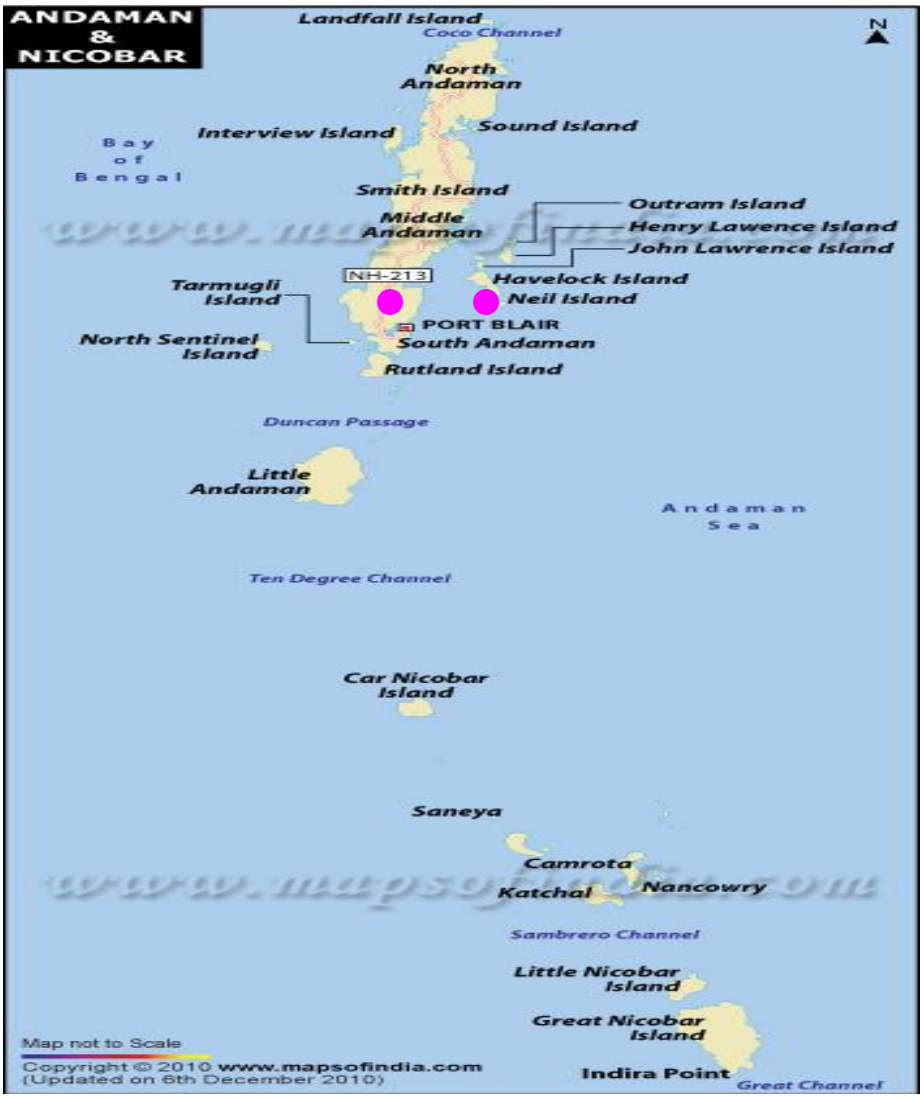
Report of the Joint Inspection Team which visited Andaman & Nicobar Islands during 3-4 April, 2013 to review National Horticulture Mission Programmes



Places visited by JIT:- 1. South Andaman 2. Neil Island

National Horticulture Mission

Ministry of Agriculture

Department of Agriculture & Cooperation

Krishi Bhawan, New Delhi-110001

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OBSERVATIONS

1. Local farmers are adopting inter cropping in orchard, promoting vegetables / pulses as an inter crop which is appreciable.
2. Introduction of high value fruits like Dragon, Mangosteen, Longan, Durian and Rambutan etc. may be explored in Andaman & Nicobar Island.
3. It is observed that there is an ample scope for adoption of organic farming and certification programme in Island. Early steps are required to give training on organic farming to beneficiaries / officials, under Human Resource Development. Printing of literature in local language, skill up graduation, involvement of local NGOs and progressive farmers is required for implementing the programme.
4. The most pressing demand is for water availability during summer, which needs to be addressed by providing community ponds with drip lining.
5. Exposure visits to outside states for components of PHM and value addition (spices / fruits) is required.
6. JIT observed the trend of felling coconut trees to be replaced with arecanut.
7. Though protected cultivation is being taken up, better maintenance and awareness among the farmers is required.
8. There is a constant need to control Rhinoceros beetle in palm, Sigatoka, bunchy top in banana and termites in other fruit crops.
9. Good scope exists for bee keeping as pollination support and mushroom cultivation in A & N Islands.
10. Production of plant based pesticide needs to be supported in Neil Island.
11. Cold chamber and storage structure should be created under marketing components around vegetable / fruit markets.
12. SMD should ensure that strict quarantine protocol is followed while importing the exotic plants material in Islands.

ACTIONABLE ISSUES

1. The unique geography of A & N Islands entails additional manpower support for holistic development of horticulture in Mission mode.
2. Initiative of local farmers to plant Dragon Fruit needs to be supported by resolving the teething issues in collaboration with CARI, Port Blair.
3. To utilize local mango for making pickle, Amchur and leather, promotion of primary processing of mango / coconut based units need to be scaled up.
4. Superior quality of coconut planting material of high yielding varieties needs to be multiplied on large scale and supplied to farmers under CDB programme.
5. Income / employment generating activities such as vermi compost units, beekeeping as pollination support and mushroom cultivation need to be promoted.
6. Banana expansion programme needs to be linked with micro irrigation scheme, with availability of water during summer. Promotion of community ponds/bore wells need to be promoted as an area specific activity, keeping in view, rainfall, water strata, community demand etc.
7. Farmers need to be motivated for coconut based farming system instead of Arecanut. Removal / felling of coconut trees for Arecanut plantation should be discouraged.
8. Vegetable farmers need training and also awareness programme on adoption of Plant Protection measures i.e. Integrated Pest Management (IPM) which is of utmost importance to minimize pesticide load in food chain.
9. Packaging of honey needs better attention.
10. Focus need to be given on rejuvenation and protected cultivation components with better training and awareness in the latter.
11. Interface and Interactive meetings need to be organized regularly with KVKs / ICAR institutes, to adopt location specific recommendation. Farmers Field Officer and Technical staffs also need refreshers training regularly.
12. The NHM logo needs to be displayed on the sites developed under NHM assistance.

Report of the Joint Inspection Team on its visit to Andaman & Nicobar Islands during 3-7th April, 2013 to review the progress under the National Horticulture Mission

The Joint Inspection Team (JIT) comprising Dr. Om Prakash, Chief Consultant, National Horticulture Mission and Mrs. Jyoti Singhal, Under Secretary, National Horticulture Mission visited Andaman & Nicobar Islands during 3-7th April, 2013 to review the progress under National Horticulture Mission programme in the Union Territory. Mrs. Shirley Thomas, Shri Anaut Ram, Assistant Director (Agriculture) and Thaniarasu coordinated the visit of the Team in South Andaman & Neil Island. A meeting was held with Shri S. N. Mishra, Secretary Agriculture and Dr. M. A. Salam, Director, High Value Agriculture Development Agency (HVADA), Union Territory of Andaman & Nicobar Islands on 3rd April, 2013.

INTRODUCTION

Andaman and Nicobar Island is a chain of 572 Island stretched from North to Southern located about 1200 km of mainland on longitude 93^0-94^0 East and latitude 6^0 –17^0 north. Out of the 572 islands & islets, 38 islands are inhabited and 8 islands are covered under various settlement programme. In term of livelihood, about 50% of the UT population is directly dependent of Agriculture & Allied Activities. The total land being used for agriculture is relatively small due to paucity of non-forested land and numerous competing infrastructural demands. Thus, only about 6% of the non-forested land i.e. about 50,000 ha is being used for agriculture purposes of which 10561 ha is under field crops and 29774 ha is under plantation crops. Devastating Tsunami of December, 2004 has further damaged permanently about 9% (4206 ha) of pre-Tsunami Agriculture Land. Half of the agriculture land is used for coconut plantation, 10% is for areca nut and 20% for Fruits, Vegetables and Root Crops and 20% is for Paddy Cultivation. Due to land limitation high value and low volume agriculture has to be encouraged to increases productivity and make horticulture commercially viable.

Total Geographical Area : 8249 sq. km

Area under Forest cover: 7,171 sq. km

Area under Agriculture: 50,000 ha

No. of Farmers -14525

No. of land holdings -10410

Average holding size -2.46 ha

Total population (2011 Census): 3,79,944

Main occupation of the people: Agriculture, Animal Husbandry, Fisheries, Tourism related activities and services

Average Rainy days: 154

Agro climatic zone: 1

Relative Average Humidity: 80%.

Horticulture Status of A & N Island

Andaman and Nicobar Islands enjoys tropical & humid climate and receive rainfall of nearly 3000 mm commencing from May-January and receive both Southwest and Northwest monsoon. The average mean temperature varies from 23^{o} C to 32^{o} C with to 70- 90% humidity. Topography is undulating and climate is congenial for plantation crops like coconut, areca nut and Horticulture crops like tropical fruits and spices. Plantation crops like coconut, areca nut and cashew are the major crops grown in the Island. Coconut covers maximum area of 20927 ha followed by areca nut (4046.44) and cashew nut (568.50 ha). All these are yielding far below the expectations due to low input management and also to due old age plantations and senility. Despite repeated efforts to develop horticulture there has been no tangible impact in term of increase in productivity and income generated by farmers. The productivity of the most of the horticulture crops is however low, mainly due to inadequate awareness of hi-tech intervention & primitive methods of cultivation being practiced by the local population.

Agriculture in Andaman & Nicobar Islands

Department of Agriculture was established in 1945 to develop Agriculture in these Islands in a systematic and scientific manner. After the blanket ban on clearance of further forest, land trust was diverted from area expansion to intensive agriculture practices in the existing areas. Out of the total geographical area of 8249 sq. km, agricultural activities occupy a mere 50,000 ha out of which 10561 ha is under field crops and 29774 ha under plantation crops. Due to Tsunami Disaster which occurred on 26^{th} December, 2004, extensive damage was caused to agricultural land. About 4206 ha of agriculture land is under permanent

submergence since than which has dramatically decreased the area available under agriculture/horticulture.

The major responsibilities of the Department are to provide extension support to improve the production in a sustainable manner and ensure timely supply of quality inputs like seeds, fertilizers, plant protection chemicals and other implements. The farmers are also assisted to develop the agriculture field through soil and water conservation measures. The irrigation requirements are assessed and supported through minor irrigation schemes.

Coconut Mission

The coconut mission was launched in January, 2009 at Car Nicobar. The goal of the mission is to increase the productivity and to utilize inter spaces by adopting inter cropping with spices, fruits, vegetables and tuber crops and to promote value addition of coconut to generate skill development. Under the Mission, demonstration plots were laid by adopting full package of technology in coconut garden in an area of 300 ha covering 15 villages in Car Nicobar. Pollination support through beekeeping has been augmented by multiplying 85 bee colonies which has gained popularity among the farmers. Under integrated nutrient, pest and disease management (IPM and INM), 1500 nos. of Pheromone trap for Rhinoceros beetle with 3000 nos. of Lure and 1000 nos. of rodent trap has been distributed to the farmers. To maintain the soil fertility and biological activity within the system, 450 mt. of neem oil cake was supplied to the farmers and for proper composting and regular supply of earth worms, 2 nos of vermi-hatcheries has been established in the departmental farms under RKVY. To create water sources, 3 R.C.C. ring wells has been constructed in the farmers field and 12 R.C.C. ring wells will be constructed by the end of March 2012. For timely harvesting of nuts, farm climbing device and coconut dehuskers were supplied to farmers through RKVY. At present the productivity has increased to 49 nuts per palm from 22 nuts in Car Nicobar. Efforts have been initiated for organic certification of 9028 ha of area at Car Nicobar. Taking into consideration the success, subsequent Coconut Mission at Teressa Island was launched in December 2011 to improve the productivity of coconut.

Vegetable Mission

The plan of action includes establishing demonstration plots on vegetable and fruits cultivation, protected cultivation of vegetable in poly house at Departmental Multipurpose Farm for demonstration purpose, distribution of kits containing vegetable seeds and fruits saplings, establishment of spawn production unit at Car Nicobar and mushroom demonstration unit in each of 15 villages. The programme will be implemented by pooling resources from existing schemes of the Department of Agriculture like RKVY, ATMA, dovetailing with MGNREGEA for labour components. The goal of the programme is to popularize vegetable and fruits in the dietary habit of people, to increase the area, production and productivity of vegetables and fruits and ultimately improvement in health of the local population. The vegetable mission will be launched shortly at Car Nicobar as informed by the Director (Agriculture).

Potential of Horticulture

The agro-climatic conditions of these islands are congenial for the horticulture crops like Fruits, Spices and Flowers. The Islands being the biodiversity rich one are the veritable treasure house of valuable medicinal aromatic and dye herbs, trees & shrubs. There is good scope for the production of tropical fruits like Mangosteen, Durian, Dragan fruit, Rambutan, Grapefruit, Pomelo & Longan which has high export potential. High Value Agriculture programme is tailored for these islands for boosting productivity of various horticulture crops. All the schemes have been formulated based on the guidelines of National Horticulture Mission, National Horticulture Board and Coconut Development Board. The estimated costs of all components are higher in the Andaman & Nicobar Islands as compared to the mainland condition hence the subsidy as per the existing pattern is not sufficient. The island being away from the mainland, transportation of various input creation of infrastructure for protected cultivation etc increases the cost estimate many folds and developing such structures within the estimated cost given in the guidelines is not possible. Considering the higher cost index of Andaman & Nicobar Islands, subsidy pattern needs scheme needs to be formulated considering the Andaman condition.

Coconut

Coconut is considered as the only remunerative crop of the islands. The main economy of the people directly depends on the fortunes of the crop. Hence any disturbances in the coconut sector would affect the well being of the coconut farming community. In 1979-80 the area under coconut in the island was 20787 ha with a production of 67.29 million nuts. During the period of last two decades the area has been increased to 24746 ha production to 87.5 million nuts with the productivity of 3536 nuts per ha.

Cashew Nut

Cashew Nut is grown in 568.50 ha with a production of 86 t and productivity level of 150 kg / ha / year. The present performance is not encouraging to go for area expansion. The reasons for such low performance should be carefully analyzed.

Black Pepper

Pepper being a vegetatively propagated perennial, the major bottle neck is damage caused by nematode Radopholus similes, fungus Phytopthora capsici and the pest pollu. Resistant/ tolerant varieties like IISR Pournami, IISR Shakthi and IISR Thevam are available for cultivation. This coupled with retention of good quality parameters will help in producing high quality black pepper with less usage of pesticides and fungicides. Thus, stress be on 'Organic Pepper'.

Ginger

The most important indigenous cultivators like Maran, Himachal, Wynad Local, Nadia, BajPai, Kuruppampadi and other popular exotic cultivar Rio-de-janerio, and high yielding varieties like IISR Varada, IISR Mahima and IISR Rejatha may be popularized for increasing productivity. Mahima is also resistant to root knot nematode. Other improved varieties of ginger are Suprabha, Suruchi, Suravi (released by OUAT Pottangi, Orissa) and Himgiri (released by DYSPUHF, solan, Himachal Pradesh). Varieties suited for different end use such as oil varieties suited to different kinds of processing are also available. These varieties have very high export potential as India has 50% share in oil and Oleoresins trade in world market.

Turmeric

IISR, Kozhikode has released high yielding and high quality (5.5-6.0% curcumin) turmeric varieties viz. IISR Prabha, IISR Pratibha, IISR Kedaram & IISR Alleppey Supreme. Kanthi, Sobha, Sona and Varna are the improved varieties of turmeric from Kerala Agriculture University, Trissur, Kerala and Suranjana a new variety released for West Bengal by the BCKV, Kalyani are also suitable for adoption in A & N Islands, the agro climatic conditions being similar.

SWOT ANALYSIS

Strength

- Congenial agro climatic condition for the cultivation of various horticultural crops.
- Large scope of rainwater harvesting.
- Consumption of chemical fertilizer and pesticides is very low.
- Treasure house of medicinal & aromatic plants.
- Proximity of South East Asian countries, for International market.
- Scope for Silviculture/Agro forestry.
- Govt. plantations with the department for production of planting materials.
- Presence of CARI / KVK in the Union Territory.

Weakness

- Remoteness and scattered nature of the islands & poor connectivity.
- Non-availability of organized marketing and processing facilities.
- Lack of perennial water resource.
- Natural calamities, erratic rainfall.
- Prevalence of pest & diseases due to conducive weather condition.
- Fluctuating price trends of farm produce.
- High labour cost.
- Undulating land topography.

Opportunity

- Potential for organic farming and export of value added organic products.
- Potential for commercializing High Value Crops, indigenous medicinal & aromatic plants & extraction of essential oils.
- Potential for multiple cropping mixed farming in the existing coconut /Arecanut garden as multitier cropping systems.
- Potential for promotion of mushroom cultivation and apiculture.
- Strengthening of post harvest infrastructure facilities & establishment of processing, marketing infrastructures and storages.
- Scope for Silviculture/Agro forestry.
- To attract and retain educated youth in agriculture related activities.
- To increase competitiveness of commodities.
- Employment generation through non-farm activities.

Threat

- Uncertain weather condition leading to disruption of ferry services and communication.
- Lack of storage facility and market facility.
- Reluctance of the youths to take up farm activities.
- Occurrence of pest & diseases.
- Fluctuating price trends of farm produce.

Objectives

The present need is to commercialize horticulture and make it export oriented. An end-to-end approach comprising of technology dissemination from Sowing-Harvest-Post Harvest technology-Market-consumer linkage needs to be established.

The Main Objectives Are

1. To provide holistic growth of horticulture sector through technology promotion, extension, post harvest management, processing & marketing.
2. To enhance productivity.
3. To establish convergence & synergy among all on-going horticulture programme
4. To create opportunity for employment generation and income support to farmers.

Strategies

1. Enhance productivity through hi-tech and protected farming.
2. Ensure holistic approach covering production, post harvest management, processing and marketing.
3. Value addition through marketing of bio products and organic produces.

Major developmental activities after Tsunami

- Rehabilitative /restoration /reclamation of the damages caused to agriculture land and crops during tsunami of 2004 is the major priority in the after math of T sunami. Rajeev Gandhi Rehabilitation Package (RGRP) was sanctioned by Govt. of India for a period of two years (2005-07) and accordingly Tsunami Rehabilitation Programme (TRP) was introduced. Under the programme a total of 3862 ha of affected area have been reclaimed out of the total affected area of 8069 ha. In addition about 1471.68 ha unaffected area is also been targeted to be covered in lieu of the submerged area in Nicobar District.
- Under TRP, multiple cropping with intercropping along with fruits and vegetables has been introduced in the entire post tsunami new coconut plantations.
- Under TRP, 2300 pump set, 55 power tillers and 6324 sets of farm implements have been distributed to the farmers free of cost. In addition, 498 ponds, 613 ring wells and 36 check dams have been constructed.
- To stop ingress of sea water in the low line paddy areas, construction of 6 nos. strong, stable dykes with sluice gates have been entrusted to APWD which on completion will reclaim saline affected land and benefit farmers.
- To make agriculture a vibrant industry and to provide income support to farmers, Agriculture Department is focusing on intensive and diversified cultivation through

High Value Agriculture Programme (HVADA). Under the programme, Department is implementing schemes of National Horticulture Mission (NHM), National Horticulture Board (NHB) and Coconut Development Board (CDB).

- Rashtriya Krishi Vikas Yojna (RKVY) is being implemented in these islands with a view to bring sustain our development in agriculture and allied sectors. For promotion of organic farming under RKVY, 1448 vermi/organic compost units have been constructed in farmer field. For regular supply of earth worms to the farmers, 32 vermi hatcheries are established in departmental farms.
- Cashew Scion Bank of elite varieties established in 25 ha of land at Diglipur which will supply 10,000 cashew soft wood grafts annually to the farmers.
- Seed Testing Laboratory was established at Seed Multiplication Farm, Sippighat under RKVY.
- Farmers are encouraged to adopt organic cultivation by disseminating the knowledge on organic farming through various trainings, demonstration and farm schools under ATMA and RKVY.
- To harness the Information Communication Technology in the knowledge skill economic and social empowerment of rural families 10 numbers of Rural Knowledge Centres (RKC's) were established in various Zones under the department.

(Rs. in crore)

Year	Outlay	Release	Total Funds Available	Expenditure	Percentage (%)
2005-06					
2006-07	1.72	0.85	0.85	0.01	1.18
2007-08			0.84	0	0
2008-09			0.84	0.66	78.57
2009-10	4.35	2	2.18	1.33	61.01
2010-11	3.4	1.52	2.37	2.01	84.81
2011-12	4	3	3.36	0.94	27.98
2012-13	6.97	2.65	5.07	0.89	17.55

NHM Interventions in Andaman & Nicobar Islands

The National Horticulture Mission (NHM) is being implemented from 2006-07 for holistic development of horticulture sector, duly ensuring horizontal and vertical linkages, with the active participation of all the stakeholders. The thrust of the Mission is on area based regionally differentiated cluster approach for development of horticultural crops, having comparative advantage.

The programme is implemented by Directorate of Agriculture through High Value Agriculture Development Agency in South, North, Middle, Little Andaman and Nicobar Islands. The focus crops identified under the programme include Banana, Mango, Spices, flowers and medicinal plants.

Major activities being undertaken in the project are production and distribution of planting material, area expansion, rejuvenation of old and senile orchards, protected cultivation, IPM/INM, organic farming, pollination support through bee-keeping, development of post harvest management & marketing infrastructures and human resource development.

Physical Progress

Under the National Horticulture Mission, during 2006-07 to 2012-13, following physical progress is reported:-

Nurseries: 11 model nurseries, 16 small nurseries

Area expansion: An area of **1294.62 ha** covered
(417.65 ha - perennial fruits, 233.19 ha- non-perennial fruits, 133.20 ha- flowers, 235.48 ha- spices, 1 ha- aromatic plants, 274.10 ha- plantation crops.

Rejuvenation of Old and senile orchards: 212 ha.
Protected cultivation: 6.09 ha
IPM: 200 ha
Organic farming: 204 ha.

HRD- 57 farmers trained and 76 farmers were deputed on exposure visits outside the state.

Beekeeping- 2196 bee colonies and 2702 hives distributed and 250 equipments including honey extractors etc.

Technology dissemination through demonstration / front line demonstration- in 20 farmer's field.

State level (3) and district level (6) seminars/ workshops/horticulture show/honey festival etc. conducted.

Financial Achievement of High Value Agriculture in Andaman and Nicobar Islands from 2005-06 to 2012-13

(Rs. in lakh)

Funding Agency	Funds received	Funds Utilization								
		2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	Total
NHM	1002	-	4.18	10.78	70.04	118.05	235.6	218.846	248.33	905.826
NHB	27	-	-	7.72	16.79	-	-	-	2.5	27
CDB	358.202	1.22	2.3	20.02	59.72	105.99	78.34	49.225	40.919	357.734
RR	287.953	-	-	-	-	-	90.45	73.17	92.2796	255.9
Total	1675.15	1.22	6.48	38.52	146.55	224.04	404.39	322.946	384.029	1546.46

Progress Report on Physical & Financial Achievement for the Year 2012 -13 (from 1st April 2012 to 31st March 2013) under the NHM Scheme of High Value Agriculture in A & N Islands

(` in Lakh)

S.No	Particulars	Target 2012 -13	Physical Achievement for the year 2012-13		Financial Target 2012 -13	Financial Achievement 2012-13 (`in Lakh)	Remarks
		Physical	**Area (Ha)/No.**	**No. of. Beneficiary**			
A	**NATIONAL HORTICULTURE MISSION**						
1	**Establishment of Hi-tech model nursery for fruit plants and ornamental both small and large farmers**						
a.	Public Sector						
i.	Model Nursery (4 ha)	1no.	1no.		25.00	10.73	
ii.	Small Nursery (1 ha)	1 no.			6.25	-	
b.	Private sector						
i.	Small Nursery (1 ha)	3 nos.			9.375	-	
2.	**Establishment of new garden of Fruits**						
a.	Fruits (Perennials) 1st Year	150 ha.	61.56	363	36.00	14.77	
	2nd Year	113 ha.	40.61	225	9.04	3.22	
	3rd Year	50ha.	25.48	105	4.00	1.98	
b.	i) Fruits (Non Perennials) – Banana (Sucker) & Pineapple (Sucker)						
	1st Installment	70 ha.	43.18	170	18.38	8.20	
	2nd Installment	60 ha.	14.22	80	5.25	1.23	
	ii) Non Perennials Fruits – T.C.Banana						
	1st Installment	25 ha.	33.56	181	9.38	12.45	
	2nd Installment	25 ha.	12.23	84	3.13	1.49	
3.	**Establishment of new garden (Area expansion) Mushroom**						
i.	Integrated Mushroom unit spawn Compost Production and training	1 unit			50.00	15.00	

4.	**Establishment of New garden of Flowers**						
a.	Cut Flowers	05 ha.	-	-	1.75	-	
b.	Bulbulous Flowers	20 ha.	20	33	9.00	9.00	
c.	Loose Flowers	20 ha.	20.2	74	2.40	2.43	
5.	**Area Expansion of Spices**						
a.	**Perennial Spices**						
i.	Black Pepper 1st Year	150 ha.	13.18	51	18.00	1.49	
	2nd Year	30 ha.	16.75	63	1.20	0.61	
	3rd Year	05 ha.	5.23	17	0.20	0.22	
ii.	Clove 1st Year	10 ha.	2.06	15	1.20	0.24	
	2nd Year	06 ha.	1.883	09	0.24	0.08	
	3rd Year	05 ha.	0.70	05	0.20	0.03	
iii.	Cinnamon 1st Year	10 ha.	0.59	04	1.20	0.02	
	2nd Year	03 ha.	0.6	06	0.12	0.04	
	3rd Year		0.6	06	-	0.04	
	Nutmeg 1st Year		0.10	01		0.02	
	2nd Year		0.57	02	-	0.03	
	3rd Year		0.55	04	-	0.02	
b.	Rhizomatic Spices						
i.	Ginger	50 ha.	11.34	69	6.25	1.49	
ii.	Turmeric	20 ha.	5.33	28	2.50	0.48	
6.	**Establishment of New Garden –** Cashew						
	Area expansion of Cashew including replanting						
	1st Year	150 ha.	93.10	177	18.00	10.27	
	2nd Year	105 ha.	25.7	44	4.20	1.03	
	3rd Year	75 ha	14.26	18	3.00	0.5850	

7.	**Rejuvenation / Replacement of Senile plantation including canopy management -Fruits/ Spices (Black pepper) Garden**						
a.	Rejuvenation / Replacement of Senile plantation of fruits -Fruits/ Spices (including canopy management) Garden.	50 ha.	32 ha	158	7.50	4.68	
b.	Rejuvenation/ Replacement of senile orchards of Cashew.	50 ha.	30 ha	89	7.50	4.50	
8.	**Protected Cultivation**						
1.	Green House Structure						
	Naturally Ventilated i) Tubular Structure	2.00 ha	-	-	93.50	-	
	ii) Wooden Structure	1.50 ha	0.200	15	38.625	1.05	
2.	Plastic Mulching	5.00	-	-	0.50	-	
3.	Shade Net House i) Wooden Structure	1.0 ha	0.02	02	20.50	0.13	
	ii) Tubular structure		0.01	01		0.30	
4.	Plastic Tunnel	1.0 ha	-	-	1.50	-	
5.	Cost of Planting Material of High Value Vegetables grown in poly house	1.0 ha	-	-	5.25	-	
6.	Cost of Planting Material of flowers for poly house	0.50 ha	-	-	12.50	9.4875	
9.	**Adoption of Organic Farming**	50 ha	14 ha		5.00	1.35	
10.	**Organic Certification 1st year**	-	-	-	Project Based	-	
11.	**Pollination Support through Bee keeping**						
a)	Production of nucleus stock (Public Sector)	1no.	1 no	-	10.00	10.00	
b)	Honey bee colony	800nos.	294nos	89	5.60	1.999	
c)	Hives	800 nos.	344 nos.	92	6.40	6.384	
	Equipment including honey extractor (4 frame), food grade container (30 kg), net, etc.	100 nos.	44 nos.	40	7.00	7.067	

12.	**Technology Dissemination through Demonstration/Front Line Demonstration (FLD)**						
1)	Introduction of New Technologies, through Demonstration on hi-tech vegetables/flowers cultivation under controlled Atmosphere in farmers' field. Total Project Cost – Rs.25.0 lakhs (75% of the cost in farmers' field and 100% of cost in farms belonging to Public Sector, SAUs. etc.)						
i.	Public Sector	2nos.	1 no.	-	50.00	1.666	
ii.	Farmers Field	3 nos.	11 nos	11	56.25	55.00	
13.	**Human Resource Development (HRD)**						
a)	**Training of farmers**						
i)	Within the State (Rs.750/-per day per farmer excluding transport). Each group 20 farmers for 15 days	2 grp.	-	-	4.50	-	
ii)	Outside the state (each group 15 farmers for 20 days @ Rs.1000/- per day per farmer excluding transport.	5 grp.	2grp	25	15.00	6.08	
b)	**Exposure visit of farmers**						
i)	Within the state (20 days) Each group – 20 farmers @ Rs.300/- per day per farmer excluding transport	2 grp.	-	-	2.40	-	
ii)	Outside the state (25 days) Each group – 15 farmers @ Rs.600/- per day per farmer excluding transport.	6 grp.	3grp	41	13.50	7.06	
c)	**Training /Study tour of technical staff/ field functionaries.**						

i)	Study tour to progressive states (Each group 10 participants @ Rs.650/- per day per participant plus TA/DA as admissible for 25 days) Lumpsum Rs.20,000/- per participant TA/DA as admissible.	3 grp.	-	2grp (20 nos.)	10.88	5.762	
ii)	Outside India (Rs.5.0 Lakh per participant)	2 nos.	-	3 nos	10.00	4.63	
14.	**Horticulture Mechanization**						
a.	**Power operated machines/tools including Grass/Weed cutter, Coconut Palm climber, Fruit harvester, Arecanut dehuskers, Tree pruner, Power saw and Plant protection equipments etc.**	200nos.	09 set	09	35.00	0.98612	
15.	**Integrated Post Harvest Management**						
a.	Cold Storage Units (Construction / Expansion/ Modernization)	Project Based	-	-	Project Based	-	
16.	**Mission Management (State level)**						
a.	Mission management				33.20	23.00	
	Total				**697.37**	**248.33**	

Statement showing the details of Planting Material for implementation of National Horticulture Mission Programme in Andaman & Nicobar Islands

S. No.	Name of Planting Material	Variety	Requirement 2012-13 (in nos./kg.)	Production/ availability of planting material	Procurement from mainland	Remarks
A.	**Fruits Plants**					
1	T.C. Banana	G-9, Nendran, Red, Robusta	100000	0	100000	Plantlets in net pot to be brought from the mainland nurseries (Tamil Nadu, hardening process done in the departmental nursery and grown up plantlet distributed to the farmers.
2	Banana Suckers	Cheena, Champa, Amritsagar and other local varieties	150000	150000	0	Planting material is raised in departmental nurseries
3	Pineapple suckers	Giant Kew	500000	200000	300000	Raised at departmental farm, Jirkatang and balance quantity to be procured from the accredited nursery at Tamil Nadu
4	Papaya Seedlings	Local	25000	25000	0	Raised in the farmers field and departmental nurseries

5	Mango graft	A/P, AA Baiganpalli	5000	0	5000	
6	Sapota graft	Cricket ball, Kallipatti	12000	0	12000	To be procured from accredited nurseries of Tamil Nadu
7	Guava layer	Allahabad, Safeda, Red flesh	12000	0	12000	
8	Lime layer	Kazgi etc.	6000	0	6000	
9	Orange budded	Coorg	6000	0	6000	
10	Mausambi budded	Sathugudi	6000	0	6000	To be procured from accredited nurseries of Tamil Nadu
11	Minor Fruits (Rambutan, Durian, Ber, Jamun, Custard apple etc.)		5000	0	5000	
B	**Plantation Crops**					
1	Coconut Seedlings	Andaman ordinary/dwarf varieties	40000	0	40000	Raised in the departmental nurseries.
2	Arecanut seedlings	Mangla	100000	0	100000	
3	Cashew graft	VR-1, -3,4,7 Ullal-3	60000	0	60000	To be procured from accredited nurseries of Tamil Nadu
C	**Spices**					
1	**Tree spices**					
A.	Clove seedlings		5500	5500	0	Seedlings and planting material raised in the departmental nurseries at Sippighat, Haddu, Jirktang, Manarghat, at South Andaman district, Panchwati, Nimbudara and
B	Cinnamon Seedlings		65000	65000	0	
c	Nutmug seedlings		2500	2500	0	
d	Black pepper rooted cutting	P-1,2	300000	300000	0	

						Keralapuram farms at N&M Andaman and departmental nurseries at Nicobar district supported by NHM
2	**Rhizomatic Spices**					
A.	Ginger	Nadia	80000 Kg	80000 Kg		Raised by the farmers (buy back arrangements made)
B	Turmeric		36000 Kg	36001 Kg		
C	**Flower Plants**					
1	Gladiolus corms		60000	0	60000	To be procured from the mainland. Raising of planting material at the floriculture unit at OHF, Sippighat supported by NHM.
	Tube Rose Corms		450000	0	450000	
	Anthurium		60000	0	60000	
	Gerbera		60000	0	60000	
	Orchid		40000	0	40000	
	Heliconia		10000	0	10000	
	Ornamental Plants		2000	0	2000	Raised in the departmental nurseries and distributed to farmers.
	Seasonal flowering plants		100000	0	100000	
D	**Vegetable Seedlings**		100000	0	100000	

*Planting material of spices plants like Black pepper routed cutting, clove, nutmeg and cinnamon, coconut & arecanut seedlings are being raised in the departmental farms located at various zones of the islands which may full fill the requirement of the islands. The Pineapple Suckers-variety giant kew and queen are also being raised in the Department Farm, Jirkatang which may fill some of the requirement of planting material and some quantity may be purchased from the reputed nurseries at mainland.

Sale / distribution of planting material

The selling price of the planting material raised in the departmental farms are fixed by the administration and are being sold in the departmental sub depots situated at the agriculture extension circles in the villages. Also, to fulfill the balance requirement, with planting material are procured from the accredited nurseries at mainland by following the codal formalities.

The planting material of fruits, spices and flowers are also distributed to various islands through road and sea and the transportation cost is borne by the department.

Seed production for vegetables, spices and aromatic plants

The Department of Agriculture is already maintaining two Seed multiplication farms at Chouldari, South Andaman and Nimbudara, North Andaman district in which quality seed of vegetables are produced. The Departmental nurseries situated in South, North and Middle district produce quality planting material of spices.

NHM support is also provided to private sectors i.e. M/s Priyambika Nursery at Sippighat, South Andaman and M/s Susan Roses Nursery, Garacharma, South Andaman. These farms produce planting material of flower plants and dragon fruit and sell to the farmers on demand.

PHYSICAL & FINANCIAL ACHIEVEMENT FOR THE YEAR 2012-13 (1st APRIL, 2012 TO 31st MARCH, 2013) UNDER THE COCONUT DEVELOPMENT BOARD SCHEMES OF HVA IN A & N ISLANDS

S.No	Particulars	Target		Fund Released 2012-13	Physical Achievement		Financial Achievement (`in Lakh)	Remarks
		Physical	Financial (` in Lakh)		Area (Ha)	No. of. Beneficiary		
A	**Coconut Development Board Schemes:-**							
1.	**Demonstration Plots in Coconut Gardens (Integrated Farming for Productivity Improvement)**							
i)	Demonstration Plots adopting full package of technologies for 1st year	200 ha	35.00	100 ha. (17.50 lakh)	92.0 ha	130	16.100	
ii)	Demonstration plots adopting full package of technologies for 2nd year.	133 ha	23.275	133 ha. (23.275)	133 ha	153	23.275	
2.	**Production of Organic Manure / Vermicompost in cultivator's field**							
i)	Production of organic manure/vermin-compost in cultivators/ fields	25 no. unit	5.00	10 nos. (2.0 lakh)	08 units	08	1.544	
3.	**Establishment of mother garden for producing D x T hybrid Seed nuts.**	Project based	-	-	-	-	-	
4.	**Supply of CDB Model or any improved Copra Dryer for processing of Copra**	Project based	-	-	-	-	-	
5.	**Setting up of Integrated Coconut processing complex**	Project based	-	-	-	-	-	
	Total of A			**42.775**		**291**	**40.919**	

B	**Replanting & Rejuvenation of Coconut Gardens**							
i)	Cutting and removal of disease affected/Senile Coconut Palm (2012-13)@ Rs. 500/- per palm	8000 nos.	40.00	(5000 nos.) 25.00 lakh	3323 nos.	345	16.615	
ii)	Replanting with coconut seedlings @ 20/- per palm	5000 nos.	1.00	(5000 nos.) 1.00 lakh	3323 nos.	345	0.6646	
iii)	Rejuvenation of Coconut Gardens							
	1st installment 2nd installment	800 ha 500 ha	60.00 37.50	500 ha 500 ha (75.00 lakh)	500 ha 500 ha	- 188	37.50 37.50	Committed expenditure
	Total B			**101.00**		**878**	**92.2796**	
	Total of (A + B)			**143.775**		**1169**	**133.1986**	

Progress under the Coconut Development Board Scheme of High Value Agriculture from 2006-07 to 2012-13

S. no.	Particulars	Total			
		Targets		Achievement	
		Phy.	Fin.	Phy.	Fin.
1	Removal and replanting of Coconut Palm (Nos.)	15000	38.70	2282	5.89
2	Demonstration plot adopting full package of technology (Ha)	2187.60	393.945	1921.88	334.134
3	Production of organic manure/vermi compost in cultivators field (Nos.)	265	53	104	16.303
4	Establishment of mother garden for producing DXT hybrids seed nuts (Project Based)	0	18	0	0
5	Supply of copra dryer- CDB-Model or any improve copra dryer (Nos.)	390	39	5	0.5
6	Setting up of Integrated Coconut Processing Complex (Project based)	0	80	0	0
7	Cutting and removal of disease affected / senile coconut palms (Nos)	32122	160.61	4962	24.81
8	Replanting with coconut seedlings (Nos)	14000	2.80	3323	0.6646

Year wise number of Beneficiaries

Year	National Horticulture Mission	Coconut Development Board
2007-08	213	260
2008-09	1137	366
2009-10	1532	786
2010-11	3107	2120
2011-12	4118	1509
2012-13	2429	1169

Progress under the National Horticulture Board Scheme of High Value Agriculture 2006-07 to 2012-13

S. No.	Particulars	Total			
		Target		Achievement	
		Physical	Financial	Physical	Financial in Rs.
1	Development of Commercial Horticulture Crops through production and post harvest management	2.00 ha Vanilla Cultivation	0	2.00 ha	5.187
2	Technology development and transfer for promotion for horticulture.			1055 beneficiaries	27

Details of the Poly House Constructed in Andaman and Nicobar Islands under National Horticulture Mission Scheme

S. No.	Name of Place	Area of Green House/ Poly house	No. of poly house	Amount (Rs. In lakhs)
	Year-2007-08			
1.	Farmers field	350 Sqmt	1	0.4375
	Year-2008-09			
1.	OHF, Sippighat	680 Sqmt	1	9.56
2.	OHF, Sippighat	400 Sqmt.	1	5.62
3.	Progeny Farm Miletilak	400 Sqmt.	1	4.17
4.	MP Farm Kamorta	320 Sqmt.	1	4.80
5.	Surabi (NGO)	500 Sqmt.	1	5.75
6.	Farmers field	1500 Sqmt.	5	1.90
	Year- 2009-10			
1.	Departmental Farms	2700 Sqmt.	9	40.395
2.	Farmer's Field	20000 Sqmt.	50	9.60
	Year 2010-11			
1.	Farmer's Field (Low cost Poly houses)	14300 Sqmt.	76	30.94
2.	Farmer's Field (Hi-tech Poly houses)	2700 Sqmt.	9	44.99

Year 2011-12				
1	Farmer's Field (Low cost Poly houses wooden str.)	1.08 ha	50	26.27
2	Farmer's Field (Shadenet house wooden str.)	1.0	18	9.84
3	Plastic tunnel	1.00 ha	46	1.523
Year 12-13				
1	Farmer's Field (Hi-tech Poly houses)	3300 sqmt	11	55.00
2	Farmer's Field (Hi-tech Poly houses)	0.20	15	1.05
	Total	**6.0915 ha**		**251.8455**

Area and Production of Major Crops after Tsunami

	2005-06		2006-07		2007-08	
Crops	**Area**	**Production**	**Area**	**Production**	**Area**	**Production**
Coconut	20927	78.46	21416.09	88.96	21636	80.64
Arecanut	4046.44	3058.46	4056	5839.3	4066	5692.4
Paddy	7685.47	17255.36	7776.17	21535.26	7333.75	21864
Pulses	430.05	279.85	726.2	400.04	2093.34	1369.34
Oilseeds	53.55	34.2	59.92	36.38	87.93	72.26
Vegetables	3668.9	25682.3	3803.58	30000	3951.6	30823.26
Fruits	2925.2	19528.36	2950	22511	2955	22456.6

Area in Ha.
Production in MT
Coconut Production in million nuts

Crops	**2008-09**		**2009-10**		**2010-11**	
	Area	**Production**	**Area**	**Production**	**Area**	**Production**
Coconut	21689	81.9	21760.22	84.97	21768	95
Arecanut	4147.5	5720.5	4152.5	5200	4152	5800
Paddy	7900	22100.1	8139.85	24907.01	8390	23916
Pulses	2119.47	1153.57	2971.09	1744.56	2610	1154.5
Oilseeds	102.59	65	110.8	69.8	94.3	51.9
Vegetables	4598.66	30199.7	5200	41500	5150	31300
Fruits	3005	24941.51	3118.51	26767.67	3160	28772

Area and Production of Horticulture Crops

Area in Ha.

Production in MT

Crops	Area and Production of Horticulture Crops					
	2008-09		2009-10		2010-11	
	Area	Production	Area	Production	Area	Production
Fruits						
Mango	240.4	1899.16	286.64	2558.2	290	2175
Banana	1589.64	15419.47	1596.3	14872.95	1610	16910
Citrus						
Lime/Lemon	200	1180	220.61	1110.36	222	1116
Mosambi	28	159.27	32	120	33	126
Orange	24.42	150	24	104	26	98
Total Citrus	**252.42**	**1489.27**	**276.61**	**1334.36**	**281**	**1340**
Guava	40	280	40	390	42	395
Papaya	375.45	2386.55	311.55	2104.29	315	2200
Pineapple	150.18	1063.29	224.71	608.42	230	680
Pomegranate	12	26	12	48	15	50
Sapota	126.2	995.75	156.4	2914.6	160	2950
Custard apple	10	60	10	80	12	82
Others	200.71	1247.04	191.8	1761.85	193	1900
Total	**914.54**	**6058.63**	**946.46**	**7907.16**	**967**	**8257**
Vegetable						
Tomato	130	1259	129.2	1200	125	1080
Brinjal	380	2456	430.2	3652	420	2600
Cabbage	190	1204	202.2	2162	195	1220
Cauliflower	275	2005	287.5	2375	280	1450
Okra	475	3027	525.2	3219	520	3100
Tapioca	221.29	2113.69	274.65	2120	278	2150
Sweet Potato	118.56	711.24	161.9	912.02	163	923
Bitter gourd	472	1300	522.4	2062	500	1350
Bottle guard	150	1390	146.69	1352	145	1250
Cucumber	200	1141	193.7	1016	200	980
Radish	240	2141	284.1	3121	280	1800
Muskmelon	85	355	86.7	494	80	320
Watermelon	8	75	9.5	95	12	90
Others	2001.66	13921	2392.11	20847	2405	16150
Total	**4946.51**	**33098.93**	**5646.05**	**44627.02**	**5603**	**34463**
Flowers						
Jasmine	1.99	11.98	1.75	10.55	1.9	11.45
Marigold	6.57	94.38	6.4	91.9	6.85	98.36

Rose	3.8	37.24	3.65	35.77	3.5	34.3
Others	21.84	191.56	20.4	191.9	21.35	185.17
Total Flowers	**34.2**	**335.16**	**32.2**	**330.12**	**33.6**	**329.28**
Plantation Crops						
Cashewnut	1051.2	360.8	1077.85	332.13	1100	310
Arecanut	4147.5	5720.5	4152.5	5200	4152	5800
Coconut (m/nuts)	21689.69	81.9	21760.22	84.97	21768	95
Spices						
Pepper	613.83	35.57	600.4	58.31	600	120
Ginger	199.08	1524.55	210	1575	211	1850
Turmeric	82.5	381.14	83.5	384.1	80	482
Cinnamon/Tejpata	149.31	30.49	150	30.6	150	30
Nutmug (nos.)	66.36	5.86	69.4	5.23	70	5.25
Clove	165.9	4.38	155.9	4.82	156	5
Total	**1276.98**	**1981.99**	**1269.2**	**2058.06**	**1267**	**2492.25**

Area & Production of Horticulture Crops

Area in Ha, Prod in Mt

Sl.No.	**Crops**	**2011-12(Final)**	
		Area	**Prod**
	FRUITS		
1	Banana	1681	18535
2	**Citrus**		
(i)	Limes/Lemons	223.5	1115
(ii)	Orange	24	115
(iii)	Sweet orange (Mosambi)	32.5	120
(iv)	Others		
	Citrus Total (I to iv)	**280**	**1350**
1	Custard apple	12	95
2	Guava	43	400
3	Mango	292	2750
4	Papaya	320	2350
5	Pineapple	235	700
6	Pomegranate	15	55
7	Sapota	162	3100
8	Other fruits	195	1160
	Total Fruits	**3235**	**30495**
	VEGETABLES		
1	Bitterguard	510	1650
2	Bottleguard	140	1225
3	Brinjal	450	3500

4	Cabbage	195	1435
5	Cauliflower	282	1750
6	Cucumber	205	1020
7	Chillies green	270	406
8	Muskmelon	75	305
9	Okra	523	3650
10	Radish	275	2000
11	Pumpkin	280	2520
12	Sweet Potato	150	845
13	Tapioca (Cassava)	265	2045.5
14	Tomato	130	1150
15	Watermelon	15	105
16	Other vegetables.	2545	19604.5
	Total Vegetables	**6310**	**43211**
	Flowers		
1	Jasmine	1.85	11.15
2	Marigold	6.75	96.92
3	Rose	3.8	37.24
4	Other flower/foliage	22.6	196
	Total Flowers	**35**	**341.31**
	Plantation		
1	Arecanut	4220	5950
2	Cashewnut	1200	351.12
3	Coconut (m/nuts)	21800	105
	Spices		
1	Cinnamon	150	28
2	Clove	156	1.1
3	Ginger	210	1855
4	Nutmeg (nos)	70	351000
5	Black pepper	600	31.71
6	Chilles (Dried)	115	174
7	Turmeric	80	485

CAR NICOBAR COCONUT MISSION

Coconut Mission launched in Car Nicobar on 26th Jan,2009 with an objective to increase the coconut productivity **from 22 nuts/ palm to 60 nuts per palm per year** and uplift the socio- economic status of the tribal farmers.

The mission adopts a synergetic approach by bringing the isolated efforts being put forth by different Govt. agencies like Dept. of Agriculture, NHM, NHB, CDB, CARI, RKVY, NABARD, NAFED, EHL and Industries under different programmes to increase the productivity of coconut and its allied processing activities under one umbrella and its implementation on mission mode.

Achievement

- 750 farmers participated in the 16 awareness programme conducted on coconut cultivation and its processing and 2 Technology awareness programme at district level by utilizing Rs.5.127 Lakh.
- For productivity improvement of coconut, laid out demonstration plots in 300 ha area in which Rs.105 Lakh utilized.
- Established 45 organic manure production units by utilizing Rs.4.819 Lakh.
- Under the Scheme- Rejuvenation & Replanting of Coconut Garden, 300 ha area covered and 2188 nos. of senile coconut palms were cut and removed.
- Under Rodent Management, aluminum Sheets of 2300 Kg were used for tree banding & 1500 nos. of Rat Traps were distributed. Also, Rat Control Campaign organized at village and Island Level.
- For Post Harvest Management, 45 nos. of Copra Drying unit of 300 nut capacity and 3 Demonstration units with 1000 nuts capacity per dryer installed at Car Nicobar.
- 500 Nos of coconut dehuskers and 1200 Nos. crow bar for coconut dehusking distributed to farmers.

- 650 nos. of High Density Polythene Vermibeds were installed in the farmers fields for the production of Vermi compost along with construction of 2 units for Organic Manure Production.
- Altogether 300 Tuhets consisting of 3941 Tribal farmers benefited by the implementation of Car Nicobar Coconut Mission.

TERESSA COCONUT MISSION

To improve the Coconut Productivity from the present annual yield of 19 to 60 coconuts per palm and to improve the cropping efficiency and socio- economic status of the tribal farmer launched Teressa Coconut Mission during the year 2011-12.

Achievements

- Conducted Survey and analysis for assessment of the productivity of the existing garden - ` 0.485 Lakh
- Conducted Soil testing/Analysis by incurring `0.15 Lakh
- Capacity building of the farmers through Technology awareness programme and training of farmers on Value Addition on coconut at CPCRI, Kasarod, Kerala -` 3.0 Lakh
- Laid out demonstration plots adopting full package of technologies for coconut covered in 2 ha demonstration units in 14 villages -`9.80 Lakh
- Replanting and Rejuvenation of coconut gardens- 200 ha area rejuvenated in 14 villages of Teressa Island - `15.00 Lakh
- Pollination support through Beekeeping- 70 Bee hive boxes and 7 sets of accessories were distributed. 7 functional bee colonies established and remaining under progress-`1.05 Lakh
- Under Rodent Management, 1000 nos. of Rat traps were distributed - `1.96 Lakh.
- Post Harvest Management – Supplied 6 nos. of Modern Copra Dryer to the Mission implementing area.

VISIT TO SOUTH ANDAMAN

Sl. No.	Address of beneficiary	Input Supplied by NHM/Observation	Recommendation
1.	Shri Gopal Saha, Ferrarganj, S. Andaman	T.C. Banana (G9)	(i) Beneficiary has sufficient land, more area can be brought under T.C. banana to meet the market demand, underspace area could be fully utilized by planting ginger/ turmeric (ii) There is acute shortage of water at the fruiting stage. (iii) Staking in banana plant is badly needed. (iv) Sigatoka and leaf diseases are required to be controlled by applying fungicides. (v) Proper mulching and nutrient should be supplemented. (vi) Advised farmer to take vermi unit.
2.	Shri K. Urman, Wimperliganj (Bamboo flat) South Andaman	T.C. Banana (G 9) and Red banana.	(i) Maintenance is good and plants have started fruiting (ii) There is sufficient leaf damage due to Sigatoka leaf spot disease. (iii) A few plants showing bunchy top symptoms

			(iv) Vermi compost unit may be useful to utilize the banana waste. (v) Advised to take care of Sigatoka and removal of bunch top infected suckers / plants. (vi)Advised to support drip under NMMI. (vii) Proper mulching is recommended.
3.	Shri Mohammad Ali Kadakachang, Wimperliganj, South Andaman	Bee keeping to support pollination	(i) Total 14 bee boxes are being maintained. (ii)Production 10-15 kg / Box (small size) (iii) Marketing done at Port Blair. (iv) Selling rate is about Rs. 90-100. (v) Need more boxes, to be supplied by the department soon. (vi) Farmer has good knowledge about Apiculture. (vii) He can be a resource person to train other farmers.
4.	M/s Priyambika Nursery, Shippighat S. Andaman	Private small nursery, ornamental and other plants (2010-11)	(i) Subsidy amount availed. (ii) NHM logo not displayed

			(iii) Mostly ornamental plants (iv) It needs further extension to propagate fruit plants as per the requirement of Islands.
5.	Shri Meharzad Akhtar , Garacharma, Port Blair	Susan Rose Nursery (Private grower, having Dragan plantation, 1 ha)	(i) Good endeavor to cultivate new fruit like Dragan and had two cultivars (ii) Subsidy amount Rs. 5 lakh availed. (iii) There was some problem of disease not able to control for want of proper identification. (iv) Advised to send some samples to IIHR Bangalore /CARI, Port Blair to get the fungus identified for proper control measures.
6.	Jirkatang South Andamana	Govt. Model nursery , State farm and Hi-tech poly house (2 Nos)	(i) Very good maintenance. (ii) Pineapple sucker and spices planting material are produced. (iii) Double and triple row system of planting to be done in production of suckers. (iv) Solarization of potting mixtures for production of

			vegetable seedling needs to be practiced. (v) Advice for soft wood grafting for propagation (*Farm detailed report attached).
7.	Shippighat South Andaman	Govt. modal nursery and Hi-tech poly house and shade net	➢ Well maintained organic farm. ➢ Production of fruit / plantation crops and spices. Vegetable seedlings, ornamental and medicinal / aromatic plants are produced. ➢ Advised to give more thrust on soft wood grafting for propagation of planting material.
8.	Smt. Chellammal Rangachang, South Andaman	Low cost poly house (200 sq.m), Guava (30), Mango (30), Sapota (60), Pepper (1700), Clove (30), Cinnamon (250), Nutmeg (20), Pineapple Suckers (1000), T.C. Banana (250), Lemon (30) orange (30), 2010-11, 2011-12, 2012-13, Vermi composts	➢ All subsidy amounts availed. ➢ For low cost poly house UV stabilized Silpoline with 150 GSM to be used. ➢ Staggered planting of pineapple can be done across the slope. ➢ Double row planting to be tried and polythene mulching. ➢ Mandarin may not be

			very remunerative.
9.	Smt. K. Chellammal W/o Late Kamatchi Rangachang, South Andaman	Hi-tech green house (300 sqm) 2012-13	➢ Hi-tech poly house subsidy Rs. 4.99980/- availed after completion of construction. ➢ Vegetable / flowers are being cultivated.
10.	Shri R. Paramasivam S/o Late Rameswamy Rangachan, South Andaman	Hi-tech green house (300 sq.m.) 2012-13	➢ Subsidy amount Rs. 4.99.980 availed. ➢ Construction work is completed. ➢ Advised to take high value, vegetables/ flower.
11.	Shri Jagdish Narain, Ausrinabad, South Andaman	Perennial fruit AEP (2010-11, 2011-12) and rejuvenation, Guava (Allahabad Safeda 90), Mosambi (30)	➢ Subsidy amount Rs. 4.99980/- availed. ➢ In rainy season leafy vegetable needs to be cultivated beside high value crop like broccoli could be taken.

JIT VISITED NEIL ISLAND

Sl. No.	Address of beneficiary	Input Supplied by NHM/Observation	Recommendation
1.	Mr. Prafulla Bawali S/o Late Manohar Bawali, Ram Nagar Neil Island	Hi-tech poly house 300 sqm. (2010-11)	➢ Subsidy amount Rs. 4.99980/- availed. ➢ Pond with polythene lining and drip for vegetable production is recommended ➢ Last year earned Rs. 1.75 lakh from Palak grown in poly house during rainy season ➢ Bacterial wilt tolerant cvs like Avinash-2 and Trishul can be tried for tomato.
2.	Smt. Raju Bala Roy Ram Nagar, Neil Island	AEP, Sapota Var. C. B(25 Nos) (2010-11)	➢ Subsidy amount Rs. 24000 availed. ➢ Plants are healthy.
3.	Raju Bala Roy Ram Nagar Neil Island	Hi-Tech Poly house (300 sq.m) 2010-11	➢ Total subsidy Rs. 4.99930/- availed. ➢ Being used for production of vegetables.
4.	Mr. Chinta Haran Biswas Bharatpur, Neil Island	AEP- Mango 2006-07 (50 Nos) 2007-08 (25 Nos) 2008-09 (100 Nos)	➢ Pheromone traps provided for fruit fly of mango. ➢ The trap examined and found not suitable for mango fruit fly.

			➢ Heavy incidence of scab styler-end rot and anthracnose observed, advised for spray with recommend fungicides to control diseases at proper time. ➢ For fruit fly methyl eugenol (0.1%) sex attractant + malathion (0.1%) traps has been advised to use and repeat after 21 days. ➢ Existing cultivars need correct identity help can be taken from CARI during fruiting season. ➢ Farmer advised to provide plant material.

***Visited Progeny Farm, Jirkatang, South Andaman**

Progeny farm Jirkatarg is located in Jirkatang village of the Andaman district along with the Andaman truck Road. The distance of the farm from Port Blair is about 45 km. The farm was established during 1977 with an area of 20 hectare later on area is expended to its present area 27.285 hectare. Major activities of the farm are to maintain progeny of spices like clove, cinnamon & black pepper to multiplying of planting materials of spices for distribution to the cultivators of A & N Islands. The farm is divided into 17 blocks in which various crops & plantation have been raised. The nursery related to the farm having two High Tech poly houses, 280 sqm was constructed during

2009 and another one 300 sqm was constructed in year 2011. Target to supply planting material during ensuing season is given below.

Distribution of planting material during 2012-13

Sl. No.	**Details**	**Amount**
1.	Black Pepper rooted cutting	71,055 Nos
2.	Clove seedling	2602 Nos
3.	Cinnamon seedling	9350 Nos
	T.C. Banana Plants	6,000 Nos

The target for the year 2013-2014

Sl. No.	**Details**	**Amount**
1.	Black pepper rooted cutting	15,0000 Nos
2.	Clove Seedling	3000 Nos
3.	Cinnamon Seedling	10000 Nos
4.	T.C. Banana sapling	6,000 Nos.

Meeting with the Secretary Agriculture and Director Agriculture (HDADA), Andaman and Nicobar Islands

A meeting was held with Secretary (Agriculture) A& N Administration, Dr. M.A. Salam, Director (Agriculture) and other officers of High Value Agriculture Development Agency (HVADA), Union Territory of Andaman & Nicobar Islands on 3rd & 5th April, 2013. Based on the available information, the following issues along with actionable issues of JIT (2011-12) were discussed.

Secretary (Agriculture) A & N Administration highlighted about the scope of protected cultivation in the Island, since heavy rains make it impossible to grow vegetables in open fields. He informed that the projects are being formulated based on the guidelines of NHM, NHB and CDB. The estimated cost of all most all components are higher in A & N Islands as compared to main land condition. Secretary (Agriculture) emphasized that the existing pattern of subsidy is insufficient keeping in view the high cost for creating of infrastructure like protected cultivation etc. With more emphasis on value addition through processing and Post Harvest Management of fruits (local mango and coconut), organic farming, contact farming and protected farming was also highlighted. Entrepreneurship development and commercialization of high value crop through value addition should be given priority and development should be in a mission mode. The JIT informed that NHM is contemplating revision of cost norms of protected infrastructures and other components for A & N.

It was also felt that there is need to establish an organized market at Port Blair and Diglipur for trading of fruits / vegetable produce to cater to the need of various Islands. For organic produce some organic agency may be made responsible to certify the produce and its marketability for better price to farmers.

Short fall of spices during 2012-13 under Area Expansion programme was discussed. Director (Agriculture) clarified that due to erratic / scanty monsoon, the planting of spices could not be done in time. He also reiterated that the Department has sufficient plating material for area expansion progrmame of spices during ensuing season.

At the last actionable Issues of Joint Inspection Team (JIT) reviewed during the year (2011-12) were also discussed as given below:

1. There is tremendous scope to produce planting materials of Cashew at Govt. Nurseries. All nurseries should be made fully functional to produce planting material and seedlings for holistic development in A & N Islands.

   ATR- Cashew Scion Bank has been established at the departmental farm at Kalighat, Digilipur during 2010-11 in which quality cashew grafts are being produced from 2011-12 onwards.

2011-12-	1300 nos
2012-13	1600 nos

   The departmental farms situated at various Island of UT are functional and produce vegetable seedlings in season and planting materials of Spices such as Cinnamon, Clove, Nutmeg, Bay leaf, Black pepper etc. are raised in the departmental nurseries to fulfill the demand of farmers for holistic development.

2. Banana cultivation is very common, but its productivity is very low due to local land races being cultivated. Thrust may be given for T.C. Banana to get maximum production and to avoid bunchy top disease problem.

   ATR- To given thrust on T.C. Banana production to get maximum production, 35 ha areas have been brought under T.C. Banana cultivation during the year 2012-13. Also, the local varieties of Banana are being encouraged, keeping in view the demand and interest of the people.

3. Indiscriminate use of toxic pesticide by vegetable growers for short term profit was noticed. To overcome with this problem, IPM programmes need to be augmented and to establish bio-control units with Govt. / Public/ Private

Partnership (PPP) mode to avoid pesticide load in vegetables. To avoid indiscriminate use of toxic pesticide by vegetable growers, programme regarding IPM demonstration on vegetables, Organic cultivation of vegetables etc. are being implemented under RKVY.

ATR- To avoid indiscriminate use of toxic pesticide by vegetable growers, programme regarding IPM demonstration on vegetables, Organic cultivation of vegetables etc. are being implemented under RKVY.

ATR- State Bio Control Laboratory established at the Directorate of Agriculture, Port Blair is rendering services by producing bio-control agents for vegetable pests and spread out in the farmers' fields.

ATR- Crop specific and insect specific Pheromone traps and lures are being distributed to vegetable growers for maximum use of bio-pesticides rather than toxic pesticides.

4. Non- availability of sand for construction of vermi compost unit in Island needs special intervention.

ATR- Vermi beds of different sizes are being introduced and promoted for production of vermi compost, as a special intervention.

ATR- For the Organic Certification of 9028 ha under Car Nicobar is identified and the process is under progress. The clusters of Neil, Havelock of South Andaman District, Karmatang, webi, Ram Nagar of North & Middle Andaman District and Teressa of Nicobar District are identified to be taken up under organic certification during this year. The projects duly recommended by State Government will be forwarded for approval and sanction of financial assistance.

5. There is a constant need to control pests / disease by application of IPM technology to enhance the productivity of crops and also avoid abuse of chemical pesticides in Islands.

   ATR- The IPM technology is being implemented in vegetables, fruits, spices, coconut etc. to enhance the productivity of crops and also to avoid indiscriminate sue of chemical pesticides in Islands.

6. Bee keepers are facing sale related problems due to non-cooperation by the forest department; it needs immediate attention to resolve the issue.

   ATR- The matter will be taken up with the Department of Environment and Forest to resolve the problem. Moreover, for those honey produced by the bee keepers, it has been decided to tie-up with the Industries department of A & N Administration.

7. Farmers are not aware about the latest technologies like canopy management, rejuvenation and protected cultivation related technology.

   ATR- Under the NHM Scheme- Technology dissemination through demonstrations has been taken up. Also 11 nos. of hi-tech green houses have been established in the farmer's field to spread awareness about the introduction of new technologies i.e. Green house Cultivation of Vegetable and flowers under controlled atmosphere. The farmers have adopted the technology and they have been growing vegetables in the low cost wooden structured poly houses since 2009-10.

8. Field functionaries need special training and exposure visits to main land and Por Blair for growing high value vegetables / flowers under protected cultivation, IPM/INM and micro-irrigation and orchard related technology.

ATR- During the year 2012-13, 20 field functionaries have been deputed to main land and exposure visits and training related to acquire knowledge and skill regarding the above said themes / topics.

ATR- Under ATMA, the field functionaries have been deputed to main land on exposure visits and training.

9. Plantation crops related machinery for pre harvest and post harvest aspect, need special intervention.

ATR- Farm machineries like Coconut palm climbing devices, harvesting pole, brush/ grass cutter, tree pruner etc. have already been introduced to reduce human drudgery and reduce post harvest losses, as special intervention. The machineries are provided to the farmers under NHM & RKVY Schemes.

ATR- For the post harvest management infrastructure, primary processing facilities are being provided in the farmers field itself under the RKVY projects. The facilities of Cold Storage to minimize the losses / wastage of horticulture produce are provided at Panchayat level under RKVY.

10. Display Board with NHM logo needs to be place don the sites developed with NHM assistance.

ATR- In the project implementing sites developed with NHM assistance, Display Boards with NHM logo are being placed and are in progress in other Islands of UT of Andaman & Nicobar.

(i) The Organizational Structure and staff strength for implementation of Agriculture / Horticulture programme is enclosed. The staff already engaged in the routine work of State Sector is involved in

the implementation of the schemes of NHM, NHB & CDB of the High Value Agriculture Programme.

(ii) Accreditation of Nurseries established under the assistance of NHM Scheme under Public sector will be taken up with National Horticulture Board for initiating the process of Organic Certification. This includes Spices Nursery and pine apple suckers at Progeny Farm, Jirkatang, Floriculture units & Rhizomatic spices at Organic Horticulture Farm, Sippighat, Vegetable Nursery at Chouldari Farm, South Andaman, Coconut Nurseries at Little Andaman and Rangat zone and Nursery for minor fruits at Diglipur.

In a wrap up meeting on 6th April with Secretary Agriculture and Mission Director (SHM), observations of the field visit were discussed and suggestions were given to implement them.

Banana Pseudo-stem protected by leaves (South Andaman)

Beekeeping for Pollination support

Pine apple suckers and spices produced in the nursery at Jirkatang (South Andaman)

Shri Jagdish, Progressive fruit growers(S.A)

Coconut cultivation on sloppy hill


Orchard cultivation at Govt. farm Shippighat

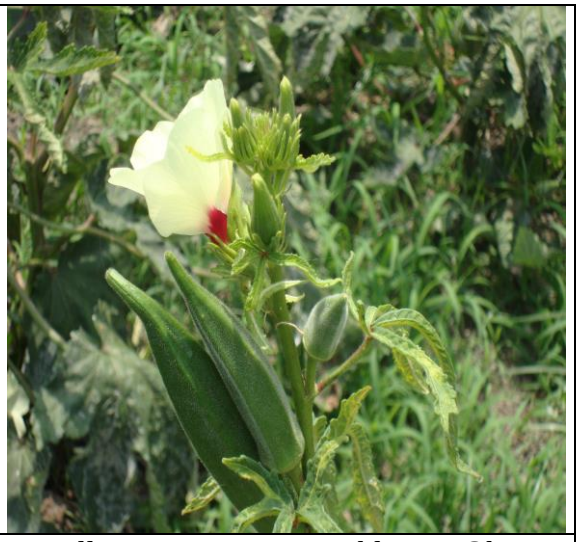
Nutmeg with Javitri (Red)

Stem borer problem in Brinjal at Neil Island

Removal of coconut top for Arecanut plantation

Mango production at Neil Island

	
Dragan with flower	Discussion with grower about problems in Dragan cultivation
	
TC Banana cultivation	TC Banana bunches with less water in summer
	
Cultivation of Passion fruit	Flower of Passion fruit

	
Mite problem in Okra	Yellow Vein Mosaic problem in Okra
	
Drying of Arecanut	Parwal cultivation at Neil Island
	
Vegetable cultivation in Neil Island	Old coconut plantation