



**CENTRAL INSTITUTE OF HORTICULTURE**  
**Deptt. of Agriculture and Cooperation**  
**Ministry of Agriculture, Govt. of India**  
**Medziphema-Nagaland**

**ACTION PLAN 2009-10**

**Submitted**  
**by**  
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The Central Institute of Horticulture was set up at Medziphema in an area of 43.50 ha for holistic development of horticulture sectors of the NER with its various programmes .

### **Objectives of the Institute**

- Capacity building – training of trainers & farmers/ beneficiaries
- Demonstration of improved technologies
- Follow-on extension support in the field of horticulture.
- Promotion of organic cultivation of horticultural crops.
- Establishing convergence and synergy among programmes in the field of horticulture
- Monitoring of Centrally sponsored programmes in the area of horticulture.

### **Programmes of the Institute**

#### **(A) Technology Refinement**

Refinement of technologies appropriate to the region would be undertaken by the Institute either by utilizing their own resources or in coordination with other research centres of ICAR and SAUs.

#### **(B) Demonstration of Production Technology of Important Horticultural crops**

Transferable technologies identified by different National and Regional R and D institutions, including Indigenous Technology Knowledge (ITK) will be documented and some of them will be demonstrated on farmers' fields. Although the requirements are varied & many, priority areas will be identified for large scale demonstration of technologies. The demonstration results will also indicate the components in which fine-tuning of the technology may be required for adjustment with agro climatic situation.

#### **(C) Production and Supply of Quality Planting Material**

Low productivity of different horticultural produce in the region is largely due to non-availability of quality planting material, including seeds. Availability of good planting material being central to horticultural development will, therefore, receive focused attention. Under the Institute, suitable varieties of fruits, vegetables, tuber crops, spices and plantation crops identified for this region will be multiplied through vegetative propagation as well as micro-propagation (tissue culture), as nucleus / basic seed and planting materials for supply to the departmental agencies, NGOs and private entrepreneurs for further multiplication and supply to the farmers.

**(D) Post harvest Management, Marketing and Agribusiness Promotion**

Establishment of model pack houses with small scale storage structures including a multi-chamber cold storage, grading, packing for demonstration and training purposes;

Establishment of small scale pilot testing plants for processing of value added products for demonstration and training purposes.

The Institute would act as a catalyst for promotion of fruit and vegetable processing units and will organize training/ motivational tours for potential entrepreneurs.

**(E) Capacity Building**

**(a) Training of Trainers**

State Department officers and Field extension functionaries of all the 8 states of NER will receive training in different areas (Fruits, Vegetables, flowers, Spices & Plantation crops, Medicinal and Aromatic plants and Post Harvest Technology) in batches. These officers will act as Master Trainers for organizing training for lower level departmental officials and NGOs staff engaged in horticultural development programmes. The field level officials will carry out follow-on extension activities.

**b) Farmers Training**

Crop specific training will be organized at state level by the Master Trainers. Training materials, audiovisuals, flip charts in local languages will be prepared and distributed to the state functionaries involved in training of beneficiaries.

**F) Monitoring of the activities under TMNE and other Centrally Sponsored Schemes in the region.**

The officers of the Institute will be regularly monitoring the activities of TMNE and other Centrally Sponsored Schemes in the region and provide necessary technical support for effective implementation of these programmes.

**G) Coordination with other Departments, organizations and Institutes**

The Institution will have a close coordination and linkage with the Departments of Horticulture of all the NE States as well as Central Agricultural University, Manipur and Nagaland University, Kohima including Medziphema Campus, besides ICAR Complex at Barapani (Meghalaya) and their regional Centres, Assam Agricultural University, Jorhat,

NRC Orchids (Sikkim) and Regional Research Laboratory, (CSIR) Jorhat and the KVKs. The institute will also have close association of the National Institutes like IIHR, Bangalore, CPRI, Shimla, CPCRI, Kasargod, CTCRI, Trivandrum; IIVR, Varanasi; IISR, Calicut, CITH, Lucknow; IARI New Delhi; NRC Citrus, Nagpur; CIMAP, Lucknow, NHRDF, Nashik, etc. the Institute will serve as the nodal agency processing industry and export related agencies like APEDA, NAFED etc. The Institute will be networked with all other Institutes and Departments involved in development of horticulture in the country and abroad.

### Summary of Action Plan 2009-10 for CIH, Medziphema Nagaland

Components	Physical	Financial implication (Rs.)
<b>CAPACITY BUILDING &amp; HRD ACTIVITIES</b>		
1) Training of Trainers ( TOT)	16 Nos (Target - 500 ) ( List in <b>Annexure- I</b> )	32 lakhs (@2 lakhs per training)( <b>Annexure –III</b> )
2) Training of farmers	72 Nos ( target -8,000) ( List in <b>Annexure- II</b> )	144 lakhs ( @ 2 lakhs /training)
3) Printing of Training manuals	12 Nos ( list in <b>AnnexureIV</b> )	24 lakhs
4)Capacity building of CIH staffs/Officers		10 lakhs
		<b>Sub Total- 210 lakhs</b>
<b>ESTABLISHMENT OF DEMONSTRATION FARMS</b>		
a) Fruit village.	2 village	10 lakhs
b) Cardamom ( Sikkim)	1 ha	2 lakhs
c) Avacado ( Mizoram)	1ha	2 lakhs
d) Cashew nut	2 ha	6 lakhs
e) Nursery unit (fruit)	2 units	10 lakhs
f) Model citrus orchard	1 ha	5 lakhs

<p><b>PROMOTION OF ORGANIC FARMING</b></p> <p>1) Organic Demonstration farm</p> <p>2) Establishment of Bio village ( Horti. Based)</p> <p><b>AGRI BUSINESS PROMOTION</b></p> <p>1. Exposure trips of beneficiaries &amp; farmers</p> <p>2. Processing units( Home scale) in selected states of North East.</p> <p>3. Mushroom units</p> <p>4. Cashew processing</p>	<p>5 states( about 1 ha each)</p> <p>1 village</p> <p>2 nos</p> <p>2units</p> <p>2units</p>	<p><b>Sub Total : 35 Lakhs</b></p> <p>50 lakhs</p> <p>50 lakhs</p> <p><b>Sub Total : 100 lakhs</b></p> <p>10 lakhs</p> <p>10 lakhs</p> <p>2 lakhs</p> <p>4 lakhs</p> <p><b>Sub Total – 26 lakhs</b></p>
<p><b>PLANTATION AT CIH FARM</b></p> <p>a) Farm Development</p> <p>b) Poly house (Ornamentals including dendrobium/ vanda)</p> <p>c) Vegetable Block</p> <p>d) MAP</p> <p>e) Plantation of Fruit plants  Passion fruit  Strawberry  Black pepper  Sapota  Avocado</p>	<p>To complete the plantation in the existing structures</p> <p>0.5 ha</p> <p>0.5 ha</p> <p>5ha( 1 ha each)</p>	<p>10 lakhs</p> <p>20 lakhs</p> <p>3 lakh</p> <p>5 lakhs</p> <p>5 lakhs  5 lakhs  1 lakh  2 lakhs  2 lakhs</p> <p><b>Sub total –53 lakhs</b></p>

<b>QUALITY PLANTING MATERIAL PRODUCTION</b>		
a) Mother plant block( Fruits) Guava, litchi, peach (low chilling)	3ha(0.5ha each)	10 lakhs
	50,000 nos.each	3 lakhs 3 lakhs
b) Fruit Nursery raising of seedling /grafts for Cashew & Citrus	2 Units	10 lakhs
C)Procurement of hardening protocol & establishment of hardening facilities		<b>Sub Total – 26 Lakhs</b>
Meetings/ Workshop/ Seminar/ Conference/Exhibition/ Mela etc.	-----	<b>80 lakhs</b>

### Budget projection of CIH for the Year 2009-10

Sl. No.	Head of Account	Estimated Budget for 2009-10(Rs. in lakh)
<b>A.</b>	<b>Major Head 2552</b>	
	1) Salaries	20
	2) Wages	10
	3) Medical	2
	4) Rents/Rates/Taxes	1
	5) Advt./Publicity	2
	6) TD/DA (DTE)	25
	7). Office Expenses (OE) ( including chemicals & glass wares)	50
	8) Other Administrative Expenses (OAE) ( including consultancy fees est. of demo. Farms, Agri business promotion activities, Organic farming; plantation etc)	580

	9) Motor vehicle	10
	10) Farm machineries & Equipments	30
	<b>Sub total</b>	<b>730</b>
<b>B.</b>	<b>Major Head 4552 Works</b>	<b>Rs. 1500</b>
	<b>Grand total</b>	<b>Rs. 2230 lakhs</b>

**Grand Total : (Rupees two thousand two hundred and thirty lakhs) only**

In order to execute the action plan of 2009-10, following strategies are indicated here under

SL. NO	Components	Strategy
<b>1</b>	CAPACITY BUILDING & HRD ACTIVITIES	<p><b>(a) Training of trainers:</b> Training on identified topics will be imparted to the State govt. department Officers and field extension functionaries/entrepreneurs/SHGs members in all the 8 States of NER. These trainees will act as Master Trainers. The field level officials will carry out follow-on extension activities.</p> <p><b>(b) Training of farmers:</b> Crops specific training will be organized at State level by the Master Trainers. Training materials, hands out, audiovisuals, flip charts in local languages will be prepared and distributed to the State functionaries involved in training of beneficiaries.</p> <p><b>c) Printing of Training manuals:</b> The institute will publish training manuals for all the trainings conducted, which will be for the master trainers. These publication will further be translated into local dialects of respective states, which can be used as training materials for the farmers</p> <p><b>d) Capacity building of CIH staffs/Officers</b> The staff of CIH will be trained on-site for various skill development. Technical Consultants will be trained in various Institutes on specific areas to develop expertise. The Head of the Institute, the DDO and the administrative offices will be trained in management of organization, financial and administrative management matters.</p>

<p>2</p>	<p><b>ESTABLISHMENT OF DEMONSTRATION FARMS</b></p>	<p>Demonstrations to be carried out in different states of NER on the following aspects in growers field</p> <p><b>Fruit Village:</b> Establish fruit village in line with vegetables village including fruits crops like mango, litchi, peach, guava, etc. However, the fruits crops for different state will be finalized during the proposed workshop.</p> <p><b>Quality planting materials to be procured for specific crops</b> (Cardamom, Avocado and Cashewnut) for establishing Demonstration farm in identified farmers field in different states of North East</p> <p><b>For nursery unit,</b> few of the educated unemployed youth, SHGs, NGOs, will be selected and given basic low cost infrastructure and technology for establishing nursery unit to supply quality planting materials</p> <p><b>For model citrus orchard,</b> an area of about 1 ha will be established with quality planting materials and all standard inputs and technology. The expertise of the NRC scientist will be utilized for developing the model.</p> <p>The beneficiaries will be selected by a committee constituted with members comprising of state govt. officials, ICAR and University faculty. The beneficiaries will be selected on the basis of the following criteria</p> <ol style="list-style-type: none"> <li>1)Beneficiaries who have not availed any assistance from any organization (certificate to be obtained)</li> <li>2)Beneficiaries having land near to the main or approach road</li> <li>3)Beneficiaries who are already engaged in Horticulture activity</li> <li>3)Any other criteria deem fit to be decided by the committee</li> </ol> <p>All inputs will be provided by CIH while labours will be borne by beneficiaries.</p>
<p>3</p>	<p><b>PROMOTION OF ORGANIC FARMING</b></p>	<p><b>a) Organic Demonstration farm:</b> Organic Demonstration farm to be established in different states of North East for some niche crops like ginger (Nadia), chilli (Raja Chilli, bird's eye chilli ), turmeric and pineapple field</p> <p><b>b) Establishment of Bio village (Horti. Based)</b> One village will be selected for establishing a bio village concept incorporating all components of organic farming as well</p>



4	<b>AGRI BUSINESS PROMOTION</b>	<p>as certification and facilitate for developing market linkages .This concept will be adopted utilizing the expertise of Consultants from organic sector</p> <p><b>Exposure trips of beneficiaries &amp; farmers</b> The beneficiaries/ progressive farmers will be exposed to success stories of entrepreneurship skill through conducted tours</p> <p><b>Different entrepreneurial activities will be set up in selected states of North East.</b> The beneficiaries will be selected on the basis of the following criteria</p> <ul style="list-style-type: none"> <li>(i) SHG/Society who have not availed any assistance from any organization</li> <li>(ii) SHG/Society who have good book keeping record</li> <li>(iii) who has some potentiality in horticulture processing activity</li> </ul> <p>The selection committee will be constituted with members from state Horticulture &amp; Industry Depts., KVK (ICAR) and CIH ,</p>
5	<b>PLANTATION AT CIH FARM</b>	<p><b>a) Farm Development</b></p> <p>For establishing new blocks for various horticulture crops land development activities like cleaning , leveling, pit digging, etc will be taken up</p> <p><b>b) Plantation in polyhouses</b> The remaining polyhouses/shadenets will be utilized for planting various ornamentals &amp; vegetable crops. In addition, Dendrobium/Vanda will be grown in one of the poly house as a part of refinement of technology. The planting materials for the same will be supplied by the NRC, Orchid, Sikkim.</p> <p><b>c) Vegetable block:</b> High quality Hybrids seeds of vegetables such as peas, Cabbage, cauliflower, beans, will be procured from Certified agencies and raised in about 0.5 ha area</p> <p><b>d) MAP</b> Important identified Medicinal and Aromatic plants will be planted in an area of about 0.5 ha as a part oof technology refinement and demonstration</p>

6	<p><b>QUALITY PLANTING MATERIAL PRODUCTION</b></p>	<p><b>e) Plantation of fruit plants</b>  For commercial cultivation of various fruit crops like Passion fruit, Strawberry, Black pepper, Sapota &amp; Avocado ,an area of about 5 ha will be established</p> <p><b>a) Mother Plant block (Fruits):</b>  Mother block for Litchi, Guava &amp; Peach of about 3 ha will be established</p> <p><b>b) Fruit Nursery raising of seedling/grafts for Cashew &amp; Citrus:</b>  For raising quality rootstock, the seeds procured from the Directorate of Cashew will be utilized and for citrus the seeds of Rough lemon, Rangpur Lime, Cleopatra Mandarin, Kacchai Lemon will be procured from NRC Nagpur &amp; Lungnak farm Nagaland. Scion materials will be collected for budding/ grafting in appropriate time.</p> <p><b>c) Procurement of hardening protocol &amp; establishment of hardening facilities:</b>  Creation of hardening facilities for large – scale supply of tissue cultured plants especially banana cultivars (Jahaji and Malbhog) and flower crops.</p>
7	<p><b>MEETINGS/ WORKSHOP/ SEMINAR/ CONFERENCE/ EXHIBITION/ MELA etc</b></p>	<p>In order to develop the proper coordination among the North East State for Horticulture development, an interface meetings / workshops will be held in different state of NER with officials from State Horticulture department, faculties of University and Institute, stake holders, progressive farmers and all stake holders of Horticulture.</p> <p>In addition to this, the Institute will also try to hold Seminars / Conference on key issues in the Horticulture sectors of NER</p>

## Annexure - I

### Training of Trainers

Sl.no.	Topic	No. of Trainings	Participants
1	Organic farming	4	State Govt. Officials of NE States ,SHGs & NGOs ( 40/ training)
2	Marketing	3	State Govt. Officials of NE States ,SHGs & NGOs ( 40/ training)
3	Entrepreneurship	2	State Govt. Officials of NE States ,SHGs & NGOs & Entrepreneurs (40/ training)
4	Post Harvest Technology	4	State Govt. Officials of NE States ,SHGs & NGOs ( 40/ training)
5	Propagation	2	State Govt. Officials of NE States ,SHGs & NGOs ( 40/ training)
6	Project management	1	State Govt. Officials of NE States ,SHGs & NGOs ( 40/ training)

## Annexure - I I

### Training of Farmers/ beneficiaries

Sl.no.	Topic	Venue	Participants
1	Propagation techniques	1 (one) in each of 8 states of NER	Progressive farmers/ beneficiaries /SHGs/ NGOs (50 /training)
2	Post Harvest Technology	- do-	do-
3	Organic farming	do-	do-
4	Nursery production & management (quality planting materials)	- do-	do-
5	Use of plastics in horticulture	-do-	do-
6	Protected cultivation	-do-	do-
7	Value addition and packaging , (Ginger, Mandarin, passion fruit )	-do-	do-
8	Drip irrigation	-do-	do-
9	Cashew production and processing	-do-	do-

### Annexure - III

#### Break up of Expenditure for Training Programme.

1. Fooding (Lunch / Breakfast/ Dinner)	-	200 x 50 x 3days.	Rs. 30,000.00
2. Lodging	-	50 x 50 x 4	Rs. 10,000.00
3. Training kits	-	150 x 50	Rs. 7,500.00
4. Refreshment (Hi-tea)	-	50 x 50 x 3	Rs. 7,500.00
5. Transportation - (Bus hiring)	-	3,500 x 2 x 4	Rs. 28,000.00
6. Stationery	-	-	Rs. 5,000.00
7. T.D. /D.A. of Participant	-	2000 x 50	Rs. 1,00,000.00
8. Honorarium (Resource Person)	-	1000 x 3 x 3	Rs. 9,000.00
9. Miscellaneous	-		Rs. 3000.00
<b>Total</b>	-		<b>Rs. 2 lakhs/Training</b>

**(Rupees two lakhs only)**

## **Annexure-IV**

### **List of publication**

1. Training manual on Post harvest management of Horticultural crops.
2. Drip Irrigation – its management.
3. Steps involved in Citrus Rejuvenation.
4. Cashew Cultivation and Processing.
5. Practical manual on protected cultivation of ornamentals.
6. A guide to Fibre Extraction of Banana and Pineapple.
7. Training manual on production of vegetables.
8. Production Technology of Spices and plantation crops cultivation.
9. A practical guide to Medicinal and Aromatic plants.
10. A practical guide to nursery production and management.
11. Manual on use of plastics in Horticulture.
12. Propagation techniques in Horticultural crops- a guide book.