

CENTRAL INSTITUTE OF HORTICULTURE

LAYING OF FOUNDATION STONE

ON 27TH MARCH 2006

BY

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**CENTRAL INSTITUTE OF HORTICULTURE
DEPARTMENT OF AGRICULTURE & COOPERATION
MINISTRY OF AGRICULTURE
GOVERNMENT OF INDIA
MEDZHIPHEMA, DIMAPUR DISTRICT, NAGALAND**

CENTRAL INSTITUTE OF HORTICULTURE

Recognizing the importance for institutional support for development of horticulture in NE Region, Government of India has sanctioned a Central Sector Scheme for setting up of Central Institute of Horticulture in Nagaland during January, 2006. The financial outlay for the setting up of Institute over a period of 5 years is Rs.20 crores.

The Institute is being set up at Medziphema in an area of 43.50 ha, which is situated at 35 kms. from Dimapur and 45 kms. from Kohima city on National Highway 39. It has an elevation ranging from 250 to 300 metres having temperature between 12 to 35 degree centigrade and average rainfall of 2500 mm. The area has low hilly terrains with good soil suitable for growing most of the sub tropical horticultural crops. The objectives and the identified programmes of the Institute are as given below:

Objectives of the Institute

The main objective of the Institute is to support horticulture development in the N.E. region through:

- i) capacity building by training of trainers, extension officers, farmers, entrepreneurs, processors and exporters,
- ii) demonstration of improved technologies such as use of improved varieties / hybrids, adoption of INM / IPM practices, Hi-tech farming, precision farming, protected cultivation, post harvest technology, etc, and
- iii) follow-on extension support in the field of horticulture.
- iv) promotion of organic cultivation of horticultural crops.
- v) establishing convergence and synergy among programmes in the field of horticultural research and development.
- vi) monitoring of Centrally sponsored programmes in the area of horticulture.

Programmes of the Institute

The focus areas for the Institute are (i) refinement /demonstration of identified technologies specific for the region, (ii) production and supply of quality seed and planting material of improved/high yielding varieties (iii) training of state department officials and field functionaries in selected aspects of horticulture development including post harvest

management, processing and value addition. The details of the programmes of the Institute are as under:

(A) Technology Refinement for Large-scale Adoption.

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

- Production technology and plant protection measures of newly introduced crops such as passion fruit, kiwi, cashew, large cardamom, Patchouli, Anthurium etc., will be put under test for making them more location specific.
- High density planting (HDP) of certain crops eg., banana, pineapple;
- Micro-irrigation and fertigation technology;
- Commercial cultivation of identified flowers under protected cultivation;
- Organic farming in some crops, priority being winter vegetables and export oriented fruits and spices;
- Agro techniques for growing of medicinal and aromatic plants such as Patchouli, Aloe Vera and citronella.

(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. The field functionaries of line departments of different states will be trained on advanced technologies for their effective transfer who in turn, will be responsible for establishing demonstrations on farmers' fields. Although the requirements are varied & many, priority areas have been 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 agroclimatic situation.

The technologies identified for large scale demonstration are:

- Improved varieties/hybrids of horticultural crops identified under TMNE, namely fruit crops like citrus, banana, passion fruit, strawberry, pineapple, kiwi, litchi; off-season vegetables such as cabbage, cauliflower, tomatoes; spices like ginger,

turmeric, black pepper, large cardamom; medicinal and aromatic plants like citronella, patchouli; flowers such as anthurium, orchids, gerbera, rose and plantation crops like cashewnut.

- Improved agro-techniques including plant protection measures for commercial production of identified crops under TMNE, namely citrus, banana, passion fruit, strawberry, pineapple, kiwi, litchi; off-season vegetables such as cabbage, cauliflower, tomatoes; spices like ginger, turmeric, black pepper, large cardamom; medicinal and aromatic plants like citronella, patchouli; flowers such as anthurium, orchids, gerbera, rose and plantation crops like cashewnut.
- Rejuvenation of declined mandarin orchards.
- High density planting of banana with tissue cultured plants.
- High density planting of pineapple across the slope in contour including off-season fruiting through flower inducement.
- Off-season production of selected vegetables with suitable varieties/ hybrids and package of practices.
- Commercial cultivation of selected flowers with suitable varieties and package of practices.

(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. The activities identified are as under:

- Establishment of mother tree orchards of elite varieties as scion wood, or bud banks for supply to nurseries.
- Procurement of Breeder's seed and nucleus planting material and mother plants from research institutes for supply to the states.
- Establishment of modern nursery of selected fruits with improved varieties/ clones.

- Creation of hardening facilities for large-scale supply of tissue cultured plants especially banana cultivars (Jahaji and Malbhog) and flower crops like Cymbidium orchids etc.
- Production of nucellar seedlings of mandarin orange from the seeds of fruits collected from identified ‘mother trees’ by raising under green/ polyhouse conditions.
- Providing technical support to the states for testing and certification of planting materials.

(D) Post harvest Management, Marketing and Agribusiness Promotion

The activities identified for promotion of post harvest management, marketing and processing are:

- 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) 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 the TMNE and other Centrally Sponsored Schemes in the region and provide necessary technical support for effective implementation of these programmes.

(F) Capacity Building by Organizing Training and Awareness programmes.

Training will be of the following categories.

(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.

Coordination with other Departments, Organizations and Institutes.

The Institute 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 for TMNE in NER. The Institute will establish functional relationship with seed and 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.

Management and Monitoring:

Horticulture Division, Department of Agriculture and Cooperation, Ministry of Agriculture, Government of India, New Delhi will be responsible for administering the Central Institute. The Institute will have a Board of Management (BOM) with representatives from NEC, NE States, industry/ entrepreneurs, two horticultural experts as members, Horticulture Commissioner as the Chairman and Director of the CIH as the Member-Secretary - for approval of programmes and regular monitoring of the activities of the Institute.

A peer review of the progress made by the Institute would be undertaken after 12 months.

Expected outcomes and outputs

Setting up of the Institute would help assist overall development of horticulture in NE region through continuous technical support for large scale demonstration, capacity building, promotion of different horticultural crops through improved seeds, technology, post harvest management, cold storages and processing units, which would result in achieving higher production levels, enhanced employment, increased entrepreneurship participation and investment. Precise targets for the Institute for 5 years and the first year are as under;

- i. Establishment of 10 ha of mother blocks of improved varieties of identified crops.
- ii. Production of quality planting material
 - Banana – tissue culture plant production (procurement of plantlets from tissue culture labs established under TMNE and hardened in the Institute) – 10.00 lakh Nos.
 - Passion fruit- rooted cuttings from selected high yielding clones – 2lakh Nos.
 - seedlings from selected high yielding clones – 5.00 lakh Nos.
 - Kiwi – rooted cuttings from selected high yielding varieties – 50,000 Nos.
 - Production /procurement and supply of planting materials of selected improved varieties of other identified fruit crops to cover at least 10,000ha.
 - Production /procurement and supply of vegetable seeds of selected hybrids to cover at least 2000ha.
 - Production /procurement and supply of flower seeds/ plantlets of selected varieties to cover at least 1000ha.
- iii. Refinement of at least 15 important technologies specific to the region.
- iv. Demonstrations of at least 5-10 identified technologies for improved production including rejuvenation of senile orchards in a year with at least 200 demonstrations per state.
- v. Demonstration of at least 5 technologies for improved PHM including establishment of pilot plants for processing of value added products in a year with at least 20 demonstrations per state.
- vi. Training of 20,000 farmers and all the officers involved in implementation of horticulture programmes.

Some of the expected outcomes of the Institute in the first year are:

- i) Establishment of 2 ha of mother blocks of improved varieties of cashew and passion fruit.
- ii) Production of quality planting material
 - Banana – tissue culture plant production (procurement of plantlets from tissue culture labs established under TMNE and hardened in the Institute) – 2.00 lakh Nos.
 - Passion fruit- rooted cuttings from selected high yielding clones – 20,000 Nos.
-seedlings from selected high yielding clones – 1.00 lakh Nos.
 - Kiwi – rooted cuttings from selected high yielding varieties – 10,000 Nos.
 - Production /procurement and supply of planting materials of selected improved varieties of other identified fruit crops to cover at least 2,000 ha.
 - Production /procurement and supply of vegetable seeds of selected hybrids to cover at least 500ha.
 - Production /procurement and supply of flower seeds/ plantlets of selected varieties to cover at least 200ha.
- iii) Identification and refinement of at least 3 important technologies specific to the region.
- iv) Demonstrations of production technologies on passion fruit, kiwi, pineapple, anthurium and for rejuvenation of senile mandarin orchards - at least 50 demonstrations per State
- v) Training of 4,000 farmers and selected 400 officers involved in implementation of horticulture programmes.

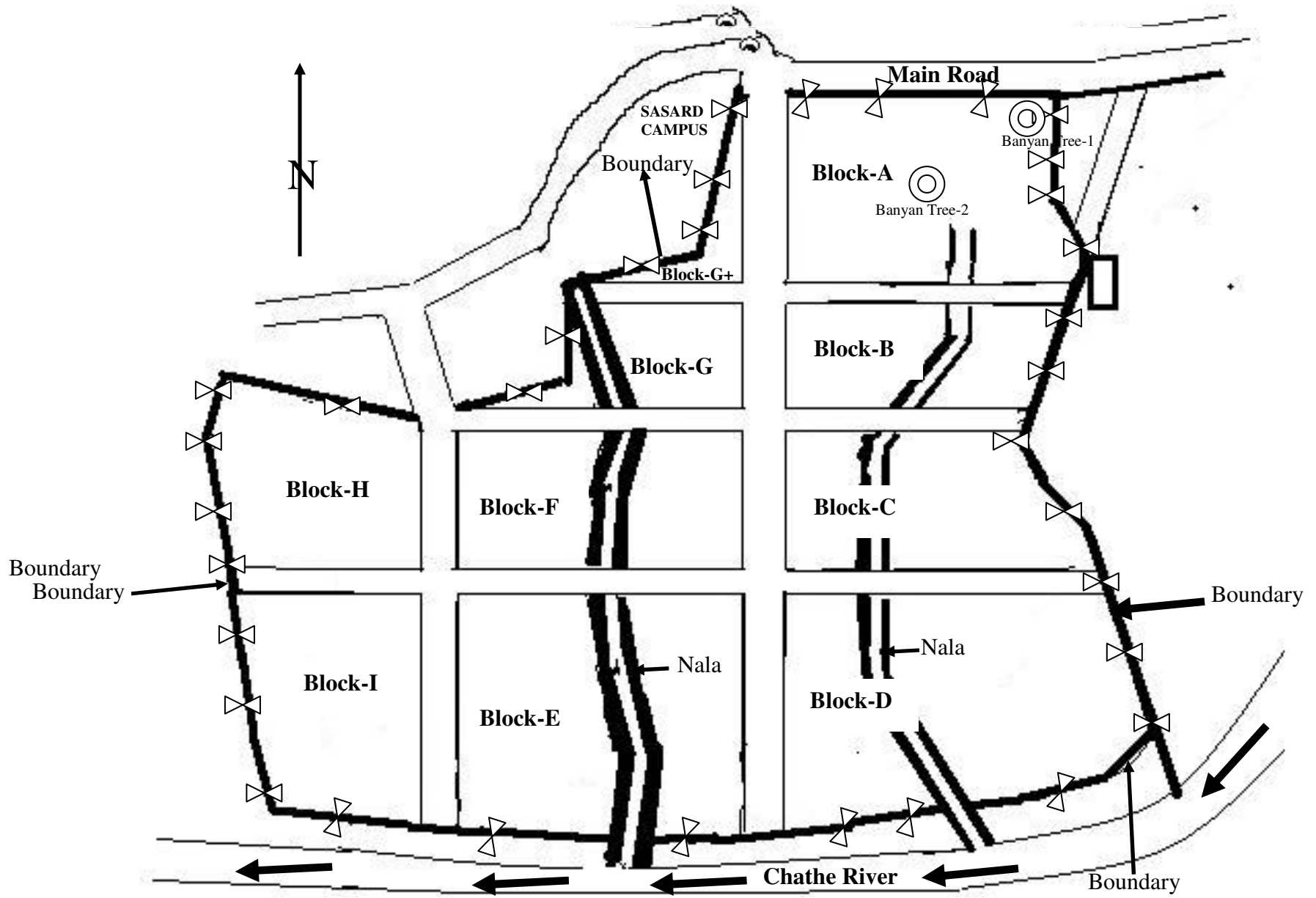
Annexure

A. Targeted Area and Production of Fruits in NE states

	Current			2009-2010		
	Area (000 ha)	Production (000MT)	Productivity MT/ha	Area (000 ha)	Production (000MT)	Productivity MT/ha
Arunachal Pradesh	41.6	124.9	3.00	52.00	260.00	5.00
Assam	110.8	1,335.1	12.04	138.50	1800.50	13.00
Manipur	26.1	134.0	5.13	32.62	228.34	7.00
Meghalaya	24.0	186.9	7.78	30.00	300.00	10.00
Mizoram	19.0	63.4	3.33	23.75	166.25	7.00
Nagaland	25.0	302.0	12.08	31.25	406.25	13.00
Tripura	28.3	452.1	15.97	35.37	565.92	16.00
Sikkim	12.3	10.3	0.83	35.37	141.48	4.00
Total	287.1	2,608.7	9.08	358.86	3868.74	10.78

B. Targeted Area and Production of Vegetables in NE states

	Current			2009-2010		
	Area (000 ha)	Production (000MT)	Productivity (MT/ha)	Area (000 ha)	Production (000MT)	Productivity (MT/ha)
Arunachal Pradesh	20.8	83.9	4.03	26.00	182.00	7.00
Assam	237.4	2,935.2	12.36	296.75	3857.75	13.00
Manipur	10.6	66.1	6.23	15.90	159.00	10.00
Meghalaya	35.7	265.9	7.44	44.62	446.20	10.00
Mizoram	6.8	44.1	6.48	10.20	102.00	10.00
Nagaland	26.3	286.0	10.87	32.87	394.44	12.00
Tripura	31.3	353.2	11.28	39.12	469.44	12.00
Sikkim	14.2	60.0	4.22	21.30	170.40	8.00
Total	383.1	4,094.4	10.68	486.76	5781.23	11.88



Site Plan of Central Institute of Horticulture

Programmes identified for the first Year:

- i. Establishment of 2 ha of mother blocks of improved varieties of cashew and passion fruit.
- ii. Production of quality planting material
 - a. Banana – tissue culture plant production (procurement of plantlets from tissue culture labs established under TMNE and hardened in the Institute) – 2.00 lakh Nos.
 - b. Passion fruit- rooted cuttings from selected high yielding clones – 20,000 Nos.
-seedlings from selected high yielding clones – 1.00 lakh Nos.
 - c. Kiwi – rooted cuttings from selected high yielding varieties – 10,000 Nos.
 - d. Production /procurement and supply of planting materials of selected improved varieties of other identified fruit crops to cover at least 2,000 ha.
 - e. Production /procurement and supply of vegetable seeds of selected hybrids to cover at least 500ha.
 - f. Production /procurement and supply of flower seeds/ plantlets of selected varieties to cover at least 200ha.
- iii. Identification and refinement of atleast 3 important technologies specific to the region.
- iv. Demonstration of production technologies on passion fruit, kiwi, pineapple, anthurium and for rejuvenation of senile mandarin orchards - at least 50 demonstrations per State.
- v. Training of 4,000 farmers and selected 400 officers involved in implementation of horticulture programmes.

Financial Profile

X Plan Allocation: - 560.00 lakhs

(Rs. in lakhs)

Sl. No.		Financial Outlays	Amount Spent
2	2006-07	560.00	

