

OPERATIONAL GUIDELINES MISSION FOR INTEGRATED DEVELOPMENT OF HORTICULTURE

1. INTRODUCTION

1.1 Mission for Integrated Development of Horticulture (MIDH) is a Centrally Sponsored Scheme for the holistic growth of the horticulture sector covering fruits, vegetables, root & tuber crops, mushrooms, spices, flowers, medicinal & aromatic plants, coconut, cashew, cocoa, bamboo and other horticulture crops. While Government of India (GOI) contributes 60%, of total outlay for developmental programmes in all the States except States in North East and Himalayas, 40% share is contributed by State Governments. In the case of North Eastern and Himalayan States, GOI contribution will be 90% and 10% share is contributed by these States. For programmes of National Horticulture Board (NHB), Coconut Development Board (CDB), Central Institute for Horticulture (CIH), Nagaland National Level Agencies (NLA) and UTs without legislature GOI contribution will be 100%. Guidelines regarding implementation of the scheme are described hereunder.

1.2 MIDH will have the following sub-schemes and area of operations:

Sl. No.	Sub Scheme	Target group / Area of operation
1.	NHM	All States & UTs except States in NE and Himalayan Region covering all districts.
2.	HMNEH	All States in NE and Himalayan Region covering all districts.
3.	NBM	All States and UTs
4.	NHB	All States & UTs focusing on commercial horticulture
5.	CDB	All States and UTs
6.	CIH	NE States, focusing on HRD and capacity building

MIDH will work closely in convergence with other schemes towards development of all horticulture crops.

1.3 MIDH will also provide technical advice and administrative support to State Governments/ State Horticulture Missions (SHMs) for horticulture specific commodities and other horticulture related activities funded by Rashtriya Krishi Vikas Yojana (RKVY).

2. MISSION OBJECTIVES

2.1 Main objectives of Mission are:

- a) Promote holistic growth of horticulture sector, including bamboo and coconut through area based regionally differentiated strategies, which includes research, technology promotion, extension, post harvest management, processing and marketing, in consonance with comparative advantage of each State/region and its diverse agro-climatic features;
- b) Encourage farmers to take activities in cluster approach.
- c) Enhance horticulture production, augment farmers' income and strengthen nutritional security;
- d) Improve productivity by way of quality germplasm, planting material and water use efficiency through Micro Irrigation;
- e) Support skill development and create employment generation opportunities for rural youth in horticulture and post harvest management, especially in the cold chain sector;
- f) Enhance production of high value horticulture crops to reduce import dependence.

3. STRATEGY

3.1 To achieve above objectives, the mission will adopt the following strategies:

- a) Adopt an end-to-end holistic approach covering pre-production, production, post harvest management, processing and marketing for appropriate returns to growers/producers;
- b) Create commodity crop specific CoEs in the country to encourage technology adoption.
- c) Promote and adoption of new technologies for horticulture crops with special focus on cold chain infrastructure for extending the shelf life of perishables;
- d) Improve productivity through:
 - i. Diversification, from traditional crops to plantations, orchards, vineyards, flowers, vegetable gardens, medicinal plants and bamboo plantation.
 - ii. Extension of appropriate technology to farmers for high-tech horticulture including protected cultivation and precision farming.
 - iii. Increase of acreage of orchards and horticulture crops, particularly in States where total area under horticulture is less than 50% of agricultural area

- e) Improve post harvest management, processing for value addition and marketing infrastructure.
- f) Adopt a coordinated approach and promote partnership, convergence and synergy among R&D, processing and marketing agencies in public as well as private sectors, at the National, Regional, State and district levels;
- g) Support capacity-building and Human Resource Development at all levels.

4. MISSION STRUCTURE

(I) National Level

a) General Council

4.1 The Mission will have a General Council (GC) at National level under Chairmanship of Union Agriculture Minister. The composition of GC will be as follows:

Minister of Agriculture	:	Chairman
Ministers of Commerce, Food Processing Industries, Rural Development, Development of North Eastern Region (DONER), NITI Aayog, Member (Agriculture)	:	Members
Secretary, Agriculture & FW	:	Member
Director General, ICAR	:	Member
Additional Secretary (I/C of Horticulture, DA& FW)	:	Member
Managing Director, NHB	:	Member
Chairman, CDB	:	Member
Horticulture Commissioner	:	Member
Growers' representatives & Experts from Horticulture Sector, Federation of Indian Chambers of Commerce & Industry (FICCI). (7Members)	:	Members
Joint Secretary, DA & FW & Mission Director	:	Member Secretary

4.2 GC will be the apex body giving overall direction and guidance to Mission, monitor and review its progress and performance, without affecting the pattern of assistance as approved by CCEA. GC will be empowered to lay down and amend operational guidelines including cost norms as well as modification of operational nature and addition or deletion of any crop or component. GC will meet at least once a year. Tenure of non-official members of GC will be for three years from the date of nomination.

b) Executive Committee:

4.3 Executive Committee (EC), headed by Secretary, Department of Agriculture & FW (DA&FW), will oversee activities of the Mission. The EC will comprise of the following:

Secretary (A& FW)	: Chairperson
Secretaries - Ministry/Department of AYUSH, Food Processing Industries, Rural Development, M/o DONER, Bio-Technology, Cooperation	: Members
Principal Adviser (Agriculture), NITI Aayog	: Members
Institutions – Director General, ICAR; Director General ICFRE, Director General, CSIR; Additional Secretary (In charge of Horticulture, DA&FW); Additional Secretary & FA, DA&FW; Joint Secretary (Plant Protection). Horticulture Commissioner; Adviser (Horticulture Statistics); Chairman, APEDA; Managing Director, NHB; CEO CDB; Agriculture Marketing Advisor, DA&FW; COO (NCCD)	: Members
Three Experts (Production, Post Harvest Management and Marketing)	: Members
Joint Secretary, DA&FW & Mission Director	: Member Secretary

4.4 EC is empowered to approve projects on the basis of approved subsidy norms. EC is also empowered to approve special interventions for tackling emergent/unforeseen requirements. EC can also constitute Empowered Monitoring Committee (EMC) at Central Level and delegate powers to EMC for approving projects of CoEs and NLAs in accordance with approved cost norms and pattern of assistance. EC will also consist of three non-official experts in the field of Production, Post Harvest Management and Marketing. Tenure of the experts will be for three years from the date of nomination.

4.5 Horticulture Division in DA&FW will provide the necessary support to GC/EC/EMC and will administer NHM, HMNEH, NBM and CIH. Managing Director (NHB) will oversee the programmes of NHB while CEO, CDB will oversee the CDB programmes. The existing structure of the Boards and Missions will be maintained to provide general directions for these programmes. EC/EMC will ensure smooth functional linkages among different agencies and meet at least once a year or as required.

(II) State Level**A) State Level Sanctioning Committee**

4.6 For NHM, HMNEH and NBM, State Level Sanctioning Committee (SLSC) under Chairmanship of Chief Secretary having representatives from other concerned Departments of State Government including Forests, the State Agricultural Universities (SAU), Institutes under Indian Council of Agricultural Research (ICAR), FPOs, etc will approve the Annual Action Plan of MIDH, and oversee the implementation of programmes of the respective States.

B) State Level Executive Committee (SLEC) at State Level:

A State Level Executive Committee (SLEC) would be constituted at the State level under the Chairmanship of Principal Secretary (Horticulture)/APC/ACS having representatives' from Ministry of Agriculture (GoI) NCCD, Department of State agriculture, Finance, banking sector and other relevant departments. State Mission Director NHM, HMNEH and NBM will be Member Secretary of the concerned SLEC. At operational level, State Governments will have freedom to establish State Horticulture Mission (SHM) and/or State Bamboo Development Authority (SBDA) as a suitable agency for implementing Mission programmes at State and District levels. Panchayati Raj Institutions (PRI) existing in the State will be involved in the implementation of the programme.

4.7 State and District level structures will be established keeping in view the specific requirement of the States. Formation of Farmer Groups/ Cooperatives of farmers and their tie-up with Financial Institutions and Market Aggregators would be encouraged.

4.8 State level agency will have the following functions:

- a) Prepare Strategic/Perspective and annual State Level Action Plan in consonance with Mission's goals and objectives and in close co-ordination with Technical Support Group, SAUs and ICAR institutes and oversee its implementation;
- b) The State Missions will follow a cluster based approach for promotion of horticulture and for focused intervention-economies of scale. States may go for identification of crop specific clusters and preferred/required relaxations in the provisions for the same.

- c) States must develop a fair transparent system of seeking application from beneficiaries and providing benefit/assistance under the program.
- d) Organize base-line survey and feasibility studies for distinct areas/clusters (District, sub-District, or a group of Districts) to determine status of horticultural/bamboo production, potential and demand, and tailor assistance accordingly. Similar studies would also be undertaken for other components of the programme;
- e) Receive funds from Central Government, State Government and other sources for carrying on Mission's activities, maintain proper accounts thereof and submit utilization certificate to concerned agencies. State will also maintain SNA account as per instructions of GoI in order to ensure transparency in use of funds released by Center as well as by State under the programme;
- f) Release funds to implementing organizations and oversee, monitor & review implementation of the programmes;
- g) Assist and oversee implementation of schematic activities in the States through farmers, societies, Self-Help Groups, State institutions and other similar entities;
- h) Organize workshops, seminars and training programmes for all interest groups/associations at State level, with the help of SAUs, ICAR Institutes, KVKs and other institutions having technical expertise;
- i) Operationalize Information Communication Technology (ICT) enabled Management Information System (MIS) up to grass root level through MIDH SURAKSHA PORTAL. Each State will develop and host its own web site.
- j) State will ensure updation of progress in the MIS Portal of MIDHSURAKSHA Portal and use of this Portal for implementation of MIDH scheme in the State. States having own MIS portal must integrate their portal with MIDHSURAKSHA Portal within 6 months and furnish monthly progress reports to DAC and also upload the same on MIDH SURAKSHA web portal by 5th of each month.

(III) District Level

At District level, District Mission Committee (DMC) will be responsible for carrying forward the objectives of the Mission for project formulation, implementation and monitoring. The DMC may be headed by the District Collector/District Magistrate/Chief Executive Officer (CEO) of Zila Parishad/CEO of District Rural Development Agency (DRDA)/CEO of Forest Development Agencies (FDA)/ District Development Officer, having as members, representatives from concerned line

Departments, Marketing Boards, local banks, Self Help Groups and other Non-Government organizations. Identification of Horticulture zone or cluster and development of online transparent system for beneficiary selection and digitization.

(IV) Panchayati Raj Institutions

4.9 District Planning Committee and Panchayati Raj Institutions (PRI) will be involved in implementing the programme commensurate with their expertise and available infrastructure. They will have a role in implementation of MIDH with regard to:-

- a) Identification of crops/species and beneficiaries in consultation with District Panchyats.
- b) Training, Extension and Awareness creation through Panchayats and Gram Sabhas (GS).
- c) Organize PRI and GS meetings and giving feed back to the concerned officials with regard to implementation of MIDH.

4.10 Activity mapping with regard to devolution of Funds, Functions and Functionaries is given at **Annexure I**

(V) Technical Support Group (TSG)

4.11 The Mission will have a strong technical support component composed of domain experts for implementing activities of NHM, HMNEH and NBM. The TSG will be operated through NHB. For post harvest management and cold chain projects across States, technical support will be provided by NCCD. Service providers could also be engaged for providing technical services in accordance with Terms of Reference laid for the purpose and approved by the Chairman, EC. Horticulture Commissioner/DDG (Hort.), DA&FW will advise the TSGs on all issues relating to R&D planting material, area expansion, rejuvenation, canopy management, INM/IPM and organic farming. TSG would comprise personnel at different levels, who will provide technical services and their honorarium will commensurate with their qualifications and experience. Fresh graduates/Post Graduates having knowledge in horticulture, refrigeration, computer professionals, Agribusiness graduates etc. and young professionals could also be a part of TSG.

4.12 TSG will have the following role and functions:

- a) TSG will provide technical support to the Mission for horticulture components.
- b) TSG will help in developing commodity/crop wise cluster map and potential areas in coordination with ICAR/NHB.
- c) TSG will undertake visits to States and projects and provide guidance and ensuring monitoring of the projects.
- d) Conduct studies on different aspects of horticulture/bamboo in all regions.
- e) Document and disseminate case studies of success stories.
- f) Assist States in capacity building programmes.
- g) Provide monthly feed-back reports and any other responsibility assigned

4.13 State Missions can also set up State level TSG on the pattern of national level TSG for project formulation, appraisal and concurrent monitoring. State Missions will have freedom to hire consultants for providing technical support at State as well as District level and for this purpose, funds will be provided from States' TSG component. For NBM, zone wise Bamboo Technical Support Groups (BTSG) are to be formed. These BTSGs will have to submit their Annual Action Plans to NBM Cell. Broad function of BTSGs will be same as of TSGs. The BTSG will be housed at the National/Regional level institutions located in different regions, which will have flexible norms for recruiting professionals on contract.

4.14 Indicative composition of TSG at National, State and District level is given in **Annexure-II**.

4.15 Delegation of powers for approving projects by SLSC and Mission Director is given in **Annexure-III**.

5. PROCEDURE FOR APPROVAL AND IMPLEMENTATION

Strategy and Roadmap

5.1 Based on the strength of the sector in the State, the TSG of the State in coordination with Agriculture University/State Agriculture University/ICAR will develop a crop specific prospective plan to ensure and enable perspective planning. States will prepare the perspective/strategic plan and road map for overall development of horticulture including Bamboo in respective State, duly projecting the

targets to be achieved during the respective Finance Commission period. This will form the basis for preparing Annual Action Plan (AAP). The Strategy & Road Map formulated by States should invariably contain information on geography & climate, potential of horticulture/bamboo development, availability of land, SWOT analysis, strategy for development and plan of action proposed to be taken to achieve goals in each district of the State. The document should focus on crops having comparative advantage and natural potential for development in the State, adoption of cluster approach for production and linking with available infrastructure, or to be created, for post harvest management, processing, marketing and export. While selecting the cluster, preference should be given to those areas where natural resource base and water resources have been developed under watershed development programmes, Rashtriya Krishi Vikas Yojana (RKVY), Mahatma Gandhi National Rural Employment Guarantee Scheme (MNREGS), etc. Priority should be given for development of such crops, which are required to meet current and future demands.

In order to promote and scale-up the production of globally popular important fruits of high nutritional value and for import substitution of these crops, State should focus on promotion of these crops while formulation of Annual Action Plans.

Annual Action Plan (AAP)

5.2 AAP needs to be supported with data/write up on outcome of past interventions covering the details of area expansion (variety/species introduced, increase in productivity achieved and number of clusters created), water resource development as per felt need of the State (amount of irrigation potential created, whether linked with micro irrigation, maintenance etc), INM/IPM (including requisite infrastructure created and how these are being utilized for benefit of farmers) and organic farming. Area expansion should be determined based on availability of planting material and a seed/planting material sub-plan shall be prepared separately as part of AAP.

5.3 Ministry of Agriculture & FW will communicate the tentative outlay for the year to each State / NLA, which in turn will indicate sector-wise/district-wise allocation. Agencies at District level will prepare Annual Action Plan (AAP) keeping in view Mission and local priority/potential and submit the plan to State Horticulture/Bamboo Mission upto 125% of the tentative allocation within the allocated sum. The States may engage TSG/Consultancy services for preparation of Perspective/Strategic/Annual Action Plans. State Horticulture/ Bamboo Mission in

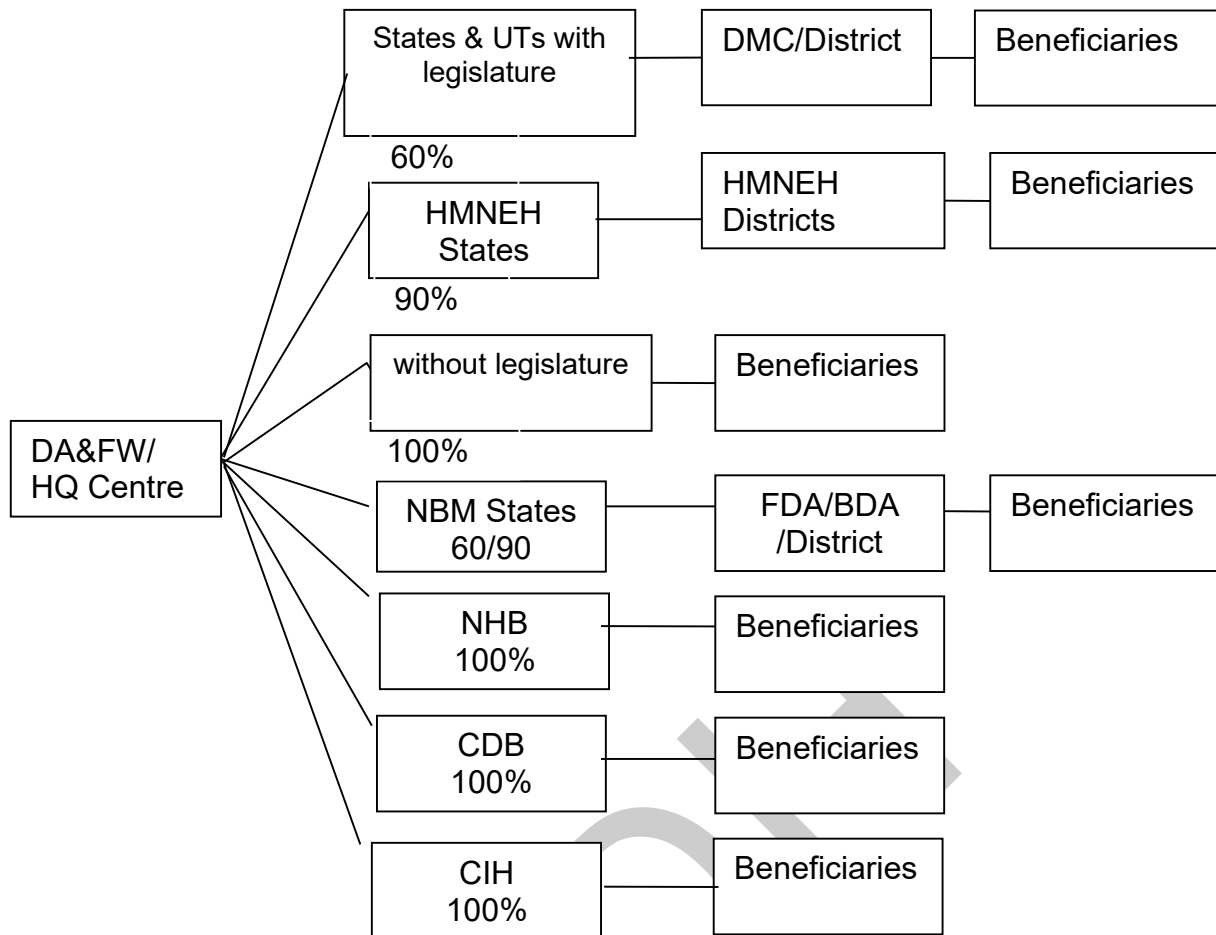
turn will prepare a consolidated proposal for State as a whole, get it vetted by the State Level Sanctioning Committee (SLSC) and furnish the same, including copy in electronic format, to Ministry of Agriculture (MoA) for consideration at the level of Secretary in the Ministry of Agriculture & FW. The Annual Action Plan (AAP) shall essentially be a part of Krishonnati Yojana (KY) Annual Action Plan and should ensure necessary convergence with other schemes of GoI. All issues relating to horticultural/Bamboo development, covering production, post harvest management and marketing will be covered by SHMs/SBDAs. Formats for submission of Annual Action Plan to DA&FW are specified in **Annexure IV (a) & (b)**.

5.4 While finalizing the AAPs, due attention will be paid for earmarking specific targets for Scheduled Caste, Scheduled Tribe, women beneficiaries and beneficiaries of vibrant villages. As an inbuilt provision under MIDH scheme, higher rates of subsidy have been envisaged for taking up activities like creation of infrastructure for post-harvest management and marketing of horticulture produce along with area expansion by beneficiaries in the **North Eastern & Himalayan States, TSP areas, Vibrant villages, Hilly and Scheduled areas, Andaman & Nicobar and Lakshadweep Islands**.

5.5 In order to strengthen/promotion of Farmer Interest Groups (FIG), Farmer Producer Organizations (FPOs), Self Help Groups (SHGs) and Cooperatives, due attention has to be paid for allocation of targets to these groups while finalization of Annual Action Plan. These groups/organizations may also be eligible for availing assistance under various components of the scheme.

6. FUND FLOW MECHANISM

6.1 Flow of funds and the utilization by the Implementing Agencies / SHMs / SBDA/ NLAs / PRIs etc from Government of India and utilization of funds shall be governed by extant financial norms. Funds will be released to the Implementing Agencies i.e. State Governments, UTs, NLAs etc. under MIDH as per the extant financial rules and instructions issued by Ministry of Finance from time to time. Implementing Agencies will make arrangements for ensuring transfer of funds to beneficiaries through electronic transfer, preferably to their respective bank accounts through DBT. Flow chart for release of funds under MIDH is given below:



6.2 Implementing agencies would be required to undertake activities within the funds released by the GOI and corresponding State share in respect of NHM/HMNEH/NBM. The flow of funds has to be mapped on the MIDH SURAKSHA and the transfer of the funds should be in all time captured on MIDH SURAKSHA. No claims of pending liabilities relating to expenditure over and above released funds will be entertained by DA&FW.

7. MISSION INTERVENTIONS

7.1 The Mission will be demand and need based in each segment. Technology will play an important role in different interventions. Technologies such as Information Communication Technology (ICT), Remote Sensing and Geographic Information System will be widely used for planning and monitoring purposes including identification of sites for creating infrastructure facilities for post harvest management, markets and production forecasts.

7.2 The interventions envisaged for achieving desired goals would be varied and regionally differentiated with focus on potential crops to be developed in clusters by

deploying modern and hi-tech interventions, duly ensuring backward and forward linkages. Revised cost norms and pattern of assistance, as given in **Annexure-V to VIII**, will be adopted. Detailed guidelines in respect of NHB and CDB and, including modalities of approval of projects will be issued separately for effective implementation of these schemes.

Key Elements of MIDH
<ul style="list-style-type: none"> • Base line survey • Involvement of PRI • Area based Annual and Perspective Plans • Applied Research with focus on Region (HMNEH) and crop Demand driven production based on cluster approach • Availability of quality seeds and planting material • Technology driven programmes to improve productivity and quality, e.g. <ul style="list-style-type: none"> ○ Introduction of improved varieties. ○ Rejuvenation with improved cultivars. ○ High Density Plantations. ○ Bee-keeping for crop pollination in horticulture Capacity building of farmers and personnel ○ Mechanization
<ul style="list-style-type: none"> • Post Harvest Management and cold chain • Marketing infrastructure development • Support to FIGs/FPCs/FPOs/SHGs and other farmer aggregates Self Help Groups (SHGs) Data base generation, compilation and analysis • Technical Support by NLAs

Production and Productivity Improvement

7.3 The Mission will focus primarily on increasing both production and productivity through adoption of improved and appropriate technologies for ensuring quality, including genetic upgradation of all horticultural crops and addressing challenges of climate change. Special emphasis will also be given for adoption of area based cluster approach towards developing regionally differentiated crops, which are agro-climatically most suitable for the State/region. creating backward linkages for farmer group/FPO/FPCs Availability of good quality planting material will receive focused attention. Efforts will also be made to establish and upgrade nurseries and TC Units. This will be supplemented through plantation development programmes through addition of new areas under improved varieties to meet market demand. ***Planting material of seed origin for fruit crops which can be vegetatively propagated will not qualify for subsidy assistance.***

7.4 Clean Plant Program: To boost the availability of quality planting material in the country and to become self-reliant in supply of disease free quality planting material a “Clean Plant Program” to be implemented with Asian Development Bank (ADB) funding support. The CPP scheme will develop Clean Plant Centres for commercially important Fruit Crops across the country in different agro-climatic zones. The Centers will produce, maintain and distribute pathogen-free Quality Planting Material of identified crops by applying therapeutics and State of Art technology. This will give a fillip to horticulture crops production by providing disease free planting material and protect ecosystem through proactive virus and disease control measures. The CPP initiative shall bring in Certification and Traceability in the planting material supply chain and make country self-sustainable in production and supply of Quality Planting Material of high value Horticulture plants. This will be a Central Sector Programme and will be implemented through NHB.

7.5 Horticulture Cluster Development Programme: To address the challenges and enhance the global competitiveness of the Indian horticulture sector, Horticulture Cluster Development Programme is to be implemented under MIDH wherein horticulture clusters have to be developed under MIDH scheme. HCDP also aim to develop large scale clusters for vegetable production closer to major consumption centers which will reduce price volatility and will ensure supply of vegetable throughout the year. This will be a Central Sector Programme and will be implemented through NHB. This programme is designed to leverage the geographical specialization of horticulture clusters and promote integrated and market-led development of 3 verticals:

- o pre-production and production,
- o post-harvest management and value addition
- o logistics, branding and marketing activities.

7.6 Production & Distribution of Planting Material (in project mode): Production and distribution of good quality seeds and planting material will receive top priority. States will have a network of nurseries for producing planting material, which were established through Central or State assistance. To meet the requirement of planting material (for bringing additional area under improved varieties of horticultural crops and for rejuvenation programme for old/senile plantations), assistance will be provided for setting up new large, small and plug type hi-tech nurseries under the Public as well as Private sector as per details in annexure V.

The support will mainly include the following components as per the requirement of the project:

- (i) Proper fencing.
- (ii) Scion / Mother block of improved varieties.
- (iii) Root stock block (Rhizome bank in case of bamboo).
- (iv) Irrigation facilities
- (v) Hi-tech green-house having insect proof netting on sides and fogging and misting systems (only for plug type hi-tech nursery).
- (vi) Hardening/maintenance in insect proof net house with light screening properties and sprinkler irrigation system.
- (vii) Pump house to provide sufficient irrigation to the plants and water storage tank to meet at least 2 days requirement.
- (viii) Soil solarization - steam sterilization system with boilers.

7.7 Nurseries will also be regulated under legislation in force relating to seeds and planting material. Efforts will be made to establish nurseries at production cluster itself.

7.8 Nurseries will be encouraged to go in for accreditation. Planting material for MIDH will be mandatorily procured only from NHB accredited nurseries. The AAP would have area expansion target only upto the level of availability of good quality planting material from accredited nurseries. SHM will also ensure that all nurseries set up under MIDH are accredited within period of twelve months through National Horticulture Board, Coconut Development Board (for coconut).

7.9 Nurseries in the Public and Private sector can avail assistance to upgrade nursery infrastructure to meet accreditation norms. Moreover, NHB will take up projects for setting up mother block and root stock nursery, as well as nursery accreditation with 100% assistance to public sector as per norms given in **Annexure VI**.

7.10 CDB will arrange production and distribution of quality planting material for coconut through Demonstration cum seed production forms, Regional Nurseries and Nucleus coconut seed form, as per norms given in **Annexure VII**.

7.11 The support to Bamboo nurseries will be provided as per norms at **Annexure-VIII**.

Tissue Culture Units:

7.12 New Tissue Culture (TC) units will be established and assistance will be provided for rehabilitation/ strengthening of existing TC Units. New TC units will produce 25lakh plants/year of the mandated crop for which protocols are available for commercial use. In the event of production of lesser number of plants, cost of lab will be reduced on a pro rata basis (subject to its viability). New TC unit projects for public sector will be sanctioned to only those agencies, which have required technical manpower. No recurring expenditure for the manpower and contingencies will be borne under MIDH. Each TC unit would get itself accredited as per standards and norms of Department of Bio Technology within eighteen months from the date of receiving funds failing which the assistance provided under the scheme, will have to be returned.

Vegetable Seed Production

7.13 Production of 'disease-free vegetable seedlings' will be encouraged for hybrid cultivars. Wherever necessary, 'plug technology' and environment control for germination, growth and hardening of vegetable seedlings may be introduced. The infrastructure facilities will include a green house with maximum area of 10,000 sq. meter, including hardening facilities, designed for tropical conditions, with insect netting on sides and rolling poly sheets. The plants will be propagated in plastic trays having small plugs of varying sizes for different crops. Sprinkler irrigation system will be installed. The infrastructure for media sterilization i.e. steam boiler, holding bins, etc will also be provided. The nurseries will ensure keeping the plug type seedling trays on benches and not the ground to avoid disease and root damage.

Import of Planting Material

7.14 With a view to procuring best quality planting material of latest varieties of horticultural crops, a component of providing assistance for meeting cost of planting material imported from abroad has been included. Import will only be allowed if we have appropriate PEQ facility developed and maintained.

7.15 PEQ facility- In order to improve prosperity of horticulture growers by increasing the productivity of orchards through supply of genuine and quality planting material, Post Entry Quarantine (PEQ) facilities may be created for high value imported horticulture crops. This will help in increasing the horticulture production

and productivity. These facilities will be created by ICAR Institutes with MIDH funding.

7.16 The State Horticulture Mission/State Bamboo Development Agency will ensure timely availability of good quality seeds and planting material to farmers.

IMPORTANT POINTS WITH REGARD TO PLANTING MATERIAL

- i. Make a variety wise assessment of requirement and availability.
- ii. Nurseries to have mother blocks and required infrastructure.
- iii. Planting material should be checked and certified for its quality.
- iv. Disease-free material supplied to farmers through accredited nurseries.
- v. Nurseries established under MIDH should be accredited mandatorily within one year through NHB.
- vi. Use planting material of seedling origin for perennial fruit crops is not supported.
- vii. Planting material over long distances is not encouraged.

Seed Infrastructure

7.17 To facilitate proper handling, storage and packaging of seeds, assistance will be provided for creating infrastructure like drying platforms, storage bins, packaging unit and related equipments.

Establishment of New Gardens

7.18 The Mission envisages coverage of area under improved varieties of horticultural crops. Norms for area expansion of fruits, vegetables, plantation crops and other crops including flowers, spices and aromatic plants are also given in **Annexure-V**. Area expansion will be done in conjunction with Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) under which cost on labour component of work such as digging, fencing etc could be met with. Details of assistance for bringing new areas by NBM, CDB scheme are given in **Annexure-VI** and **Annexure VIII** respectively. NHB will take up commercial horticulture development in open field condition on project mode as per norms given in **Annexure VII**. Cost of raising new plantations will, however, vary from crop to crop which will be taken into consideration while providing assistance to the beneficiary.

IMPORTANT POINTS WITH REGARD TO NEW GARDENS

- i. Focus on high yielding varieties for productivity enhancement.
- ii. Planting material to be sourced from NHB accredited nurseries.
- iii. New areas to be taken up in identified clusters of mandated crop.
- iv. Micro Irrigation to be integrated for better survival.
- v. Use of hydrogel to reduce moisture stress and improve productivity.
- vi. Payment to be released to the beneficiary as per norms prescribed.

Mushroom Production

7.19 In case of mushroom, assistance will be provided for setting up of individual mushroom production, spawn production and compost making units, as per the details given in **Annexure V. Details of small scale mushroom production unit are also available in Annexure V.**

Rejuvenation / Replacement of senile plantations / canopy management

7.20 Rejuvenation programme will address orchards and plantations which have low productivity. It will be implemented through individual farmers, farmers' cooperatives, Self-Help Groups, and commodity organizations. Assistance will be available only in respect of rejuvenating/replanting senile and unproductive plantations through proven technologies. However, assistance will depend on the nature and requirement of particular crop. Canopy management will address maintenance of tree architecture as a means for productivity enhancement, particularly for fruit crops and high density plantations. In case of seedling origin, uneconomical orchards will be considered for replanting with improved varieties.

7.21 In the case of bamboo, improvement of existing stock in non-forest areas will be taken up as per norms given in **Annexure VIII.**

7.22 Similarly, in the case of coconut, replanting and rejuvenation of old coconut gardens will be taken up as per norms given in **Annexure VII.**

Creation of Water Sources

7.23 Under the Mission, assistance will be provided for creating water sources through construction of community tanks, farm ponds/reservoirs with plastic / RCC lining to ensure life saving irrigation to horticulture crops (**Annexure V and Annexure VI**). This will be in conjunction with MNREGS and wherever possible adequate convergence should be ensured. These water bodies may be linked with Micro Irrigation facility for judicious use of water. Maintenance of the water source will be the responsibility of the community.

7.24 Assistance would also be provided for creating water source through construction of farm ponds/tube wells / dug wells for individuals. For smaller size of

the ponds/ tube wells / dug wells, cost will be admissible on pro rata basis depending upon the command area. This will also be in conjunction with MGNREGS. However, for non MGNREGS beneficiaries, assistance will be provided including the cost of plastic / RCC lining. Lining material should conform to BIS standards. Maintenance of the asset will be the responsibility of beneficiary.

Protected Cultivation

7.25 Activities like construction of green houses, shade net house, plastic mulching, rain shelters, plastic tunnels and anti bird/ hail nets would be promoted under the Mission (**Annexure V**). Provision has been made for selecting a variety of construction material for green houses and shade net houses. The cost is inclusive of irrigation systems. Preference will be given to use locally available material to minimize cost of construction of such structures. However, for availing/ subsidy assistance, all material/ technologies should conform to BIS standards. New components like Hydroponics and Aeroponics, Soil Replacement, Sensor Based Automation System for fertigation, Solar Fencing, Weed Mat, etc will also be promoted and under the Mission (Annexure V).

Precision Farming Development and Extension through PFDCs

7.26 Existing Precision Farming Development Centres (PFDC) will be involved to develop regionally differentiated technologies for their validation and dissemination. PFDCs are anchored in SAUs, ICAR Institutes and IIT, Kharagpur. On account of their experience in conducting applied research on precision application, they have expertise in terms of manpower and equipment. PFDCs will be equipped with necessary hardware and software needed for generating information on precision farming techniques on the farmers' field. The ultimate goal is to provide requisite information to farmers so that they are in a position to apply necessary inputs. Other organisations like ICAR Institutes and Institutes in Private sector will also be involved in technology development. For this purpose, financial assistance would be provided to PFDCs from MIDH on project basis through the SHM. The proposal of PFDCs will be approved after the technical vetting by Horticulture Division. PFDCs will take up the activities such as trials, demonstrations for precision farming technologies like hydroponics and aeroponics for horticulture crops, survey to ascertain field adoption of the technology, training of farmers/officials, display centre, publicity etc. PFDCs will also develop appropriate model costs in consultation with Horticulture

Commissioner by conducting work study in different geographical locations and submit them to the Ministry for adoption.

Promotion of Integrated Nutrient Management (INM) and Integrated Pest Management (IPM)

7.27 Assistance for Integrated Nutrient Management (INM) and Integrated Pest Management (IPM) measures will be provided for horticultural crops as well as bamboo, as indicated in **Annexure-V** and **Annexure-VI** respectively. Assistance will also be available for developing facilities like Plant Health Clinics both under Public and Private sector.

7.28 Under INM component, subsidy can be availed for use of liquid bio fertilizers of N, P and K such as Rhizobium/Azospirillum/Azotobactor, Phosphate Solubilising Bacteria (PSB) and Potash Mobilizing Bacteria (KMB), to be applied in combination, in demonstration and other programmes.

Organic Farming

7.29 Organic farming in horticulture will be promoted to harness environmental and economic benefits by way of adoption of organic farming techniques along with its certification.

7.30 For adopting organic farming for perennial and non perennial fruit crops, vegetables, aromatic plants, spices etc., additional assistance will be given as per PKVY norms over and above the area expansion programme for a maximum area of 4 ha per beneficiary, spread over a period of three years. For organic cultivation of vegetables, assistance will also be given as per PKVY norms. Assistance will be used for generating on-farm inputs. Specification and design parameters of Agro Textiles - HDPE woven beds for vermiculture will conform to BIS standards (IS 15907:2010). Organic certification will be guided by service providers and certification agencies accredited by authorized agencies (APEDA/NCONF).

IMPORTANT POINTS WITH REGARD TO ORGANIC FARMING

- i. Only take up such crops which command a premium.
- ii. Ensure market linkages for the organic produce
- iii. Organic certification by accredited agencies to be ensured.
- iv. Don't take up organic farming in isolated patches.

Good Agriculture Practices (GAP)/Bharat GAP

7.31 GAP certification has been introduced to encourage farmers to adopt good agricultural practices in line with global GAP, so that farmers are able to get better price for their produce in domestic as well as international market. Certification agencies to be involved for this will be as per list approved by authorized agencies (APEDA/NCONF).

7.32 In addition, a simplified system of GAP certification system focusing on product quality, produce safety, food safety and hygiene, workers safety and traceability has been identified in this Department and accordingly, Department of Agriculture and Farmers Welfare (DA&FW) has launched Bharat GAP Certification System with National Horticulture Board (NHB) as the nodal Implementing Agency. States may encourage farmers to adopt the newly launched program.

Centre of Excellence for Horticulture

7.33 Centres of Excellence may be established for different horticultural produces which will serve as demonstration and training centres as well as source of elite planting material and vegetable seedlings under protected cultivation.

Human Resource Development (HRD) in Horticulture

7.34 Under HRD programme, training of farmers, entrepreneurs, field level workers and officers will be taken up. Programme for providing appropriate training to farmers for adoption of high yielding varieties of crops and farming system will be taken up at State level and outside the State. Programme for training of officials concerned with implementation field level workers who will in turn train/guide farmers will also be taken up (**Annexure V & Annexure VI**).

7.35 Assistance for organizing training courses for Supervisors, Entrepreneurs, Gardeners and Field Functionaries will be continued during XV Finance Commission Period.

7.36 Training programme for Supervisors, Gardeners and Agri/Horti Entrepreneurs will be available as per approved courses of Training Institutes/Agriculture Skill Council of India (ASCI) for Horticulture Sector. The Training programmes will be organised through ASCI or Training Institutes like selected State Agricultural Universities (SAU),

ICAR Institutes, Deemed Universities/Private Universities recognized by UGC having faculty in horticulture, Krishi Vigyan Kendras. Departmental staff will be trained under various ongoing training programmes. Training expenses will be met by the State Horticulture Mission.

7.37 Minimum qualification for Supervisory & Agri/Horti Entrepreneurs training programme would be Higher Secondary and for Gardeners it would be Class-VIII (Middle) standard.

7.38 Institutions identified for training should have minimum infrastructure facilities including class rooms, staff, hostel facilities etc.

7.39 The courses will be of one year duration for Supervisors and of six months for Gardeners and of three months for Entrepreneurs. In order to attract the candidates and more importantly retain them and prevent their drop out, a monthly stipend will be provided in form of boarding & lodging charges. These courses will be residential. At the end of the training, Supervisors will be awarded a Diploma in horticulture, while Gardeners and Entrepreneurs will be awarded a Certificate of training in horticulture. At least 25 Supervisors, 50 Gardeners and 25 Entrepreneurs will be trained in each participating institution annually.

7.40 In case States wish to organize specialized training courses on horticulture related subjects, assistance will be provided for the same to concerned Institutes directly, based on recommendation of concerned State (s). Such training would generally be of short duration of 7 - 10 days for 20 to 25 participants.

7.41 Trainers, who are required to train others, can be deputed abroad for training, for which assistance would be made available for meeting the travel cost and course fee. Concerned State Departments of Horticulture/Agriculture/SHM function as nodal agency for this purpose. Funds will be made available to SHMs for meeting expenses of candidates involved in implementation of Mission programmes based on their specific proposal. The cost norms of HRD programmes are applicable as per Annexure V.

Pollination Support through Bee-keeping

In order to maximize agricultural production, honey-bee can be used as an important input. The responsibility of coordinating the bee-keeping development programme in

State will be vested in the identified State Designated Agency (SDA) or any institution/society having capability.

7.43 Assistance will be available for activities on development of nucleus stock of honey bees, bee breeding, distribution of honey bee colonies hives and bee keeping equipments (**Annexure V**).

Horticulture Mechanization

7.44 Horticulture mechanization is aimed to improve farm efficiency and reduce drudgery of farm work force. Assistance in this regard will be provided for activities such as procurement of power operated machines & tools, besides import of new machines (**Annexure V**). Assistance for horticulture mechanization will also be available to such , farmer groups, Self Help Groups, women farmer groups having at least 10 members, who are engaged in cultivation of horticultural crops provided balance 60% of the cost of machines and tools is borne by such groups. SHM will enter in to MoU with such association/groups to ensure proper upkeep, running and maintenance of the machines and tools.

Technology Dissemination through demonstrations/ Front line demonstration

7.45 Latest technologies will be promoted on crop specific cultivation, use of IPM/INM, protected cultivation, organic farming through farmer participatory demonstration in a compact area of one ha, which will be organized at strategic locations in farmer's field for which assistance will be limited to 75% of cost. For green house cultivation, area will be limited to 500 sq. meter. Farms in public sector, ICAR, SAUs, Deemed Universities having faculty in horticulture, could be sites for Front Line Demonstrations, for which 100% assistance will be provided, and maximum assistance will not exceed Rs. 25 lakh per project.

7.46 Demonstration on bamboo will be taken up as per norms indicated in **Annexure VIII** and on coconut as per norms given in **Annexure VII**.

Integrated Post Harvest Management

7.47 Under post-harvest management, including that for Medicinal plants, activities like handling, grading, pre-conditioning, packaging, transient storage, transportation, distribution, curing and ripening and where possible long term storage can be taken

up. Existing schemes of the Directorate of Marketing and Inspection (DMI), National Cooperative Development Corporation (NCDC), Deptt. of AYUSH and MoFPI will be leveraged to the extent possible. MIDH would include projects relating to establishment of pre-cooling units, 'on-farm' pack houses, mobile pre-cooling units, staging cold rooms, cold storage units with and without controlled atmosphere capability, integrated cold chain system, supply of refrigerated vans, refrigerated containers, primary/mobile processing units, ripening chambers, , preservation units, onion storage units, Small scale single product grading and packing line, Solar Crop Dryer cum Space Heating System and Integrated Supply Chain Project. These projects will be entrepreneur driven and provided credit linked back-ended subsidy. PSUs/Government agencies/ Cooperatives// Farmers' groups/ FPOs/SHGs/ etc. recognized/registered by the DMCs, having at least 25 members, will also be entitled to avail assistance for such activities. They may avail back ended subsidy without credit link, subject to condition that they are able to meet their share of the project cost.

Cold Chain Infrastructure

7.48 Assistance for setting up of new cold storage infrastructure will be available only to multiple chamber cold storage units with technologies which are energy efficient and approved by Govt. of India. The infrastructure may comprise of the components like insulation 60 mm to 200 mm with other requisite components like insulated panels, floor insulation, insulated doors and Cooling System and Refrigeration Technology / Firefighting/ Electrical/building automation. Cold storage with PUF panel insulation will be given preference.

Cold storages (Long term storage and distribution hubs) up to 5000 MT capacity will be promoted under NHM/HMNEH sub schemes (Annexure V), capacity above 5000 MT up to 10000 MT will be promoted under NHB sub scheme. (Annexure VII). In this context for cold storages- both for positive temperature application (Above 0° C) and Negative temperature application (below 0° C), 3.4 cubic meter (CUM) or 120 cubic feet (CFT) of chamber volume shall be equivalent to one MT of storage capacity. Similarly for ripening chambers 11 Cum of chamber space shall be equivalent to one MT of storage capacity for ripening chambers and 4.5Cum of space would be equivalent to one MT of storage capacity for Apple storage for Refrigerated transport, 3Cum (106 Ft) of chamber volume shall be equivalent to one MT of Storage

capacity. Assistance of Pre-cooling will be linked to pack house and cold room staging. Frozen Chambers (short term and long term), 3.4 cubic meter (CUM) or 120 cubic feet (CFT) of chamber volume shall be equivalent to one MT of storage capacity, (Range -15deg c to -45 deg c). (Detailed technical specifications of all Cold Storage components are available in NCCD Guidelines).

New technologies need to be promoted under MIDH like energy efficient cooling systems and environment friendly refrigerants with inverter technology for walk in standalone cold rooms, Freezers, pack house cold rooms, pre-coolers, blast coolers and blast freezers etc and advanced cooling system for bigger cold storages with high efficiency evaporators, unit coolers, Electronic expansion valves, Humidity Sensors, Controllers and Display unit , Temperature Sensors, controllers, and Display, Dry firefighting equipment like cylinders and water based Fire Hydrant systems as per regulations, Datta logging and Automation through Microprocessors for efficient BMS, Solar Panels, DG set, transformers, Electrical – Electronic panels for distribution of electricity to refrigeration units, pumps, condenser fans, cooling towers, etc fitted and controlled through microprocessors and HMIs for automation, data monitoring, energy efficiency, ease of serviceability and efficient operations along with DG set panel, Power factor panel, all types of Controls and safety equipment's necessary for refrigeration control system, Fire retardant Electrical Cables for all connections, systematic use of cable trays, emergency lighting, hooters and emergency alarms, Earthing and Lightning arrestors, fire escapes.

7.49 Extant specifications standards and protocols on cold storage and cold-chain components will be adhered to while approving cold storage projects. Revisions to technical standards and adherence protocols shall be updated by National Centre for Cold-chain Development (NCCD) as necessary when improved technologies and efficiencies are introduced/understood/approved.

7.50 Assistance can also be availed for a combination of PHM infrastructure components by a beneficiary, within the prescribed norms of individual items. Assistance will be available to individuals, Group of farmers//consumers, Partnership/ Proprietary firms, Self Help Groups (SHGs), Farmers Producer Organization (FPOs), Companies, Corporations, Cooperatives, Cooperative Marketing Federations, Local bodies, Agricultural Produce Market Committees (APMC) & Marketing Boards and State Governments.

7.51 Assistance will also be available for taking up cold chain components so as to integrate the activities into a single project, as a new component during 15th FC period.

7.52 In the case of bamboo, PHM will also include post-harvest storage and treatment facilities for bamboo, as per norms given in **Annexure VIII**.

7.53 Proposals on long distance transport solutions on project basis shall be supported under NHB sub-scheme.

Creation of Market Infrastructure

7.54 Main objectives of providing assistance under this component is to ensure availability of Retail markets/Outlets for horticulture commodities;

7.55 Assistance under the Scheme will be provided as credit linked back ended subsidy for setting up retail markets/outlets. Assistance will also be provided for setting up static / mobile vending cart/ platform with cool chamber.

7.56 Assistance will be available to individuals, Group of farmers//consumers, Partnership/ Proprietary firms, Self Help Groups (SHGs), Farmers Producer Organization (FPOs), Companies, Corporations, Cooperatives, Cooperative Marketing Federations, Local bodies, Agricultural Produce Market Committees (APMC) & Marketing Boards and State Governments.

7.57 In the case of bamboo, assistance will be extended for setting up Bamboo Bazaars, Bamboo wholesale retail markets near villages and retail outlets as per norms indicated in **Annexure VIII**.

Processing & Value Addition

7.58 Processing of horticultural produce and value addition is an important activity. Therefore, primary / minimal processing units and Food processing units will be promoted under sub schemes of MIDH as per norms indicated in **Annexure V**.

Product promotion and Market Development

7.59 The NHB will take up projects on product promotion and market development for horticulture crops. CDB will take up similar services for coconut.

Insurance schemes on coconut

7.60 The CDB will implement scheme of Kera Suraksha Insurance for the benefit of Coconut growers, as per norms given in Annexure VIII, till the time it is included in the regular Insurance scheme of the Ministry.

8. MISSION MANAGEMENT

Support to State Horticulture Mission/Implementing Agencies

8.1 For managing various activities of Mission at State & District Mission offices and implementing agencies for administrative expenses, Consultants at State & District level, project preparation, computerization, contingency etc. 2.5% of total annual expenditure will be provided to State Horticulture Missions/Implementing Agencies. State/Implementing Agencies will make provision for this in their Annual Action Plan.

8.2 Separate provision will be available for awareness generation and promotional programmes on horticulture, as per prescribed norms.

Institutional Strengthening

8.3 Mission Head Quarter at National & State level and that of NHB and CDB will be strengthened for database creation and collection, use of Information Technology, development of software and procurement of hardware, hiring of vehicle etc, for which funding will be made under TSG component of the Mission.

Horticulture Database

8.4 Provision has been made for strengthening horticulture statistical database, which will be implemented through active involvement of SHMs, Directorate of Horticulture and Institutes like Indian Agricultural Statistical Research Institute (IASRI) etc. on a project mode. Institutions like IASRI will be engaged as NLA for undertaking specific project on horticulture statistics. Horticulture Statistics division of DA&FW will be the nodal agency to lead and coordinate this activity.

Support to National Level Organizations for Infrastructure Development

8.5 The MIDH, within the ambit of sub missions, shall provide funds to National level organizations including cooperatives and FPOs for taking up innovative projects in the area of horticulture development, post-harvest management, processing and

marketing depending upon the soundness of its financial position and previous experience. Funding will be provided under the relevant components of the Mission.

Collaboration with International Agencies

8.6 Attempts will be made to collaborate with international agencies like FAO, World Bank, Asian Development Bank, JICA etc. and countries which have a developed modern horticulture sector for taking up programmes for development of horticulture. FAO has a Unilateral Trust Fund (UTF) programme under which there is provision to operate projects on mutually agreed terms and conditions. Under collaborative programme, activities to be undertaken would include import of planting material, cold chain, hiring of International Domain Experts, organize study tours and training programmes under aegis of MIDH. Funds for this purpose will be earmarked in Annual Budget of Department of Agriculture &FW, Ministry of Agriculture & FW, Government of India under TSG component of the Mission. However, for implementing project under bi-lateral agreement or multi-lateral agency undertaking, programme funds shall be utilized.

Evaluation & Other Studies

8.7 Monitoring Missions, comprising of experts will be sent to States from time to time by National Mission, which will be organized through the TSG. States will also conduct evaluation studies on project basis under State level TSG component. Mid Term and end evaluation will be conducted at the middle and end of the plan period. Concurrent evaluation will also be carried out by engaging suitable agencies in consultation with State agencies. Assistance for such studies will be on project basis. The MIDH will commission short term studies on various aspects of horticulture depending on need and emerging requirements. Such studies will also be on project basis.

9. ROLE OF NATIONAL LEVEL AGENCIES:

Under MIDH, assistance is also provided to National Level Agencies (NLAs) which are responsible for implementation of innovative projects in the field of horticulture development which includes use of advance technologies like micro irrigation, precision farming and hi-tech horticulture etc. List of NLAs alongwith details of their expertise is at **Annexure IX**.

10. NEW PROVISIONS:

- i) MIDH will be implemented in all districts in the country.
- ii) Credit linkage for projects upto Rs. 30 lakhs may be optional and subsidy would be released in two instalments in TRA/Escrow/SRF accounts based on progress after the Joint inspection report when found satisfactory.
- iii) Under the existing component of "Plantation Infrastructure Development" including Protected Cultivation, High Tech Plug Type nurseries under controlled conditions will be promoted with a focus on easy availability of quality planting material especially in vegetable crops.
- iv) Under the existing component of "Import of Planting Material", establishment of mother block and PEQ facilities will be supported and private sector participation will be allowed to augment availability of quality planting material in the country but emphasis will be on developing techniques of Tissue Culture (TC) in crop in order to substitute imports of planting material.
- v) In order to encourage private players for importing elite planting material, royalty will also be provided to private importers for importing planting material which will be finalized by the committee under the Chairmanship of Joint Secretary (Horticulture) and comprising of other members i.e. ADG (Horticulture) ICAR, representative from PPVFRA, representative from Seed division and Horticulture Commissioner (Member Secretary).
- vi) The additional crops of commercial importance like Kamalam (Dragon fruit), Datepalm, Avocado, Blueberry, Blackberry, Rambutan, Persimum, Durian, Mangosteen, Phalsa, Tamarind, Jamun, Bael, Karonda, Jackfruit, Khirni, Seabuckthorn, Garcinia, Hanuman phal (Soursop), Carobmola, Jackfruit, Makhana, Lac hosting plants, Water Chestnut (Singara), Onion, Garlic and hybrid vegetables and important identified medicinal crops (as mentioned in Annexure V) etc. will also be supported. New crops may be added with the approval of Hon'ble Minister for Agriculture and Farmers' Welfare, as and when required.
- vii) Keeping in view the development of modern technologies, Ultra Hi-density plantations of specific crops with support structure like trellis, support structure for anti hail net/ anti bird net, fruit covers, soil less cultivation including Hydroponics and Aeroponics, use of eco friendly agro-textile products for mulching, weed mats etc, flexi water storage tanks for North