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**HORTICULTURE MISSION
FOR NORTH EAST AND HIMALAYAN STATES
(HMNEH)**

**OPERATIONAL GUIDELINES
2010**



**Government of India
Ministry of Agriculture
(Department of Agriculture & Cooperation)
Krishi Bhawan, New Delhi
www.tmnehs.gov.in**

HORTICULTURE MISSION FOR NORTH EAST AND HIMALAYAN STATES (HMNEH)

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Abbreviations Used

AAP	: Annual Action Plan
APEDA	: Agriculture and Processed Food Product Export Development Authority
APMC	: Agriculture Produce Marketing Committee
CA	: Controlled Atmosphere
CEO	: Chief Executive Officer
CITH	: Central Institute for Temperate Horticulture, Srinagar
CPRI	: Central Potato Research Institute, Shimla
CSC	: Central Steering Committee
DAC	: Department of Agriculture & Cooperation
DARE	: Department of Agriculture Research & Education
DG	: Director General
DLC	: District Level Committee
DMI	: Directorate of Marketing & Inspection
DPR	: Details Project Report
DRDO	: District Rural Development Officer
FAO	: Food and Agriculture Organization
GAP	: Good Agriculture Practices
HDP	: High Density Plantation
HMNEH	: Horticulture Mission for North East and Himalayan States
HRD	: Human Resource Development
ICAR	: Indian Council of Agricultural Research
ICT	: Information Communication Technology
INM	: Integrated Nutrient Management
IPM	: Integrated Pest Management
MA	: Modified Atmosphere
MFPI	: Ministry of Food Processing Industries
MGNREGS	: Mahatma Gandhi National Rural Employment Guarantee Scheme
MIS	: Management Information System
MOA	: Ministry of Agriculture
MM	: Mini Mission (under HMNEH)
NCDC	: National Cooperative Development Corporation
NCPAH	: National Committee on Plastic Culture Applications in Horticulture
NERAMAC	: North Eastern Region Agricultural Marketing Corporation Ltd.
NGO	: Non Government Organization
NHB	: National Horticulture Board
NRC(O)	: National Research Centre for Orchids, Sikkim
PFDC	: Precision Farming Development Centre
SAU	: State Agriculture University
SFAC	: Small Farmers' Agri-Business Consortium
SHG	: Self Help Group
SLSC	: State Level Steering Committee
TC	: Tissue Culture
TSG	: Technical Support Group
UTF	: Unilateral Trust Fund
VPKAS	: Vivekananda Parvatiya Krishi Anusundhan Sansthan, Almora

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कृषि मंत्रालय
कृषि एवं सहकारिता विभाग
Government of India
Ministry of Agriculture
Department of Agriculture & Cooperation

FOREWORD

The technology Mission for North Eastern States, including Sikkim was launched during the year 2001-02. The Mission was extended to Himalayan States of Jammu & Kashmir, Uttarakhand and Himachal Pradesh during 2003-04. The Mission addressed each segment of horticulture development covering research, production & productivity improvement, post harvest management, marketing and processing through four Mini Missions. The Mission aims at holistic development of all horticulture crops in two important regions of the country. During implementation of the Mission, requirement of introduction of some additional components with the change in technology inputs was felt, and accordingly some new components such as high density plantations, seed production for vegetables, horticulture mechanization, GAP certification, Integrated controlled atmosphere chamber with pre-cooling & grading facility, etc., have been included in the Mission. The Mission has now been renamed as Horticulture Mission for North East and Himalayan States (HMNEH) along with revision of cost norms to incentivize investment and to supplement income generation for beneficiaries which are reflected in “Operational Guidelines 2010”, effective from April 1st 2010.

It is hoped that introduction of new cost norms and inclusion of other critical components in the list of admissible activities under the Mission will boost development of horticulture sector in North East and Himalayan States.

25th April, 2011
New Delhi

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Horticulture Mission for North East and Himalayan States

Operational Guidelines — 2010

1. Introduction

- 1.1 Horticulture Mission for North East and Himalayan States (HMNEH) will be implemented in accordance with guidelines described hereunder.
- 1.2 The Mission will operate in North Eastern States (Assam, Arunachal Pradesh, Manipur, Mizoram, Meghalaya, Nagaland, Sikkim and Tripura) and Himalayan States (Jammu & Kashmir, Himachal Pradesh and Uttarakhand) to promote holistic growth of horticulture sector covering fruits, vegetables, flowers, spices, root & tuber crops, cashewnut, mushroom and aromatic plants. HMNEH is a centrally sponsored scheme for which 100% assistance is provided by Government of India.

2. Mission Objectives

2.1 Objectives of Mission are:

- (i) Harness potential of Horticulture in the region by increasing production and productivity of Horticultural crops
- (ii) Maximize; economic, ecological and social benefits; through desirable diversification
- (iii) Develop additional infrastructure for production of planting material, storage and marketing of horticultural produce
- (iv) Provide skillful employment in the region.

3. Mission Strategy

3.1 To achieve above objectives, the Mission strategy will include:

- (i) Adoption of end-to-end holistic approach covering production, protection, post harvest management and marketing to ensure appropriate returns to growers/producers.
- (ii) Enhance acreage, coverage and productivity through:
 - (a) Diversification from traditional crops to plantations, orchards, vineyards, flower and vegetable gardens.
 - (b) Extension of appropriate technology to farmers for high-tech horticulture and precision farming methods.
- (iii) Improvement of post harvest management and marketing infrastructure.
- (iv) Promotion of technologies developed through R&D for improving quality of horticulture produce.
- (v) Adopt a coordinated approach and promotion of partnership, convergence and synergy among R&D and marketing agencies in public as well as private sectors, at national, regional, state and district level.

- 3.2 Promote capacity building/Human Resource Development by imparting trainings to all stakeholders on latest production technologies.
- 3.3 Diversification and increase of acreage of orchards and plantation crops to enhance its production and productivity by minimizing risk of small and marginal farmers and by addressing challenges of climate variability/change, maintaining thereby ecological balance and reduction of greenhouse gases.

4. Mission Structure

4.1 Mini Mission-I (Research)

Concentrate on technology generation as appropriate to each region/state keeping in view their specific agro-climatic and socio-economic conditions. Emphasis will be on effective transfer and dissemination of improved production technologies available in North East and Himalayan regions. This Mission will be major link for inflow of improved production systems in horticulture. ICAR in association with SAUs and other research institutes/organizations in public and private sectors having capabilities in this area, will be partners in research programmes.

4.2 Mini Mission-II (Production & Productivity Improvement)

Focus on increasing quantum and quality of horticulture produce through adoption of improved technologies, including genetic up-gradation of all horticulture crops. Special emphasis will be on adoption of a cluster approach for developing regionally differentiated crops, which are most suitable for states/regions. Availability of quality planting material is central to the development of horticulture and will receive focused attention and efforts will be made to create and upgrade necessary infrastructure. This will be supplemented with plantation development programmes through addition of new areas under improved and recommended varieties, to meet current market demand and expected future trends.

4.3 Mini Mission-III (Post Harvest Management & Marketing)

Aims to create suitable infrastructure facilities for efficient post harvest management, integrated cool chain system, primary processing/value addition and marketing of horticulture produce. Market promotional activities will include dissemination of market information to farmers, processors, traders and consumers.

4.4 Mini Mission-IV (Processing & Value addition)

Implemented by Ministry of Food Processing Industries and includes promotion and establishing of new processing units, modernization and up-gradation of existing units, market promotion of processed horticulture products by brand building, quality assurance, entrepreneurial development, etc.

5. Institutional Structure

5.1 National Level

5.1.1 Central Steering Committee (CSC)

CSC under chairmanship of Secretary (A&C), will oversee all activities of Mission and approve Action

Plan of various states under Mini Mission-II. CSC will have discretion and authority to reallocate funds earmarked for various components within Mission outlay as per needs and requirements based on feedback or evaluation. CSC is also empowered to approve special interventions for tackling emergent/unforeseen requirements but subsidy for such interventions will not be more than 50% of approved costs.

The Central Steering Committee (CSC) will comprise of following

Secretary, Agriculture & Cooperation, Govt. of India	: Chairman
Secretary, Ministry of Commerce	: Member
Secretary, DARE & DG (ICAR)	: Member
Secretary, Ministry of Food Processing Industries	: Member
Principal Advisors (Agriculture), Planning Commission	: Member
Financial Advisor, DAC	: Member
Chief Secretary/APC of concerned States	: Member
Secretary, Panchayati Raj	: Member
Managing Director, SFAC	: Member
Director, Central Institute of Horticulture	: Member
Horticulture Commissioner, DAC, Govt. of India	: Member Secretary

5.1.2 Central Sub-committee of Minimission – I (Research) will approve Action Plans of different ICAR institutions. DAC will allocate funds to nodal institutes as per approved action plans and will also review/monitor progress of projects.

Sub-committee will comprise of following:

Secretary, DARE & DG, ICAR	: Chairman
Horticulture Commissioner, DAC	: Member
Vice-Chancellors of concerned Agri. Universities	: Member
APC of concerned State	: Member
DDG, Horticulture, ICAR	: Member Secretary

5.1.3 Central Sub Committee for Mini Mission-III (Post harvest management and marketing) will approve and allocate funds for projects received from State Governments after appraisal by NHB/DMI and will review/monitor progress under these projects.

Sub-committee will comprise of following

Addl. Secy, In-charge of Horticulture, DAC	: Chairman
Managing Director, NHB	: Member
Managing Director, NERAMAC	: Member
Chairman, APEDA	: Member
Marketing Advisor, Govt. of India	: Member
Managing Director, SFAC	: Member
Joint Secretary, Marketing, DAC	: Member
APC of concerned States	: Member
Horticulture Commissioner	: Member Secretary

5.1.4 Under Mini Mission-IV (Processing & Value addition), State Governments will forward their project proposals to MFPI. These project proposals will be finalized and regulated by Steering Committee headed by Secretary, MFPI and representative of DAC (not below the rank of Additional Commissioner) will be a member of their Project Approval Committee.

5.1.5 Mission Cell at DAC Mission Cell at Headquarter will coordinate with Central Ministries/ Departments/State Govts/other agencies involved in implementation of the Mission and will be responsible for budget formulation, release of funds, obtaining approval of proposals at appropriate level and preparation of consolidated reports. It will also keep the State Governments informed through respective Chief Secretaries about overall progress of Mission, initiate policy proposals and would be responsible for secretarial work relating to Steering Committees. This Cell will function under overall supervision of Horticulture Commissioner.

5.2 State Level

5.2.1 State Level Steering Committee (SLSC): This committee shall be responsible for approving the State Annual Action Plan (AAP) and will ensure effective implementation and monitoring of Mission in the states.

SLSC shall comprise of the following

Chief Secretary of state concerned	: Chairman
APC/Secretary (Agri./Hort.)	: Member
Horticulture Commissioner	: Member
Managing Director, SFAC	: Member
Director of Research, Central/ State Agri. Institutions	: Member
Director CIH, Dimapur, Nagaland (for NE Region)	: Member
Representatives of ICAR complex	: Member
Representatives of Co-operative Societies/banks	: Member
Director, Horticulture/Agri.	: Member Secretary

5.2.2 SLSC will have following functions

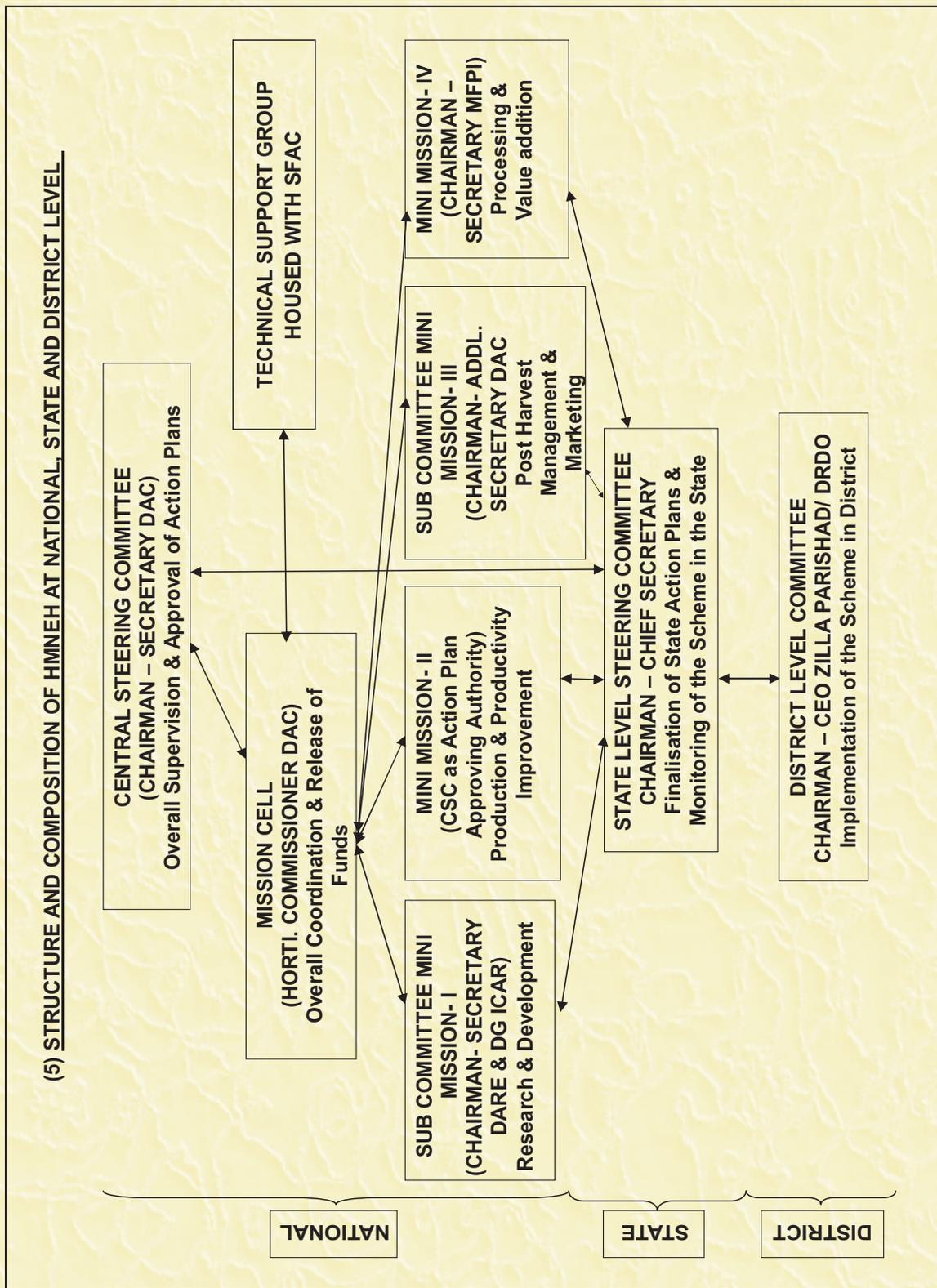
- (a) Prepare strategic/perspective and annual State Level Action Plan in consonance with Mission's objectives and in close co-ordination with Technical Support Group (TSG), SAUs and ICAR institutes and oversee implementation.
- (b) Organize base-line survey and feasibility studies in different parts (District, sub-District, or a group of Districts) to determine status of horticultural production, potential and demand, and tailor assistance accordingly. Similar studies will also be undertaken for other components like requirement of specific research inputs, marketing and storage infrastructure, etc.
- (c) SLSC would oversee, monitor & review implementation of Mission's programmes through farmers, societies, NGOs, growers associations, self-help groups, State institutions and other similar entities.
- (d) Director Horti/Agri or Secretary Horti/Agri, on behalf of SLSC will also:
 - i. Approve the release of funds received from Horticulture Mission cell of DAC through SFAC for carrying out Mission's activities, by implementing agencies, maintain proper accounts thereof and submit utilization certificate to concerned agencies.
 - ii. Assist and oversee implementation of Mission's programmes in State Organize workshops, seminars and training programmes for all interest groups/associations at State level, with help of SAUs, ICAR Institutes, KVKs and other institutions having technical expertise.
 - iii. Furnish Monthly Progress Reports (MPR) to DAC and also upload same by 5th of each month, on HMNEH web site (www.tmnehs.gov.in)
 - iv. Operationalize Information Communication Technology (ICT) enabled Management Information System (MIS) up to grass root level and if need be develop and host its own web site.

5.3 District Level

5.3.1 State Level Committee of implementing states will constitute District Level Committee (DLC). These committees will comprise of officials from Horticulture, Agriculture, Panchayatiraj institution and other line departments. Coordination will be ensured by this committee at district level. Chief Executive Officer (CEO) of Zilla Parishad/CEO of District Rural Development Agency (DRDA) will be chairman and District Horticulture Officer/District Agriculture Officer will be Member Secretary of District Level Committee.

5.4 Technical Support Group (TSG)

5.4.1 Mission will have strong technical component and domain experts will be central to management of the Mission. Technical support to Mission at National and State Levels will be provided by SFAC, which will be suitably strengthened by experts and technical personnel to advise, formulate, appraise and monitor the implementation of Mission's programmes. Technical Support Group (TSG) will be housed with the SFAC, which will have flexible norms for recruiting professionals on contract. TSG would comprise of personnel at different levels, who will provide technical services and their honorarium will be fixed on the basis of their qualifications, experience and last pay drawn, if retired from Government. Fresh graduates/post graduates having knowledge in horticulture, computer professionals, MBA, young professionals could also be a part of TSG. Service providers could also be engaged for providing technical services in accordance with terms of reference laid for the purpose.



5.4.2 TSG will have the following role and functions:

- (a) Visit states regularly and frequently to provide guidance in organizational and technical matters.
- (b) Compile materials for conducting of regional workshops in respect of different horticulture crops and different aspects viz. production, post-harvest management, marketing, etc. They will also prepare annual calendar for capacity building, promotional events, workshops/seminars on different subjects in different regions of the country in consultation with State Horticulture Missions (SHMs).
- (c) Conduct studies on different aspects of horticulture in different states.
- (d) Document and disseminate case studies of success stories.
- (e) Assist states in capacity building programmes.
- (f) Undertake publicity/information campaign to promote Mission's objectives.
- (g) Provide monthly feed-back reports to Horticulture Commissioner.

5.4.3 The states can also set up State Level TSG on the pattern of national level TSG for project formulation, appraisal and concurrent monitoring. SLSC will have freedom to hire consultants for providing technical support at state as well as district level for which there is provision of funds under States TSG component of the Mission.

6. Role of Existing National Agencies in Implementation of the Scheme

6.1 Small Farmers' Agri-Business Consortium (SFAC), New Delhi

- (i) SFAC will interact with State Governments/ State agencies to obtain their views on the programmes of the Mission and it may suggest modifications in policies or scheme parameters for consideration of DAC.
- (ii) SFAC will obtain quarterly progress reports from State level agencies, consolidate them and send to Horticulture Mission Cell at DAC. SFAC will obtain utilization certificates from concerned agencies and forward them to the Horticulture Mission Cell at Department of Agriculture & Cooperation. SFAC will also give statements on utilization of funds regularly and audited certificates at the close of each financial year in GFR-19.
- (iii) SFAC will ensure ground level monitoring of the scheme and record their observations in quarterly progress reports sent to Horticulture Mission Cell.
- (iv) Each State will prepare an annual report giving details of the programmes implemented under the Mission and benefits accrued to the State and provide it to Horticulture Mission Cell with the list of beneficiaries along with their names, addresses and details of funds provided to them and for the purpose. The Central SFAC within 3 months of close of the year after collection of the annual reports from the respective states would compile a consolidated report mentioning the performance of the scheme and its role as an implementing agency. The consolidated annual report would be made available to the Horticulture Mission Cell in DAC within the stipulated period of 3 months after close of the financial year.

- (v) In addition to its role of monitoring and sending quarterly progress report to Horticulture Mission Cell, DAC, SFAC will also act directly as an implementing agency for any component of the Mission programme on request of DAC.
- (vi) The funds for Mini Mission-II and III (except to designated agencies like NHB) will be routed through SFAC for further release to concerned agency/State level SFAC of the respective states. The SFAC will be paid service charges @ 0.5% of the funds routed through it.
- (vii) Under Mini Mission-III, Director Horticulture of the State, would prepare projects which after the approval of State Level Steering Committee would be appraised by NHB/DMI/SFAC on the basis of suitability of locations and economic viability.
- (vii) Projects proposals under Mini Mission-IV would be sent by the respective State Governments to the MFPI with a copy to DAC. The MFPI's Project Approval Committee would approve the proposal and would recommend it for funding through SFAC.

6.2 National Horticulture Board (NHB), Gurgaon

All the project proposals relating to Post Harvest Management (except those relating to marketing infrastructure) will be received in the prescribed format (**Annexure-II**) by the NHB from the State Governments. It would appraise these proposals and advice the DAC accordingly.

6.3 Directorate of Marketing & Inspection (DMI), New Delhi

DMI would be responsible for appraisal of all the proposals regarding setting up of marketing infrastructure for horticulture produce received from the respective State Governments in the prescribed format (**Annexure-III**), and would advice the DAC. In addition to this it would also provide market intelligence and be responsible for monitoring of all programmes relating to marketing of horticulture crops.

7. Procedure for Approval and Implementation

Submission of Work Plan/Action Plan/proposals

- 7.1 State will prepare yearly work plan/action plan or Annual Action Plan (AAP) within the parameters of the Mission and submit the same to the Horticulture Mission Cell at Department of Agriculture & Cooperation. The AAP should be accompanied with project report of each district and it should reflect consolidated approach at state level. The work plan/action plan should have assessment of export potential and detail quantification of all inputs and outputs. Proposals on marketing should be submitted in prescribed format to DMI, Ministry of Agriculture, Government of India through SFAC and the proposals on Post Harvest Management should be submitted directly to NHB in a similar prescribed format.
- 7.2 In this context, AAP needs to be supported with data/write up on outcome of past interventions covering the details of area expansion (variety 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 infrastructure created and how these are being utilized for benefit of the farmers) and organic farming. Area expansion should be determined based on the availability of quality seed and planting material.

- 7.3 The proposals appraised by DMI/NHB will be submitted to DAC for approval by the Central Sub-committee of MM-III (post harvest management and marketing). Horticulture Mission Cell will examine the proposal further for directing SFAC/NHB to release the funds.

8. Fund Flow Mechanism

- 8.1 The funds for Mini Missions-II, III and IV (except to designated agencies like NHB, NBB for capacity building in Agriculture/ Horticulture, etc.) will be routed through SFAC for further release to respective State Level SFAC of the States concerned. Funds of Mini Mission-I will be directly released to Nodal Officers (Mini Mission-I) of ICAR institutes.
- 8.2 The DAC would release funds to Central SFAC, NHB and ICAR based on approved Annual Action Plans. Central SFAC would further release these funds to State level SFACs/ Director (Hort./Agri.) of respective States immediately within 15 days of receipt of the funds from DAC as per physical and financial targets approved. On the directions of Secretary (Hort./Agri.)/ Director (Hort.)/Nodal Officer of the State for implementing Horticulture Mission, the State level SFAC/ Director (Hort./Agri.) would release funds to District Hort./Agri. Officer. The District Hort./Agri. Officer would further release funds, as far as possible through cheques, to beneficiaries identified in the district on the basis of approved work plan (based on district project report). Even in case of big projects, as far as possible, funds will be routed through District Hort./Agri. Officer, to facilitate post disbursement inspection. The District Hort./Agri. Officer would facilitate beneficiaries in procurement of planting material, organic manures, equipments, etc.
- 8.3 Small Farmers' Agri Business Consortium (SFAC) would be paid service charges @ 0.5% of the funds routed through it.

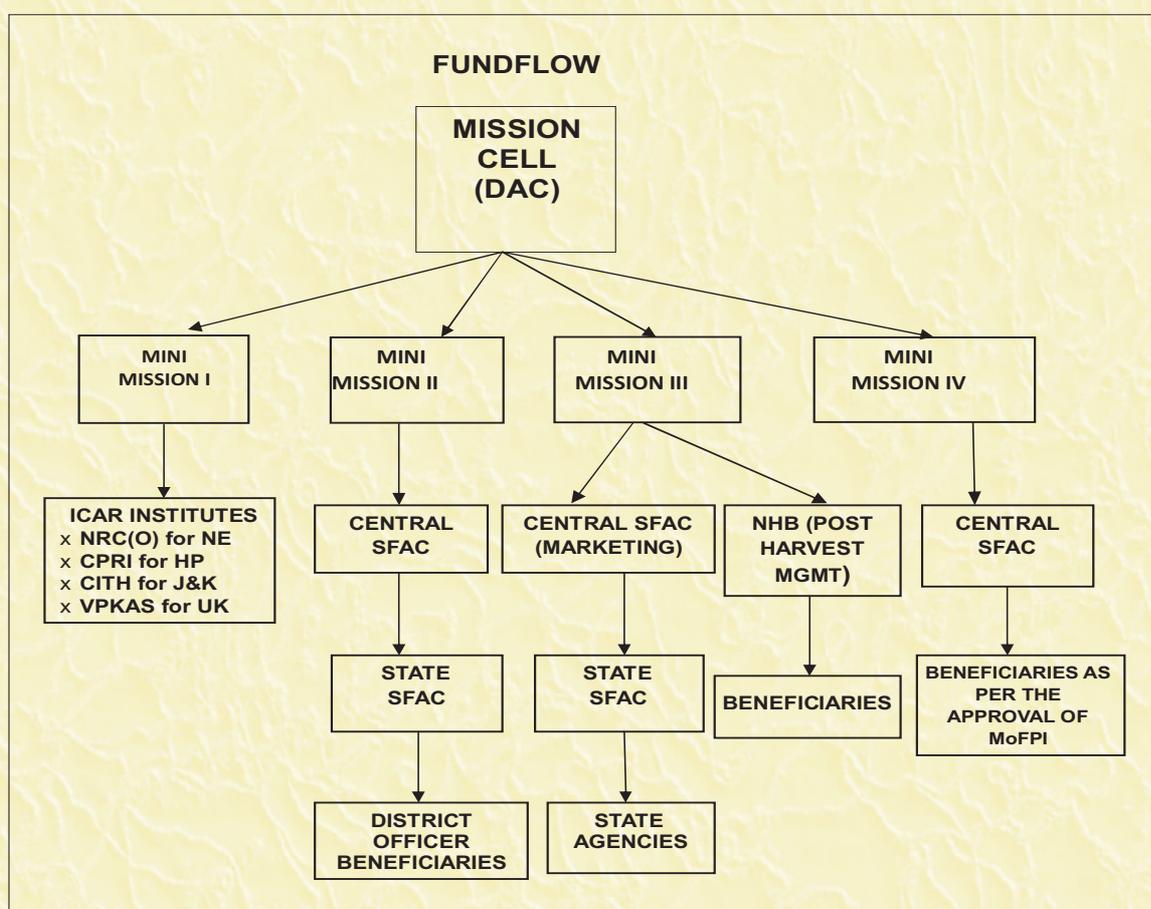
9. Monitoring and Evaluation System

9.1 Mini Mission - I

The Director, National Research Centre for Orchids (NRC-O), Sikkim is the Nodal Officer of Mini Mission-I for NE States and the Directors of Central Institute for Temperate Horticulture (CITH), Srinagar, Central Potato Research Institute (CPRI), Shimla and Vivekanand Parvatiya Krishi Anusandhan Sansthan (VPKAS), Almora are the Nodal Officers for Jammu & Kashmir, Himachal Pradesh and Uttarakhand, respectively. The Nodal Officer/s will prepare the project proposal in consultation with the state horticulture department of different states of NE and Himalayan regions. The project proposals submitted by different states will be thoroughly discussed and approved by a Steering Committee headed by Secretary DARE & DG, ICAR. The approved action plans will be communicated to the concerned coordinating research centre/ institute for further implementation. The progress of implementation of the project based action plans will be regularly monitored by the Steering Committee headed by Secretary DARE, and DG, ICAR as well as by Horticulture Mission Cell headed by Horticulture Commissioner.

9.2 Mini Mission – II

The State Governments of all the NE and Himalayan states would prepare and submit action plans to the Horticulture Mission Cell, DAC after approval by the State Level Steering Committee headed by concerned Chief Secretary of respective states. On thorough discussion of states action plans with concerned State Governments the Central Steering Committee headed by Secretary (A&C) would approve the action plans for implementation in the respective states. The implementation of the programmes will be regularly



Note: Funds to designated agencies like NHB, NBB for capacity building will be disbursed directly.

NRC (O) – National Research Centre for Orchids, Sikkim.

CPRI – Central Potato Research Institute, Shimla, Himachal Pradesh

CITH – Central Institute for Temperate Horticulture, Srinagar, J&K

VPKAS – Vivekanand Parvatiya Krishi Anusandhan Sansthan, Almora, Uttarakhand

reviewed and monitored by this Committee as well as by Horticulture Commissioner and other senior officers of the Department. Joint inspection by the team of officers of DAC, SFAC, DMI and NHB will also be carried out.

9.3 Mini Mission-III

The State Governments of NE and Himalayan states would prepare and submit projects approved by their respective State Level Steering Committees headed by concerned Chief Secretary to NHB/DMI. The proposals related to market infrastructure will be submitted to DMI through SFAC while those relating to post harvest management will be submitted directly to NHB. On recommendation of NHB/DMI the project proposals would be approved by the Central Sub-Committee, headed by Additional Secretary, Department of Agriculture & Cooperation. Implementation of these proposals will be regularly reviewed and monitored by the Central Sub-Committee for MM-III.

9.4 Mini Mission-IV

State Governments would submit their project proposals for setting up of new processing units or up-gradation and modernization of existing processing units and for promotional activities to MFPI with a copy to DAC. The proposal should have the approval of the SLSC before it is sent to the MFPI for technical and commercial assessment. A Project Approval Committee (PAC) of MFPI with a representative of DAC would approve these projects and based on the recommendation of the PAC, the DAC would release the funds through SFAC. A Steering Committee of MFPI headed by Secretary would review and monitor these projects.

At National Level, implementation of the programmes of all four Mini-Missions will be regularly reviewed and monitored by a Central Steering Committee headed by Secretary (A&C). Mini Mission-I programmes will be reviewed and monitored by Sub Committee headed by Secretary DARE & DG, ICAR, Mini Mission – III programmes by the Sub Committee headed by Additional Secretary, DAC and Mini Mission – IV projects by the Steering Committee of MFPI headed by their Secretary. At State Level, the programmes/projects will be regularly reviewed and monitored by a State Level Steering Committee headed by Chief Secretary/APC of the concerned State.

10. Mission Interventions

- 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.
- The interventions envisaged for achieving desired objectives would be varied and regionally differentiated with focus on potential crops to be developed in clusters by deploying modern and hi-tech interventions and duly ensuring backward and forward linkages. Details of the components, their estimated cost along with the approved norms of assistance are given in **Annexure-IV**
- **Mini Mission-I/Research and Development:** The programme under Mini Mission-I will concentrate on technology generation/ assessment/refinement, appropriate to each region/ state, keeping in view their specific agro-climatic and socio-economic conditions. Emphasis will be on effective transfer and dissemination of production technologies available in India and abroad. Indian Council

Key Elements of HMNEH

- Base line data (Format at Annexure-I)
- Area based Annual and Perspective Plans, with end to end approach having backward and forward linkages
- Research to be guided by Central Sub Committee on the basis of felt need by the coordinating research centres/SAUs in different NE and Himalayan States.
- Demand driven production based on cluster approach for potential crops having comparative advantage in different areas.
- Quality seeds and planting material to be produced and made available.
- Technology driven programmes to improve production/ productivity and quality of produce:
 - (i) Introduction of improved varieties
 - (ii) High density planting and canopy management
 - (iii) Rejuvenation of senile/unproductive orchards
 - (iv) Protected cultivation to improve the productivity level
 - (v) Organic farming for capitalizing the niche market
 - (vi) Creation of water resources
 - (vii) Bee-keeping for pollination
 - (viii) Capacity building of farmers and personnel
 - (ix) Mechanization to bring efficiency and competence
- Post Harvest Management
- Marketing infrastructure development
- Processing & value addition
- Meticulous reporting and monitoring
- Data base generation, compilation and analysis

of Agriculture Research (ICAR) in association with Central Universities/SAUs and other research institutes/organizations in public and private sectors having capability in this area, will be partners in research programmes. Field experience of growers will be drawn upon to shape and design necessary interventions.

- Supply of Nucleus/Basic Seed and Planting Material for horticultural crops: For the production of required quantity of breeder seed and planting material of selected horticulture crops, support has to be provided in terms of technology and skill up-gradation. Nucleus planting material and breeder seed will be provided along with guidance for large scale production.

- Technology refinement, on-farm trials on farmers' field and imparting training to extension functionaries: The technologies identified and standardized for the horticulture production in the states will have to be popularized through field testing and by providing wider awareness among the farmers. For this, training of the trainers will be required, who can carry on demonstrations on the farmers' field for effective technology transfer and refinement. Similarly, for the improved production technologies and spread of improved cultivars and production practices training will have to be imparted to the extension functionaries. ICAR/SAU designated institutes will organize training of group of farmers of various states as per the needs and also test the proven technologies as per the agro-climatic conditions through farmers' participation.
- Nodal officer of Mini Mission-I shall identify the technological needs and provide support, accordingly, including acquisition of technologies/seed and planting material from abroad.

10.2 Mini Mission-II

Production and Productivity Improvement

The Mission will specially focus on increasing both production and productivity through adoption of improved and appropriate technologies for ensuring quality, including genetic up-gradation of all horticultural crops and addressing challenges of climate change. Special emphasis will be given on adoption of area based cluster approach for developing regionally differentiated crops, which are agro-climatically most suitable for the state/region. Availability of good quality planting material being central to development of horticulture, will receive focused attention and efforts will be made to create necessary infrastructure in the form of nurseries and upgradation of existing tissue culture units, which will be supplemented with plantation development programmes through addition of new areas under improved varieties to meet market demand.

10.2.1 Nurseries

- (a) Production and distribution of good quality seeds and planting material is an important component of the Mission. Most of the States have a network of nurseries for producing planting material, which were established through Central or State assistance. To meet 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 nurseries under the Public as well as Private sector. Infrastructure for nurseries includes the following:
 - (i) Proper fencing.
 - (ii) Establishment and maintenance of mother/scion block for multiplication of planting material.
 - (iii) Raising seedling rootstock for mass multiplication of planting material.
 - (iv) Creation of infrastructure facilities (greenhouse/net house/micro irrigation, etc.) for year round multiplication of planting material.
 - (v) Pump house to provide sufficient irrigation to the plants and water storage tank to meet at least 2 days requirement.
 - (vi) Soil sterilization/solarisation system.

- (b) It has been estimated that a nursery having an area of one ha with the above mentioned facilities would cost ₹ 6.25 lakh. Assistance will be available for setting up a nursery having a minimum area of 1 ha and maximum area of 4 ha with a total cost of ₹ 25 lakh. The nurseries established under Public sector will be eligible for 100% assistance and for nurseries in Private sector, assistance will be 50% of the cost, credit linked back ended subsidy. Nursery of size of 1 ha will be classified as small nursery and beyond that will be classified as large nursery. Cost norms of nurseries will be @ of ₹ 6.25 lakh per ha. Each nursery will be required to produce a minimum number of 50,000 plants per ha per year of the mandated perennial fruit plant/tree spices/plantation crop through vegetative propagation each year.
- (c) It will be the responsibility of nurseries to ensure quality of planting material. In order to ensure supply of quality planting material, nurseries should be got accredited. Nurseries will also be regulated under legislation in force relating to seeds and planting material. Efforts should be made to establish nurseries at production cluster itself. Type of nursery proposed to be established, should be clearly indicated in the Action Plan. The Plan should also contain an assessment of existing nurseries, crop wise number of planting material being produced and the additional requirement of nurseries.
- (d) Planting material for establishment of new gardens should be procured from accredited nurseries. Only when adequate planting material is not available with accredited nurseries should it be procured from other sources after fully satisfying that planting material conforms to requisite quality parameters. Director Hort./Agri. will, however, ensure that all nurseries set up under HMNEH will be accredited within a period of one year through designated agencies like NHB, SAUs, ICAR institutes, etc., and the list of accredited nurseries would be put up on the Mission site, i.e. www.tmnehs.gov.in.

10.2.2 Tissue Culture Units

New Tissue Culture (TC) units will be set up at an estimated cost of Rs. 100 lakh per unit under the Mission. Besides, assistance will be provided for rehabilitation/ strengthening of existing TC Units subject to a maximum ceiling of ₹15 lakh for TC Units in Public sector, whereas for TC unit in Private sector it will be 50% of the credit linked back ended subsidy limited to ₹ 50 lakh for new unit and ₹7.50 lakh for strengthening of existing unit. Each TC unit will produce a minimum of 15 lakh plants of the mandated crops for which protocols are available for commercial use. New TC unit projects will be sanctioned to only those public sector agencies, which have required technical manpower. No recurring expenditure for the manpower and contingencies will be borne under HMNEH. Each TC unit will be accredited as per standards and norms of Department of Bio Technology and the list would be put up on the Mission site, i.e. www.tmnehs.gov.in.

10.2.3 Progeny and herbal gardens

These gardens will be encouraged among the NGOs and private sector with an assistance of 50% of the total cost of the garden limited to ₹ 2.50 lakh per unit. However, in public sector, progeny and herbal gardens will be established with an assistance of 100% cost limited to ₹ 5.00 lakh per unit.

10.2.4 Vegetable Seed Production

- (a) Production of disease free seeds/seedlings of vegetables will specifically apply to hybrids of those

vegetables whose seed is very costly and there is low germination of seeds with heavy mortality of seedlings in open nurseries. Wherever necessary, plug technology under controlled condition for production of seeds/seedlings may be introduced. This will ensure production of seedlings for early and late crops which in turn will ensure that production of vegetable takes place over a longer period with minimum alternation of glut and scarcity period. In addition, hybrid seeds will be selected after trials, which will ensure higher yield.

- (b) The infrastructure facilities will consist of a greenhouse with maximum area of 1000 sq. m. with insect netting on sides and rolling poly sheets. The saplings will be raised in plastic trays having small plugs and plugs will be 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.
- (c) Prescribed cost norm for vegetable seed production is ₹ 30,000/per ha for open pollinated crops and ₹ 1,33,000/ha for hybrid seeds. The assistance for vegetable seed production will be @ 100% of total cost to the public sector, whereas for the private sector, the assistance will be 75% of the cost. Assistance will be available for a maximum area of 5 ha per beneficiary for open pollinated crops and 2 ha for hybrid seeds.

10.2.5 Import of Planting Material

- (a) With a view to procure best quality planting material of latest varieties of horticultural crops, new component of providing assistance for meeting cost of planting material imported from abroad has been introduced. For this, assistance will be provided @ 100% of cost to State Government/ PSUs, subject to a maximum of ₹ 10 lakh per organisation. Registered Growers' Association will be eligible for assistance @ 75% of cost, subject to a maximum of ₹ 7.50 lakh per beneficiary.
- (b) The State Horticulture Department will ensure timely availability of quality seeds and planting material to beneficiaries for area expansion.

DOs & DON'Ts with Regard to Planting Material

DOs

- (i) A variety wise assessment of requirement and availability of planting material should be made to justify setting up of new nurseries/TC units. This should form a part of the AAP for each year.
- (ii) All nurseries should have mother blocks.
- (iii) All nurseries/TC units should produce the minimum required quantity of the mandated crops.
- (iv) The planting material should be made available to the farmers at a reasonable price.
- (v) Planting material as far as possible should be supplied to the farmers only through accredited nurseries.
- (vi) Nurseries setup with Mission funds should be got accredited within a period of one year.

DON'Ts

- (i) Planting material of seedling origin should not be used for perennial fruit crops.
- (ii) Long distance transportation of planting material should be avoided.
- (iii) Quality of planting material should not be compromised on any account.

10.2.6 Seed Infrastructure

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. 100% assistance will be provided to public sector subject to a maximum of ₹ 200 lakh and assistance to private sector will be credit linked back ended subsidy @ 50% of cost, limited to ₹ 100 lakh per beneficiary.

10.2.7 Establishment of New Gardens

The Mission envisages coverage of large areas including the cost of planting material and cost of material for INM/IPM etc., under improved varieties of horticultural crops. The assistance for cultivation will be for a maximum area of 4 ha per beneficiary, spread over a period of three years in ratio of 60:20:20 in first, second and third year depending upon nature of crop. Assistance for second year will be subject to 75% survival of the new gardens and for the third year assistance will be subject to 90% survival of plants (including TC based crops). Crop wise details of assistance for bringing new areas under horticultural crops like fruits, vegetables, flowers, spices, aromatic plants, and plantation crops like cashew and cocoa is detailed in **Annexure-IV**. Spacing and number of plants per ha is given at **Annexure-V**.

10.2.8 Mushroom Production

In case of mushroom, assistance will be provided for setting up of individual spawn and compost making unit and also for integrated mushroom unit, spawn production unit, compost making unit and training unit as per the details given in **Annexure-IV**.

DOs & DON'Ts with Regard to New Gardens

DOs

- (i) New areas should be brought under horticulture crops with a view to introduce latest high yielding varieties of suitable crops, with the aim of enhancing productivity rather than increasing the area under conventional varieties.
- (ii) The planting material should be used from accredited nurseries and its availability should be ensured well in advance and duly reflected in AAP.
- (iii) New areas should be taken up in identified clusters of mandated crop, on a contiguous basis.
- (iv) Micro Irrigation should be integrated to ensure better survival.
- (v) Payment should be released to the beneficiary in three instalments i.e. 60:20:20 in three years after ensuring the survival of planting material as per the prescribed norms.

DON'Ts

- (i) New gardens should not be taken up in isolated patches in less than 10 ha blocks.
- (ii) Procurement of planting material should not be left to the discretion of the farmers.

10.2.9 Replacement/Rejuvenation of Senile Plantations

- (a) Low productivity of fruit/plantation crops, is primarily due to preponderance of old and senile trees and poor management of orchards. Old and dense orchard is generally characterized by intermingling, overcrowding and insect and disease infested branches with more of wood mass and canopy of unhealthy thin shoots, which are quite unfavourable for bearing optimum quality crop.
- (b) Under HMNEH, it is required to take up productivity improvement programmes through rejuvenation of senile plantations/ top working/ re-plantation with fresh stock supported with grafting, uniform cultural practices and plant protection measures. The programme will be implemented through individual farmers, farmers' cooperatives, self help groups, NGOs, growers' associations and commodity organizations. Assistance for rejuvenating/replanting senile plantations will be @ 50% of the cost subject to a ceiling of ₹15,000/per ha, limited to 2 ha per beneficiary and assistance will be available only in respect of rejuvenating/replanting senile and unproductive plantations through proven technologies depending upon nature and requirement of particular crop.

10.2.10 Creation of Water Sources

- (a) 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. This will be in conjunction with Mahatma Gandhi National Rural Employment Guarantee Scheme (MNREGS) and wherever possible adequate convergence has to be ensured. These water bodies may be linked with Micro-Irrigation facility for judicious use of water. Cost is estimated at ₹17.25 lakh per unit for an area of 10 ha of command with pond/tank size of 100m x 100m x 3m; owned and managed by community/farmers group. For smaller size of the ponds/tanks, cost will be admissible on pro rata basis, depending upon command area. Assistance under HMNEH will be limited to cost of plastic/RCC lining. However, for non MNREGS beneficiaries, 100% assistance will be provided including the cost of plastic/RCC lining. Maintenance of the water source will be responsibility of the community.
- (b) Assistance will also be provided for creating water source through construction of farm ponds/ dug wells for individuals. The cost is estimated at ₹ 1.38 lakh in hilly areas for storage of water in 20mx20mx3m ponds/dug wells @ ₹ 100/cubic meter for command area of 2 ha. For smaller size of the ponds/dug wells, cost will be admissible on pro rata basis depending upon the command area. This will also be in conjunction with MNREGS. However, for non MNREGS beneficiaries, assistance @ 75% of cost will be provided including the cost of plastic/RCC lining. Maintenance of the asset will be responsibility of beneficiary.

10.2.11 Protected Cultivation

Activities like construction of shade net house, green houses, mulching, and plastic tunnels, anti bird/hail nets would be promoted under the Mission, and assistance for which is indicated in **Annexure-IV**. Provision has been made for selecting a variety of construction material for green houses and shade net houses. Separate provision has been made for meeting the cost of cultivation under green house and shade nets, which includes cost of planting material and inputs. Preference will be given to use locally available material, to minimize cost of construction of such structures.

10.2.12 Precision Farming Development and Extension through PFDCs

Precision farming technology, as a package, is yet to be applied on commercial scale in farmers' field. Existing Precision Farming Development Centres (PFDC) will therefore be involved to develop regionally differentiated technologies for its validation and dissemination. PFDCs are existing presently, in 3 locations which are mostly in SAUs. On account of their experience in conducting applied research on plasticulture application, they have expertise in terms of manpower and equipment. PFDCs will be equipped further with necessary hardware and software needed for generating information on precision farming methods in the farmers' field. Ultimate goal is to make available all needed 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 project based financial assistance would be provided to PFDCs through NCPAH.

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

- (a) Assistance for INM and IPM will be @ 50% of cost subject to ceiling of ₹1000/per ha limited to 4 ha per beneficiary. Assistance will also be available for developing facilities like disease forecasting units, bio-control labs, plant health clinics and leaf/tissue analysis labs, as per pattern of assistance indicated in **Annexure IV**.
- (b) Assistance for setting up sanitary and phyto sanitary certification facilities will be provided to the Public Sector, on project basis, subject to maximum ceiling of ₹ 500 lakh per unit.

10.2.14 Organic Farming

- (a) Organic farming in horticulture is becoming increasingly important. Its environmental and economic benefits have captured attention in many countries. Consumers' demand for organically produced food products and society's demand for more sustainable development provide new opportunities for farming and business around the world.
- (b) Basic rule of organic production is that natural inputs are to be applied and synthetic inputs are totally prohibited. But there are exceptions in both cases, certain natural inputs determined by various certification programmes, found harmful to human health or environment are prohibited (e.g. Arsenic). Certain synthetic inputs determined to be essential and consistent with organic farming philosophy are allowed (e.g. Insect pheromones). An organic production system will be designed to:
 - enhance biological diversity within the system;
 - increase soil biological activity;
 - maintain long-term soil fertility;
 - recycle plant and animal waste;
 - rely on renewable resources in locally organized system;
 - promote healthy use of soil, water and air and minimize all forms of pollution;
 - handle agricultural products with emphasis on careful processing methods in order to maintain organic integrity and vital qualities of the product at all stages.

- (c) In order to help growers obtain required certification for organically produced crops, awareness has to be created through training and distribution of information material. For adopting organic farming for perennial and non-perennial fruit crops, aromatic plants, spices etc., additional assistance will be given @ 50% of cost over and above the assistance under area expansion programme limited to ₹ 10,000 per ha for 4 ha per beneficiary, spread over a period of three years i.e. ₹ 4000 per ha in first year and ₹ 3000 per ha each in second and third year. For organic cultivation of vegetables, assistance will be limited to ₹ 10,000 per ha spread over a period of three years. Assistance will be used for generating on farm inputs. HMNEH will also provide financial assistance up to a maximum of ₹ 5 lakhs for group of farmers, covering an area of 50 ha, duly recommended by State Government, on a case to case basis, for certification of organic process/produce. This assistance will be given over a period of three years @ ₹ 1.50 lakh each in first and second year and ₹ 2 lakh in third year, to meet cost of documentation, training and charges of service provider and certification agencies accredited by APEDA. Comprehensive guidelines already issued in this regard need to be scrupulously followed which are available on the website www.apeda.com/organic/.
- (d) For vermi compost units/organic production units, assistance will be @ 50% of cost subject to a maximum of ₹ 30,000 per beneficiary for a unit having size of 30' x 8' x 2.5'. For smaller units, assistance will be on prorata basis. For HDPE Vermi bed of 96 cft size (12'x4'x2'), the cost will be ₹ 10,000/per bed. Specification and design parameter of Agro Textiles HDPE woven beds for vermiculture will conform to BIS standards (IS 15907:2010).

DOs & DON'Ts with Regard to Organic Farming

Dos

- i. Only such crops should be taken up for organic farming, which would fetch premium price to the farmer.
- ii. Market linkage for the organic produce should be ensured before venturing into organic farming.
- iii. Adoption of organic farming should be in conjunction with organic certification by accredited agencies.
- iv. Organic farming invariably be linked with generation of on farm organic input material.

DON'Ts

- i. Organic farming should not be taken up in isolated patches.
- ii. Organic farming should not get limited to procurement and supply of organic inputs.

10.2.15 Good Agriculture Practices (GAP)

Good Agriculture Practices for reduction in microbial food safety hazards during farming, grading, packaging and storage operations are being encouraged. This component has been introduced for farmers to be in line with global GAP, so that they are able to get better remuneration for their produce in domestic as well as international market. Assistance for this purpose will be @ 50% of cost subject to a ceiling of ₹ 5000/ha, for maximum area of four ha per beneficiary. Certification agencies to be involved

for this will be as per approved list accredited by Global Gap Organisation which is available on their website www2.globalgap.org/apprcbs.html.

10.2.16 Pollination Support through Bee-keeping

- In order to maximize agricultural production, honey-bee can be used as an important input. The overall responsibility of coordinating the bee-keeping development programme in states would be with State Designated Agency (SDA) or any institution/society having capability. Nodal State Designated Agencies (SDA) who have been implementing bee-keeping programme, will be integrated with HMNEH and representatives of the respective SDAs will be Members of the SLSC.

(a) Development and Multiplication of Nucleus Stock

- ICAR Centres and other institutes in public and corporate sector will be involved for developing nucleus stock of selected bee species (*A.cerana* and *A.mellifera*). These Institutes will have to submit specific proposal indicating their existing infrastructure and deficiencies therein which need to be removed and assistance will be considered on project to project basis, subject to maximum limit of ₹ 10 lakh.
- Bee-breeders from corporate/private sector shall be registered with SDA, and they will be selected based on their technical expertise, qualified personnel and infrastructure. Registered bee-breeders shall be eligible for financial assistance in the form of grant-in-aid to a maximum of 50% of the cost of additional facilities required limited to ₹ 3 lakh per breeder, mainly for strengthening infrastructure facilities. Each bee breeder will be required to multiply and produce minimum 2000 colonies per annum for a period of five years. If, however, a breeder is not in a position to meet the above target, SDA will take appropriate steps to reduce the assistance proportionately.

(b) Distribution of Bee Colonies, Hives & Equipments

- Superior bee colonies produced by selected bee breeders as defined above, will be distributed to farmers/beekeepers and to encourage purchase of superior bee colonies, subsidy support will be provided at rate of 50 percent of cost subject to a maximum ceiling of Rs. 700/- per colony of four frames. The colonies of *Apis cereana* are cheaper and hence subsidy amount in such cases will be less. Registered beekeepers shall be given proper identification number by SDA for each of their hives.
- Standard bee hives is pre requisite for upkeep of bee colonies. Therefore, with a view to ensure supply of quality hives, subsidy support will be provided at rate of 50% of the cost of hives or ₹ 800/- per hive, whichever is less. The manufacturers of repute involved in supply of the bee hives and related equipments will be registered with the SDA. The SDA shall ensure that only those manufactures who manufacture hives of standard specification are registered. Each beneficiary will receive subsidy support for 50 colonies and hives.
- While supplying honey bees, preference will be given to those farmers/bee-keepers that have undergone training on bee-keeping.
- Assistance @ 50% of the cost, limited to ₹ 7000/- will be provided for beekeeping equipment like honey extractor and food grade containers.
- Some of the activities of Beekeeping will also be implemented by the National Bee Board and this Board will be coordinating agency for all activities of Beekeeping under the Mission.

10.2.17 Horticulture Mechanization

Horticulture Mechanization has been included as a new activity to promote mechanization of various horticulture operations 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 as per details give in **Annexure-IV**. Assistance for horticulture mechanization will also be available to such grower associations, farmer groups, self help groups, women farmer groups having at least 10 members, who are involved in cultivation of horticultural crops, recognized/registered by the DLC are provided balance 50% of the cost of machines and tools is borne by them. Director Horti/ Agri on behalf of SLSC will enter in to MoU with such association/groups to ensure proper upkeep, running and maintenance of the machines and tools.

10.2.18 Human Resource Development (HRD) in Horticulture

- (a) Human resource development through trainings and demonstrations is an integral part of the Mission. Under this 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 district level, 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. An important activity under training component is to provide resource material to farmers and to acquaint them with various farming techniques through exhibitions and demonstrations. In order to ensure wider and full participation, publicity about training programmes will also be required. Assistance to agencies involved in training programme will be provided @ ₹400 per farmer trained within the district, ₹ 750 per farmer trained within the state and ₹ 1000 per farmer outside state. This activity will be carried out both by government sector as well as private and NGOs depending upon the capabilities of organisation. Successful and progressive farmers' field may also be used as training centres. In order to familiarize/train farmers, about production practices being followed in other districts and states, field visits outside the district and state may also be taken up. Training cum visit will be organized for a period ranging between 2 to 5 days.
- (b) Exposure visit of farmers, including women within the district, within the state and outside the state could be organised under the Mission @ ₹ 250, ₹ 300 and ₹ 600 per farmer per day respectively, excluding transport cost.
- (c) Technical staff and field functionaries/extension workers will be trained in modern technological advances in horticulture at various ICAR Institutes in or outside the state. For this purpose, actual cost limited to ₹ 200 per day per participant, plus TA/DA, as admissible will be provided. For study tour of technical staff/field functionaries outside state, actual cost limited to ₹ 650 per day plus TA/DA as admissible per participant will be provided. For study tours of technical staff/field functionaries outside the country to have firsthand knowledge about major technological innovations in horticulture, upto ₹ 5.00 lakh/participant could be provided.
- (d) Training institutions have been given option to draw up course details within this structure, in consultation with DAC.
- (e) The States which already have strong horticultural production base and have institutional set up for training in horticulture, will be organizing training programmes in horticulture.

- (f) Institutions identified for training should have basic infrastructure facilities like class rooms, staff, hostel facilities, etc.
- (g) These trained people will be potential candidates for employment by States and other organisations engaged in horticulture development.
- (h) In case States wish to organize specialized training courses on horticulture related subjects, assistance will be provided for 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.
- (i) 100% assistance for information dissemination through publicity, printed literature, etc. would be provided with a ceiling of ₹ 0.40 lakh per block.
- (j) Total cost for development of technology packages in electronic form to be shared through IT network would be funded under the Mission limited to ₹ 1.00 lakh per district. Project based 100% assistance for technical collaboration with International agencies like FAO, World Bank, etc. would also be provided.

10.2.19 Special Interventions

- (a) There is a provision of ₹ 200 lakh for special intervention such as land development, transportation on case to case basis (from farm gate to processing units/market places and transportation centres which are project based). The funds would be provided to the State Government based on the project but the total limit shall be restricted to 10% of the outlay for the State under the scheme.
- (b) Under the Mission ₹ 10 lakh have been provided for tackling of emergent/unforeseen requirements of State Government/Implementing Agencies on case to case basis.

10.3 Mini-Mission-III

10.3.1 Post Harvest Management

- (a) Post harvest management includes packaging, grading, transportation, curing and ripening and storage. These facilities are essential for increasing marketability of horticulture produce, adding value to produce, increasing profitability and reducing losses. It is proposed to create a network of infrastructural facilities for storage of horticulture produce, transportation, marketing, packaging and grading and export. The existing schemes of the NHB, DMI and National Cooperative Development Corporation (NCDC) will be made use of to the maximum possible extent. In this context, specific programmes which would be taken up under HMNEH would include establishment of pack houses, pre-cooling units, mobile pre-cooling units, cold storage units, Controlled Atmosphere (CA) storage/Modified Atmosphere (MA) storage/supply of refrigerated vans/containers, primary/mobile processing units, ripening chambers, evaporative/low energy cool chambers, preservation units, onion storage units and zero energy cool chambers. All these projects will be entrepreneur driven through commercial ventures for which Governmental assistance will be in accordance with the cost norms given in **Annexure-IV**. PSUs and State Government agencies, cooperatives, growers' association, farmers' groups, self-help groups, women farmers' groups, recognized/registered by the DLCs, having at least 25 members, will also be entitled to avail assistance for such activities to the same extent. However, assistance will not be credit linked for such agencies but would be back ended subject to condition that they are able to meet their share of the project cost.

- (b) Assistance for setting up of new cold storage/CA Storage/MA storage will be available only to multi-chamber cold storage units with latest/new technologies, which are energy efficient with provision for insulation, humidity control, advanced cooling systems etc., having specifications and standards approved by the Ministry.

10.3.1 Cold Storage

- (i) The cold storages need to ensure the following:
- a) Coils and diffuse systems which have efficient heat transfer surface area and air circulation must be used for maintaining uniform temperature and humidity conditions.
 - b) Refrigeration equipments should be capable of handling varying cooling requirements in the cold storage. Refrigerant used must be eco friendly. Moreover, refrigeration system should be equipped with monitoring and control mechanism to ensure maximum efficiency.
 - c) Compressors should be multi cylinder of reciprocating or screw type with appropriate capacity.
 - d) Condensers need to be properly designed to moderate operating hours of cold store and thus reduce power consumption.
 - e) Proper thermal insulation need to be used with provision for vapour barrier on the outer side and cladding/cover material on the inner side. Besides, appropriate BIS standards for insulation (IS 661:2000) and appropriate method of deployment of thermal insulation in accordance with IS 661 and IS 13205 on code of practices should be ensured.
 - f) Qualified and trained personnel should be involved for proper running and maintenance of the cold storage unit.
 - g) At least two chambers need to be provided even if the capacity of the storage is low.
 - h) Each chamber should be provided with suitable controls and display instruments for temperature and humidity.
 - i) The cold storage should have proper mezzanine floors for bulk storage of produce in bags/boxes with proper spacing between the floors.
 - j) The cold storage should have adequate space for processing area involving mechanized sorting, grading, washing, packing/bagging lines.
- (ii) For up-gradation of thermal insulation of cold storage, the project cost will be limited to ₹ 1000/MT and for up-gradation of cooling system, air flow, electric installation, handling devices, safety devices, etc the project cost will be limited to ₹ 2000/MT.
- (iii) Integrated CA chamber will consist of pack house and grading facilities alongwith cold store space with provisions of insulation and cooling. It includes mechanized handling, racks and crates/bins. The maximums cost for integrated CA would include cost of CA plus ₹ 38,000 per MT with total capacity not exceeding 5000 MT.
- (iv) Detailed guidelines in this regard with specifications and protocol are available on website www.tmnehs.gov.in. However, the detailed cost norms for establishing/ expansion/ modernization of cold storages are given in **Annexure-IV**
- (iv) Assistance could also be availed for a combination of PHM infrastructure by a beneficiary, within the prescribed norms of individual item.

10.3.2 Creation of Market Infrastructure

- (i) Programmes for marketing are also project based. States Missions, after approval by the SLSC of the State will submit viable projects to SFAC/DML.
- (ii) Main objectives of providing assistance under this component are (a) to induce investments from private and cooperative sectors in the development of marketing infrastructure for horticulture commodities (b) Strengthen existing horticulture markets including wholesale, rural haats; (c) focus on promotion of grading, standardization and quality certification of horticulture produce at farm/market level to enable farmers to realize better price; and (d) create general awareness among farmers, consumers, entrepreneurs and market functionaries on market related Agricultural Practices.
- (iii) Assistance under the Scheme will be provided as credit linked back ended subsidy for whole sale markets. In case of Terminal markets, assistance will be provided in accordance with approved norms, for which guidelines have been issued separately. Assistance will also be provided for static mobile vending cart platform with cool chamber @ 50% of cost subject to a maximum of ₹ 15,000 per unit.
- (iv) Assistance for setting up functional infrastructure will be @ 50% of cost. 'Marketing Infrastructure' for purpose of this Scheme may comprise of the following:-
 - (a) Functional infrastructure for collection/assemblage, drying, cleaning, grading and standardization, SPS measures and quality certification, labeling, packaging, retailing and wholesaling, value addition facilities (without changing the product form). Assistance for different activities and development of market infrastructure will be in accordance with details given at **Annexure-IV**.
 - (b) Market users common facilities in the project area like shops/ offices, platforms for loading/ un-loading/assembling and auctioning of produce, parking sheds, internal roads, garbage disposal arrangements, including drinking water, sanitation arrangements, weighing and mechanical handling equipments.
 - (c) Infrastructure for Direct Marketing of horticulture commodities from producers to consumers/ processing units/bulk buyers.
 - (v) Assistance for setting up markets will only be given to those States only, which have amended their State Agricultural Produce Marketing Committee (APMC) Act for facilitating alternate marketing by farmers/farmer groups involved in horticulture. Reforms should facilitate the farmers to sell their produce without paying levy or cess.
 - (vi) While user charges can be levied on market yards, Mandies/ Markets run by the Government bodies should not levy any cess on farmers in case of transactions outside mandi yards. Besides, private players need to be encouraged to set up markets for horticulture produce.
 - (vii) Assistance will be available to individuals, Group of farmers/growers/consumers, Partnership/ Proprietary firms, Non- Government Organizations (NGOs), Self Help Groups (SHGs), Companies, Corporations, Cooperatives, Cooperative Marketing Federations, Local Bodies, Agricultural Produce Market Committees (APMC) and Marketing Boards and State Governments. project submitted by only those APMCs will be considered for assistance, which do not levy market cess on horticulture produce.

- (viii) Cost of land involved in infrastructure projects will be restricted to 10 percent of project cost in rural areas and 20 percent in Municipal areas. The entrepreneur will not alienate land during period of loan for any purpose other than the purpose for which project is sanctioned. A separate undertaking from entrepreneur is required to be included in this regard in the DPR. Size of project will be determined on basis of economic viability and commercial considerations.
- (ix) A new component of quality control/analysis lab has been included under the Mission wherein assistance will be provided for setting up quality control labs having necessary infrastructure and manpower facility to check quality of horticultural produce vis-à-vis international standards.
- (x) In back ended credit linked projects, the subsidy amount will not exceed term-loan. For subsidy under Integrated Post Harvest Management projects, capacity indicated in **Annexure-IV** will be calculated on maximum average working days capacity in a year.

10.3.3 Export Promotion

- (a) Special impetus would be provided to promote the export of horticultural produce through Agri-Export Zones, for which there is potential global market. Special groups will be set up for purpose of examining and recommending appropriate legal and promotional measures for facilitating export of different horticultural products for consideration of SLSC, CSC and Government. SLSC will also make appropriate recommendations to Horticulture Mission cell for promoting exports of State's produce.
- (b) SLSC may align their marketing strategies keeping in view programmes of national level agencies namely, National Horticulture Board, Directorate of Marketing and Inspection, National Cooperative Development Corporation (NCDC), Tribal Co-operative Marketing Development Federation (TRIFED) and Agriculture and Processed Food Products Export Development Authority (APEDA). Schemes of National Horticulture Board (NHB), Directorate of Marketing and Inspection (DMI), National Cooperative Development Corporation (NCDC) and Small Farmers' Agri-Business Consortium (SFAC) should be used to maximum possible extent.

10.4 Mini Mission-IV

Processing & Value Addition

Processing of horticultural produce and value addition is an important activity. Large scale processing units will be promoted under the scheme through Ministry of Food Processing Industries (MFPI). For setting up of new processing units or for up-gradation and modernization of existing units, assistance would be provided under the Mission as detailed in **Annexure-IV**. However, the promotional activities under this Mini Mission would be project based as per the MFPI pattern. The State Governments would approach the MFPI/SFAC with specific project proposals for processing units as well for promotional activities, which would be evaluated and examined by the MFPI and would be approved by their PAC.

11. Mission Management

- For managing various activities of Mission at State and Districts by implementing agencies for administrative expenses, field consultants, project preparation, computerization, contingency etc; 4.5% of total annual expenditure will be provided to State Horticulture Mission/implementing Agencies. State/implementing agencies will make provision for this in their Annual Action Plan.
- Institutional Strengthening — Development of data base, use of information technology, development of software and procurement of hardware, hiring of vehicle, etc.

12. Support to Cooperatives and other National Level Organizations for Infrastructure Development

HMNEH, in exceptional cases shall provide funds to National level organizations including cooperatives 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.

13. Collaboration with International Agencies

Attempts will be made to collaborate with international agencies like FAO, World Bank, Asian Development Bank 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, hiring of International Domain Experts, organize study tours, organize training programmes under aegis of HMNEH. Funds for this purpose will be earmarked in Annual Budget of Department of Agriculture and Cooperation, Ministry of Agriculture, Government of India (DAC), under TSG component of the Mission.

14. Evaluation and Other Studies

Term end evaluation will be conducted at end of the XI Plan. Concurrent evaluation will also be carried out by engaging suitable agencies. Assistance for such studies will be on project basis. HMNEH will commission short term studies on various aspects of horticulture depending on need and emerging requirements. Such studies will also be on project basis. Monitoring Missions, comprising of experts will be sent to States from time to time by Horticulture Mission, which will be organized through TSG housed in SFAC. State will also conduct evaluation studies on project basis under State level TSG component.

Annexure – I

Format for Submitting Action Plan by State Department of Horticulture

Name of State:

Year of Action Plan:

Summary Indicators:

Area, Production & Productivity (APP) (Year 2010)*

Sl. No.	Crop	Area (000 ha)	Production (000 t)	Productivity (t/ha)
1.	Fruit crops (a) Name of perennial fruits (i) (ii) (b) Name of non perennial fruits (i) (ii)			
2.	Name of vegetable crops (i) (ii)			
3.	Spices (a) Name of seed spices (i) (ii) (b) Name of rhizomatic spices (i) (ii) (c) Name of tree spices (i) (ii)			
4.	Flowers (i) Loose flowers (ii) Bulbous flowers (iii) Cut flowers			
5.	Aromatic Plants (i) (ii)			
6.	Plantation crops (i) (ii)			
7.	Mushroom			
	Total			

(*This should be supported with the APP data for each district in the State.)

Summary of Action Plan**Financial: (₹ in lakh)**

S. No.		Balance (as on 1 st April of New Financial Year)	Total outlay as per Action Plan	Percentage
1.	Production & Productivity			
2.	Post Harvest Management			
3.	Marketing			
4.	Monitoring/TSG			
	Total		Total	

Physical: (quantifiable major outputs) for the year

Sl. No	Activity	ha/no
1	New nurseries (no)	
2.	Additional coverage of area to be given crop wise (ha)	
3.	Rejuvenation (ha)	
4.	INM/IPM (ha)	
5	Protected cultivation (ha)	
6.	Organic farming (ha)	
7.	Water resources (no)	
8	PHM Infrastructures (no)	
9	New Markets (no)	
10.	New/modernization of processing units (no)	
11.	Training of farmers (no)	
	Total	

Contd.

**Format for Submission of Project Based Proposals for Post Harvest Management under MM–III
(To be submitted to NHB)**

(The proposal by private entrepreneurs /Public Sector undertakings/ Coop Societies etc. shall be submitted after sanction of credit facilities by the Financial Institutions as per format)

1. Name of project
2. Type of activity
3. Objectives
4. Location of the project with address:-
 - General area
 - Hilly/ Tribal area
5. Constitution

(Date of incorporation and relevant law along with a copy of articles and memorandum of association, bylaws, partnership deed and registration certificate whichever is applicable. Documentary proof regarding authorized/paid up capital and promoters contribution.)

- (a) Public Ltd. company
- (b) Private Ltd. company
- (c) Registered society
- (d) Association
- (e) Federation
- (f) Producer company
- (g) Proprietorship firm
- (h) Partnership concern
6. Management
7. Brief background of promoters
8. Cost of Project

₹ in lakhs

- (a) Land- (if purchased new alongwith documentary proof)
- (b) Building
- (c) Plant & machinery
- (d) Contingencies
- (e) Miscellaneous fixed assets

- (f) Working capital margin
- (g) Pre operative exp.
- (h) Capacity

Total

9. Means of Finance

- (a) Promoter share
- (b) Bank term loan
- (c) Subsidy
- (d) Quasi equity
- (e) Unsecured loan

Total

10. Details of cost of plant & machinery/equipment supported by quotations.
11. Details of the building construction and the cost duly certified.
12. Area of operation with special reference to HMNEH districts to be covered.
13. Availability of raw material, name of the cluster and district along with the major crops.
14. Backward linkages with farmers with reference to either providing services or purchase of raw material.
15. Forward linkages -analysis of domestic and export markets, tie up made for sale of produce and branding aspect.
16. No. of farmers/orchardist to be benefited.
17. SWOT analysis.
18. Financial analysis – IRR, NPW, Cost Benefit Ratio, Breakeven Point, DER, DSER, projected balance sheet, etc.
19. Insurance of the fixed assets.
20. Certificate from Pollution Control Department.
21. Name of the sponsoring bank along with the details of Techno-economical appraisal reports, copy of sanction letter and Detailed Project Report (DPR) as submitted to bank.
22. Certificate regarding Non-availing of subsidy from any other Central/State Govt. Departments.
23. Social benefits with special reference to employment generation.
 - (a) Direct employment
 - (b) Indirect employment

- (c) Women/S.T./S.C. employment
- 24. Details of the sustainability of the project with special reference to its capacity to generate income since only one time grant is admissible.
- 25. Implementation schedule
- 26. Amount of assistance sought.

Annexure – III

Format for the submission of proposal for establishing market infrastructure under MM–III
(to be submitted to DMI)

Wholesale Market

1. Name of the market :
2. Ownership of market :
3. District :
4. Date of regulation :
5. Whether the market has received financial assistance :
for development under any other central sector programme
If so, full particulars of the same.
6. Total arrivals of agricultural produce in the market and their values during the last five years
:

SL. No	Year	Total arrivals (MT)	Total Value (₹ in lakh)	Maximum daily arrivals (MT)
1.				
2.				
3.				
4.				
5.				

The actual arrival figures furnished should be based on the records maintained in the market. (Maximum daily arrivals on average of the 'peak fortnight' may be given).

7. Anticipated total arrivals of agricultural commodities in the market for the next ten years.

Sl. No	Year	Anticipated annual arrivals MT	Value ₹ in lakh	Projected Maximum daily arrivals (MT)
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

Note: (The anticipated annual arrivals are to be estimated realistically)

8. Present position about land :

Land required for development of the market (ha)	land in actual possession of the market (ha)

9. Details of infrastructural facilities and amenities presently available in the market:

Sl.No.	Name of facilities	No./area	Whether constructed with central assistance or not (Y/N)
1.			
2.			
3.			
4.			
5.			

10. Details of the project proposed to be provided :

(₹ in lakh)

Sl.No.	Name of the facility	No./area and capacity	Cost per unit	Total cost
1.				
2.				
3.				
4.				
5.				

11. Details of identified items of infrastructure proposed to be provided with central assistance

(Amount ₹ in lakh)

Sl. No.	Name of the facility	No./area and capacity	Cost per unit	Total cost
1.	Office building			
2.	Auction platforms			
3.	Drying platforms			
4.	Godowns			
5.	Water supply and sanitary arrangements			
6.	Grading and weighing equipments.			
7.	Cattle parking sheds			
8.	Veterinary dispensary			
9.	Internal roads			
10.	Garbage disposal arrangements			
11.	Modernisation/Mechanisation devices			
12.	Boundary wall			
Total cost of the project:				

12. Sources of financing the project :

(₹ in lakh)

Total cost of The project	Central assistance	Own funds	Grant or loan from state Govt./State Marketing Board/Banks, etc.

13. Statement of annual income and expenditure of the Market Committee for the last

Five years:.....

Sl. No	Year	Opening balance	Market fee	License fee	Other	Total income	Establishment maintenance	Any other expenditure including repayment of loan	Total	Closing Balance
	1	2	3	4	5	6	7	8	9	10
1.										
2.										
3.										
4.										
5.										

14. Anticipated income and expenditure figures for the next 10 years:

Sl.No	Year	Opening balance	Market fee	Licence fee	Other	Total income	Establishment maintenance	Any other expenditure including repayment of loan	Total	Closing balance
	1	2	3	4	5	6	7	8	9	10
1.										
2.										
3.										
4.										
5.										
6.										
7.										
8.										
9.										
10.										

Signature

Chairman Agricultural Produce Market
Committee/Local
body

Date:

Place:

Director of Agricultural Marketing/
State Agricultural Marketing Board

Rural Primary Market/Apni Mandies

1. Name of the Rural Primary Market/Apni Mandi
2. Ownership of Market
3. Location
 - a) District
 - b) Tehsil
4. Whether the market is located in hilly area.
 - a) Whether the market has availed financial Assistance for development from Central Sector Projects, full details of assistance Received.
5. Frequency at which the market is operating i.e. daily, bi-weekly or weekly, etc. If seasonal, then give number of days the market function during the season.
6. Whether the market is regulated.
 - (ii) If so, the name of the Market Committee under which it is functioning.
 - (iii) If not regulated, the name of the local body managing it.
7. Whether the market is served by roads linking with the regulated market
8. Present annual arrivals (Last financial year)

SL.No.	Name of the important commodity	Quantity MT	Percentage of produce brought by farmers	Percentage of produce brought by merchants
1.				
2.				
3.				
4.				
5.	Others			
Total				

9. Present maximum daily arrivals (total arrivals of all commodities) An average of the “peak fortnight”
10. Area of land in possession of the market (in hectare)
11. Details of infrastructural facilities and amenities presently available in the market.

Sl. No	Name of the facilities	No./area and capacity	whether constructed with central assistance or not(Y/N)
1.			
2.			
3.			

12. Details of the project proposed to be provided

(₹ in lakh)

Sl. No.	Name of the facility	No./area and capacity	Cost per unit	Total cost
1.				
2.				
3.				
4.				
5.				
6.				

13. Details of basic infrastructural facilities proposed to be provided with Central Assistance.

Sl. No.	Name of facilities	No/area and capacity	Cost per unit	Total cost
1.	Office-cum-godown			
2.	Auction/drying platform			
3.	Water & sanitary arrangements			
4.	Grading & weighing equipments			
5.	Boundary wall			
	Total cost of the project			

14. Sources of financing the project.

Total cost	Central assistance	If additional funds are required over and above of central assistance, the sources from which these would be met i.e. own funds, State Marketing Board, Bank, loan, etc. may be indicated.
1	2	3

15. Financial position of the Market Committee under which the rural primary market is functioning or to which it will be linked.

Year	Last financial year				(₹ in lakhs)
	Opening balance	Income during the year	Total	Expenditure during the Year	Closing balance (Surplus or deficit) Year
	1	2	3	4	5

16. Rate of market fee levied, if any.

Signature

Chairman Agricultural Produce Market
Committee/local body

Date:

Place:

Director of Agril. Marketing/State Marketing Board.

Annexure – IV

COST NORMS AND PATTERN OF ASSISTANCE UNDER HORTICULTURE MISSION FOR NORTH EAST AND HIMALAYAN STATES DURING XI PLAN

S.No	Item	Maximum Permissible Cost	Pattern of Assistance#
A. MINI MISSION – I (Research)			
1.	Seed and Planting Material – Production and Supply of Nucleus/ Basic seed and Planting Material, Rootstocks, and Establishment of Mother Block (Scion block)	₹ 15 lakh/project	Project based – 100% and only for public sector.
2.	Technology Standardization/ Refinement and Dissemination	₹ 20 lakh/project	Project based – 100% and only for public sector.
3.	Acquisition of Technologies including Import of Planting Material from other Countries for Evaluation and mass Multiplication in order to increase Production & Productivity of Horticulture Crops	₹ 10 lakh/project	Project based – 100% and only for public sector.
4.	Imparting Training Through on Farm Trials/Front line demonstrations	₹ 5 lakh/project	Project based – 100% for public sector.
B. MINI MISSION – II (Production and Productivity Improvement)			
1.	Production of Planting Material (i) Model Nursery/Large Nursery (2-4 ha)	₹ 6.25 lakh/ha	100 % to public sector limited to Rs 25.00 lakh/unit and in case of private sector, credit linked back-ended subsidy @ 50% of cost, subject to a maximum of ₹ 12.50 lakh/unit for a maximum of 4 ha. as as project based activity.
	(ii) Small Nursery (1ha)	₹ 6.25 lakh	100% to public sector and in case of private sector, credit linked back-ended subsidy @ 50% of cost, subject to a maximum or ₹ 3.125 lakh/unit, as project based activity.
	(iii) Setting up of New Tissue Culture (TC) Units	₹ 100 lakh/unit	100% of total cost to public sector and in case of private sector, credit linked back-ended subsidy @ 50% of cost. Each TC unit will produce a minimum of 15 lakh plants of mandated crops for which protocols are available for commercial use

Contd.

S.No	Item	Maximum Permissible Cost	Pattern of Assistance#
	(iv) Rehabilitation of Existing Tissue Culture (TC) Units.	₹ 15 lakh per unit-as Project based activity	100% of cost to public sector and in case of private sector, credit linked back-ended subsidy @ 50% of cost.
	(v) True Potato Seed Center	₹ 25 lakh per center	100 % of cost to public sector and in case of private sector, credit linked back-ended subsidy @ 50% of cost.
	(vi) Progeny and Herbal Gardens	₹ 5 lakh/unit	100 % of cost to public sector and 50 % to private sector.
	(vii) Seed production for vegetables and Rhizomatic spices		
	a) Open Pollinated Crops	₹ 30,000/ha	For public sector, 100% of cost and for private sector 75% of cost limited to 5 ha. Output target of seed for each crop will be fixed by individual state for each beneficiary, before releasing funds.
	b) Hybrid Seeds	₹ 1,33,000/ha	For public sector, 100% of cost and for private sector, 75% of cost limited to 2 ha. Output target of seed for each crop will be fixed by individual State for each beneficiary, before releasing funds.
	(viii) Import of Planting Material for Trial and Demonstration purpose (By State Government, Growers' Associations recognized by NHB/MOA, PSU)	₹ 10 lakh	100% of cost for State Govt. and 75% of cost for Growers' Associations
	(ix) Seed Infrastructure for Handling, Processing, Packing, Storage etc. of Seed of Horticulture Crops.	₹ 200 lakh	100% of cost for public sector and for private sector, credit linked back ended subsidy @ 75% of cost.
2.	Establishment of New Gardens (Area Expansion)		
	I. Fruit Crops (for a maximum area of 4 ha per beneficiary)		
	(i) Cost Intensive Crops		
	a) Fruit Crops like Grapes, Strawberry, Kiwi, Passionfruit, etc.	₹ 1,00,000/ha	75% of cost i.e. ₹ 75000/ha including expenditure on planting material and cost of material for INM/IPM, etc. in 3 installments of 60:20:20 subject to survival rate of 75% in 2 nd year and 90% in 3 rd year.

Contd.

S.No	Item	Maximum Permissible Cost	Pattern of Assistance#
	b) Fruit Crops like TC Banana and Pineapple	₹ 1,00,000/ha	75% of cost i.e. Rs. 75000/ha including expenditure on planting material and cost of material for INM/IPM, etc in 2 installments of 75:25
	c) Fruit Crops like Banana, Pineapple (sucker) and Papaya	₹ 70,000/ha	75% of cost i.e. Rs. 52500/ha including expenditure on planting material and cost of material for INM/IPM, etc. in 2 installments of 75:25
	(ii) High Density Planting (apple, pear, peach, mango, guava, citrus, litchi, ber, cashew, etc.)	₹ 80,000/ha	75% of cost i.e. ₹ 60000/ha including the expenditure on planting material and cost of material for INM/IPM, etc. in 3 installments of 60:20:20 subject to survival rate of 75% in 2nd year and 90% in 3 rd year.
	(iii) Fruit Crops other than Cost Intensive Crops Using Normal spacing	₹ 40,000/ha	75% of the cost i.e. ₹ 30000/ha including expenditure on planting material and cost of material for INM/IPM, etc. in 3 installments of 60:20:20 subject to survival rate of 75% in 2 nd year & 90% in 3 rd year.
II. Vegetable (for maximum area of 2 ha per beneficiary)			
	(i) Open Pollinated	₹ 30,000/ha	75% of cost i.e. Rs. 22500/ha.
	(ii) Hybrid	₹ 45,00/ha	75% of cost i.e. ₹ 33750/ha.
III. Mushroom			
	(i) Integrated Mushroom Unit Consisting of Composting, Spawn Production and Training	₹ 50 lakh/unit	100% of the cost to public sector and 50% of cost private sector, for meeting expenditure on infrastructure, as credit linked back-ended subsidy
	(ii) Spawn Making Unit	₹ 15 lakh/unit	100% of the cost to public sector and in case of private sector, 50% of cost as credit linked back-ended subsidy.
	(iii) Compost Making Unit	₹ 20 lakh/unit.	100% of the cost to public sector and in case of private sector, 50% of cost, as credit linked back-ended subsidy
IV. Flowers (for a maximum area of 2 ha per beneficiary)			
	(i) Cut flowers	₹ 70,000/ha	75% of the cost i.e. ₹ 52500/ha including expenditure on planting material and cost of material for INM/IPM, etc.

Contd.

S.No	Item	Maximum Permissible Cost	Pattern of Assistance#
	(ii) Bulbous flowers	₹ 90,000/ha	75% of cost i.e. ₹ 67500/ha including expenditure on planting material and cost of material for INM/IPM. etc.
	(iii) Loose flowers	₹ 24,000/ha	75% of cost i.e. ₹ 18000/ha including expenditure on planting material and cost of material for INM/IPM, etc.
	(iv) Model Floriculture Centre	₹ 100 lakh/centre	100% of cost to public sector.
V.	Spices (for a maximum area of 4 ha per beneficiary)		
	(i) Seed spices and rhizomatic spices	₹ 25,000/ha	75% of cost i.e. ₹ 18750/ha including expenditure on planting material and cost of material for INM/IPM, etc.
	(ii) Perennial spices (black pepper, cinnamon, clove and nutmeg)	₹ 40,000/ha	75% of cost i.e. ₹ 30000/ha including expenditure on planting material and cost of material for INM/IPM, etc.
	(iii) Cost intensive spices viz. Saffron	₹ 80,000/ha	75% of cost i.e. ₹ 60000/ha including expenditure on planting material and cost of material for INM/IPM, etc.
VI.	Aromatic Plants (for a maximum area of 4 ha per beneficiary)		
	(i) Cost intensive aromatic plants (patchouli, geranium, rosemary, etc.)	₹ 75,000/ha	75% of cost i.e. ₹ 56250/ha including expenditure on planting material and cost of material for INM/IPM, etc.
	(ii) Other Aromatic Plants	₹ 25,000/ha	75% of cost i.e. ₹ 18750/ha including expenditure on planting material and cost of material for INM/IPM, etc.
3.	Rejuvenation/Replacement of senile plantations	₹ 30000/ha	50% of cost subject to a maximum of ₹ 15000/ha limited to 2 ha per beneficiary.
4.	Creation of Water Sources		
	(i) Community tank/on farm pond/on farm water reservoirs with use of plastic/RCC lining	₹ 17.25 lakh/unit	100% of cost for 10 ha of command area, with size of 100m x 100m x 3m or any other size depending upon pro rata basis, owned & managed by a

Contd.

S.No	Item	Maximum Permissible Cost	Pattern of Assistance#
			community/farmer group. Cost for non-lined ponds/tanks (only in black cotton soils) will be 33% less. Assistance under the mission will be restricted to the cost of plastic /RCC lining. However, for non MGNREGS beneficiaries, assistance on entire cost including construction of pond as well as lining can be availed under the Mission
	(ii) Water Harvesting System for Individuals- for Storage of Water in 20m x 20m x 3m pond/tube wells/dug wells @ ₹ 115/cum	₹ 1.38 lakh/unit.	75% of cost i.e. ₹ 1.03 lakh per beneficiary, assistance may be given for smaller size on pro rata basis. Maintenance to be ensured by beneficiary.
5.	Protected Cultivation		
	I. Green House Structure (Includes cost of material, installation and irrigation system)		
	a) Fan and pad system	₹ 1465/sq.m	50% of cost limited to 1000 sq.m per beneficiary
	b) Naturally ventilated system		
	(i) Tubular Structure	₹ 935/sq.m	50% of cost limited to 1000 sq.m per beneficiary
	(ii) Wooden Structure	₹ 515/sq.m	50% of cost limited to 1000 sq.m per beneficiary
	(iii) Bamboo Structure	₹ 375/sq.m	50% of cost limited to 1000 sq.m per beneficiary
	II. Plastic Mulching	₹ 20,000/ha	50% of cost limited to 2 ha per beneficiary
	III. Shade Net House		
	(i) Tubular Structure	₹ 600/sq.m	50% of cost limited to 1000 sq.m per beneficiary
	(ii) Wooden Structure	₹ 410/sq.m	50% of cost limited to 1000 sq.m per beneficiary
	(iii) Bamboo Structure	₹ 300/sq.m	50% of cost limited to 1000 sq.m per beneficiary
	IV. Plastic Tunnels	₹ 30/sq.m	50% of cost limited to 1000 sq.m per beneficiary

Contd.

S. No	Item	Maximum Permissible Cost	Pattern of Assistance#
V.	Anti Bird/Anti Hail Nets	₹ 20/sq.m	50% of cost limited to 5000 sq.m per beneficiary
VI.	Cost of Planting Material of High Value Vegetables grown in Polyhouse	₹ 105/sq.m	50% of cost limited to 500 sq.m per beneficiary
VII.	Cost of Planting Material of High Value Flowers in Polyhouse	₹ 500/sq.m	50% of cost limited to 500 sq.m per beneficiary
6.	Precision Farming development and extension through Precision Farming Development Centers (PFDCs)	Project based	100% of cost to PFDCs
7.	Promotion of INM/IPM		
	(i) Sanitary and Phytosanitary Infrastructure (Public Sector)	₹ 500 lakh/unit	100% of cost.
	(ii) Promotion of INM/IPM	₹ 2000/ha	50% of cost limited to 4 ha/ beneficiary.
	(iii) Disease Forecasting Unit (public sector)	₹ 4 lakh/unit	100% of cost
	(iv) Bio Control Lab	₹ 80 lakh/unit	100% of cost to public sector and for private sector, credit linked back ended subsidy @ 50% of cost.
	(v) Plant Health Clinic	₹ 20 lakh/unit	Maximum up to ₹ 20 lakh/unit for Public Sector and ₹ 10.00 lakh as credit linked back-ended subsidy to Private Sector
	(vi) Leaf/Tissue analysis Labs.	₹ 20 lakh/unit	Maximum up to ₹ 20 lakh/unit for Public Sector and ₹ 10.00 lakh as credit linked back-ended subsidy to Private Sector
8.	Organic Farming		
	(i) Adoption of Organic Farming	₹ 20,000/ha	50% of cost limited to ₹ 10000/ha for a maximum area of 4 ha per beneficiary, spread over a period of 3 years involving an assistance of ₹ 4000/- in first year and ₹ 3000/- each in second & third year. The programme to be linked with certification

Contd.

S. No	Item	Maximum Permissible Cost	Pattern of Assistance#
	(ii) Organic Certification	Project based	₹ 5 lakh for a cluster of 50 ha which will include Rs. 1.50 lakh in first year, ₹ 1.50 lakh in second year and ₹ 2.00 lakh in third year
	(iii) Vermi-Compost Unit	₹ 60,000/unit for permanent structure and ₹ 10,000/unit for HDPE Vermibed	50% of cost conforming to the size of the unit of 30' x 8' x 2.5' dimension of permanent structure to be administered on pro-rata basis. For HDPE Vermibed, 50% of cost conforming to size of 96 cft (12' x 4'2') to be administered on pro-rata basis.
9.	Certification for GAP, including infrastructure	₹ 10,000/ha	50% of cost
10.	Center of Excellence for Horticulture	₹ 500 lakh/centre	100% of cost.
11.	Pollination Support through Bee Keeping		
	(i) Production of Nucleus stock (Public Sector)	₹ 10 lakh	100% of cost.
	(ii) Production of Bee Colonies by Bee breeder	₹ 6 lakh	50% of cost for producing minimum of 2000 colonies/year
	(iii) Honey Bee Colony	₹ 1400/colony of 4 frames	50% of cost limited to 50 colonies per beneficiary
	(iv) Hives	₹ 1600/hive	50% of cost limited to 50 hives per beneficiary
	(v) Equipment including honey extractor (4 frame), food grade container (30 kg), net, etc.	₹ 14,000/set	50% of the cost limited to one set per beneficiary.
12.	Horticulture Mechanization		
	(i) Power Operated Machines/Tools including Power Saw and Plant Protection Equipments, etc.	₹ 35,000/set	50% of cost limited to one set per beneficiary.
	(ii) Power Machines (upto 20BHP) with Rotavator/Equipment	₹ 1.20 lakh/set	50% of cost limited to one set per beneficiary.
	(iii) Power Machines (20 HP and above) Including Accessories/Equipments	₹ 3 lakh/set	50% of cost limited to one set per beneficiary.
	(iv) Import of New Machines and Tools for Horticulture for Demonstration Purpose (Public sector)	₹ 50 lakh/machine	100% of cost.

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S.No	Item	Maximum Permissible Cost	Pattern of Assistance#
13.	Human Resource development (HRD)		
	(i) Training of Farmers including women		
	a) Within the District	₹ 400/day per farmer excluding transport.	100% of cost
	b) Within the State	₹ 750/day per farmer excluding transport	100% of cost
	c) Outside the State	₹ 1000/day per farmer excluding transport	100% of cost
	(ii) Exposure visit of farmers including women		
	a) Within the District	₹ 250/day per farmer excluding transport	100% of cost
	b) Within the State	₹ 300/day per farmer excluding transport	100% of cost.
	c) Outside the State	₹ 600/day per farmer excluding transport.	100% of cost
	d) Outside India	₹ 3 lakh/participant	Project based. 100% of air/rail travel cost
	(iii) Training/Study tour of Technical Officers/Field Functionaries involved in implementation of the scheme at Central/State Level including Women		
	a) Within the State	₹ 200/day per participant plus TA/DA, as admissible.	100% of cost
	b) Study Tour/Training in Progressive States/Units (group of minimum 5 participants) including Women	₹ 650/day per participant plus TA/DA, as admissible	100% of cost
	c) Outside India	₹ 5 lakh/participant	100% of cost on actual basis
	(iv) Information dissemination through publicity, printed literature etc and local advertisements	₹ 0.40 lakh/block	100% of cost
	(v) Development of technology packages in electronic form to be shared through IT network	₹ 1.00 lakh/district	100% of cost
14.	Special Interventions		
	I. Special Interventions: such as land development, transportation on case to case basis (from farm-gate to	₹ 200 lakh	Project based and restricted to 10% of outlay for the State proposal under the scheme, limiting to maximum of ₹ 200 lakh

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S.No	Item	Maximum Permissible Cost	Pattern of Assistance#
	Processing Units/Market Places and Transportation Centers) Projects of need based.		
II.	Tackling of Emergent/Unforeseen Requirements of State Government /Implementing Agencies	₹ 10 lakh	100% of the cost.
C. MINI-MISSION-III (Post Harvest Management and Marketing)			
1. Post Harvest Management			
	(i) Packhouse/On farm Collection and Storage Unit	₹ 3 lakh/unit with size of 9m x 6m	50% of capital cost
	(ii) Pre-cooling unit	₹ 15 lakh for 6MT capacity	Credit linked back-ended subsidy @ 55% of cost of project.
	(iii) Mobile pre cooling unit	₹ 24 lakh/unit for 5 MT capacity	Credit linked back-ended subsidy @ 55% of cost of project.
	(iv) Cold Storage Units (Construction/Expansion/Modernization) with Insulation, Humidity control, Fin Coil Cooling system with Multi chamber	₹ 6000/MT for 5000 MT capacity	Credit linked back-ended subsidy @ 55% of the cost of project in respect of only those units which adopt new technologies which are energy efficient with provision of insulation, humidity control and fin coil cooling system with provision of multi chambers. Technical standards, parameters and protocol issued by the Department to be adopted.
	(v) Integrated CA Chamber with facilities like pre cooling, cleaning, sorting grading, etc.	₹ 70,000/MT for maximum up to 5000 MT capacity	Credit linked back-ended subsidy @ 50% of cost of project
	(vi) C.A./M.A. Storage Units	₹ 32,000/MT for 5000 MT capacity	Credit linked back-ended subsidy @ 55% of cost of project
	(vii) Reefer vans/Containers	₹ 24 lakh/unit for 6 MT capacity	do
	(viii) Primary/Mobile/Minimal Processing Unit	₹ 24 lakh/unit.	do
	(ix) Ripening Chamber	₹ 6000/MT for 5000 MT capacity	do
	(x) Evaporative/Low Energy Cool chamber (8 MT)	₹ 4.00 lakh/unit	50% of cost.

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S.No	Item	Maximum Permissible Cost	Pattern of Assistance#
	(xi) Preservation Unit (low cost)	₹ 2.00 lakh/unit for new unit and ₹ 1.00 lakh/unit for upgradation	50% of cost.
	(xii) Low Cost Onion Storage Structure (25 MT)	₹ 1.00 lakh/unit	50% of cost.
	(xiii) Pusa Zero Energy Cool Chamber (100 kg)	₹ 4000 /unit	50% of cost
	(xiv) Integrated Project on Production and Post Harvest Management of Horticultural Crops.	₹ 50.00 lakh	50% of project cost
2.	Establishment of Marketing Infrastructure for horticultural produce		
	(i) Terminal Market	₹ 150 crore/project	25% to 40% (limited to ₹ 50.00 crore) as Public-Private Partnership mode through competitive bidding, in accordance with operational guidelines issued separately.
	(ii) Wholesale Market	₹ 100 crore	Credit linked back-ended subsidy @ 33.33% of the capital cost of the project for entrepreneurs.
	(iii) Rural Markets/Apni Mandies/ Direct Market	₹ 20.00 lakh/unit	Credit linked back ended subsidy 55% of capital cost.
	(iv) Retail Market/Outlets (environmentally controlled)	₹ 10.00 lakh per unit	Credit linked back-ended subsidy @ 55% of capital cost.
	(v) Static/Mobile Vending Cart/ Platform with Cool chamber.	₹ 30,000/unit	50% of cost.
	(vi) Functional Infrastructure:		
	a) For collection, grading, etc.	₹ 15 lakh	Credit linked back-ended subsidy @ 55% of total cost.
	b) Quality control/analysis lab	₹ 200 lakh	100% of cost to public sector and 50% of cost to private sector as credit linked back-ended subsidy.
	(vii) Market Extension, Quality Awareness and Market led Extension Activities for Fresh Products	₹ 3 lakh/event	100% assistance to State Government/SHM/Public Sector Agencies
D.	MINI MISSION – IV Processing & Value Addition		
	(i) Setting up of New Processing Units	₹ 800 lakh	Credit linked back ended capital investment assistance of 50% of cost.

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S.No	Item	Maximum Permissible Cost	Pattern of Assistance#
	(ii) Up-gradation and Modernization of Existing Processing Units	₹200 lakh	Credit linked back ended capital investment assistance of 50% of cost.
	(iii) Promotional Activities	Project based	As per MFPI pattern
E	MISSION MANAGEMENT		
I	State Level		
1.	State & Districts Mission Offices and Implementing Agencies for Administrative Expenses, Field Consultants, Project, Preparation, Computerization, Contingency etc.	4.5% of total annual expenditure against the approved action plan on the basis of appraised needs to the implementing agencies.	100% assistance to implementing agencies.
2.	Institutional Strengthening-Hiring of vehicle, purchase of Hardware/ Software, etc	Project based	100% assistance
3.	Seminars, Conferences, Workshops, Exhibitions, Kisan Mela, Horticulture Shows, Honey festivals, etc.		
	a) State level	₹ 3 lakh/event	100% assistance subject to a maximum of ₹ 3.00 lakh per event of two days.
	b) District level	₹ 2 lakh/event	100% assistance subject to a maximum of ₹ 2.00 lakh per event of two days.
4.	Technical Support Group (TSG) at State level for Hiring Experts/Staff, Studies, Monitoring & Evaluation, Mass media, Publicity, Video Conference, etc.	Project based subject to a ceiling of ₹ 50 lakh per annum/state	100% of cost
II.	National Level		
1.	Technical Support Group (TSG) at National Level for Hiring Experts/ Consultants, Studies, Seminar/ Conference/Workshops, Training, Contingencies, Monitoring & Evaluation, Mass media, Publicity, Video Conference, etc.	₹ 500 lakh/annum	100% of cost
2.	Technical Collaboration with International Agencies like FAO, World Bank, ADB, Bilateral Cooperation, International exposure Visits /Training of Officials, etc.	Project based on actual cost	100% assistance.

Note: The release of back ended subsidy need not be credit linked for the institutions like Public Sector Unit, Panchayats, Cooperatives, Registered Societies/Trusts and Public Limited Companies, provided they can meet the remaining share of the project cost, out of their own resources.

Annexure – V

High Density Planting of Selected Fruit Crops

Fruit Crops	Plant spacing (m)	No. of Plants/ha
Almond	2.5 X 2.5	1600
	3.0 X 3.0	1111
Aonla	4.0 X 5.0	500
Apple	2.5 X 2.5 (RS – MM 106)	1600
	3.0 X 3.0 (RS – MM 106)	1111
	3.0 X 1.5 (RS – M9)	2222
	1.5 X 1.5 (Rs – M9)	4444
	3.5 X 3.5 (Rs – MM 111)	816
	4.0 X 4.0 (RS – MM 111)	625
Apricot	3.5 X 3.5	816
	4.0 X 4.0	625
Banana	1.8 X 1.8	3086
	1.5 X 1.5	4444
Ber	4.0 X 4.0	625
	5.0 X 5.0	400
Cashew	4.0 X 4.0	625
	5.5 X 5.5	330
Cherry	4.0 X 4.0	625
Citrus Lime & Lemons	3.0 X 3.0	1111
	4.0 X 4.5	555
Mandarin/ Orange	4.0 X 5.0	500
	5.0 X 5.0	400
	4.5 X 4.5	494
	5.0 X 4.5	444
Cocoa	3.0 x 3.0	1111
Custard apple	2.5 X 2.5	1600
Fig	4.0 X 4.0	625
	2.5 X 2.5	1600
Grape	3.0 X 2.0	1666
	1.8 X 2.0	2777

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Fruit Crops	Plant spacing (m)	No. of Plants/ha
Guava	1.5 X 3.0	2222
	3.0 X 3.0	1111
	3.0 X 6.0	555
	1.0 X 2.0	5000
Kiwi	4.0 X 5.0	500
	4.0 X 6.0	416
Litchi	4.5 X 4.5 X 9.0	329
	6.0 X 6.0	278
Mango	3.0 X 4.0	833
	3.0 X 6.0	555
	4.0 X 6.0	416
	5.0 X 5.0	400
Papaya	1.8 X 1.8	3086
	1.5 X 1.5	4444
Peach	2.5 X 2.5	1600
	3.0 X 2.5	1333
Pear	3.0 X 3.0	1111
	4.0 X 4.0	625
	5.0 X 5.0	400
Pineapple (in cm)	22.5 X 60.0 X 90.0	53000
	30.0 X 60.0 X 90.0	43000
Plum	2.5 x 2.5	1600
	3.5 x 3.5	816
Pomegranate	4.0 X 3.0	833
	5.0 X 3.0	666
Sapota	5.0 X 5.0	400
Strawberry	0.6 X 0.25	66666
	0.9 X 0.45	24691
	0.5 X 1.0	20000
Walnut	5.0 X 5.0	400
	6.0 X 6.0	278

RS – Rootstock



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Name of State	Principal Secretary/Secretary	Director /Mission Director
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Tripura	Principal Secretary Department of Horticulture New Secretariat Complex Government of Tripura Agartala – 799006 Tel: 0381-2323474	Director (Horticulture & Soil Conservation) Government of Tripura Paradise Chowmuhani Agartala, (Tripura) – 799001 Fax: 0381-2324739
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Name of State	Principal Secretary/Secretary	Director/Mission Director
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