



**CENTRAL INSTITUTE OF HORTICULTURE
MEDZIPHEMA : NAGALAND**



Annual Report **2013-2014**



CENTRAL INSTITUTE OF HORTICULTURE

Department of Agriculture and Cooperation
Ministry of Agriculture, Government of India
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FOREWORD

Central Institute of Horticulture (CIH), Medziphema in Nagaland, one of institutes under the Ministry of Agriculture, Government of India, was established in the year 2006 with the vision to emerge as the pioneering, innovative, farmer focused and self supporting institute to bring socio economic development of horticulture in North Eastern Region. The main focus of this institute is refinement and demonstration of identified technologies specific for the region; production and supply of quality seed and planting materials of improved/high yielding varieties; training and capacity building on different aspects of modern horticulture. Besides monitoring and evaluation of central horticulture schemes in NER, other important activities being attended are promotion of organic farming, agri-business promotion and market linkages, coordination with state horticulture department of NER and other national institutes of horticulture.

This institute has taken several initiatives in disseminating of information through transfer of technology on improved package of practices, processing and value addition, proven technologies like high density planting, organic farming, protected cultivation and off-season production of various horticulture crops. This institute aims in providing excellent, innovative and relevant training to all the stakeholder's to enhance the crop productivity in the region. In addition, CIH is providing guidance for marketing of horticultural produce, organic certification and mechanization through training programmes for sustainability of economic growth and empowerment of women farmer's segments with new workable delivery models in the North Eastern region.

It gives me immense pleasure that CIH is bringing out an Annual Report 2013-14 highlighting the achievements made during the year 2013-14. I commend the incredible work done by Dr. Lallan Ram Director, CIH and his team for transfer of technology and human resource development in the horticulture sector of this region. I wish the institute all success in its future endeavour.

7-8-14
(S.K. Malhotra)



सत्यमेव जयते

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FROM THE DIRECTOR'S DESK

The Central Institute of Horticulture has been putting all its efforts to achieve its mandate for addressing key issues relevant to horticulture development in the region. This emphasized on the reports on a number of significant advances the institute has made in 2013-14. The Institute has initiated work focusing on its vision, mission and objectives and has brought significant contribution in the horticulture sector of this region.



Although, there are manpower and other logistic constraints, the institute is striving towards achieving its objectives with its available resources and has made some significant achievements so far. With regard to production of quality planting material, the Institute has established ten (10) numbers of Scion/mother block. During the year 2013-14, gap filling has been done for nine (crops) in the existing scion blocks viz., guava, cashew nut and citrus. Raising of rootstocks and propagation of citrus, cashew nut, guava and mango was also successfully carried out in the Institute.

In terms of technology demonstrations, various activities like high density plantation of banana, plantation of papaya, plantation of pomegranate, plantation of gerbera and rose under polyhouse, establishment of organic model farm of turmeric, cultivation of off season onion etc were taken up at the Institute farm. In the farmers field, demonstration of improved technologies such as citrus rejuvenation in an old and declined orchard in Nagaland, organic model farm of ginger and turmeric in Meghalaya, demonstration of banana plot in Nagaland, establishment of guava mother block and demonstration plot in Nagaland and demonstration of improved production technologies, production of quality seedling, water harvesting with drip irrigation system and setting up of post harvest management and primary processing unit of Sirakhong chillies at Manipur etc was implemented.

In the field of technology transfer, the institute has conducted 23 numbers of trainings (2 trainers training and 21 farmers training) in collaboration with reputed institutions and organization where a total 945 participants were benefitted. The Institute has also organized five (5) numbers of exposure trips to reputed Institutes in the country for the officials and farmers of North East Region besides participation in various exhibitions and trade fairs. Impressive number of folders, both in local dialect as well as in english with special reference to focus horticultural crops of NER was also published by the institute for technology dissemination.

Besides these, the development of horticulture industry greatly depends on the use of quality planting materials in the production system. The importance of using clean and healthy nursery stocks is no doubt crucial and hence establishment of more number of registered nurseries is required since there is shortage of quality planting material in the NER. Therefore, in order to facilitate accreditation of nurseries for horticulture crops, CIH has been authorized as the nodal agency for providing accreditation and certification of nurseries in the region. In addition, as suggested by the Board of Management, the Institute has also initiated a certificate course of 3-6 months duration catering the needs of NER farmers/ entrepreneurs on key areas of horticulture.

These few achievements made by the Institute indicates the sincere, hard work and tiredless effort of entire CIH staff. All the successful undertaking has been possible with the guidance and advice of Horticulture Commissioner and his officials at DAC, Ministry of Agriculture, Government of India. The Institute also extends gratitude to State Horticulture Departments of NE states, various organizations and Institutes for their constant support and cooperation and looks forward for the same in the future.


Director

CIH AT A GLANCE

Recognizing the huge potential for development in the North-Eastern region and to provide institutional support to tap this potential, Government of India has set up the “Central Institute of Horticulture” at Medziphema, Nagaland in the year 2005-06 under the Central Sector Scheme. The institute is spread over 43.5 ha area at Medziphema, Nagaland. This institute is set up for holistic development of horticulture in NE Region of India.

VISION

To emerge as the pioneering, innovative, farmer focused and self-supporting institute in the country.

MISSION

To provide excellent, innovative and relevant training to all the stakeholders so as to empower individuals and enable horticulture industry to bring about socio-economic development and sustainability in North East Region.

OBJECTIVES

- ⊙ Capacity building by training of trainers and farmers/beneficiaries.
- ⊙ Demonstration of improved production technologies.
- ⊙ Accreditation and certification of nurseries in NER
- ⊙ Follow-on extension support in the field of horticulture.
- ⊙ Promotion of organic cultivation of horticulture crops.
- ⊙ Establishing convergence and synergy among programmes in the field of horticulture.
- ⊙ Monitoring of centrally sponsored programmes in the area of horticulture.

FOCUS AREAS

- ⊙ Training of State Govt. officials and farmers/beneficiaries of North Eastern Region.
- ⊙ Production and supply of quality planting material.
- ⊙ Accreditation and certification of nurseries in NER
- ⊙ Transfer of technology through method and result demonstration and publication of folders, manuals, leaflets etc
- ⊙ Promotion of organic farming.
- ⊙ Post harvest, marketing and agri-business promotion through exhibition, seminars, workshop, exposure trip, buyers’ seller meet.
- ⊙ Coordination with state horticulture departments of NER and other National organizations.
- ⊙ Monitoring of centrally sponsored programmes in the area of horticulture

SCENARIO OF HORTICULTURE IN NORTH EAST REGION

North east India consists of 8 states, namely, Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura. The NE hill region lies between 21.5°– 29.5°North latitude and 85.5° to 97.3°East longitude and is characterized by hot sub humid (moist) to humid agro- climate and warmer-humid. Nearly 10% of the total geographical area in India comes under the NEH region. Horticulture in north east is known for its vast resources and its varied climate, altitude, edaphic condition offers immense scope to enrich biodiversity in the region and social diversification. Horticulture in North east is a significant and upcoming sector in India and has proved to be the best diversification option for agriculture land use, because of assured and remunerative returns to the farmers. Horticulture provides higher unit of productivity and offers great scope for value addition and this sector is taking inroads throughout the length and breadth of the region as this region has rich diversity of both indigenous and introduced horticultural crops.

The diverse agro-climatic condition has benefitted this region to grow horticulture crops ranging from tropical to temperate crops. The tropical, sub-tropical and temperate fruits include Mandarin Orange, Pineapple, Banana, Guava, Pear, Plum etc. Vegetables both indigenous and exotic are grown across a wide range of agro-climatic zones. The higher altitude provides a conducive ecosystem to grow traditional vegetables like potato and cole crops. Spices such as black pepper, turmeric, ginger and chilies are grown abundantly. Plantation crops such as tea, cashewnut and arecanut have been performing well and offer a great scope for area expansion. During the last two decades, there has also been a significant sensitization of the global community towards organic cultivation in NER for environmental preservation and assuring of food quality. After almost a century of development, organic agriculture is now being embraced by the mainstream and shows great promise commercially, socially and environmentally even in NER region. Organic spices like ginger (cv. Nadia) and turmeric (cv. Lakadong) have gained its momentum in exporting quality produce outside the region and in neighbouring countries as well. In North east region, the production of fruits accounts to 4434.01MT, Vegetables 5406.8MT, Cut Flowers 4962.98 MT, Loose flowers 205.04MT, Aromatic crops 109.89MT, Spices 627.62MT, Plantation 227.45MT.

Though the NE region has high potential for the development of horticultural crops, efforts have not been made to develop it as a commercial venture due to poor cultivation practices and low yield, lack of desirable planting material, lack of marketing facilities, scarcity of trained manpower and extension support, problems of processing, financial constraints, Inadequate thrust on conservation and exploitation of horticultural germplasm, remoteness of the region, lack of awareness about the potentiality of horticultural crops as commercial crop. Keeping in view the regional demand for horticultural crops efforts must be taken to tap the potential and fully exploit the focus crops of this region. In order to achieve this goal, various organizations must step forward and must be sensitive to the needs of farmers and entrepreneurs and come up with endogenous and timely solutions, especially in the face of the opportunities presented by crises.

Table 1. Area and productions of horticulture crops in NER (2012-13)

Area in ha ('000); Production in MT ('000)

State	Fruits		Vegetables		Flowers			Aromatic		Spices		Plantation		Total	
	Area	Prod.	Area	Prod.	Area	Prod. loose	Prod. cut	Area	Prod.	Area	Prod.	Area	Prod.	Area	Prod.
Arunachal Pradesh	86.86	312.24	1.52	37.56	0.02	0.01	297.00	5.15	109.18	10.17	64.27	0.00	0.00	103.72	523.26
Assam	150.71	2073.82	278.74	3415.07	1.80	11.70	3750.00	0.00	0.00	96.66	287.50	98.11	183.36	626.02	5971.45
Manipur	51.93	440.59	21.73	219.82	0.00	0.00	0.00	0.00	0.00	10.47	24.14	0.00	0.00	84.13	684.55
Meghalaya	33.15	316.57	40.45	403.37	0.00	0.00	0.00	0.00	0.00	16.85	74.81	23.12	29.19	113.58	823.94
Mizoram	49.68	292.95	39.33	236.68	0.16	166.83	605.22	1.02	0.71	22.47	59.62	7.59	4.38	120.26	761.16
Nagaland	37.23	275.95	26.01	207.74	0.01	0.00	96.66	0.00	0.00	9.77	39.16	1.52	10.52	74.54	533.37
Sikkim	14.65	24.02	25.56	132.51	0.22	26.50	214.10	0.00	0.00	26.56	60.08	0.00	0.00	67.00	243.11
Tripura	60.12	697.87	45.10	754.05	0.00	0.00	0.00	0.00	0.00	5.69	18.04	15.27	33.53	126.18	1503.49
Total	484.33	4434.01	478.44	5406.8	2.21	205.04	4962.98	6.17	109.89	192.95	627.62	145.61	227.45	1315.43	11044.33

Sources: National Horticulture Board database

ACHIEVEMENTS

During the period 2013-2014, Central Institute of Horticulture has made some significant achievements in the following areas viz.,

- Successfully organized four (4) numbers of exposure trip at IHT, Noida
- Established demonstration plots and mother blocks in CIH and different parts of North East Region
- Established improved production technologies, production of quality seedling, water harvesting with drip irrigation system and setting up of post harvest management and primary processing unit of Sirakhong chillies at Manipur
- Successfully participated in exhibitions and trade fairs
- Published folders on important aspects of horticulture in 46 local dialects of NER, besides other publication in English

1. PRODUCTION OF QUALITY PLANTING MATERIALS

1.1 Establishment of Scion/mother block

Ten (10) numbers of scion blocks have been established by the Institute till date where various planting materials were collected from different institutions and Research Centres and planted in the farm. Scion block of Cashew, Citrus, Guava, Mango, Bael, Aonla and Peach have been established for further multiplication of planting materials following all standard cultural practices. Cashew grafted (Vengula-4) were procured from Trupty Orchard, Orissa. Nagpur Mandarin (STG), Acid lime (seedling) & Sweet orange (budded) were procured from NRCC, Nagpur. Different varieties of Mango (grafted), Guava (grafted), Bael (budded) and Aonla (budded) were procured from CISH, Lucknow. Peach (grafted) was procured from ICAR, Barapani, Shillong. During the year 2013-14, gap filling of established scion blocks has been done for three crops mentioned below

Establishment of scion block (gap filling)

Sl. No.	Fruit crops	Name of Varieties	Nos. of plants for gap filling	Source
1.	Guava (<i>Psidium guajava</i>)	Lucknow-49	150	CIH
		Allahabad Safeda	50	
		Shweta	20	
		Lalit	30	
2.	Cashew nut (<i>Anacardium occidentale</i>)	BBSR-1, V-4, VRI-3, H-2/16 and H-1608	80	CIH
3.	Citrus (<i>Citrus spp</i>)	Early Gold, Rhode- e- Red, Olinda Valencia and W. Murcott	50	CIH



CASHEW BLOCK
(vars. BBSR-1, V-4, VRI-3, H-2/16 and H-1608)



CITRUS BLOCK
(vars. Early Gold, Rhode- e- Red, Olinda Valencia and W. Murcott)



GUAVA BLOCK
(vars. Sweta, Lalit, Allahabad safeda, Lucknow-49)

1.2 . Raising of Rootstocks

Citrus root stocks were raised in seed bed and maintained following all cultural practices. Then the healthy seedlings were shifted to poly bags which were further maintained till it attains 1(one) year of age for propagation activities. The Cashew rootstock were raised through seeds in poly bags which were maintained with all cultural practices for 45 days or till it attains appropriate size for propagation activities. The citrus seeds and seedlings were procured from NRC Citrus, Nagpur. The seeds of cashew were procured from Manjuri Dhubri, Assam and the seeds of guava and mango was collected from local sources. Rootstocks of four (4) crops namely citrus, guava, cashew and mango were raised during 2013-14.

Sl. No.	Fruit crops	Variety	No. of rootstock raised	Source
1.	Citrus	Volkamariana	30000	NRC Citrus, Nagpur
		Rangpur Lime	20000	
2.	Guava	Local	6000	Local
3.	Cashew Nut	Local	12000	Manjuri Dhubri, Assam
4.	Mango	Local	7000	Local



CITRUS ROOTSTOCK



GUAVA ROOTSTOCK



CASHEW ROOTSTOCK



MANGO ROOTSTOCK

1.3 Propagation activities

Different commercial propagation techniques in different fruit crops were adopted to obtain maximum success and optimum production of quality planting materials. Propagation techniques such as soft wood grafting in cashew nut, wedge grafting in guava, T-budding and wedge grafting in citrus and mango were carried in the nursery. The details of propagation activities in different fruit crops were multiplied and obtained which are summarized in tabular form.

Sl. No.	Fruit crops	Variety	Propagation method	No. of plants propagated
1.	Cashew Nut	V-4, VRI-3, BBSR-1, H-1/16 & H1806	Soft wood grafting	9500
2.	Guava	Sweta, L-49, Lalit & Allahabad Safeda	Wedge grafting	11125
3.	Citrus	Khasi Mandarin, Early Gold, Olenda Valencia, Cara cara Navel	T-Budding & Wedge grafting	18450
4.	Mango	Dashari, Langra, Amrapali, Mallika	Wedge grafting	5632



*Soft wood grafting in cashew
(vars. V-4, VRI-3, BBSR-1, H-1/16 & H1806)*



*Wedge grafting in guava
(vars. Sweta, L-49, Lalit & Allahabad Safeda)*



T-budding in citrus (vars. Khasi Mandarin, Early Gold, Olenda Valencia, Cara cara Navel)



*Wedge grafting in mango
(vars. Dashari, Langra, Amrapali, Mallika)*

2. FARM DEVELOPMENT ACTIVITIES

Of the total land available at CIH farm, about 13 ha of land have been developed till date for undertaking various plantations of horticultural crops. The details of which are mentioned below.

2.1 Erection of bamboo mat as wind break

As the location of the Institute is vulnerable to strong winds, 7200 sq ft of bamboo mat has been erected on the boundary wall to serve as wind break.



Bamboo mat erection on boundary wall

3. INFRASTRUCTURE DEVELOPMENT

Various infrastructures have been created at the institute during the period under report in order to facilitate and ease the farm activities and also to achieve the various objectives of the Institute. Some of the infrastructure facilities created are listed as under.

- Training centre
- Low cost storage structure for onion
- Indigenous ginger storage structure
- Packhouse for horticulture crops
- Spice processing unit
- Potting shed
- Roofing of water storage tank
- Construction of steel body tank
- Construction of supporting pillar for water supply pipe at pump house
- Fire line construction in an area of 1 ha



Training centre



Low cost storage structure for onion



Roofing of water storage tank



Construction of steel body tank



Fire line construction

4. TECHNOLOGY DEMONSTRATIONS

Demonstrations on improved production technologies like production of off season onion, improved production technologies of fruit crops, plantation of rose, gerbera under protected cultivation and citrus rejuvenation of old and declined orchard at farmers' field etc. were carried out both on farm and off farm which are listed as below.

4.1 On Farm

- Plantation of gerbera under polyhouse in 1,000 sqm
- Plantation of rose under polyhouse in 1,000 sqm
- Plantation of banana var. Grand Naine in an area of 1 ha
- Plantation of Papaya var. Red Lady in an area of 1 ha
- Demonstration of Organic Model farm for cultivation of turmeric in an area of 1 ha

- Cultivation of tomato var Pusa Red and chilli var Pusa Jwala in an area of 0.05 ha each
- Cultivation of off season onion var Agri Found Dark Red in an area of 0.05 ha
- Drying of Naga Mircha under solar dehydrator tent
- Plantation of pomegranate in an area of 1 ha

4.2 Off Farm

- Citrus rejuvenation in an old and declined orchard in Peren in area of 1ha
- Organic Model Farm of ginger and turmeric in an area of 2 ha in Meghalaya
- Demonstration of Banana plot at Doyapur, Dimapur district (5 ha) – in process
- Demonstration of guava mother block and demonstration plot at Nagaland (13.55 ha)
- Demonstration of improved production technologies, production of quality seedling, water harvesting with drip irrigation system and setting up of post harvest management and primary processing unit of Sirakhong chillies at Manipur.



Gerbera plantation under polyhouse (var.Lieke, Shania, Preintaze, Daikan, Ice Queen & Dhaphane)



Rose plantation under polyhouse (var.Avalanche, Bordeaux,Upper Class, Sphinx Gold)



Tissue cultures banana demonstration plot (Var. Grand Naine)



Papaya plantation (var. Red Lady)



*Organic cultivation of turmeric
(Var. Lakadong and Megha Turmeric-1)*



*Drying of Naga Mircha under solar
dehydrator tent : A drying technique*

5. TRANSFER OF TECHNOLOGY

5.1 Training programme

Central Institute of Horticulture organized various numbers of trainings for the state government officials and for farmers, beneficiaries, SHGs in coordination with the state government officials, reputed institute, organizations and NGOs with special focus on the subject need of each state in NER. Practical demonstrations, field visits and interaction were the main focus during trainings. During the year 2013-14, a total of 35 nos of State Govt. officials from all North East states were benefitted from trainers training which is given in tabular form as under:

A. Trainers' Training

Sl No.	Name of training programme	Date	Venue	No. of participants	Organized/ sponsored	Category of trainees
1	Advances in production technology of fruit crops	6-13 th Nov. '13	IIHR, Bangalore	16	CIH & IIHR	Trainers training cum exposure trip
2	Nursery management & Quality planting material production of important fruit crops	29-31 st Jan. '14	CIH, Nagaland	19	CIH	Trainers training
	Total			35		

B. Farmers' Training

Sl/ No.	Name of training programme	Date	Venue	No. of participants	Organized/ sponsored	Category of trainees
1	Bee keeping for enhancing horticulture crop production	23 rd -24 th May 2013	Bade village, Dimapur	38	CIH, NBB, AICRP (Honey bees & pollinators)	Farmers training
2	High Density Planting & Canopy Management	17 th - 21 st June 2013	CIH, Nagaland	17	CIH	Farmers training
3	Propagation techniques of important fruit crops	16 th -18 th July 2013	CIH, Nagaland	27	CIH	Farmers training
4	Value addition of horti. Crops	20 th -22 nd Aug. 2013	CIH, Nagaland	21	CIH	Farmers training
5	HDP & Canopy management of horti. Crops	26 th -30 th August 2013	CIH, Nagaland	25	CIH	Farmers training
6	HI-Tech Nursery management in horti. Crops	8 th -14 th June 2013	IHT, Noida, UP	20	CIH & IHT	Manipur farmers/exposure cum training
7	HI-Tech Nursery Production & management	25 th -31 st July 2013	IHT, Noida, UP	21	CIH & IHT	Nagaland farmers/exposure cum training
8	Production of high value vegetables & flowers under green house	23 rd -29 th Aug 2013	IHT, Noida, UP	19	CIH & IHT	Mizoram farmers/exposure cum training
9	HI-Tech Nursery management in horti. Crops	6 th -12 th Sept. 2013	IHT, Noida, UP	21	CIH & IHT	Assam farmers/exposure cum training
10	Improved production system in passion fruit including rejuvenation	17 th -21 st Oct 2013	KVK, Senapati	20	CIH & KVK Senapati	Manipur farmers
11	Improved production system in passion fruit including rejuvenation	7 th -11 th Nov 2013	KVK, Senapati	20	CIH & KVK Senapati	Manipur farmers
12	Improved production system in passion fruit including rejuvenation	18 th -22 nd Nov 2013	KVK, Senapati	20	CIH & KVK Senapati	Manipur farmers
13	Improved production system in passion fruit including rejuvenation	2 nd -6 th Dec 2013	KVK, Senapati	20	CIH & KVK Senapati	Manipur farmers

14	Improved production system in passion fruit including rejuvenation	9 th -13 th Dec2013	KVK, Senapati	20	CIH & KVK Senapati	Manipur farmers
15	Improved production system in passion fruit including rejuvenation	13 th -17 th Jan 2014	KVK, Senapati	20	CIH & KVK Senapati	Manipur farmers
17	Demo. on Oyster mushroom cultivation & value addition of important horti. Crops	27 th Jan. 2014	Chumukedima, Nagaland	100	CIH & State Hort., Nagaland	Farmers training
18	Training cum awareness programme on protection of plant varieties & farmers right Act 2001 with special reference to citrus	26 th Feb 2014	Town, Hall mokokchung	130	CIH, NRC for citrus & State Hort., Nagaland	Farmers training
19	Production technology of citrus for NEH Region from	27-28 th Feb 2014	Town, Hall mokokchung	130	CIH, NRC for citrus & State Hort., Nagaland	Farmers training
20	Pineapple fibre extraction	8 th Jan. 2014	Molvom village, Nagaland	100	CIH	Farmers training
21	Bee keeping for enhancing horticulture crop production	28-29 th March 2014	Ruzaphema village, Dimapur	21	NBB, New Delhi	Farmers training
	Total			910		

5.1.1. GLIMPSES OF TRAINERS' TRAINING



Trainers training on Advances in production technology of fruit crops at IIHR, Bangalore.



Dr Lallan Ram, Director, CIH along with participants during Trainer training at CIH.

5.2. GLIMPSES OF FARMERS TRAINING PROGRAMME



Training on Bee keeping for enhancing horticulture crop production at Bade village, Dimapur



Training on High Density Planting & Canopy Management at CIH



Training on Propagation techniques of important fruit crops at CIH



Training on value addition of horticultural crops at CIH to promote entrepreneurship programme



Training on HDP and canopy management of horti. Crops at CIH



Training on Improved production system in passion fruit including rejuvenation at Senapati, Manipur



Director, CIH , Dr. Lallan Ram with participants during training on Oyster mushroom cultivation & value addition of important horti. Crops at Chumukedima



Training cum awareness programme on protection of plant varieties & farmers right Act 2001 with special reference to citrus and Production technology of citrus for NEH Region at Mokokchung



Training on Pineapple fibre extraction at Molvom village



Hands on Demo on Oyster mushroom cultivation & value addition of important horti. Crops at SHN, Nagaland



Training on Bee keeping for enhancing horticulture crop production at Ruzaphema village

5.3 Transfer of technology through mass media

Keeping in view the demand of farmers and extension functionaries in NER, the Institute extends its support through mass media and publications in the form of folders (local dialect and English), bulletins and manuals with special reference focus horticultural crops of North East Region. A total of 48 folders comprising of English and different local dialects has been published

5.4 On farm initiatives

As part of technology demonstrations, various demonstration plots on horticulture crops in the Institute has been established. Practical demonstration on various aspects like propagation, harvesting, post harvest management, preparation for marketing etc are being experienced by the farmers.

6. AGRI-BUSINESS PROMOTION

Central Institute of Horticulture has organized a number of exposure trips to various reputed institutes for growers, officials, SHGs, individuals etc. of NER and participated in various exhibitions and fairs for market linkage initiative.

6.1. Exposure trip for farmers/ officials/ beneficiaries

6.1.1. Exposure trip cum training on *“Hi-Tech Nursery Management in horticulture crops”* at IHT, Greater Noida

The first batch consisting of seven (7) days training cum exposure visit was organized at Institute of Horticulture Technology, Greater Noida for farmers/ SHGs of Manipur state during the period from 8 – 14th June 2013. A total of twenty (20) participants were a part of the programme. The participants were trained on various aspects of nursery management and production of quality planting material, soil management, soil solarization and sterilization of nursery beds for production of quality planting material, Propagation techniques (cutting, budding, layering and grafting), micro-propagation, Important diseases and their management and Exposure visit to different types of polyhouse, state of art Green house, Net house, landscape garden and Delhi Darshan.



Participants from Manipur along with resource persons

6.1.2. Exposure trip cum training on ***“Hi-Tech Nursery and production Management in horticulture crops”*** at IHT, Greater Noida

The second batch of exposure trip cum training on ***“Hi-Tech Nursery and production Management in horticulture crops”*** for farmers of Nagaland state at IHT, Greater Noida was held during

25th -31st July 2013. A total of twenty one (21) participants underwent the said programme. The important topics covered were nursery management and production of quality planting material, soil management, soil solarization and sterilization of nursery beds for production of quality planting material, Propagation techniques (cutting, budding, layering and grafting), micro-propagation, Important diseases and their management and Exposure visit to different types of polyhouse, state of art Green house, Net house, landscape garden and Delhi Darshan.

6.1.3. Exposure trip cum training on ***“Production of high value vegetables and flowers under green house”*** at IHT, Greater Noida

The third batch of exposure trip cum training on ***“Production of high value vegetables and flowers under green house”*** was organized for nineteen (19) farmers from the state of Mizoram from 23rd -29th August 2013 at IHT, Noida. The participants were trained on various aspects present status for potentialities and constraints in green house technology, soil solarization and sterilization of nursery beds, basic knowledge of computer handling, Hi-tech nursery raising of high value vegetable crops, propagation and nursery raising through tissue culture, mechanization in nursery production, production technology of flowers and vegetables, important pests and diseases and their management and exposure trip to different places.



Mizoram trainees with the resource persons

6.1.4. Exposure trip cum training on *“Hi-Tech Nursery and production Management in horticulture crops”* at IHT, Greater Noida

CIH organized the fourth batch of exposure trip cum training on *“Hi-Tech Nursery and production Management in horticulture crops”* for the farmers of Assam from 6th -12th Sept. 2013 at IHT, Noida, where twenty one (21) farmers underwent the programme. Nursery management and production of quality planting material, soil management, soil solarization and sterilization of nursery beds for production of quality planning material, Propagation techniques (cutting, budding, layering and grafting), micro-propagation, Important diseases and their management etc were some of the main topics that were taught and trained to the farmers in addition to exposure trips to different places.



Trainees from Assam with the resource persons

6.1.5. Training cum exposure trip on *“Advances in production technology of fruit crops”* at IIHR, Bangalore

An exposure trip cum training on *“Advances in production technology of fruit crops”* was organized by the Central Institute of Horticulture in collaboration with IIHR, Bangalore from 6-13th Nov. 2013 for the North East state government officials. A total of 16 officials from the state of Assam, Manipur, Nagaland and Tripura accompanied by Ms. Sentiyangla Pongener and Mrs. Meribeni Shitiri, CIH participated for the said exposure trip. During the exposure trip, the official participants were exposed to various kinds of improved technology of fruits and vegetable crops. The participants also made field visit to progressive farmers field as well as research station at Chettali, where interaction on various topics was done with the experts.



North East state government officials during training cum exposure trip at Bangalore

6.2. Exhibitions, trade fairs, meet etc

6.2.1. Participation in exhibition at Naga Kheti Mela

The 1st Naga Kheti Mela was organized by School of Agricultural Sciences and Rural Development (SASRD) Nagaland University at SASRD Campus from 17th – 19th October, 2013. The event was organized in collaboration with Dept of Agriculture, Govt. of Nagaland and ICAR-NEH. The event was themed “Towards Sustainable Agriculture”. The event had two components ‘exhibition’ and ‘technical sessions’.

Central Institute of Horticulture participated as an exhibitor. The activities of the Institute were highlighted through print media. Horticulture crops were being displayed to the participants. Counselling was given to the farmers on problems related to quality planting material, production, post-harvest management & marketing. The event had more than 700 participants including farmers, state govt. officials, state/ central govt. organizations, entrepreneurs, innovators etc.



CIH stall



Chief Guest Shri. Chotisuh Sazo, Hon'ble Speaker, Govt. of Nagaland visiting CIH stall



Dr. Benjongliba Aier, Parliamentary Secretary, Agriculture, Govt. of Nagaland and other dignitaries at the stall



Distribution of folders to farmers at the stall

6.2.2. Participation in 1st Assam International Agri-Horti Show

The 1st Assam International Agri Horti Show was organized by Dept. of Agriculture & Horticulture, Govt. of Assam and Assam Agriculture University in collaboration with Indian Chamber of Commerce. The event was the first ever international exposition in Assam for innovation and inspiration in horticulture, floriculture and allied sectors. The Expo focused on Horti and Agri exhibition, seminars, network gatherings, flower shows, farmer meets, and other high profile events. The expo showcased horticultural and agricultural trade show with the most innovations in the fields of plant breeding, greenhouse technique and cultivation technique.

Central Institute of Horticulture participated as an exhibitor. The activities of the Institute were highlighted through print media. Horticulture crops were being displayed to the participants. The exhibition provided a platform to the farmers to interact and learn from the staffs of CIH. The issues with regards to planting materials, production, PHM and marketing of horticulture crops were being highlighted to the farmers.

A variety of products/ produce were being displayed in the exhibition by different agencies/ departments from all NE states. More than 600 people visited CIH stall and enquired on various aspects of horticulture.



CIH stall at 1st Assam International Agri Horti Show at Guwahati



Exhibits at CIH stall at Guwahati



Visitors at CIH stall



Visitors at CIH stall

6.2.3. Participation in Krishi Vasant

National Agriculture Fair cum exhibition, krishi Vasant w.e.f 9-13th February 2014, was organized by Ministry of Agriculture, Govt. of Maharashtra in collaboration with confederation of Indian Industry at Central Institute of Cotton Research Campus, Nagpur.

The Institute participated as an exhibitor. Director, CIH, Dr. Lalan Ram along with three technical staff, Mr. Arvind Singh, Technical consultant, Ms. Yongkongtula, Sr. Technical Assistant, Mr. Eliyamo Humtsoe, Field Assistant, participated in Krishi Vasant 2014. The staffs of CIH manned the stall providing technical guidance to farmers/ beneficiaries. Various horticulture produce like pineapple, ginger, lime, mosambi, king chilli, orange, chow chow, capsicum, lemon etc were displayed in the exhibition. Folders on POP of horticulture crops were distributed to the farmers. Budded plants and seedling produced by the Institute was also displayed during the exhibition. The exhibition provided a platform to the farmers to interact and learn from the staffs of CIH. The issues with regards to planting materials, production, PHM and marketing of horticulture crops were being highlighted to the farmers. The main objective for participating in the event was to highlight the vision, mission and objective of the institute and also to showcase horticultural produce of NER to the other parts of the country. Thousands of visitors queried on different aspects of horticulture production for the NE region.



*Dr. Lalan Ram, Director CIH
with technical staffs*



*Dr. S K Malhotra, Horticulture Commissioner, DAC with
Director CIH & staffs*



Visitors interacting with technical staffs



CIH stall at CICR, Nagpur

7. WORKSHOP /SEMINAR

7.1 Workshop on Awareness, mobilization and sensitization on National Fund for Basic, Strategic and Frontier Application Research in Agriculture 8-9 July 2013 at AAU, Jorhat.

A two days workshop on awareness, mobilization and sensitization on National Fund for Basic, Strategic and Frontier Application Research in Agriculture was held on July 8-9, 2013 at AAU, Jorhat. The main objective of the workshop is to build awareness about the need and nature of basic/strategic research in agriculture and also assist the participants in developing concept notes for funding by National Fund for Basic, Strategic and Frontier Application Research in Agriculture (NFBSFARA) of the Indian Council of Agricultural Research. The inauguration of workshop was done by Dr. K M Bujarbaruah, VC, AAU in the presence of various dignitaries, head of department and faculty of AAU. The resource person were Dr. A. Bandyopadhyay, National Coordinator NFBSFARA, Pusa, New Delhi and Dr. Bharat Sontakki, Pr. Scientist, NAARM, Hyderabad, Altogether, there were 35 participants from SAUs, ICAR, Tezpur University, Institutes etc. Mrs Meribeni Shitiri, Horticulture Specialist and Md. Manzar Hossain, Post harvest Technologist participated the workshop.



7.2 Workshop on Mission for Integrated Development of Horticulture (MIDH)

A one day workshop on discussion of operational strategies of Mission for Integrated Development of Horticulture (MIDH) for the XII plan was conducted on 24th January, 2014 at NAAS, Pusa, New Delhi. Dr. Lallan Ram, Director participated the said workshop.

8. PUBLICATIONS

8.1 Annual Report (2012-13)

8.2. Folders in English (2 nos)

- Post harvest management of turmeric
- Package of practices for Broccoli Folders in Local Dialect (46 Dialects)

- Banana fibre extraction and value addition (*Assamese, Khasi, Ao, Sema, Phom*)
- Post harvest management of strawberry (*Khasi*)
- Post harvest management of anthurium(*Khasi*)
- Post harvest management of passionfruit(*Assamese*)
- Post harvest management of ginger (*Assamese, Khasi*)
- Post harvest management of tomato (*Assamsese, Khasi*)
- Post harvest management of gerbera(*Khasi*)
- Post harvest management of capsicum (*Assamsese, Khasi*)
- Organic package of practices for black pepper (*Assamsese*)
- Optimum stage of harvesting of horticultural crops (*Assamese, Khasi, Ao, Phom, Lotha, Yimchunger, Tenyidie, Pochury, Chang, khamnuingam, Rengma, Sangam, Zeliang, Konyak, Sema*)
- Techniques for off season production in NER (*Assamese, Khasi*)
- Calendar of operations for declined mandarin orchards(*Lotha, Yimchunger, Tenyidie, Pochury, Chang, khamnuingam, Rengma, Sangam, Zeliang, Konyak*)
- Package of practices for organic ginger (*Arunachal*)
- Package of practices for organic ginger (*Assamese*)
- Propagation techniques in citrus (*Assamese*)

9. CAPACITY BUILDING & PARTICIPATION

- Training on “**Nutrient management in floriculture crops**” at HTC, Pune on 14-16th Aug. 2013 attended by Mr. Arvind Singh, Technical Consultant
- Training course on “**IPM in Important Crops of NEH Region of India**” from 9th -11th Sept. 2013 at ICAR Complex for NEH Region, Nagaland Centre, Jharnapani. Mr. A.K Singh, Technical Consultant and Mrs Meribeni Shitiri, Horticulture Specialist attended the training course.
- Training on “**Advances in production technology of Important fruit crops**” at IIHR, Bangalore on 5-12th Nov. 2013 attended by Mrs Meribeni Shitiri, Horticulture Specialist and Ms. Sentiyangla Pongener, Horticulture Specialist
- Dr. Lallan Ram, Director, CIH delivered lecture on Post Harvest Management of pineapple during 21 days winter school on “**Recent Advances in the valorization of horticulture produce**” at IARI on 18th Dec. 2014.



*Training on “Nutrient management in floriculture crops”
at HTC, Pune*



*Training on “Advances in production
technology of important fruit crops” at IIHR, Bangalore*



*Training course on “IPM in Important Crops of
NEH Region of India” at ICAR Complex for
NEH Region, Nagaland Centre, Jharnapani*

MEETINGS

❖ Stakeholders meeting for discussion on NEH programme

To understand the prevailing problems in horticulture and to make a collaborative programme, the Indian Institute of Horticultural Research (IIHR), Hessaraghatta, Bengaluru, organized a “stake holders meeting” for discussion on NEH programme on 25th July 2013 at NRC Pig, Guwahati. As per the guidelines provided by the ICAR, the institute has to address the problems related to Horticulture in North Eastern hill region of India in the 12th five year plan. Mr. Arvind Singh and Mrs. Meribeni Shitiri, CIH attended the meeting and also proposed a concept note on *“Cut flower production of orchids under greenhouse conditions to increase the economy of farmers in north eastern Region”*.

❖ Technical Advisory Committee Meeting

The 6th Technical Advisory Committee Meeting was held on 19th February, 2014 at Central Institute of Horticulture, Medziphema, Nagaland. Dr. N K Mohan, Chairman of the Committee welcomed all the members and staffs of CIH in the meeting. The targets and achievements of the Institute during the year was presented by Dr. Lallan Ram, Director, CIH. The Technical Staffs of CIH presented the proposed activities of the Institute for the year 2014-15. The committee deliberated on the agendas of the meeting and valuable inputs for incorporation in Action Plan for the year 2014-15.



Dr. Lallan Ram, Director CIH chairing the TAC meeting



Dr. N.K. Mohan, Chief Consultant, CIH discussing during the meeting

❖ Board of Management Meeting

The 8th Board of Management (BOM) meeting of Central Institute of Horticulture was held on 21st March, 2014 at Krishi Bhawan, New Delhi. The meeting was chaired by Dr. S.K. Malhotra, Horticulture Commissioner, DAC, Govt. of India. The Chairman welcomed the members in the meeting and highlighted on the key focus areas of the Institute. The meeting discussed various agendas viz., action plan 2014-2015, progress report, salary enhancement and recruitment policy of CIH staffs. Reviewing the action plan (2014-2015), the committee made various suggestions on production and supply of seed/planting materials of improved high yielding varieties, demonstration of identified technologies specific to the region, training of officials of state Department of Horticulture and display of improved production technology at different places. The representative of respective states also addressed and discussed various issues wherein states representatives put forth the areas for CIH intervention



❖ Meeting for implementation of Mission for Integrated Development of Horticulture (MIDH)

Dr. Lallan Ram, Director attended a special meeting for Commissioners/ secretaries and Directors (Horticulture)/Mission Directors of HMNEH states for implementation of Mission for Integrated Development of Horticulture (MIDH) which was held under the chairmanship of Joint secretary and Mission Director, MIDH at ITC, Sonar, Kolkata on 6th March, 2014 and Krishi Bhawan, New Delhi on 20th and 22nd March 2014.

CELEBRATION OF IMPORTANT EVENTS

❖ Independence Day Celebration

Central Institute of Horticulture celebrated 66th Indian Independence Day along with the whole country on 15th August, 2013. Flag hoisting was done by Director i/c Mr. A. K. Singh, Technical Consultant, CIH. All the staffs and field workers were a part of the programme.



*Hoisting of flag by Mr. A.K. Singh
Technical Consultant, CIH*



CIH staff along with field workers during Independence Day celebration

❖ Republic Day Celebration

The Institute, with the rest of the country, celebrated the 65th Republic Day on 26th January 2014. Flag hoisting was done by Dr. Lallan Ram, Director, CIH. A brief programme was being organized where all the staffs and field workers participated.



Flag hoisting by Director, CIH



*Dr. Lallan Ram, Director addressing the staff during
Republic Day celebration*

❖ 9th CIH Foundation Day Celebration

Central Institute of Horticulture, Nagaland celebrated its 9th Foundation Day on 27th March, 2014 at its campus. The foundation day celebration programme began with lighting of lamp by Dr. Lallan Ram, Director, CIH. In the foundation day lecture Director, CIH emphasized on the need to further strengthen the role of the Institute towards the development of horticulture sector in the region. He enlightened the technical and field staffs on number of new activities that has been entrusted to the Institute by ministry of agriculture for horticulture sector in NE region. The day was marked by a number of recreational activities like flower decoration, foot race, singing competition etc where all the staff and field workers took active part in the programme.



Lighting of lamp by Dr. Lallan Ram, Director, CIH



Director, CIH delivering foundation day lecture



Recreational activities programme among the staff and field workers



Director, CIH delivering foundation day lecture



Flower arrangement competition



Director, CIH giving away prizes to the winners of recreational activities

VISITORS AT CIH

Sl. No.	Name	Designation with address	Contact details
1	Mr. S. Senka Jamir	HO, Team Leader, Kiphire District Farmers' Exposure tour	9862257826
2	Shri Neiba Kronu	Parliamentary Secretary (Horticulture), MH-1, Kohima, Nagaland	9436005156
3	Dr. Ithika C Swu	Dy. Project Director, SAMETI, Medziphema, Nagaland	8974837078
4	Mr. Visizolie Virie	Dy. Project Director (ATMA), Kohima	8974514771
5	Mrs. Avitoli K Yephtho	Dy. Project Director, Zunheboto	9856251410
6	Mr. Samuel Katz	Indo Israel Project, IHT, Greater Noida	
7	Dr. J Longkumer	Asst. Prof. SASRD NU, Medziphema campus	9436606227
8	Shri R B Sinha	JS (RFS & MRM)	09899284217
9	ATMA Longleng, Nagaland		9615776045/ 9856548960
10	Shri. Akbar Malang	HDO, Phodkylia Farm, Govt. of Meghalaya	
11	Ms. H Asangla Phom	Asso. Director, Nagaland Development Outreach, Dimapur	
12	Ms. Miranda Kongbrailatpam	Student of B.Sc., Forestry, College of Horticulture & Forestry, Pasighat	
13	Mr. Ruokuovikho Chale	NYKS Nagaland/ Kigwema village Kohima, Nagaland	9856071077
14	Anishe Kupu Women Welfare Society Krilinu village, Dimapur		9436003716
15	Dr. T N Raviprasad	Principal Scientist (Agrl. Entomology), Directorate of Cashew Research (ICAR), Puttur-574202, Karnataka	09448409930

VISITORS PEEK



Shri Neiba Kronu, Parliamentary Secretary (Hort), Govt. of Nagaland during his visit to CIH



Dr. M. Tamil Selvan, Addl. Commissioner (Hort), DAC, MoA, GOI, visiting the propagation unit at polyhouse



Dr. N. K. Mohan, Chief Consultant, CIH interacting with technical staff



Shri R. B Sinha, Jr. Secy (RFS & NRM) during his visit to polyhouse



Mr. Samuel Katz, Indo Israel project, IHT, Greater Noida during his visit to CIH



Shri Sushil Kumar Singla, Director (Hort), DAC, MoA, GOI along with State Govt. Officials at CIH



Mr. Pawan Kumar, Jt. Dir, Govt. of Nagaland along with progressive cashew growers at CIH



Officials and farmers from Hort dept., Govt. of Meghalaya at CIH farm



Field visit by trainees from SAMETI



Field visit by Kiphire district farmers

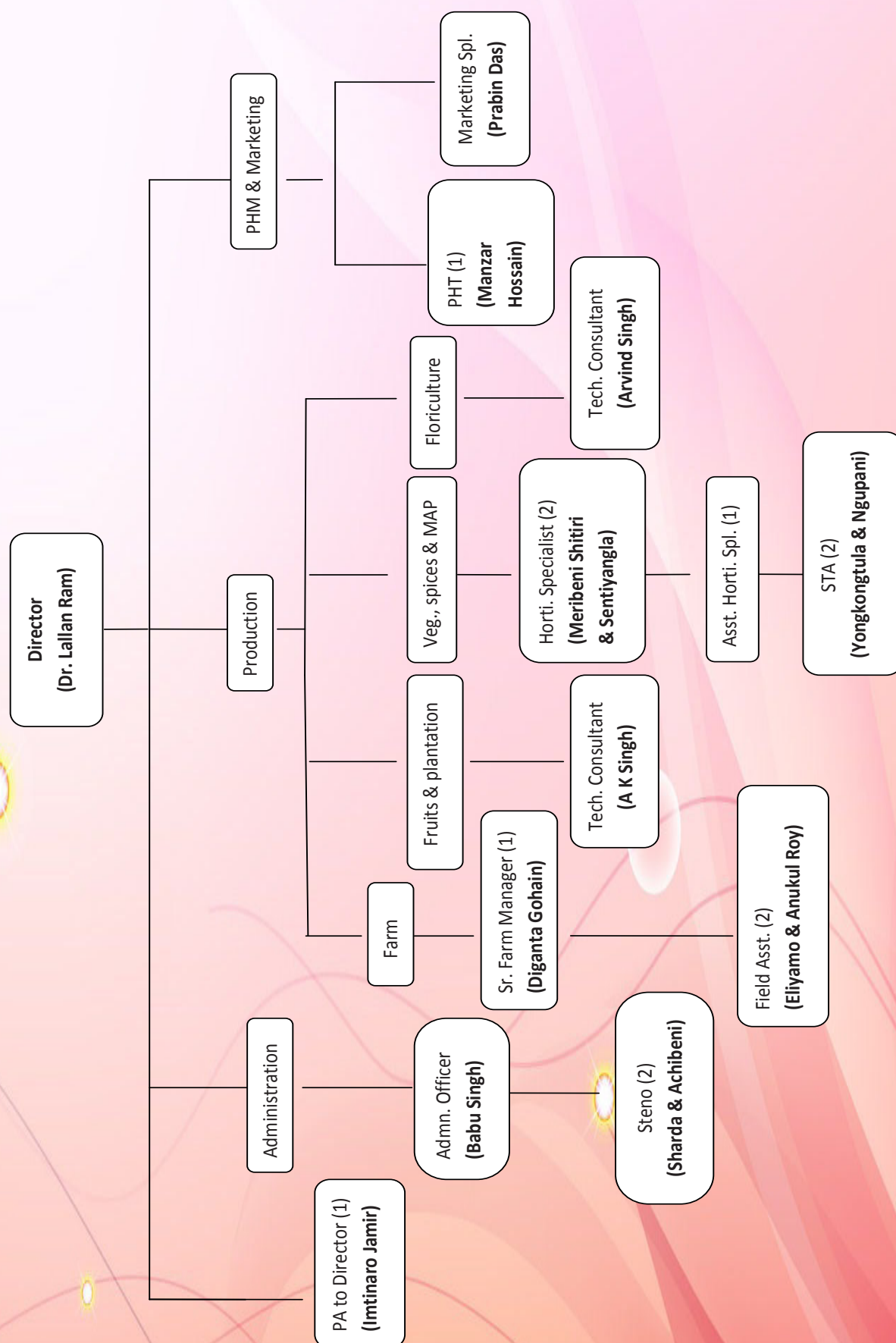


Field visit by ATMA, Kohima, Longleng and Zunheboto district

FINANCIAL STATEMENT OF CIH FOR THE YEAR 2013-14

Head of Account	Budget Al- location (Rs. In lakh)	Amount Re-appropriated	Expenditure (Rs. In lakh)
A. 2401-Crop Husbandry 119-Horti & Veg. crop 42-Estt. of CIH			
420001- Salary	20.00	6.00	5.83
420002- Wages	30.00	25.00	24.78
420006- Medical Treatment	4.00	1.00	0.19
420011- D.T. Expenses	20.00	12.00	11.69
420013- Office Expenses	100.00	36.00	34.77
420014- Rent rate & taxes	1.00	1.00	0.82
420016- Publication	20.00	10.00	9.69
420020- Other Admni. expenses	125.00	60.00	59.65
420026- Advt. & publicity	10.00	5.00	2.06
420027- Minor works	55.00	44.00	21.50
420028- Prof. services	20.00	10.00	9.95
420050- Other charges	90.00	58.00	57.86
420051-Motor Vehicle	15.00	0.00	0.00
420052- Machinery & Equip.	20.00	0.00	0.00
Total -2401 Crop Husbandry (A)	530.00	268.00	238.79
B. 4401 CO on Crop Husbandry 119-Horti. & Veg. Crop 14-Estt. of CIH			
140053- Major Works	470.00	156.42	59.35
Total – Major Head 4401 (B)	470.00	156.42	59.35
Grand total (A +B)	1000.00	424.42	298.14

ORGANIZATIONAL STRUCTURE OF CIH



PRESENT STAFF POSITION AT CIH

Director	:	Dr. Lallan Ram
Administrative officer	:	Mr. Babu Singh
P A to Director	:	Ms. Imtinaro Jamir
Stenographer	:	Mrs. Shrada Devi
	:	Ms. Achibeni Yanthan
Technical consultant	:	Mr. Anjani Kumar Singh
	:	Mr. Arvind Singh
Horticulture Specialist	:	Mrs. Meribeni Shitiri
	:	Ms. Sentiyangla
Post Harvest Technologist	:	Mr. Manzar hossain
Marketing Specialist	:	Mr. Prabin Das
Assistant Horticulturist	:	-----
Senior Farm Manager	:	Mr. Diganta Gohain
Senior Technical Assistant	:	Ms Yongkongtula
	:	Mr. Ngupani
Field Assistant	:	Mr. Eliyamo Humtsoe
	:	Mr. Anukul Roy

All development, trainings and transfer of technology activities are being carried out at the institute under the administrative control of the Director, Central Institute of Horticulture supported by total staff strength of 17 comprising of technical, administrative staffs and 54 outsourced labours.

CIH STAFF



Dr. Lallan Ram
Director



Mr. Babu Singh
Administrative Officer



Ms. Imtinaro Jamir
PA to Director



Mrs. Shrada Devi
Stenographer



Ms. Achibeni Yanthan
Stenographer



Mr. Anjani Kumar Singh
Technical Consultant



Mr. Arvind Singh
Technical Consultant



Mrs. Meribeni Shitiri
Horticulture Specialist



Ms. Sentiyaugla Pongener
Horticulture Specialist



Mr. Prabin Das
Marketing Specialist



Mr. Md. Manzar Hussain
Asst. Horticulture Specialist



Mr. Diganta Gohain
Sr. Farm Manager



Ms. Yongkongtula Lkr
Sr. Technical Asst. (From Jan, 2013)



Mr. Ngupani
Sr. Technical Assistant



Mr. Eliyamo Humsot
Field Assistant



Mr. Anukul Roy
Field Assistant

IMPORTANT CONTACT DETAILS

1.1. Members of Board of Management (BOM)

Sl.	Address	Designation	Contact No.
1	Dr. S.K Malhotra, Horticulture Commissioner, Department of Agriculture & cooperation, Govt. of India, Khrishi Bhawan -110001, New Delhi	Chairman	011-23381012(O) -23383712
2	Mr.Hage Kojeen (IAS), Secretary (Horticulture), Govt. of Arunachal Pradesh, Itanagar: Arunachal Pradesh -791110	Member	0360-2351383(o) -2244252(F)
3	Mr.Hemanta Narzary, Secretary (Agriculture), Govt. of Assam, Guwahati: Assam -781022,	Member	0361-2237250/2237230 (O) -2237226(F)
4	Mr.J.C Ramthanga, Secretary (Horti. & Soil Cons.), Govt. of Manipur, Imphal : Manipur -795001	Member	0385-2450038/2451158(O) - 2451144 (F)
5	Mr.P.Kharkongor, Secretary (Horticulture), Govt. of Meghalaya, Shillong : Meghalaya -793003	Member	0364-2211081(O) -2225978(F)
6	Mr. B.Lalhmingthanga, Secretary (Horticulture), Govt. of Mizoram, Aizwal : Mizoram-796001	Member	0389-2322532(O) - 2315206 (F)
7	Mr.L.Kire, Secretary (Horticulture), Govt. of Nagaland, Kohima : Nagaland -797001	Member	0370-2270115(O) -2271505(F)
8	Mr. S.B. Pradhan, Secretary (Horticulture), Govt. of Sikkim, Gangtok: Sikkim-737102	Member	03592-231892(Telefax)
9	Mr. K. V. Satyanarayana (IAS) Addl. Chief Secy (Agri), Govt. of Tripura, Agartala : Tripura-799001	Member	0381-2413357(Telefax)
10	Dr.K.M.Bujar Baruah,Vice Chancellor, Assam Agriculture University, Jorhat-785013, Assam.	Member	0376-2340013(O) -2340001 (F) vc@aau.ac.in kmbujarbaruah@rediffmail.com
11	Dr.S.N.Puri, Vice Chancellor, Central Agriculture University, P.O.Box -23, Imphal-795004, Manipur	Member	0385-2410450/2415933(O) 011 – 25846847(F) snpuri04@yahoo.co.in
12	Prof.D.P.Ray, Vice Chancellor of OUAT, Bhubaneshwar, Orissa- 751003	Member	0674-2397700(O) -2397780(F) ouat_dpray@rediffmail.com

13	Dr.Jagmohan Singh, Ex-VC, Y.S.Parmar University of Horticulture Solan, Nauni –Solan, Himachal Pradesh -173230	Member	09418156047(M) jschauhan@amity.edu
14	Secretary, Ministry of DONER, Vigyan Bhavan Annexe, Mulana Azad Road, New Delhi-1100011	Member	011-23022026(O) -23022307 (F)
15	Secretary, Ministry of DONER, North East Council, Nongrim Hills, Shillong, Meghalaya -793003	Member	0364-2522644(O) -2522643 (F) sect_nec_meg@nic.in
16	Dr.S.V.Ngachan, Director ICAR, Umroi Road, Umiam-793103, Meghalaya	Member	0364-2570257(O) -2570355(F) svngachan@rediffmail.com
17	Dr.V.B.Singh, Professor &Head (Horti. Deptt.), SASARD-NU, Medziphema- Dimapur-797106, Nagaland	Member	03862-247212 (O) -247255 (F) vbs_horti04@rediffmail.com
18	Chairman ,NABARD, Plot Np-c24, G Block, Bandra Kurlar Complex, P.O.Box-8121, Bandra East, Mumbai-400051	Member	022-26524748(O) -26530092/265300113(F) chairman@nabard.org
19	Representative of M/S.ITC Ltd., 6 th Floor, Peace Enclave, G.S.Road, Ulubari, Guwahati -781007	Member	0361-2735370(O)
20	Mr. Ostander Lyngkhoi, General Secretary, Ri-Bhoi Strawberry Growers Association Successful entrepreneur of NER	Member	09862042137(M)
21	Mr.Th. Joukumar Singh, Thangjam Agro Industries, Chingmeirong, Imphal progressive farmer of NER	Member	08974009452(M) thangjamagro@gmail.com
22	Dr.Lallan Ram, Director, CIH, Medziphema- Dimapur-797106, Nagaland	Member Secretary	09436276767(M) 03862-247707(O) -247088 (F) lallanram09@ gmail.com

1.2. Members of Technical Advisory Committee(TAC)

Sl.No	Name & Organization	Contact details
1	Dr.N.K.Mohan, Chief Consultant of CIH	09435145039(M) mohan.nk@sify.com
2	Dr. S.K.Dutta, NIRD, Guwahati (For HRD)	09435558817 (M) 0361-2304790(O) nirdnerc@rediffmail.com
3	Dr. M.Prabhakar, IIHR, Bangalore (For Organic Farming)	09880250548(M) 011-28466420 mpkar@iihr.ernet.in prabhakar_19@yahoo.com
4	Dr. Chandra Shekara, MANAGE, Hyderabad (For Agri. business)	09848308111 (M) 040-24015399 -24001266 chandra@manage.gov.in
5	Dr. B.C.Deka, ICAR- Jharnapani, Nagaland (For Post Harvest technology	09436349416(M) 03862-247241(O) bidyutdeka@yahoo.com
6	Dr. A.K.Srivastava, NRC-Citrus, Nagpur (For citrus & other fruit crops)	09422458020 0712-2500249 -2500615 0712-2500813 aksrivastava2007@gmail.com
7	Dr. L.C.Bora, AAU, Jorhat, Assam (For Plant Protection)	09854022454 (M) boralohitc@gmail.com
8	Dr. S.Rajan, CISH, Lucknow (For quality planting production)	09415794997 (M) srajanlko@gmail.com
9	Dr. Balraj Singh, NRC for Seed Spices, Ajmer (For Protected Cultivation)	08104736333 (M) 0145-2684401/02/03 (O) 0145-2684417 (fax) drbsingh2000@yahoo.com
10	Dr.V.B.Singh, , SASRD-NU, Medziphema (For Horticulture)	09436018409(M) 03862-247212 (O) -247255 (F) vbs_horti04@rediffmail.com
11	Dr. R.N.Padaria, , Department of Extension, IARI, New Delhi	09968966766(M) 011-25846434 rabindrapadaria@rediffmail.com rabi64@gmail.com
12	Director, CIH	09436276767(M) 03862-247707(O) -247088 (F) lallanram09@ gmail.com

1.3. Commissioners/ Secretaries (Horticulture) in NER

Sl. No.	Name	Address	Tel. No.
1	Mr. Hage Kojeen (IAS)	Commissioner (Hort.) Govt. of Arunachal Pradesh, Itanagar, Arunachal Pradesh - 791110	0360-2351383 (O), 2244252 (F)
2	Mr. Mr.Hemanta Narzary	Secretary (Agriculture), Govt. of Assam, Guwahati, Assam -781022	0361-2237230 (O), 2237226 (F)
3	Mr. J C Ramthanga	Comm.(Hort.) & Soil Conservation, Govt. of Manipur, Imphal, Manipur - 795001	0385-2451158 (O), 2452519 (F)
4	Mr. P Kharkongor	Principal Secy. (Horti.) Govt. of Meghalaya, Shillong, Meghalaya - 793003	0364- 2211081 (O), 2225978 (F)
5	Mr. B.Lalhmingthanga	Secretary (Hort.), Govt. of Mizoram, Aizwal, Mizoram - 796001	0389-2322532 (O), 2315206 (F)
6	Mr.L.Kire	Secretary (Hort.) Govt. of Nagaland, Kohima, Nagaland - 797001	0370-2270115 (O), 2271505 (F)
7	Mr. S B. Pradhan	Secretary (Hort.) Govt. of Sikkim, Gangtok, Sikkim - 737102	03592- 231892 (Telefax)
8	Mr. K. V Satyanarayana (IAS)	Addl. Chief secy (Agri.) Govt. of Tripura, Agartala, Tripura - 799001	0381-2413357 (Telefax)

1.4. Director (Horticulture) of NE States

Name	Address	Tel.No	Fax.No	Mobile no.	E-mail
Mr. Timothy Hansi Das	Director Department of Horticulture Govt. of Assam Khanapara, Guwahati -781022	0361- 2332796	0361- 2332796	09435508000	directorhortiassam@gmail.com
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Mrs. Watienla	Director Department of Horticulture Govt. of Nagaland, Kohima-797001	0370- 2270030	0370- 2270030	9436000639	hortidte09@gmail.com
Mr.D.K.Rai	Principal Director Department of Horticulture Govt. of Sikkim, Gangtok-737102	03592- 232511	03592- 231960	09733255189	
Dr.D.B.Sarkar	Director Department of Horticulture & Soil Conservation, Govt. of Tripura Paradise Chowamuhani P.O.Agartala-799001	0381- 2324739	0381- 2324739	09436124922	dhctripura@yahoo.co.in

METEOROLOGICAL DATA APRIL 2013 – MARCH 2014 AT CIH, NAGLAND

MONTH	Temperature (°C)			RH (%)			Rainfall (cm)	Wind Speed (km/h)	Wind Gust (km/h)	Solar Rad (wat/m ²)
	MAX	MIN	MEAN	MAX	MIN	MEAN				
April 2013	33.5	15.6	24.5	94	27	60.5	86.8	7.3	60.0	264.9
May 2013	32.8	17.6	25.2	81	38	59.5	310.2	9.2	40.0	277.4
June 2013	35.4	21.8	28.6	75	51	63	181.5	4.4	39.0	325.4
July 2013	32.9	22.6	27.7	100	66	83	245.5	1.0	26.0	295.5
Aug 2013	33.1	22.1	27.6	100	51	75.5	415.6	1.1	24.0	262.1
Sept 2013	32.3	20.3	26.3	61	49	55	152.4	2.8	29.0	258.5
Oct 2013	30.9	16.6	23.7	73	47	60	130.8	0.5	18.0	206.0
Nov 2013	26.4	10.0	18.2	57	47	52	4.8	0.4	11.0	174.2
Dec 2013	25.1	6.5	15.8	58	40	49	2.4	0.4	18.0	148.9
Jan 2014	25.5	7.1	16.3	63	24	43.5	1.2	0.6	14.0	175.5
Feb 2014	27.3	7.7	17.5	97	22	59.5	24.7	1.0	19.0	194.0
March 2014	34.3	11.4	22.8	47	13	30	30.6	10.2	51.0	224.9

NORTH EASTERN REGION OF INDIA



Director

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