skill development and creation of employment opportunities
Encourage farmers for cluster approach



Major Components

- Nursery and Quality Planting material**
- Area expansion
- Protected Cultivation: poly-house, green-house, shade-nets, for growing off -season high value vegetables and flowers
- Water Harvesting Structure -Farm ponds: Individual and community
- Horticulture Mechanization
- Post Harvest Infrastructure
 - Cleaning/Sorting /Grading/Packing units
 - Cold Chain
 - Primary Processing
- Capacity Building of farmers
- Beekeeping
- Centre of Excellence (CoEs)





Major Focus Areas-II



Impact of MIDH Interventions (since 2014-15)

2nd largest Producer of Fruits & Vegetables globally

Exports increased by more than 3 times in 10 years

Gross Value of Horticulture Output: 70% increase

Fruit & vegetable availability per capita increase from 400 gm/day in 2014-15 to 498 gm/day in 2024-25.

Nashik has emerged as center of Grapes production and exports

Bengaluru –Pune Cluster developed as floriculture hub

Micro irrigation and fertigation technology adopted as standard practice led to success of Protected cultivation technology

Income enhancement to apple farmers on account of strengthening of cold-chain.

Tissue Culture and Precision farming led to quantum jump in banana production

Impact of MIDH Interventions(since 2014-15)

Area Expansion: 38
lakh ha

5107
Nurseries assisted

1553 Nurseries
Accredited*

39.65 million MT Cold
Storage Capacity
added (8600)

Ripening Chambers:
>1200

Refeer Trucks: >500

30+7 Centers-of-
Excellence with Indo-
Israel collaboration for
high-tech horticulture

111869 farm ponds
constructed

Training to 25.57 lakh
farmers

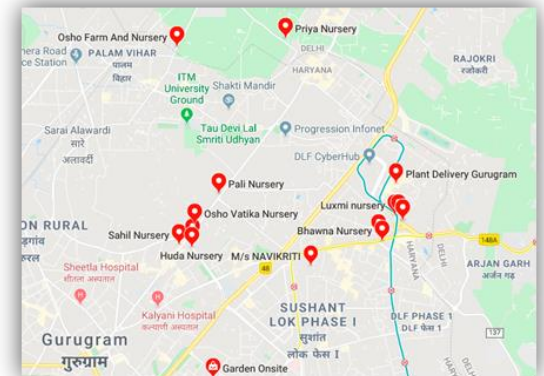
- Established in 1984 to promote high quality Commercial horticulture and developing PHM infrastructure
 - ❖ To Promote commercial horticulture
 - ❖ Develop post-harvest management and cold-chain infrastructure
 - ❖ Transfer of Technology for the development & promotion of Horticulture
 - ❖ Accreditation of Horticulture Nurseries
 - ❖ Promotion of mechanization in horticulture

Assistance in Nursery infrastructure: MIDH Provisions

- **Hi-tech Large size nurseries-** area 1 to 2 ha with a capacity to produce 50,000 plants per ha of mandated crops- Rate of assistance for establishing Hi-tech nursery is Rs 30 lakh/ha.
 - 100% assistance for public sector. 40% of cost for private sector @ 40% .
- **Small nurseries** -area up to 0.4 to 1 ha. Each nursery to produce 25,000 plants of the mandated perennial fruit plants per year. Rate of assistance is Rs 20 lakhs/ha.
 - 100% assistance for public sector. 50% to private sector
- **Upgrading nursery infrastructure to meet accreditation norms – (Upto 2 ha) : Need based upto a maximum of Rs. 4 lak/ha**
 - 100% assistance for public sector. 50% to private sector
- **Setting up new Tissue culture unit: Project based upto Rs. 250 lakh / project for a capacity of 25 lakh plants / year**
- **Hi-tech plug nursery : 0.2 to 1ha @ Rs. 1200/sq mt**

Interstate Nursery Portal

- Digital Platform (Portal and Mobile Application):
- Integrate data of all accredited and non-accredited nurseries (Directory of registered nurseries)
- Providing an inter-state gateway for all nurseries in India
- Enabling easy access to information on availability of genuine and disease-free planting material in localities across the country.
- Provide market access to nurseries through digital means (electronic marketing)

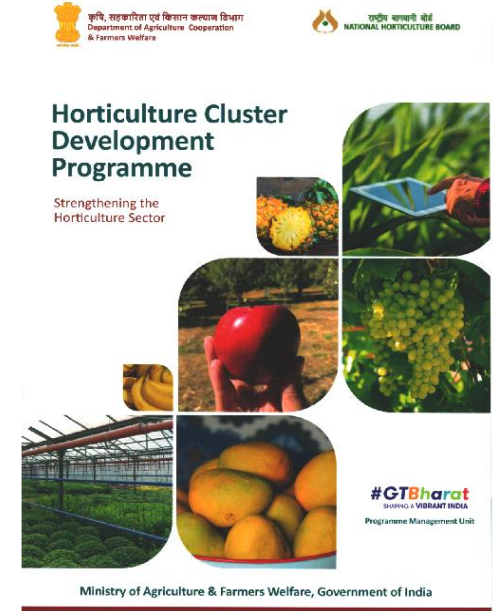


Status of Fruit nurseries in India

- **Fruit nurseries in India: 5107**
- **37% from Government sector and 63% from private sector.**
- **Accredited fruit nurseries in India: 1553+ .**
- **Acute shortage of quality planting material of fruit, plantation and nut crops.**
- **Annual average production = 1387 million fruit plants received It is just 35 to 40 per cent of the total demand.**
- Source: NHB, National Nursery Portal 2025, given up to 2023

Horticulture Cluster Development Program

Rs. 21692 Crore



- 12 clusters identified
- Shopian, Kinnaur for apple
- Sholapur, Chitradurga for pomegranate
- Theni, anantpur for banana
- Mehboobnagar, Kutch, Lucknow for mango
- Nashik for grapes
- Sepahijala for pineapple

- Increased productivity
- GAP
- Infrastructure development
- Multimodal transport
- Cluster brands
- Increase in investment by private sector
- Quantum for export

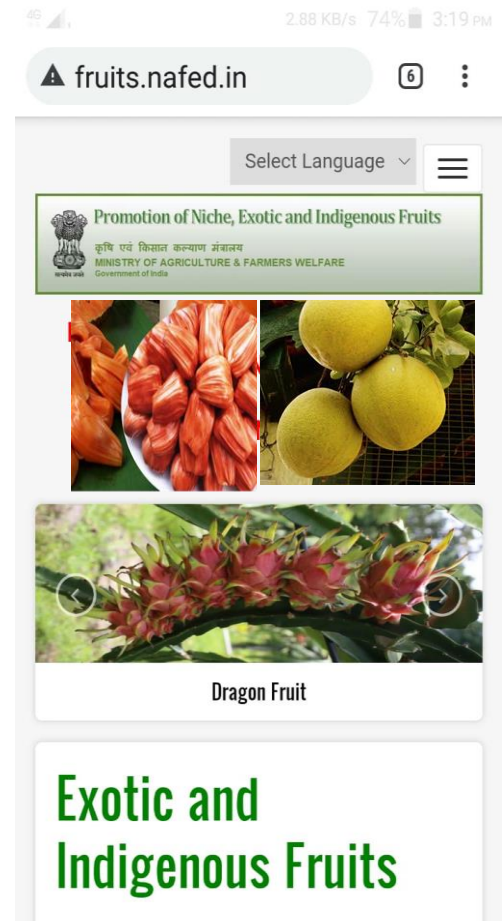
Globally important exotic fruit crops

1. Avocado
2. Blue berry
3. Dragon fruit
4. Fig
5. Kiwi
6. Mangosteen
7. Persimmon
8. Passion fruit
9. Rambutan
10. Strawberry



Locally produced fruits with high nutritional value

1. Mango-Ratual
2. Papaya- Coorg Honey
3. Phalsa- Kanpur
4. Pumelo- Devanahalli
5. Guava- Alahabad
6. Jackfruit- Red bulb
7. Custard Apple- Balanagar
8. Lemon- Kagzi
9. Bael-Faizabad
10. Tamarind - Godhra
11. Aonla: Partapgarh



- Nutritional profiling.
- Validation of health benefits - for therapeutic and prophylactic applications.

Road Map

- To assess present level of production of each fruit in the producing States and import of these fruits in India
- To assess agro-climatic requirements for expansion of area under these fruits
- To trace the origin and history of these fruits and preparation of a website for their promotion including value chain development and marketing
- To find out local names by which these fruits are known in India and assign them most popular common/ Indian name for popularizing them
- To find out unique properties of each fruit and plan a strategy for their branding, promotion and scaling up production in India

Proposed Target for planting material for Fruits production during next 5 years

S. No.	Fruits	Quantity (in Lakh)	No. of Nurseries	States involved
1.	Apple	334	66	Jammu & Kashmir, H P, Uttarakhand, Arunachal Pradesh
2.	Almonds	11	4	Jammu & Kashmir, H P, Uttarakhand, Arunachal Pradesh
3.	Walnut	44	9	Jammu & Kashmir, HP, Uttarakhand, Arunachal Pradesh
4.	Date Palm	8	5	Tamilnadu, Gujarat, Maharashtra, Karnataka, Rajasthan
5.	Grapes	558	14	Himachal Pradesh, Tamilnadu, Mizoram, Maharashtra, Karnataka, Telangana, Punjab
6.	Kiwi	5	7	Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Arunachal Pradesh, Nagaland, Mizoram, Tamilnadu
7.	Kamalam	151	8	Nagaland, Tamilnadu, Mizoram, Gujarat, Maharashtra, Karnataka, Andhra Pradesh, Telangana
8.	Apricot	81	17	Jammu & Kashmir, H P , Uttarakhand, Arunachal Pradesh
9.	Strawberry	909	8	Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Nagaland, Mizoram, Maharashtra, Uttar Pradesh, Meghalaya
10.	Papaya	19000 Kg	-	Tamilnadu, Gujarat, Maharashtra, Karnataka, Andhra Pradesh, Telangana, Punjab, Bihar, West Begnal, Chhattisgarh
11.	Mandarin	198	77	Haryana, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Arunachal Pradesh
12.	Sweet Orange	50	20	Andhra Pradesh, Maharashtra , Telangana

Area Expansion of Exotic Crops

S. No.	Crops	Present Area (in Ha)	Target Area (in Ha)	States Covered
1.	Avocado (Butter Fruit)	800.32	543	Andhra Pradesh, Goa, Karnataka, Punjab, Tamilnadu, Manipur, Nagaland, Uttarakhand, Arunachal Pradesh, Meghalaya, Sikkim, Tripura
2.	Blueberry (Neel Badri)	1043.84	230	Madhya Pradesh, Maharashtra, Tamil Nadu, Arunachal Pradesh, Nagaland, Uttarakhand
3.	Kamalam	3425.26	3686	Andhra Pradesh, Bihar, Chhattisgarh, Gujarat, Goa, Karnataka, Odisha, Punjab, Telangana, Tamilnadu, West Bengal, Assam, Manipur, Mizoram, Nagaland, Uttarakhand, Haryana, Maharashtra, Rajasthan, Arunachal Pradesh, Meghalaya, Sikkim, Tripura
4.	Fig (Anjeer)	2764.35	2677	Andhra Pradesh, Gujarat, Karnataka, Maharashtra, Punjab, Rajasthan, Telangana, Tamil Nadu, Haryana, Nagaland
5.	Kiwi (Kiwi Phal)	4354.34	1855	Arunachal Pradesh, Meghalaya, Nagaland, Himachal Pradesh, Uttarakhand, Rajasthan, Tamilnadu, Manipur, Sikkim
6.	Mango Steen	8.57	600	Karnataka, Arunachal Pradesh, Nagaland, Tripura,
7.	Persimmon (Tendu Phal)	650	645	Arunachal Pradesh, Manipur, Nagaland, Himachal Pradesh, Uttarakhand, Rajasthan, Tripura
8.	Passion Fruits	9947	625	Karnataka, Manipur, Nagaland, Andhra Pradesh, Arunachal Pradesh
9.	Rambutan	35.59	370	Karnataka, Arunachal Pradesh, Manipur, Nagaland, Tripura
10.	Strawberry	2652.61	1735	Andhra Pradesh, Bihar , Goa, Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra Punjab, Assam , Manipur, Meghalaya, Nagaland, Tripura, H P , Uttarakhand, Rajasthan, Tamil Nadu, West Bengal

Area Expansion of Indigenous Crops

S. No.	Crops	Present Area (in Ha)	Target Area (in Ha)	States Covered
1.	Aonla	32011.53	9896	Andhra Pradesh, Bihar, Chhattisgarh, Goa, Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Telangana, Nagaland, Himachal Pradesh, Uttarakhand, Arunachal Pradesh, Meghalaya
2.	Karonda	326.7	515	Andhra Pradesh, Gujarat, Karnataka, Maharashtra, Punjab, Rajasthan, Uttarakhand, West Bengal, Nagaland
3.	Garcina	89.02	1185	Karnataka, Andhra Pradesh, Goa, Assam, Manipur, Nagaland
4.	Jamun	45694.3	2294	Andhra Pradesh, Bihar, Gujarat, Karnataka, Maharashtra, Odisha, Punjab, Rajasthan, Telangana, Manipur, Tripura, Uttarakhand, West Bengal, Nagaland
5.	Hanuman Phal	3	113	Karnataka, Nagaland
6.	Bael	7284.64	535	Bihar, Gujarat, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Tripura, Uttarakhand, WB, Meghalaya, Nagaland
7.	Tamarind	17771.77	9791	Andhra Pradesh, Bihar, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Odisha, Telangana, Nagaland, Tripura, Uttarakhand, West Bengal, Meghalaya
8.	Phalsa	180.27	402	Gujarat, Punjab, Rajasthan, Nagaland
9.	Jack Fruits	69459.9	4853	Andhra Pradesh, Bihar, Chhattisgarh, Goa, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Odisha, NER

Clean Plant Program – Objectives & Outcome

- To boost availability (Rs. 2200 cr from 2023-24 to 2029-30)
- Improve Institutional and Regulatory Frameworks to operationalize the clean plant program in Horticulture sector
- **Develop Clean Plant Centers (CPC) that maintain disease-free Foundation Materials**, which will be later propagated by the **Accredited Nurseries**
- Enhanced propagation of Disease-free planting materials under the Certification Scheme by accrediting private nurseries, and testing and certifying their planting materials.
- Target Fruit and Nut Crops: Almond, apple, avocado, berries, citrus, grape, guava, litchi, mango, pomegranate and walnut.

Outcome: Increased Farmers' access to certified disease-free planting material

Pradhan Mantri Krishi Sinchayee Yojana-Micro Irrigation

Per Drop More Crop



Objectives:

- To expand cultivable area under assured irrigation (Har khet ko pani) (8.28 million ha)
- To improve on-farm water use efficiency (per drop more crop)

Objectives of Per Drop More Crop

- Increase the area under Micro Irrigation to enhance WUE
- Increase productivity of crops and income of farmers -precision water management
- Promote micro irrigation technologies in water consuming crops
- Micro irrigation systems for promoting fertigation.
- Micro irrigation technologies in water stressed critical ground water blocks
- Establish convergence and synergy with activities of on-going programs (Minister of Water Resources, solar energy for pressurised irrigation etc.
- Support the initiatives of reuse of waste water in urban /peri-urban Horticulture through micro irrigation systems.
- Create employment opportunities for skilled and unskilled persons, especially unemployed youth for installation and maintenance of micro irrigation systems.

PMKSY- Per Drop More Crop (PDMC)

- **PMKSY launched in 2015-16**
- **PDMC for enhancing water use efficiency at farm level through Micro Irrigation (Drip and Sprinkler): 13 million ha**
- **Associated micro level water harvesting/conservation structures**

- **55% subsidy to small farmers & 45% subsidy to others**
- **5 ha / per beneficiary for 7 years on same land**
- **Subsidy payment limited to the unit costs specified in guidelines.**
- **25% higher subsidy - North Eastern and Himalayan states**
- **15% higher for States with low penetration - Bihar, Chhattisgarh, Jharkhand, Odisha, UP, WB and UT**

Micro Irrigation

On – Farm Water Management

□ Benefits

- Water saving in Drip irrigation (40-70%)
- Water saving in Sprinkler irrigation (30-40%)
- Increase in yield (30 - 80%)
- Saving in Fertilizer usage (25-35%)
- Cultivation in saline land possible

• Coverage of MI (in last 10 yr)

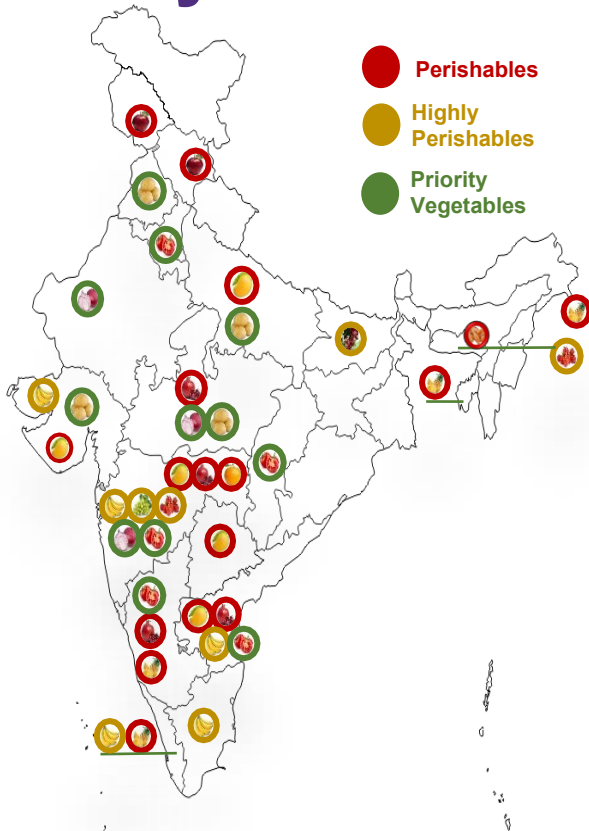
- 3.8 million ha under Drip Irrigation
- 4.8 million ha under Sprinkler Irrigation

Crop	Increase in Yield %	Water Saving %
Tomato	30-50	40-60
Sugarcane	50-60	30-50
Okra	35-40	30-35
Potato	30-40	40-50
Cabbage	30-40	50-60
Brinjal	30-50	40-60
Chilli	30-40	60-70
Bottle Gourd	30-40	40-50
Cauliflower	60-80	30-40

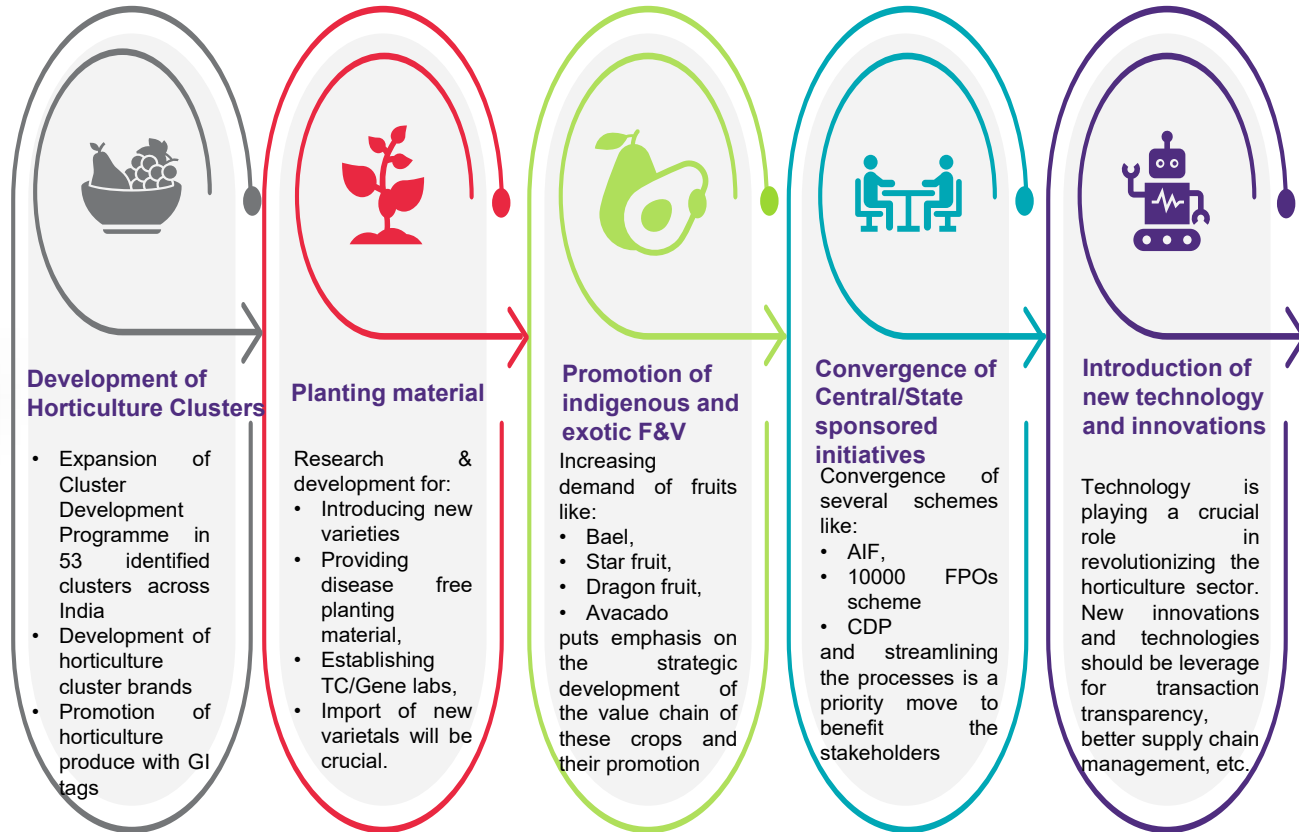
Need for a Robust Horticulture Plant Certification System

- Agroecological Region wise planning for Making available clean Propagation Materials of commercially important scion and rootstock cultivars for the important crops
- Establishment of healthy Mother Blocks and accountability of nurseries in producing Virus and Disease-free planting material.
- Supporting Nurseries for Infrastructure development to be eligible for the production of certified healthy planting materials
- Creation of testing facilities for healthiness.
- Development and implementation of legal framework for certification and traceability of planting material from mother nurseries till farmer's end.
- Provide technical and financial supports to help nurseries become accredited under the scheme
- Increasing awareness in the farming community about the importance of Clean Planting Material

Way Forward



Identified Potential Horticulture Clusters across India



Thank You

