

## North East India



### CENTRAL INSTITUTE OF HORTICULTURE

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# ANNUAL REPORT (2009-10)



CENTRAL INSTITUTE OF HORTICULTURE  
Medziphema: Nagaland

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सत्यमेव जयते

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Medziphema, Nagaland

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FOREWORD

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Dr. GORAKH SINGH



सत्यमेव जयते

बागवानी आयुक्त  
भारत सरकार, कृषि मंत्रालय  
(कृषि एवं सहकारिता विभाग)  
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24.03.2011

No. \_\_\_\_\_ /2010

Dated the, \_\_\_\_\_

Dear

**FOREWORD**

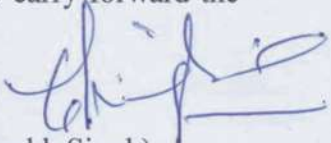
The North Eastern Region (NER) consisting of eight states namely Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura has favorable and diverse agro-climatic conditions with abundant rainfall which offers immense scope for horticultural development. The North East is one of the most bio diverse regions in the world. In the whole of NE region, about 35% area is plain and the remaining 65% area is under hills/forest. The economy of North East India has got its peculiar identity due to its specific physical, economic and socio-cultural characteristics. This region is spread over an area of 2.62 lakh sq.km. accounting for 8% of total geographical area of the country.

The region is characterized by difficult terrain, wide variability in slope and altitude, land tenure system and cultivation practices. Majority of the population is dependent on agriculture, horticulture and allied activities. The climatic condition in the region varies from temperate to sub-tropical and tropical. The diverse agro-climatic conditions, varied soil type and abundance of rainfall offers immense scope for cultivation of different types of horticultural crops, including fruits, vegetables, flowers, plantation crops root and tuber crops and medicinal and aromatic plants. The major spices grown in this region has significant export potential. Besides, important floriculture crops like anthurium, bird of paradise, lilioms and heleconia which have been identified as major crops for commercial production. The NER hosts a large number of floras in the wild which is ideal for production of dry flowers. The region also has huge potential for plantation crops like tea which have created a considerable impact on the economy of Assam, the largest state in the North east region.

Keeping in view the huge potential of horticulture in the region, the Central Institute of Horticulture, one of its kind under the aegis of the Ministry of Agriculture, Govt. of India, a young Institute with a huge mandate and great vision was set up to cater to the development of horticulture sector in the North east region. Established in the year 2006, at Medziphema, Nagaland in an area of 43.50 ha, the Institute aims to provide relevant training / capacity building programme to all stakeholders so as to empower the individuals and enable horticulture industry to bring socio-economic development in North eastern region. Ever since its start, the Central Institute of Horticulture has been imparting varied training programmes both for officials, farmers, entrepreneurs, SHG's, NGO's or allied as a part of capacity building, promoting

PTO

production of quality planting materials, protected cultivation, organic farming, post harvest management activities and marketing aspects. One of the main mandate of the institute being production of quality planting materials, the main focus of our institute is to develop mother block for scion production inorder to pave way for further multiplication of quality planting material. Besides, the institute also has been organizing motivational tours for potential entrepreneurs, officials and progressive farmers. The institute has been actively co-ordinating with various reputed Institutes, different organization and stake holders of horticulture in the region and the state government departments of North east region in an effort to achieve its objectives. The Director and her team has been putting their sincere effort to carry forward the mandate of institute and to achieve its target.

  
(Gorakh Singh)

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● Secretary/ Commissioner and Directors of State Hort. Department of NER	
● Members of the Board of Management (BOM)	
● Members of Technical Advisory Committee (TAC)	



# DIRECTOR’S NOTE

The North Eastern Region with its varied agro climatic conditions and diverse ecology accounting for nearly 8% of the country’s geographical area offers immense scope for horticulture development. Therefore, exploitation of horticulture potential of the region in a scientific and systematic manner is vital for boosting the industry for overall development of the region. Realizing the importance of institutional support for the development of horticulture in North East Region, the Central Institute of Horticulture was established in the year 2006, a prestigious project under the Prime Minister’s package for holistic development of horticulture sector in the North East Region.

The Central Institute of Horticulture ever since its inception has been putting all its effort to work towards its mission addressing key issues relevant to horticulture development in the region. The main objectives of the institute are capacity building – training of trainers and farmers/ beneficiaries, demonstration of improved production 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.

During the year 2009-2010, a series of activities were undertaken as per the approved action plan. The Institute has conducted a number of trainings as a part of capacity building and HRD activities according to need of the region. The main thrust of the training is to build and strengthen the capacities of the state/district level officials, extension functionaries, farmers, beneficiaries and NGO’s. The Institute is in progress for production and supply of quality planting materials of suitable varieties of fruits, vegetables, spices and plantation crops which are multiplied through suitable propagation methods. This year, the main focus was laid on the establishment of mother block for various focus fruit crop of the region as a part of quality planting material production programme. Protected cultivation models for flowers and vegetables have been set up as a part of technology refinement and demonstration of improved technologies. Various improved technologies such as high density planting (HDP) with drip irrigation system, intercropping, use of plastic mulching etc have been set up in the farm as a part of technology refinement and demonstration. Besides, some demonstration farm has also been established in farmer’s field. Promotion of organic farming being an important mandate of the institute, organic model farm has been established for pineapple as a part of demonstration programme. Awareness on Post Harvest Management of horticultural crops is being created through farmers participatory demonstrations and training programmes.

Horticulture produce marketing in the North East Region is still unorganized with inadequate infrastructural facilities posing difficulty in marketing the produce at the right time through proper channel. In an effort to achieve its objectives, the institute has conducted trainings and motivational tours, organised exhibitions at national level which has enabled the farming community of the North East Region to create a platform for highlighting the uniqueness of their produce. Besides, the institute co-ordinates and creates links with various organization/agencies for over all horticulture development in the region.

These few achievements made by the institute within a short span of time indicates the co-ordinated effort, systematic planning and sheer hard work. The efforts of the institute definitely contributed enormously to the development of horticulture sector in the North East Region in its small humble way.

Whatever has been achieved by the institute so far has been possible under the dynamic leadership of Horticulture Commissioner and his officers in Horticulture division, DAC who has constantly encouraged and intervened in all possible ways and also due to the tired less effort of CIH staff.

Dr. Akali Sema  
Director, CIH

# INTRODUCTION

Central Institute of Horticulture (CIH) was established in the year 2006 for holistic development of horticulture in North east region. The institute is located at Medziphema, Nagaland about 35 km from Dimapur, Dimapur–Kohima Road. The institute is spread over an area of 43.50 ha. The main thrust areas for the institute are refinement/demonstration of identified technologies specific for the region; production and supply of quality seed and planting material of improved/high yielding varieties, and training of State department officials and field functionaries on different aspects of horticulture development including post-harvest management, processing and value addition.

## Mandate

- Training of trainers and farmers/beneficiaries
- Demonstration of improved technologies
- 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

## Mission

To provide excellent, innovative and relevant trainings to all stakeholders of Horticulture sectors to empower them an enable the industry to bring socio economic development in North Eastern Region

## Vision

To emerge as the pioneering, innovative, farmer-focused and self supporting Horticulture Institute

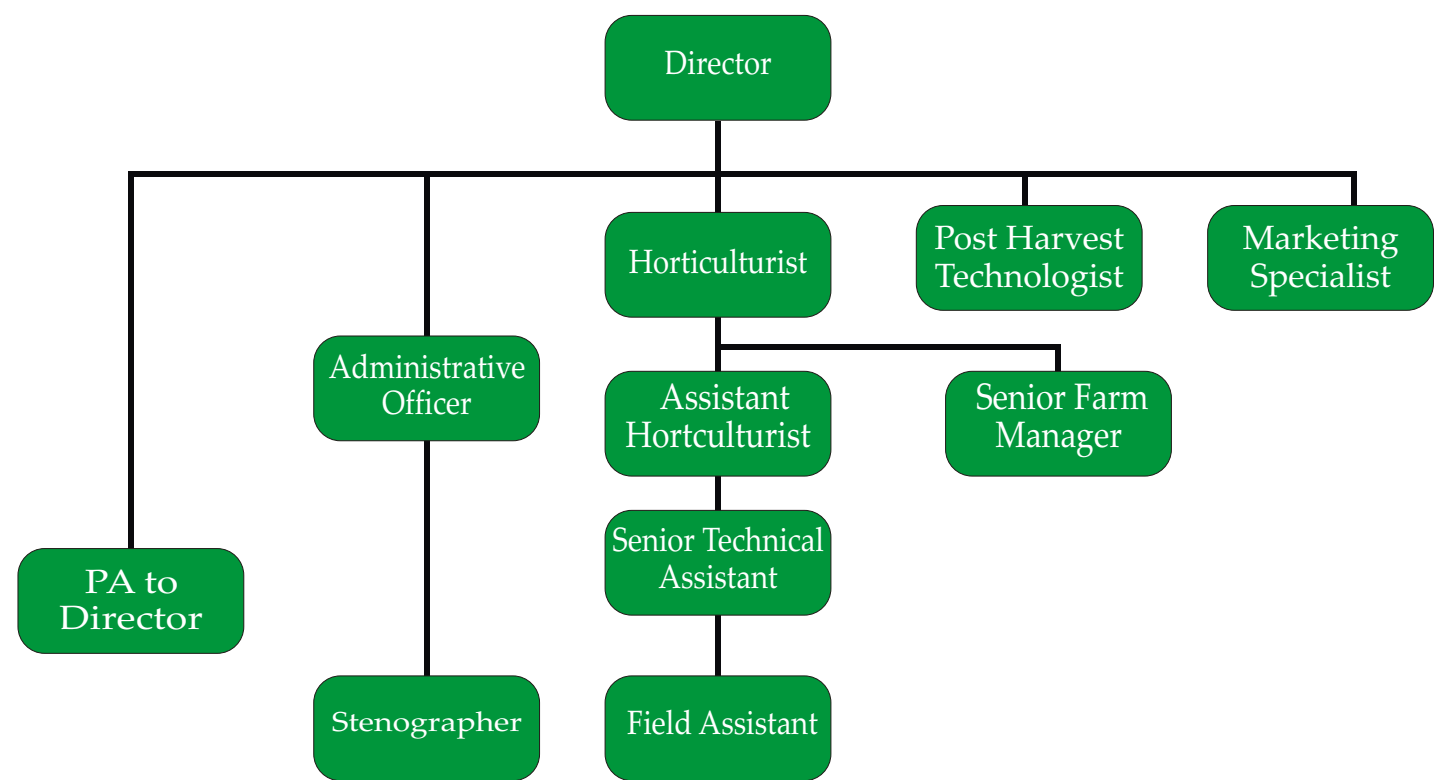
## Past Achievements

### Highlights of Achievements

- CIH has organized 111 trainings out of which 71 training for farmers and 30 trainings for state government officials and extension functionaries in different states of North East, where more than 6500 farmers and state government officials and extension functionaries have been trained in identified areas of horticulture for NER.
- For transfer of technology, CIH has established various demonstration plots( onfarm & off farm) on identified technologies for NER.
- CIH has published different folders, training manual, flip charts, bulletins etc in english and local dialects and has about 60 such publication to its credit.
- The strength of the Institute lies in its farm and the Institute has been focusing on plantation of important focus crops of NER in its farm. It now has about 14 ha area covered under plantation of various horticulture crops.
- One of the key mandates of CIH is quality planting material production and the Institute have established about 10 ha area under different fruit blocks as mother plants for scion collection to be used in different propagation activities. Rootstock block has been established for citrus and rootstocks for crops like cashew, citrus and roses are raised for further multiplication.
- The Institute has also taken initiative in facilitating market linkages for the farmers of NER. Various exposure trips, exhibitions, capacity building programmes, buyers' sellers meets and workshops on supply chain management has been organized to help farmers market their produce from the region.
- CIH has also organized national and regional seminars, conferences and workshop on key areas of horticulture. The major ones being SYMSAC V and NE Marketing Summit which was a huge success.
- The Institute has now various infrastructures in place such as an administrative office building (made of treated bamboos), a laboratory, store rooms, 14 polyhouses, drip irrigation system, water reservoir, security hut, CC road, well fenced campus, electrical sub-station , DG set back up, street lighting all over the campus etc. In addition ,the Institute also has various motor vehicles for carrying out its activities
- Besides this, CIH coordinates with horticulture departments of NER and various organizations involved in horticulture sector for different programmes and participate in several programs at national and international levels.

ORGANIZATIONAL STRUCTURE AND STAFF POSITION

Organizational Structure of CIH

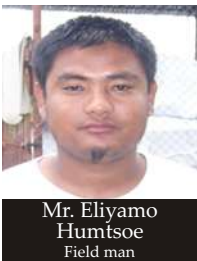
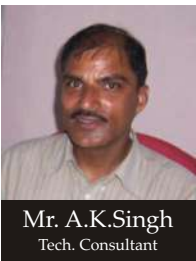


All development, trainings and transfer of technology activities are being carried out in the main campus under the administrative control of Director of the Institute supported by a total staff strength of 50 comprising of scientific, technical, administrative, supporting staff and outsourced labours.

Staff Positions of CIH

- |                |   |                        |   |
|----------------|---|------------------------|---|
| • Director     | : Dr. Akali Sema                              | • Tech. Consultant     | : Mr. Anjani Kr. Singh                      |
| • Adm. Officer | : Mr. J.K. Lahiri                             |                        | Mr. Arvind Singh                            |
| • P.A          | : Ms. Imtinaro                                | • Marketing Specialist | : Mr. Prabin Das                            |
| • Steno        | : Ms. Shrada Devi and<br>Ms. Achibeni Yanthan | • PHT                  | : Ms. Puvichono                             |
|                |   | • AHS                  | : Ms. Ethel Ngullie<br>Ms. Meribeni Shitiri |

CIH STAFF



HORTICULTURE SCENARIO OF NORTH EAST INDIA

North East Region blessed with abundant natural resources has immense potential for boosting horticulture sector, however these potentials has not been fully exploited due to varied reasons. The region is considered self sufficient in most of the horticulture crop production to meet the requirement of people of the NER. Temperate zone of Arunachal Pradesh has the potential for the production of low volume and high value nut crops like almond. Sikkim is an important state for large cardamom production in the world map and other states like Arunachal Pradesh, Nagaland and Meghalaya are also important growing states in the region. Organic spices like ginger (cv. Nadia) and turmeric (cv. Lakadong) are now taking off in a big way and about 60-70% of the produce are being exported outside the region and neighboring countries. Plantation crops like tea, coffee, arecanut, coconut, betel vine, rubber and cashew nut also occupy prominent place in the region. Tea occupies maximum area and highest production comes from Assam and other North Eastern states contributing 60% of total production of the country. India is one of the leading countries in the world for arecanut production (area-2.77 lakh ha and production- 3.3 lakh tones) where Assam and Meghalaya make significant contribution with a production of 17% and 3% from area of 2% and 3% respectively. Arecanut is mostly grown by farmers and plantation is also used as a standard plant for betel vine as a cash crop. There has been substantial impact of development of horticulture in the region but it has not been sufficient to address all the issues to make horticulture vibrate and exploit the potentials, which exists. Government of India has initiated various programmes for promoting horticulture industry in the region and in fact, there are numerous ongoing horticulture schemes in the region. This has no doubt bought about dramatic change in horticulture scenario of the region. TMNE (now known as HMNEH) has been the key factor for enhancing horticulture crop production in the region that has led to overall growth in the economy of the region.

Area, Production and Productivity of Horticulture Crops of NER																
State Spices	Fruit			Vegetable			Flower			Plantation			Spices			
	A	P	Pdy.	A	P	Pdy.	A	P	Pdy.	A	P	Pdy.	A	P	Pdy.	
Arunachal Pradesh	57.6	108.0	1.87	23.8	110.00	4.66	23.5	106.8	3	0.00	0.00	-	8.2	47.5	5.79	
Assam	122.7	1410.7	14.49	328.9	4478.2	13.61	-	-	-	104.30	174.40	1.67	27.2	18.5	0.68	
Manipur	39.1	273.7	7	12.09	113.625	9.40	0.0	0.0	-	0.00	0.00	-	8.7	7.7	0.88	
Meghalaya	28.5	235.3	8.25	42.5	352.5	8.29	-	-	-	12.10	16.50	1.36	18.4	80.69	4.39	
Miozoram	33.3	203.4	6.10	2.965	51.860	17	-	-	76	2.00	5.30	2.65	9.0	38.3	4.25	
Nagaland	11.8	53.0	4.49	10.415	63.500	6.09	-	-	17	1.10	1.44	1.30	4.5	26.2	5.82	
Sikkim	9.299	13.934	1.49	20.067	95.872	4.77	0.135	-	45	0.00	0.00	-	34.0	42.4	1.24	
Tripura	33.9	525.7	15.50	33.7	423.6	12.56	-	-	-	9.20	14.75	1.60	4.5	9.4	2.08	
Total	336.19927	15.73	57.32	474.43	5689.16	76.38	2363.5	106.8	141	128.7	212.39	8.58	114.5	270.9	25.13	

Source- NHB database 2008-09

ACHIEVEMENTS



# 1. Farm Development Activities

About 6 hectare of land has been developed and demarcated into different blocks for plantation of horticulture crops.

## 1.1 Establishment of scion/ mother block

Eight scion blocks have been developed for establishment of scion block of improved and recommended varieties specific for the region. Besides, scion bank of citrus has been developed in one poly house.

## 1.2 Scion blocks

Sl. No.	Crops	Varieties	Area	Source of procurement
1.	Cashew	Vengurla -4	0.75 ha	Trupty orchard, orissa
2.	Citrus	STG, Nagpur Mandarin	0.25 ha	NRCC, Nagpur
3.	Citrus	Acid lime	0.5 ha	NRCC, Nagpur
4.	Citrus in poly house	Sweet orange (Mosambi)	0.2 ha	State horticulture farm, Longnak, Nagaland
		Sweet orange		
		STG, Nagpur Mandarin		
		Sikkim mandarin		
5.	Guava	Khasi mandarin	0.5 ha	CISH, Lucknow
		Sweta		
		Lalit		
		Allahabad safeda		
6.	Mango	Lucknow-49	0.25 ha	CISH, Lucknow
		Mallika		
7.	Beal	Amarpali	0.5 ha	CISH, Lucknow
		B-2		
		NB-5		
8.	Aonla	NB-6	0.75 ha	CISH, Lucknow
		Kanchan		
		NA-6		
		NA-10		
		NA-7		
		Krishna		
9.	Peach	Laxmi -52	0.25 ha	ICAR Research centre for NER
		Shane-E-Punjab		



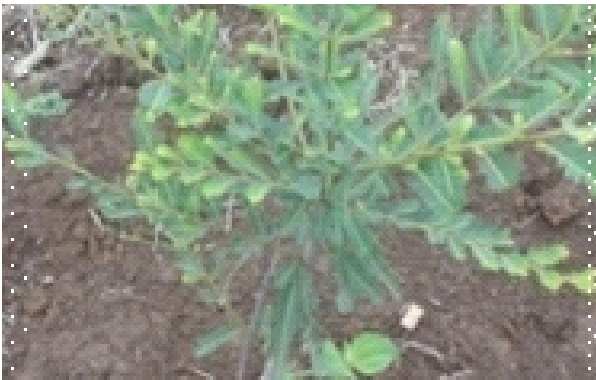
Guava block



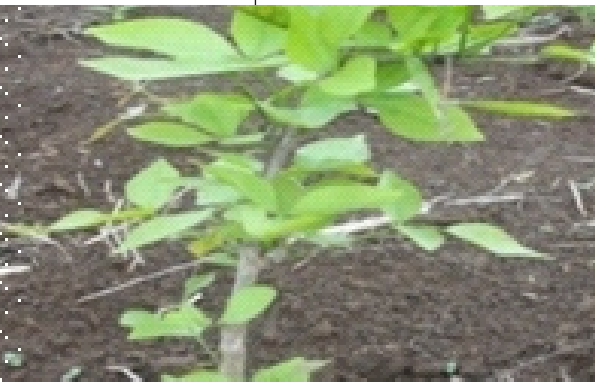
Cashew block



Mango block



Aonla block



Bael Block



Peach Plantation



Citrus scion block



Citrus mother block



1.3 Raising of rootstocks

Seeds and seedlings of citrus were procured from NRC Citrus, Nagpur & ICAR, Basar, Arunachal Pradesh. While the seeds of cashew were procured from Manjuri Dhubri, Assam and the rose seedlings (to be used as rootstock) were procured from Shrushti Hi –tech, Pune. Citrus seeds 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 one year of age for propagation activities. The Cashew rootstock were raised through seeds in poly bags which were maintained following all cultural practices for 45 days or till it attains appropriate size for propagation activities.

Rootstock raised	Nos
Cashew	9500
Citrus (Cleopatra mandarin)	2000
Rangpur lime	200
Rough lemon	200
C. volkemariana	500
Rose (Natal bear)	5000

Rootstocks



Rootstock of Cashew



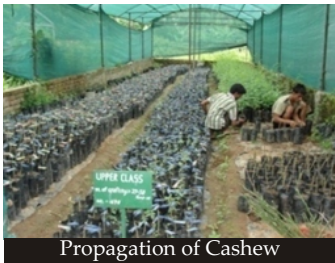
Rootstock of Citrus



Rootstock of Rose

1.4 Propagation activities

Crop	Propagation Method	No. of plants propagated
Citrus	‘T’ Budding	400
Cashew	Soft wood grafting	5000
Rose	‘T’ Budding	3000



Propagation of Cashew



Propagation of Citrus



Propagation of rose

1.5 Other Plantations Activities

Several avenue plants were planted in planned way in and around campus/ water harvesting pond and roadside.

- Roadside- Different spp. of ficus, bottle palm, ashok.
- Along the fencing – Bamboo plantation
- Water harvesting pond – Arecanut plantation
- Citrus rootstock(Cleopatra Mandarin) planted along the fencing area



Avenue plants at road side



Citrus rootstock in fencing area



Bamboo plantation in fencing area

2. Infrastructure Development

During the period under report, major infrastructure facilities have been created.

- Office building with treated bamboos
- Installation of drip irrigation network system in an area of 10.70 ha.
- Installation of electric line and water pump
- Electrification & pipe line laying in security barrack
- Shade net reconstruction
- Labour Shed house
- Packing house for flowers
- Vermicompost unit
- Store house
- Retaining wall (roadside)
- Ring wells/ common toilet



New Admn. office building



Labours shed



Packing house



Store house



Vermi compost unit



Labours shed



3. Technology Demonstration

Several demonstrations on organic package of practices in ginger, turmeric, pineapple, performance of black pepper, intercropping of different vegetables in the existing mother block of citrus, cashew and citrus rejuvenation etc were conducted both on farm and off farm in different parts of Nagaland which not only helped in the overall production of horticulture crop but also acted as a catalyst in ameliorating the economic condition of farmers/ orchardist.

Sl. No. On Farm	Technology/Crops	Variety	Area (ha)
1.	Organic package of practices for Ginger	Nadia	0.25
2.	Organic package of practices for Turmeric	Megha Turmeric-1	0.25
3.	Performance of Black pepper on established Teak Plantation	Panniyur-1	65 nos
4.	Organic Cultivation Of pineapple	Giant Kew	1.0
5.	Intercropping of different vegetables in existing mother block of citrus	Cauliflower & Pea	200 <sup>2</sup> sqm

Sl. No. Off Farm	Technology/Crops	Variety	Location	Area (ha)
5.	High density planting of citrus	Khasi Mandarin Amarpali	Medziphema, Nagaland	1.0
6.	High density planting of cashew	VR-4	Ralan village, Dimapur, Nagaland	1.0
7.	Citrus rejuvenation	Khasi Mandarin	Razuphema village Dimapur, Nagaland	1.0
8.	Organic cultivation of Pineapple	Giant Kew	Molvom village Dimapur, Nagaland	1.0





4.Transfer of Technology

4.1 Training Programme

Central Institute of Horticulture, Nagaland organized various extension activities to officers/ farmers as well as orchardist acquainted with the recent development of production technologies including post harvest management and marketing

- The major transfer of technologies taken up by CIH are on the following aspects:
- Developing capacity of extension functionaries of line department through trainings
- Developing capacity of stakeholders through trainings and practical demonstrations
- Technology transfer assessment and refinement through demonstrations
- Promotion of technology through print and electronic media, extension literature, etc

Sl. no	Date	Place of training	Subject	Category	No. of participants
1	2- 3 April 09	NCR (Mithun), Jharnapani	Citrus Rejuvenation	Trainers	46
2	19-21 May 09	NCR (Mithun), Jharnapani	Improved production technology of horticulture crops	Trainers	34
3	27 May 09	Thetsumi Village Nagaland	Utilization of Banana	Farmers	92
4	1 - 2 June 09	Manjuri Village Assam	Cashew Cultivation	Farmers	110
5	15-17 June 09	Guwahati, Assam	Post Harvest Management of Fresh Fruits & Vegetables	Trainers	27
6	3-6 July 09	NU, SASRD, Medziphema	Protected cultivation	Beneficiaries	73
7	7-9 July 09	NU, SASRD Medziphema	Protected cultivation	Beneficiaries	74
8	25 Aug 09	SHN, 4th Mile Dimapur	Improved production technology of fruit crops	Farmers	57
9	26 Aug09	SHN, 4th Mile Dimapur	Improved production technology of fruit crops	Farmers	56
10	28 Aug 09	CIH, Nagaland	Propagation technique	Farmers	7
11	5 Sept 09	CIH, Nagaland	Value addition in Pineapple	Farmers	16
12	29 Sept-1 Oct 09	SIRD, Meghalaya	Protected cultivation	Farmers	38
13	9 Oct 09	CIH, Nagaland	Nursery Management	Farmers	22
14	1-2 Dec 09	Ziro, Arunachal Pradesh	Post harvest handling and value addition of temperate fruit	Farmers	76

Sl. no	Date	Place of training	Subject	Category	No. of participants
15	21 Dec 09	Izheto Village, Zunheboto, Nagaland	Post harvest management of Citrus & Banana fibre extraction	Farmers	120
16	11-12 Jan 10	HRC, Tripura	Improved Production Technology of Fruit Crops	Farmers	100
17	20 Jan 10	Peren, Nagaland	Citrus Rejuvenation	Farmers	94
18	26 Feb 10	SASRD, Medziphema	Nursery Management of Horticulture Crops	Farmers	98
19	29 March 10	SASRD, Medziphema	Improved Production Technology of Fruit Crops	Farmers	90
20	8 - 10 March 10	NIRD, Guwahati	General Management Training	Trainers	32
21	9 March 10	Gali, Peren	Organic Farming	Farmers	50
22	10 March 10	Kigwema, Kohima	Organic Farming	Farmers	85
23	11 March 10	Sakreba, Phek	Organic Farming	Farmers	67
24	13 March 10	Wokha Village	Organic Farming	Farmers	70
25	15 March 10	Mokokchung Village	Organic Farming	Farmers	55
26	17 March 10	Medziphema	Organic Farming	Farmers	100
27	22 March 10	CIH, Medziphema	Production of Quality Planting Materials	Farmers	19
28	26 March 10	CIH, Medziphema	Agriculture Marketing	Farmers	52
29	29 March10	SASRD, Medziphema	Improved Production Technology of Fruit Crops	Farmers	90
30	30 March 10	SASRD, Medziphem	Pest & Disease Management	Farmers	92
31	30 March 10	SHN, 4th Mile Dimapur	Banana Fibre Extraction	Farmers	49
32	31 March 10	Dimapur	Dry Flower techniques	Farmers	55
Total no. of person trained : 2,046 nos Farmers : 1,907 nos                  Trainers : 139 nos					

4.2 Transfer of technology through mass media

Keeping in view the demand of farmers as well as the orchardist and in consultation with the state department of NER, CIH has put its tired less effort carrying out various activities in the North East region. The impact was tremendous which resulted into a paradigm shift towards adopting modern production technologies by the farming community. CIH conducts perennial training programmes besides distribution of various extension bulletins, folders etc in various part of North East region.

4.3. Bulletins/ Folders

CIH has published various bulletins and folders on important focus crop of horticulture in context to NER such as production technologies and post harvest handling of various horticulture crops, protected cultivation of high value crops, organic package of practices of important horticultural crops in North East India, etc for the farmers and extension functionaries in the region. CIH is also putting its effort to publish folders/ bulletin on important aspects in different dialects of North East for the benefit of the rural farmer of the region.

4.4 On farm interaction

- CIH staff interacted with farmers of Molvom village under Dimapur district in their farm for creating awareness on different aspects on post harvest management technologies.
- Farmers were also taken to different pineapple growing areas to help them understand various post harvest handling and management in pineapple.

GLIMPSES OF TRAINING PROGRAMMES

TRAINERS TRAINING



1. Chief Guest, Dr. Rajkhowa, Director (NRCM) along with Director CIH and participants during training programme on “Citrus Rejuvenation” at NRCM, Jharnapani



2. Participants during training programme on “Improved Production Technology of Horticultural Crops” at NRCM, Jharnapani



3. Director, CIH along with resource persons (L) and participants (R), Participants taking note during technical session at “Post Harvest Management of Fresh Fruits & Vegetables” training at Guwahati, Assam







4. Director, CIH addressing the participants during “General Management” training at NIRD, Guwahati

FARMERS TRAINING



1. Participants along with Director, CIH and resource person during “Utilization of Banana” training at Phek, Nagaland



2. Resource person and participants during field visit on “Protected Cultivation” training held at NU, SASRD, Medziphema



3. Dr. Akali Sema, Director, CIH delivering a brief remark (above), group of participants (below) during training programme on “Cashew Cultivation” at Manjuri Village, Assam



4. A section of participants during the technical session (L), Dr. S.P. Ghosh addressing the participants (R) on “Protected Cultivation” training held at NU, SASRD, Medziphema





5. Dr. Akali Sema delivering lecture during training programme on "Improved Production Technology of Fruit Crops" at Dimapur



6. Participants during technical session on "Improved Production Technology of Fruit Crops" training held at Dimapur



7. Participants during practical demonstration on cashew and citrus propagation at CIH farm during training programme on "Propagation techniques" conducted at CIH, Nagaland



8. Director, CIH along with staff and SHGs women (L), resource person demonstrating practically (R) during the training programme "Value addition in Pineapple" held at CIH, Nagaland



9. Participants during technical session and field visit on "Protected Cultivation" training at Meghalaya



10. Dr. S.P Ghosh, resource person interacting with the participants during "Nursery management & propagation" training at CIH, Nagaland



11. Participants from different district during training programme on "Post harvest handling and value addition of temperate fruit" at Ziro, Arunachal Pradesh



12. Resource person along with participants at "Post harvest management of Citrus & Banana fibre extraction" training at Izheho village, Zunheboto, Nagaland



13. Director, CIH along with resource person and participants at "Citrus Rejuvenation" training programme at Peren, Nagaland



14. Farmers from different districts of Tripura during "Improved Production Technology of Fruit Crops" training at HRC, Tripura







15. Participants during training on "Nursery Management of Horticulture Crops" held at SASRD, Medziphema, Nagaland



16. Participants from Dimapur district during "Improved production technology of fruit crops" training at SASRD, Medziphema, Nagaland



19. Participants at "Organic Farming & Certification" training conducted at Sakraba, Phek



17. Resource persons delivering lecture during "Organic Farming & certification" training at Gaili, Peren, Nagaland



20. Resource persons along with participants during "Organic Farming & Certification" training at Wokha, Nagaland



18. Chief Guest, resource persons and participants during "Organic Farming & Certification" training at Kigwema, Kohima, Nagaland



21. Participants from Mokokchung village during "Organic Farming & Certification" training at Mokokchung, Nagaland







22. Resource person interacting with the farmers during “Organic Farming & Certification” training at Medziphema, Nagaland



23. Participants during practical demonstration on “Production of Quality Planting Materials” conducted at CIH, Medziphema, Nagaland



24. Resource person delivering lecture during “Agriculture Marketing” training conducted at CIH, Medziphema, Nagaland



25. Resource person interacting with farmers during field visit on “Improved production Technology of Fruit Crops” training held at SASRD, NU, Medziphema, Nagaland



26. Resource person delivering lecture to the participants during training programme “Pest & Disease management” held at SASRD, NU, Medziphema, Nagaland



27. Participants during “Banana Fibre Extraction” training held at Dimapur, Nagaland

## 5. Agri-business Promotion

### 5.1 Exposure Trip of Farmers

Central Institute of Horticulture, Medziphema in collaboration with the Directorate of Cashew and Cocoa Development, Cochin sponsored 48 Cashew growers from the State of Nagaland for the exposure trip cum National Level Training on “Cashew Production and Post Harvest Technology” at Zonal Agricultural Research Station (ZARS) from 12<sup>th</sup>-14<sup>th</sup> March, 2010. The training programme was organized by ZARS and KVK, Brahmapur and the farmers were nominated by the State Horticulture Department, Government of Nagaland.

The training programme inaugurated by Sri. K.M. Udaya, Managing Trustee, Manipal. The key resource persons included Dr. M. Hanumanthappa, Associate Director of Research, ZARS, Brahmapur, Smt. L. Bhagathi, SMS (Home Science), Mr. K.V. Sudhir Kamath, Agronomist, Dr. B. Dhananjaya, Programme Coordinator, KVK, Mr. B. Shivana, SMS, Entomology, Dr. S.U. Patil, Associate Professor (Agri. Entomology) and Dr. M.K. Honnabyraiah, Associate Professor (Horticulture). The training session covered the details of production and Post Harvest aspects of Cashew and the farmers were also exposed to practical demonstrations, field visits as well as visit to different processing units.



Chief guest, Shri K. M Udaya and resource persons during training at ZARS, Brahmapur



Trainees & resource persons at KVK, Brahmapur



Farmers during lectures



Trainees during field visit



## 6. Publications

- Singh, Arvind, Shitiri, Meribeni and Sema, Akali (2010). “Production technology of carnation under protected cultivation”. Ext. folder No 1.
- Puvichono, Shitiri, Meribeni and Sema, Akali. “Post harvest handling and care of cut roses”. Ext. folder No 2.
- Singh, Arvind, Shitiri, Meribeni and Sema, Akali. “Production technology of rose under protected cultivation”. Ext. folder No 3.
- Singh, Arvind, Shitiri, Meribeni and Sema, Akali. “Production technology of gerbera under protected cultivation”. Ext. folder No 4.
- Zhimomi, Tokato, Shitiri, Meribeni and Sema, Akali. “Bokashi”. Ext. folder No 5.
- Ngullie, Ethel, Shitiri, Meribeni and Sema, Akali. “Cultivation of tomato in polyhouse”. Ext. folder No 6.
- Ngullie, Ethel, Shitiri, Meribeni and Sema, Akali. “Cultivation of capsicum in polyhouse”. Ext. folder No 7.
- Ghosh, S.P., Sema, Akali and Aier, Benjong. (2010) “Success story of citrus industry in Nagaland”. Daya Publishing House, New Delhi
- Sema, Akali, Menon, Manoj Kumar, Roy, Jaydip, Kichu, Tiakum and Shitiri, Meribeni (2010). “Organic package of practices of horticultural crops in NER”. Daya Publishing House, New Delhi.
- Sema, Akali, Srinivasan, V. and Shitiri, Meribeni. “Proceedings and recommendations of National symposium on Spices and Aromatic crops (SYMSAC-V)”. Print house, Dimapur.

## 7. Workshop / Seminar

### “State level interface between growers and entrepreneurs for horticulture crop marketing”

Central Institute of horticulture organized a state level interface between growers and entrepreneurs for horticulture crop marketing on March 27, 2010 with Mr. Santanu Mitra, Director (Admn. Planning) and Incharge Adviser (Horticulture), NEC, Shillong. Dr. Akali Sema, Director, CIH, DAC, GOI, Nagaland in her welcome address, gave a brief introduction about CIH and its objectives. She also emphasized on the importance of marketing of horticultural crops, the issues and challenges faced by the farming community. Brief remark was given by Prof. D.P. Sharma, Dean, SASRD, NU. He emphasized the importance of marketing as a subject to be taught to all agricultural graduates. Foundation Day lecture was given by Mr. Geoffrey Yaden, Editor, Nagaland Post. He, comprehensively, explained the issues related with Global warming. He also opined the need to understand nature, which has a limit to withstand pollution. He also stressed the importance of judicious use of resources. The Chief Guest Mr. Santanu Mitra, Director (Admn. Planning) and Incharge Adviser (Horticulture), NEC, Shillong appraised the institute for its contribution in Capacity building, demonstration of improve technologies, extension support in the field of Horticulture, promotion of organic cultivation of Horticultural crops, establishing links for convergence and synergy for programmes at the field level etc. He also highlighted the Govt. initiatives for Horticulture development and marketing. He mentioned that generation, investment and regeneration of resource in financial terms should be the key to success.

### Major Recommendations

- The farmers and entrepreneurs should produce according to the demand in the market. Market driven products are easily marketable which in turn would mean good money for farmers.
- Farmers and entrepreneurs should go for large scale production of a single crop which would cut down costs in many regards.
- Branding of organic produces should be given importance.
- Farmers/entrepreneurs should learn how to market their produce. Training should be given on personality development.
- Providing micro credit for brief gestation crops.
- Promote at least one food processing training center and entrepreneurs should be encouraged to take up course in food processing.
- Understanding of market statistics is important for production as well as marketing.
- Banks need to the lead role in providing credit facilities to farmers.
- Alternate marketing methods like contract farming direct marketing; terminal markets for perishables, group co-operative marketing, warehousing and pledge finance and cold storage infrastructure need to be practiced.



National Seminar on Spices (SYMSAC-V)

Venturing into North East for the first time ever, Central Institute of Horticulture, Department of Agriculture and Cooperation, Ministry of Agriculture, Govt. of India, Medziphema along with Indian Institute of Spices Research and Directorate of Arecanut and Spices Development, Calicut organized 2-days National seminar



1.Young North East girls waiting to receive the Chief Guest



2. Welcoming the Chief Guest, Dr. Chumben Murry, Minister of Agri, GoN



3. Inaugurating the function by lighting of lamp



4. Resource person presenting a paper during technical session



5. Entrepreneurs interacting with the panelist



6. Resource person presenting a paper during technical session



7. Dr. K.M Bujarbaruah, VC, AAU addressing as Chief Guest during Plenary session



8. Dr. Akali Sema, Director, CIH addressing the participants



9. Exhibitors from Nagaland at their stall



10. Posters being judged by Panelist



11. Chairman, panelist and rapporteurs during farmers interaction session

(SYMSAC-V) on “Harnessing the potential of North Eastern States for Spices Production through Technological Intervention during 30<sup>th</sup>-31<sup>st</sup> October 2009 at Police Complex, Chumukedima, Nagaland. Dr. Chumben Murry, Hon’ble Minister for Agriculture inaugurated the symposium. Renowned personalities and scientists from different parts of the country attended the seminar. The main focus of the seminar was to discuss and bring out strategies for promoting spice production in the North East Region. The seminar was attended by various Govt. officials, entrepreneurs, progressive farmers and stakeholders from different parts of North East.



## 8. Capacity Building and Participation

- Dr Akali Sema, Director, CIH took training course on “Residential special modular programme on contractual Labour (Regulation and abolition) Act,1970” organized by Institute of Public Administration, Bangalore on 18-19th June, 09 at Mysore
- Mr. Tiakum Kichu, Technical Consultant underwent training on “Value addition to fruit and vegetable products: holistic approach in food chain” at CFTRI, Mysore from 7-18th Sept.09
- Mr. Arvind, Technical Consultant underwent training on “General Greenhouse Management and protected cultivation Training “ at HTC, Pune on 23rd -27th Oct. 2009
- Mr. Prabin Das, Marketing specialist, participated in the training on Preparation and operationalisation of comprehensive district action plan (C-DAP)” at NERC NIRD, Guwahati, Assam on 1st -5th Feb. 2010
- All technical staff of CIH along with state government officials of NER took training course on “General management “at Guwahati on 9-11th March ‘10, which was imparted by Prof. Sushil Kumar from IIM Lucknow
- Ms. Puvichono, Post Harvest Technologist, was trained on “ Advances on production and post production technology of horticultural crops” at ICAR Research Complex, Barapani, Meghalaya



Dr. Akali Sema, Director , CIH during training programme at Mysore



Mr Tiakum Ao, AHS, CIH during training at CFTRI, Mysore



Prof. Sushil Kumar (IIM, Lucknow) with participants during "General management training" at Guwahati

- Dr Akali Sema, Director, CIH Dr. Akali Sema, Director, CIH attended seminar on “Organic farming- A new Vista” at Guwahati, Assam on 6<sup>th</sup> Aug 09, which was organized by APEDA, Gwahati
- Director, Dr. Akali Sema CIH and Mr. Tiakum, Technical Consultant participated in International Seminar on “India Organic: strategies to surge ahead” organized by ICCOA, Bangalore, NCOF, UAS, Bangalore and OFAI, Goa on 10-11 Sept.09 where the Director, CIH presented paper on “Strategies to tap the potential of NER for organic farming”
- Director, CIH, participated in “India International Food and Agri Seminar” organized by DASD, Calicut, TIE, Kerala and FOARD, Kerala on 19-20<sup>th</sup> Nov.09 at Cochin, Kerala



- Mr. Prabin Das, Marketing specialist, participated in “Agri Marketing Summit 2009” organised by CII on 16-17 Dec.’09 at New Delhi
- Dr. Akali Sema Director, CIH, attended “Cold chain summit 2009”, at New Delhi on 9-10 dec.’09
- Mr. Arvind Singh, Technical Consultant, CIH attended the National Symposium on “Life Style Floriculture: Challenges and Opportunities” at Solan on 18-21<sup>st</sup> March 2010. He presented poster paper on “Suitability and adaptability of Carnation varieties under foot hills of Nagaland”

## 9. Linkage and Collaboration

- An interface meeting was held on 11<sup>th</sup> May 2009 with Dean and faculty members of SASRD, NU in the conference hall of SASRD. Dr. Akali Sema, Director, CIH expressed that CIH requires hel and support from various quarters especially from SASRD, NU with large number of experts in various field of agriculture. In this context, she emphasized that a proper coordination between the two institute would be supplementary and complementary to each other.
- Director, CIH had an interface meeting the Director of horticulture, Govt. of Arunachal Pradesh and his official in the office chamber of Director of horticulture, Arunachal Pradesh. Dr. Akali Sema, Director, CIH made a brief presentation on the programmes of CIH. The members made several suggestions and stressed on the need for better coordination among the North east states.





10. Meetings

Technical Advisory Committee Meeting

The second Technical advisory committee meeting was held on 19<sup>th</sup> Jan. 2010 at Conference hall, SASRD, NU. The chairman of the committee, D r. S.P.Ghosh highlighted the various programme of the institute. The members deluiberated on key issues like capacity building and HRD activities, publications, post harvest/marketing, farm development activities, quality planting material production and vision 2020 for CIH.



Board of Management Meeting

Then 4<sup>th</sup> Board of management meeting of Central Institute of Horticulture was held at Krishi Bhawan, New Dellhi on 4 th March 2010 under the chairmanship of Dr. Gorakh Singh, Hort. Comm.,DAC, GOI, New Delhi. The members of the committee discussed on various agendas such as action taken report, progress report, action plan 2010-11, training/capacity building in NER, quality planting materials, monitoring and evaluation of TMNE, recruitment policies of CIH, extension of CIH staff on contractual basis, hiring of consultancy services, member of steering committee of TMNE in NER states, power delegation of CIH director

11. Celebration of Important Events

World Environment Day Celebration

Central Institute of Horticulture, Medziphema celebrated World Environment Day with the rest of the world on 5th June 2009 under the theme, “Horticulture and Environment” at CIH premises. The programme commenced with drawing and essay competition from different schools of Medziphema. The programme was graced by Mrs. Thangi Manen, Comm. and Secy. (Sericulture and Vety.) and chaired by Dr. Akali Sema, Director, CIH, Medziphema. The Environment day speech was delivered by Prof. G.Thong, Dept. of Geology, NU, Kohima. To mark the successful end of the World Environment Day celebration, plantation at CIH by the Chief Guest, participants, invitees and CIH staffs was initiated.



1. School children participating in drawing completion



2. SASRD college students participating at essay writing competition



3. Dr. Akali sema, Director, CIH delivering the welcome address



4. Chief Guest, Smt Thangi Manen, Comm. & Secy (Sericulture & Vety. & A.H), GoN, giving away certificates to the winner of drawing/ eassy competition



5. Chief Guest, Smt Thangi Manen, Comm. & Secy (Sericulture & Vety & A.H) , GoN, addressing the audience



6. Prof. G. Thong, NU, Kohima delivering the World Environment Day speech





7. Chief Guest along with Director, CIH and winners of drawing and essay competition



8. Smt Thangi Manen, Chief Guest, planting a tree sapling to commemorate World Environment Day



9. School children planting tree saplings at CIH Nagaland

## Independence Day Celebration

Central Institute of Horticulture, Medziphema celebrated 62<sup>nd</sup> Independence Day along with the whole country on 15<sup>th</sup> August, 2010 with exhibition cum flower arrangement competition. Shri. Rokonicha, Ex-minister graced the celebration with his presence as the Chief Guest. CIH exhibited all the farm produce in the exhibition.



## Recreational Activities

Central Institute of Horticulture organized one day outdoor recreational activities on 19<sup>th</sup> December, 2009 at a picturesque riverside, few kilometers away from Medziphema town. All the staff and labours of CIH had a funfilled day with various games and interaction time which was followed by a sumptuous lunch which paid off for all the hard work of the year.



## 12. Consultancy Services

Dr. B.M.C. Reddy was appointed as the chief consultant of Central Institute of Horticulture, Medziphema on 24<sup>th</sup> feb 2010. His field of specialization is fruit crops with various researches and technology development works as well as numerous publications. He has an experience of 34yrs at various capacities under IIHR, Bangalore as well as Director of CISH, Lucknow and presently working with Bioversity International as Naional Project Co-ordinator, UNEP. Various technical work at CIH were carried out under the technical guidance of chief consultant.

The institute is engaged in disseminating information through various extension and HRD initiatives like organizing training programmes, seminars, symposiums, workshop and giving technical consultancy services to various Northeast states for horticulture development activities. CIH also utilizes consultancy services of experts from across the country.

### Chief Consultant of CIH, Dr.B.M.C. Reddy giving instructions to technical staff of CIH during his farm visit



## 13. Other Activities

Technical Staff of CIH has been compiling secondary data on various aspects with the help of State horticulture/ agriculture department and other organization. Till date following data has been created

- SHG list
- TMNE achievements
- Market Information
- Post Harvest (Processing Unit)
- Planting materials requirement and availability



LIST OF VISITORS AT CIH, NAGALAND

Sl. No.	Name	Designation with address	Contact details	Date of visit
1.	Mr. Manoj Kumar Menon	Executive Director, ICCOA, Bangalore	09900252181	22.01.09
2.	Dr. N. Benjong Aier	Mission Director (HTM-NE), Govt. of Nagaland	09436002381	29.01.09
3.	Dr. Anamika Sharma	Programme Coordinator, KVK, Dimapur	09436433005	29.01.09
4.	Dr. L. Daiho	Assc. Prof., NU, SASRD	09436004490	29.01.09
5.	Dr. C.S. Maiti	Asst. Prof., NU, SASRD	09436015716	29.01.09
6.	Mr. A.K. Behl	PAO, Delhi	09871687559	08.02.09
7.	Mr. S.P. Sharma	AAO, Delhi	09811184788	08.02.09
8.	Mr. Pitamber Singh	Sr. Acctt., New Delhi	09811120699	08.02.09
9.	Mr. S.S. Rawat	Accounts Officer, New Delhi	09313071796	08.02.09
10.	Dr. Simon M. Holland	Zoraly solutions, New Delhi	09910301080	06.04.09
11.	Dr. S.P. Ghosh	Chief Consultant, CIH, New Delhi	09990646419	08.04.09
12.	Dr. Gorakh Singh	Horticulture Commissioner, DAC, New Delhi	01123381012	27.04.09
13.	Mr. Rongsentemjen	Director of Horticulture, Govt. of Nagaland, Kohima	09434357786	27.04.09
14.	Smt. Watienla Jamir	Jt. Director of Horticulture, Govt. of Nagaland, Kohima	09436000639	05.05.09
15.	Shri Lalthara, IAS	Chief Secretary, Govt. of Nagaland, Kohima	0370 2270082	15.05.09
16.	Dr. R.V.Pawar	Principal, HTC, Pune	09763633141	15.05.09
17.	Shri C. Mozhui	Jt. Director (Agriculture) Govt. of Nagaland, Kohima	09436434769	10.06.09
18.	Dr. Pratish Sharma	Principal Scientist, IARI, New Delhi	09810119397	13.10.09
19.	Dr. B.C. Deka	Head, Hort. Div., ICAR complex, Barapani, Meghalaya	09436349416	10.06.09
20.	Shri K. Ojha	Director (Hort), DAC, GOI, New Delhi	0996837479	10.06.09
21.	Mr. N. Wetsah	DAO, Dimapur, Nagaland	09436009580	18.08.09
22.	Mr. Tokiho Achumi	SMS, KVK, Tuensang, Nagaland	09612257819	19.08.09
23.	Dr. Lanu Jamir	Team leader (ATMA), Tuensang, Nagaland	09436002415	17.09.09
24.	Shri U.K. Sangma	Secretary, NEC, Meghalaya	0364 2522645	20.10.09

GLIMPSES OF VISITORS AT CIH, NAGALAND



Dr.Gorakh Singh, Horticulture Commissioner, MoA, Govt. of India, New Delhi demonstrating pruning techniques to CIH Staff



Mr.U.K.Sangma, Secy., NEC(Right) and Shri. Alemtemshi(left) Jamir, Addl.C.S. and Devt. Comm, Govt. of Nagaland



Dr.B.M.C.Reddy, Chief Consultant, CIH



Dr.V.K.Girija, Prof., College of Agriculture, KAU, Kerala (sitting on Right) and faculties from Dept. of plant pathology and entomology, SASRD, NU



Field visit at CIH by ATMA, Dimapur







Field visit at CIH by ATMA, Tuensang



. Field visit at CIH by ATMA, Tuensang



Field visit by Sasrd Students, NU



## FINANCIAL STATEMENT OF CIH FOR THE YEAR 2009-10

Head of Account	Budget Allocation (Rs.)	Expenditure (Rs.)	Balance (Rs)
<b>Major Head 2552 (Plan)</b>			
Salaries	20,00,000.00	12,91,714.00	7,08,286.00
Wages	2,00,000.00	1,91,720.00	8,280.00
Over time Allowance	----	----	----
Medical Treatment	1,00,000.00	19,501.00	80,499.00
Domestic Travelling expenses	10,00,000.00	9,84,580.00	15,420.00
Office expenses	1,00,00,000.00	38,44,062.00	61,55,938.00
Rent, Rates & taxes	2,00,000.00	21,500.00	1,78,500.00
Other Administrative expenses	1,50,0000.00	68,05,890.00	81,94,110.00
Advertisement & Publicity	5,00,000.00	33,639.00	4,66,361.00
Motor vehicle	6,00,000.00	6,15,902.00	-15,902.00
Machinery & equipments	4,00,000.00	4,13,305.00	-13,305.00
<b>Sub-Total</b>	<b>3,00,00,000.00</b>	<b>1,42,21,813.00</b>	<b>1,57,78,187.00</b>
<b>Minor Head 4552 (plan)</b>			
<b>Major works</b>	4,00,00,000.00	26,90,045.00	3,73,09,955.00
<b>Grand total</b>	<b>7,00,00,000.00</b>	<b>1,69,11,858.00</b>	<b>5,30,88,142.00</b>



IMPORTANT CONTACT DETAILS

Secretary/ Commissioner and Directors of State Hort. Department of NER

Sl.No.	Name	Address/E-mail	Tel. No.	Fax/(Telefax)	Mobile No.
Secretaries					
1.	Mr. M. Kalita	Secretary (Hort.) Govt. of Assam, Assam - 781022 E-mail: mrigendra_kalita@rediffmail.com	0361 2237308 (O)	0361 2237308	9864194001
2.	Mr. Tejom Taloh	Comm. & Secretary (Hort.) Govt. of Arunachal Pradesh, Itanagar, Arunachal Pradesh 791110	0360 2212632/ 2212420 (O)	0360 2217966/ 2212632	9436040054
3.	Mr. Moses Chyalia	Secretary (Hort.) Govt. of Manipur, Imphal Manipur 795001	0385 2450038/ 2451158 (O)	0385 2452519/ 2450038/2452629	9436893826
4.	Mr.P. Kharkongor	Comm. & Secy (Agri and horti.) Govt. of Meghalaya, Shillong, Meghalaya 793003 E-mail: pochister@yahoo.com	0364 2211081 (O)	0364 2225978	9862041235
5.	Mr. Nghaklianmawia	Secretary (Hort.) Govt. of Mizoram, Aizwal, Mizoram 796001 E-mail: secyudmiz@gmail.com	0389 2325029 (O)	0389 2333083 0389 2325291	9436140449
6	Mr. Sentiyanger Imchen	Secretary (Hort.) Govt. of Nagaland Kohima, Nagaland 797001 E-mail: horti@emodop.com	0370 2270120 (O)	0370 2270120 (Telefax)	9436010558
7	Mr. S.K.Gautam	Secretary (Hort.) Govt. of Sikkim, Gangtok, Sikkim 737102	03592 231892 (O)	03592 231892 (Telefax)	9434866889
8.	Mr. K.V. Satya-narayana	Comm. (Agri. & Hort.) Govt. of Tripura, Agartala, Tripura 799001	0381 2324739 (O) 2323474	0381 2324739 2323474	9436453813
Directors					
1.	Mr. Chandri Ram Hazarika	Director Department of Horticulture Govt. of Assam Khanapara, Guwahati 781022 E-mail: directorhortassam@yahoo.co.in	0361 2334115	0361 2332796 0361 2335303	9954595574
2.	Dr. Alok Tyagi	Director Department of Horticulture Govt. of Arunachal Pradesh Itanagar 791110 E-mail: dirhort@yahoo.com	0360 2203220 2203396	0360 2203396	9436041738
3.	Mr. K. Ngachan	Director Department of Horticulture Govt. of Manipur Sanjentiong, Imphal 795001 E-mail: manipur_dm@nic.in or com	0385 2449765	0385 2451089/ 2227434	09436038292
4.	Mr. C.O. Rangad	Director Department of Horticulture Govt. of Meghalaya New Agri. Complex Cleve Colony, Shillong 793003 E-mail: dir_hort_meg@nic.in	0364 2227434	0364 2222460 (Agri.)	9436103291
5.	Mr. Samuel Rosanglura	Director Department of Horticulture Govt. of Mizoram, Aizwal 796001 E-mail: dropsinghre@gmail.com	0389-2314370	0389 2329725	9436140587
6.	Mr. Joseph Humtsoe	Director Department of Horticulture Govt. of Nagaland, Kohima 797001 E-mail: naga_horti@sancharnet.in	0370 2221311	0370 2221311	9615848978

Contd...



<i>Sl.No.</i>	<i>Name</i>	<i>Address/E-mail</i>	<i>Tel. No.</i>	<i>Fax/(Telefax)</i>	<i>Mobile No.</i>
7.	Dr. K.K. Singh	Director Department of Horticulture Govt. of Sikkim, Gangtok 737102 E-mail: kksingh@shift.com	03592 232511	03592 231960	9434043211
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