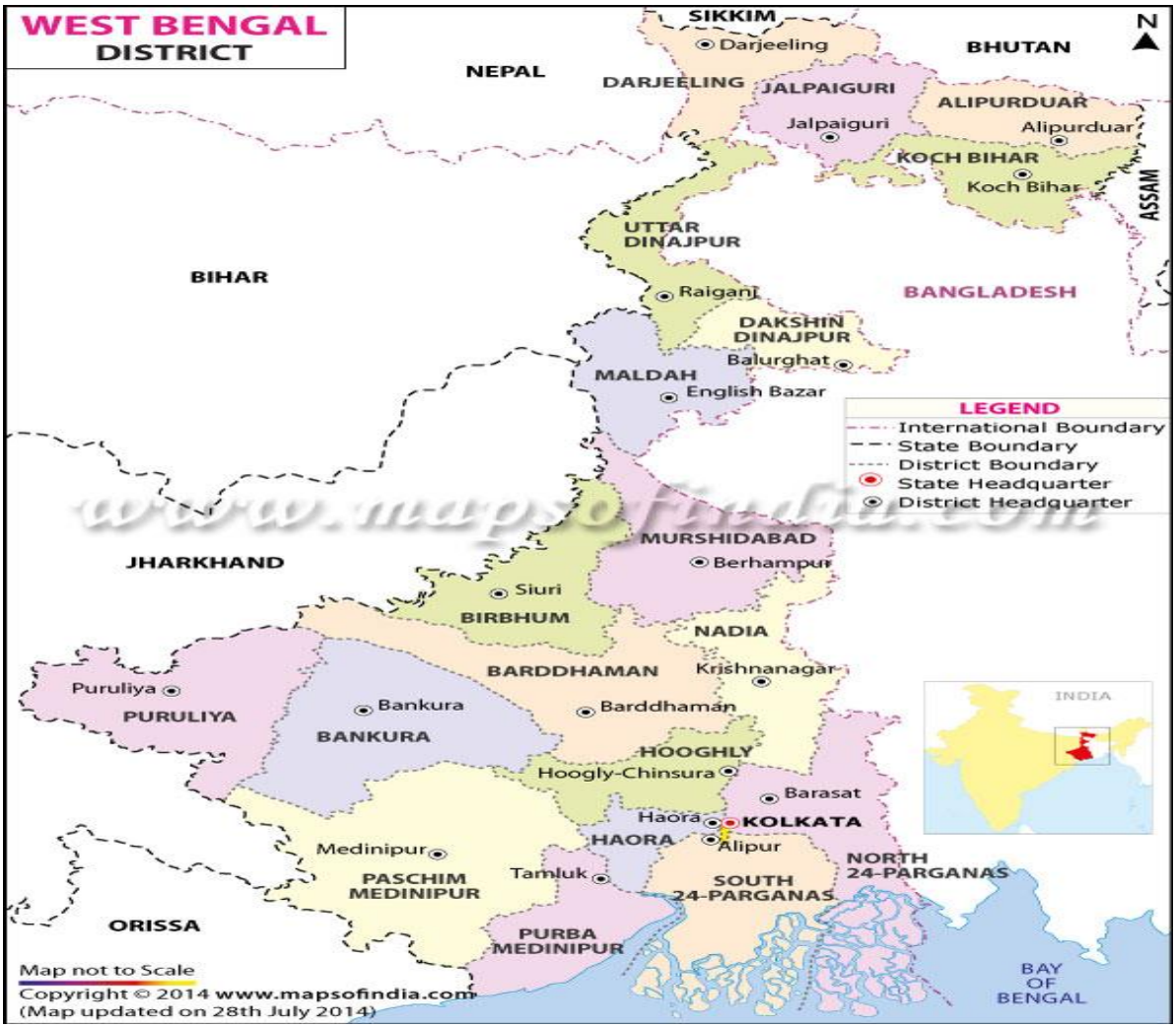
JOINT INSPECTION TEAM (JIT) REPORT (2016-17)

WEST BENGAL



बागवानी मिशन
Horticulture Mission

NHM - Mission for Integrated Development of Horticulture (MIDH)

Ministry of Agriculture & Farmers Welfare

Department of Agriculture, Cooperation & Farmers Welfare

Krishi Bhawan, New Delhi-110001

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Review of National Horticulture Mission and other Central Schemes of Horticulture for West Bengal
(Year 2016-17)

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JIT visit of West Bengal in the districts of Jalpaiguri, Siliguri, Darjeeling, Cooch Behar and Malda from 21.09 2016 to 27.09.2016.

Observations & Recommendations:

1. Area expansion of fruit & vegetable crops have been undertaken in a good manner but PHM activities have not been promoted in the districts of Jalpaiguri, Siliguri and Darjeeling instead of having ample production of pine apple, banana, vegetables and other spices crops.
2. There is enough scope for bamboo based poly houses for growing off season vegetables in high rainfall area but has not been promoted at large scale.
3. Orchids are being grown under poly house conditions by some big entrepreneur with the help of NHM support. There is a need to promote the activities by small & medium size poly houses / net houses for small & marginal farmers also.
4. Mushroom cultivation in the area under Siliguri Mahakuma Parishad, Siliguri is being undertaken with the help of RKVY funds. But the farmers need the dryer and packaging units to keep the mushroom for a long duration and marketing also.
5. Area expansion of Mandarin Orange has been linked with MANREGA activities in the district of Jalpaiguri. The condition of the plantation is very poor and no care is being done.
6. There is a good scope for Bay Leaves plantation in Jalpaiguri and Siliguri districts. . Small & marginal farmers can take up cultivation of such high value crops for high income.
7. The area expansion of pine apple has been taken around the paddy field in Siliguri Mahakuma resulting in poor growth of the crop and other related problems. It is suggested to avoid such area for pine apple.
8. The promotion of small or high-tech nurseries to meet out the demand of quality planting material is poor. Concentrated efforts should be made in public & private sector both.
9. The area expansion of Mandarin orange is being done in Darjeeling Hills by Directorate of Cinchona in West Bengal. It has been informed that NHM funds are not being diverted to hill area of Darjeeling for promotion of horticulture. Majority of the orchard of Darjeeling Mandarin are infected either by pest, diseases or nutrient deficiencies which need a large scale multi-institutional collaborative approach to address the problem. Accreditated nurseries should come up with healthy mother block to provide the material for future grafting programme.

   Regional Centre of IARI, Kalimpong has been allocated the project for selection of best genotypes and also production of planting material of mandarin orange under RKVY funds. One health "Model nursery block of Darjeeling Mandarin" needs to be established at the research station.
10. The farmers lack in knowledge and skill on scientific cultivation practices of mandarin, pest management, disease management, nutrient management.
11. The Orchid Centre at Mangapoo under Directorate of Cinchona, Darjeeling is involved in the production of cymbidium orchids under protected structure with the assistance of RKVY. Further extension of protected structure can be undertaken for the production of planting material.

12. Local cultivars of Mango are being grown in Malda District. There is a rampant use of Paclobutazol in the orchards to control alternate hearing. CISH Technology recommended by ICAR should be adopted to enhance the bearing in mango.
13. The use of drip irrigation and mulching has not been observed in the vegetables and orchards in Jalpaiguri and adjoining area.
14. Although the assistance has been provided to one local processing unit of fruits in Malda district. There is a tremendous scope to promote processing of mango for pulp, pickles and chutneys etc. at large scale.
15. Horticulture Technology Dissemination Centre has been established with support from RKVY in Malda district but not being utilized with full potential.
16. INM & IPM measures have not been addressed in fruit and vegetable crops. The State Agriculture University and local KVK should be approached to get the technologies and also should be demonstrated with proper POP at farmer's field.
17. Awareness-cum-training programme as well as exposure visit of farmers should be undertaken on improved package of practices, high density plantation, canopy management, post-harvest practices, cropping pattern, nursery management etc.
18. Department of Horticulture in the districts are implementing the activities with very limited manpower resulting in poor implementation and monitoring of activities. It has also been brought in notice that field consultants are not getting the salary as per MIDH norms.
19. It has been brought in notice that the existing cost norms in some of the components of MIDH are much lower than the actual cost of cultivation. Increase of norms in area expansion of Rhizomatic Spices, Bulbous flower, Perennial Spices, Loose flower, TC Banana & Banana Sucker have been suggested by the state as below-

Sl No.	Name of the Component	Present cost norms	Proposed cost norms
1	Area expansion under Non perennial Fruits-Pineapple (sucker) Without integration	Rs. 87500/Ha	Rs. 2.00 lakh /hac
2	Area expansion of loose Flower	Rs. 40000/ha	Rs. 60000/ha
3	Area Expansion under Rhizomatic Spices	Rs. 30000/ha	Rs. 80000/ha
4	Area expansion of Perennial Spices	Rs. 50000/ha	Rs. 75000/ha

20. There is a need to cover the Horticultural Crops under Crop Insurance Schemes.
21. Water and Soil Conservation measures should be undertaken in hilly slopes to retain the fertile soil and moisture for fruit plantation and growing vegetables.
22. Application of frontier technologies viz. high density planting, canopy management, micro irrigation in fruits and vegetables should be promoted to increase the productivity of crops.

23. Mechanization in horticulture especially of self-propelled machineries should be promoted for training & pruning of fruit plants, spraying of chemicals and harvesting of fruits etc. Apart from this, small power tiller & tractors for vegetable & high density orchard, pruner, power sprayer, garden tools for nursery should be promoted among small & marginal farmers. ,
24. Areca nut based cropping model with black pepper, turmeric and ginger crops should be promoted to increase the productivity of model and the income of farmers.
25. Off season vegetable cultivation through low cost poly tunnels, shade net houses and bamboo based poly houses should be promoted among small & marginal farmers to increase the availability of vegetables and also to fetch up good prices during off season.

State Profile

West Bengal is the leader in production of pineapple, brinjal, cabbage and cauliflowers and second largest producer of litchi in the country.

Mission for Integrated Development of Horticulture (MIDH)

The Centrally Sponsored Scheme of National Horticulture Mission (NHM) is being implemented in West Bengal since 2005-06. From April, 2014 onwards, NHM has been subsumed under Mission for Integrated Development of Horticulture (MIDH) for holistic growth of the horticulture sector covering fruits, vegetables, root and tuber crops, mushrooms, spices, flowers, aromatic plants and plantation crops.

Implementation of National Horticulture Mission (NHM) in West Bengal

The Centrally Sponsored Scheme of National Horticulture Mission (NHM) is being implemented in 14 districts viz. Malda, Murshidabad, Nadia, Hooghly, Purulia, Bankura, North 24-Parganas, Darjeeling, Jalpaiguri, West Midnapore, Birbhum, Coochbehar, East Midnapore and South 24-Parganas.

Major activities being undertaken in the Mission are production and distribution of planting material (model and small nurseries, tissue culture units), area expansion (through establishment of new gardens), rejuvenation of existing old and senile gardens, production of vegetable seed, seed infrastructure, protected cultivation, IPM/INM, organic farming, pollination support through bee keeping, integrated development of Mushroom, development of marketing infrastructure (whole sale markets, rural markets and functional infrastructure), Post-Harvest Management (pack houses, cold storages, refrigerated vans, mobile/ primary processing units) and Human Resource Development.

Progress till 2014-15

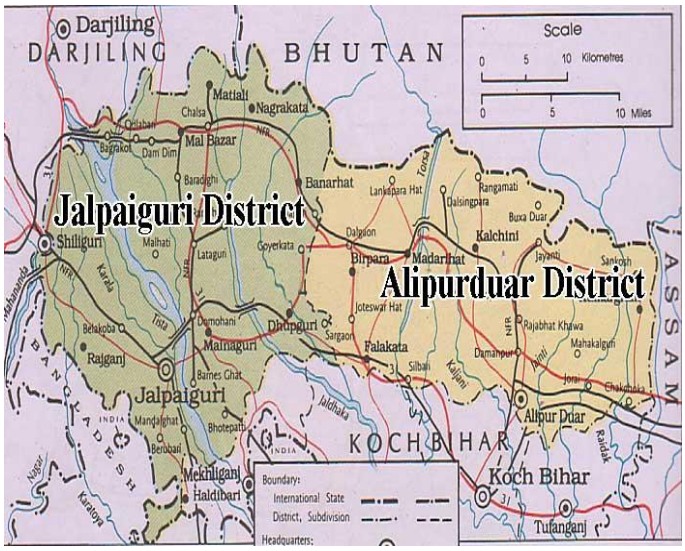
Salient physical progress till 2014-15 is as follows:-

- Additional area of 0.66 lakh ha. of identified horticulture crops.
- Setting up of 147 nurseries for production of quality planting material.
- Rejuvenation of 7198 ha. of old and senile orchards.

- Coverage of 11041 ha under organic farming of horticultural crops.
- Setting up of 10 IPM/INM infrastructure facilities such as Leaf tissue analysis labs, disease forecasting units.
- Coverage of 1320 ha under Protected cultivation.
- Setting up of 173 units of Post -Harvest Management infrastructure such as pack houses, cold storage units, refrigerated vans, primary/ mobile processing units, ripening chambers, pre cooling units attach to cold storages and mobile pre cooling units.
- Setting up of 19 market infrastructure units for facilitating marketing of horticulture produce.
- Under HRD component, 642 farmers have been trained various horticulture activities.

An amount of Rs. 200.32 crore was released to the State till 2014-15 against which an expenditure of Rs. 199.74 crore has been reported.

District – Jalpaiguri & Alipurduar



INTRODUCTION

The district is bounded by Darjeeling district and Bhutan in the north, Coochbehar district and Bangladesh in the south, Assam in the east and Darjeeling district and Bangladesh in the west. Jalpaiguri derives its name from the olive fruit, which is locally known as 'jalpai' – it literally means a place where olives are found in abundance. Its name is also associated with Lord Shiva who is also known as Jalpesh, the presiding deity of the region. Jalpaiguri shares the northern part of West Bengal and is close to international borders with Bhutan in the north and Bangladesh in the south. The District is situated between 26°15' 47″N to 26°59'34″N latitude and 88° 23'02″ E to 89°07'30″ E longitude. It is bounded by the district of Alipurduar and Darjeeling in the East and West. Jalpaiguri comprises chiefly of a rural population, which is more than 80 per cent of its total population. The topography of the land is cut across by rivers, rivulets and hills, and covered with tea gardens and forests. It is a virtual cauldron of different ethnic races and tribes like the Rajbanshi, Rabha, Toto, Metch, Santhals, Madasia and Oraons. Major rivers that runs across

the district are the Teesta, Torsa, Jaldhaka, Raidak and Sankosh. This District has also a rich bio-diversity in both flora and fauna and has immense natural beauty which may aid in future development of this district.

The soil of this district mostly belong to sand to sandy loam texture having low water holding capacity. The soils are mostly acidic in nature having soil pH in the range 4.6 to 6.5. The soils of the flood plains are formed mostly from the colluvial deposits of the Himalayas carried by various rivers. The greater part of the soils is alluvial in nature ranging from pure sand to clayey loam but mostly sandy loam. Soils of the dooars are mostly ferruginous clay and typically suited for tea plantation. But the main feature of the soil is acidity and hence most of these soils are categorized as problem soils. General productivity of such soils is very low, making agricultural as a low profit venture. Making the best use of such soil for agricultural development is a real challenge for the technologists.

Jalpaiguri District at a glance

1.	Geographical area:	334493 ha
2.	Forest, Tea Garden & others	134186ha
3.	Gross cropped area	239021ha
4.	Net sown area	140741ha
5.	Mono cropped area	42461ha
6.	Cropping intensity	170%
7.	Gross irrigated area	109378ha
8.	Net irrigated area	72129ha
9.	Rainfed area	68612ha

Agro-Climate Conditions of Jalpaiguri

Annual average rainfall : 2700 mm.	Average relative humidity : 82 %
Maximum Temperature : 37^0C	Minimum Temperature : 8^0C
Average soil pH : 4.0-6.9	

Apart from this the district has very much congenial climatic conditions for cultivation of varieties of flowers like Gerbera, Gladiolus etc.; fruits like Pineapple, Banana, Guava, Lemon etc.; medicinal plants and also different spices (Ginger, Turmeric, Black Pepper, Tejpata etc.) and plantation crops(Areca nut, Rubber etc.) which have tremendous export potentialities.

Present Scenario: The district is endowed with diverse agro climatic conditions suitable for the successful cultivation of a large number of horticulture crops. The horticultural crops mainly grown in the district are as follows

- Potato is the main economic crop in the whole district.
- Vegetables are grown throughout the year in all the block
- Tea is the main plantation crop and gaining rapid popularity in the entire district.
- Areca nut is also a major cash crop in entire district.
- Ginger, Garlic and black pepper are important spices crops.
- Pine apple and banana are the main fruit crops.
- Jackfruit, Litchi, Citrus are the common homestead fruit crops.
- Bay leaf now gaining rapid popularity in the entire district.
-

Major strength of the District

- The district is endowed with diverse agro climatic conditions suitable for the successful cultivation of a large number of horticulture crops from terai to dooars region.
- Network of research infrastructure exist to support the development in hort. Crops

Major weakness & constraints of the District

- Inadequate supply of quality planting materials
- Inadequate trained human resource at field level
- Inadequate infrastructure for post harvest handling and processing
- Low productivity and poor quality in a large number of crops
- Dependence on tea and timber.
- Lack of market in remote areas for perishable products
- Lack of introduction of hi-tech horticulture and micro irrigation facilities
- Lack of market intervention when prices fall

Major crops grown in Jalpaiguri District

Fruit crops

1. Banana (Sucker): Malbhog is the major cultivar in Jalpaiguri District. Apart from this Champa, Kathali, Dwarf Cavendish and Tissue culture banana var. Grand Naine are also cultivated to some extent.

2. Pineapple: Pineapple is mainly cultivated under Rajganj Panchayet Samity and also to some extent in Jalpaiguri Sadar Panchayet Samity. Giant Kew and Kew are pre-dominant variety in this region. Queen and some local cultivars like Haricharanvita are also grown domestically.

3. Guava: Guava is cultivated throughout the district mostly for domestic consumption. Major cultivars are L-49, Kaji, Allahabad Safeda and Baruipur.

4. Lemon/Lime: Different types and varieties of lime and lemon cultivation are also observed in Jalpaiguri district. Mainly the lemon and lime var. Pati, Kagji are being

grown by the farmers. Cultivation of mandarin orange is also noticed in Hill base areas of Matiali, Nagrakata and Malbarjar.

5. Apart from these Mango (Var. Indigenous as well as improved), Litchi, Jackfruit, Waterapple, Roseapple, Olive, Ber, Sapota are also cultivated mostly for domestic use.

Vegetables: Vegetables are mainly cultivated under Maynaguri and Dhupguri Panchayet Samiti.

1. Potato: Potato is mainly cultivated in Dhupguri. Apart from the improved varieties, some local traditional indigenous varieties are also cultivated.
2. OP and F_1 hybrid variety of other Solanaceous crops like brinjal, chilli and tomato are also grown by the farmers.
3. All of the cucurbits and other vegetables like bhindi, garden peas, french bean, cauliflower, cabbage, knolkhol, turnip, carrot, radish and leafy vegetables are also cultivated.

Flower: Mainly gladiolus and marigold are cultivated commercially.

Spices: Garlic and rhizomatic spices like ginger and turmeric are cultivated in a considerable area on commercial basis mainly in Hill base area of Malbajar Sub-Division. Bay leaf is one of the major commercial crops in Jalpaiguri district.

P**lantation Crops:** Tea is one of the major plantation crops in Jalpaiguri district. Beside, Coconut, Arecanut, Black pepper, Betelvine are also cultivated.

Medicinal and Aromatic plants: Most of the medicinal and aromatic plants are indigenously grown in forest areas. Presently, sarpagandha is being cultivated by some of the progressive farmers for commercial purpose.

Major crops grown in Alipurduar District

Fruit crops:

1. Banana (Sucker): Malbhog is the major cultivar in Alipurduar District. Apart from this Champa, Kathali, Dwarf Cavendish and Tissue culture banana var. Grand Naine are also cultivated to some extent.

1. Guava: Guava is cultivated throughout the district mostly for domestic consumption. Major cultivars are L-49, Kaji, Allahabad Safeda and Baruipur.
2. Lemon/Lime: Different types and varieties of lime and lemon cultivation are also observed in Alipurduar district. Mainly the lemon and lime var. Pati, Kagji are being grown by the farmers. Cultivation of mandarin orange is also noticed in Hill base areas of Madarihat, Kalchini Panchayet Samity.
3. Apart from these Mango (Var. Indigenous as well as improved), Litchi, Jackfruit, Waterapple, Roseapple, Olive, Ber, Sapota are also cultivated mostly for domestic use.

Vegetables:

1. Vegetables are mainly cultivated under Kumargram, Alipurduar-I, Alipurduar-II and Falakata Panchayet Samity.
2. OP and F_1 hybrid variety of other Solanaceous crops like brinjal, chilli and tomato are grown by the farmers.
3. All of the cucurbits and other vegetables like bhindi, garden peas, french bean, cauliflower, cabbage, knolkhol, turnip, carrot, radish and leafy vegetables are also cultivated.

Spices:

Garlic and Rhizomatic spices like ginger and turmeric are cultivated in a considerable area on commercial basis mainly in Hill base area of Darjeeling.

P**lantation Crops:**

Tea and Arecanut is one of the major plantation crops in Alipurduar district. Beside, Arecanut, Black pepper, Betelvine are also cultivated.

Medicinal and Aromatic plants:

Most of the medicinal and aromatic plants are indigenously grown in forest areas. Presently, sarpagandha is being cultivated by some of the progressive farmers for commercial purpose.

- **SWOT Analysis of Horticulture in the District**

Strength:

1. Large area of unutilized land.
2. Rainfall throughout the year.
3. Large nos. of indigenous varieties.
4. Wide variation of altitude and weather parameters.
5. Availability of Agricultural labour.
6. District is surrounded by two neighbouring countries.
7. The transportation way towards North East is passed through the district.

Weakness:

1. Heavy rainfall during rainy season.
2. Mostly Sandy loam soil leads to low water holding capacity.
3. Mostly acidic soil
4. Lack of water harvesting structure.
5. Lack of awareness of scientific cultivation technologies among the farmers.
6. Lack of quality planting materials/seeds.
7. Lack of storage facilities.
8. Lack of proper linkage between producer and consumer.

Opportunities:

1. Utilization of untapped and unutilized land.
2. Utilization of the altitude pattern for cultivation of different crops.
3. Utilization of existing rivers for irrigation through RLI.
4. Exploitation of ground water.
5. Utilization of export opportunities.

Threat:

1. Natural calamities through flooding during rainy season.
2. Soil erosion.
3. Distress sale of vegetables.

- **Constraints analysis**

- **Reason for production gaps**
  a. Adoption of Improper cultivation practice.
  b. Lack of genuine nursery
  c. Lack of improved cultivars
  d. Lack of awareness among farmers
  e. Lack of infrastructure to support the extension activities.
- **Research gaps**
  a. Development of suitable improved cultivars which will be adopted to the prevailing weather condition of the district
  b. Research work on cultivation practice of a particular crop in particular area where the crop is predominantly cultivated.
  c. Research on low cost storage and preservation practice
- **Processing/Storage gaps**
  a. Lack of adequate quantity of multipurpose/Controlled Atmospheric Storage suitable for storage of different Horticultural commodities to combat distress sale.
  b. Lack of technologically advanced processing unit
  c. Lack of awareness of the farmers on low cost storage unit.
- **Existing Institutional Mechanism in the Government Sector**
  a. Different KVK
  b. Universities
  c. Govt. Offices
  d. CADC
  e. Govt. farms

Intervention

a. Expansion of area under alternative crops
b. Utilization of existing area through multi-storied cropping/ intercropping.
c. Expansion of area of the crops considering market demand.
d. Adoption of organic farming.
e. Adoption of high-tech horticulture for production of offseason horticultural crops.

f. Adoption of low cost storage structure.
g. Adoption of scientific after harvest care
h. Area expansion of endangered crops through supply of improved saplings.
i. Use of farm machineries in Horticultural crops.
j. Exposure visit of farmers for adoption of scientific cultivation practice
k. Awareness programme to the farmers.

Strategy

a. Govt. /Private intervention in quality planting material production.
b. Supply of quality planting material to the farmers.
c. Awareness programme to promote scientific cultivation technology.
d. Govt. intervention towards production of exportable horticultural produce through organic cultivation technology.
e. Exploration of existing indigenous germplasm mostly under medicinal and aromatic plants.
f. Creation of proper linkage between the producer and consumer through marketing support.
g. Promotion of horticultural activities for production of crops during off season.
h. Govt. intervention for use of farm machineries to reduce the production cost.
i. Promotion of low cost storage structure for storage of horticultural produce on temporary basis.
j. Govt. intervention in creation of scientific preservation and processing unit.
k. Establishment of quality seed production unit through group/community approach.
l. Establishment of disease, pest identification lab and residue analysis lab with adequate technical staff at-least one in each subdivision.

Thrust areas

a. Utilization of existing Arecanut and Coconut plantation alongwith growing of black pepper under multi-storied cropping.
b. Creation of processing unit of pineapple in pineapple growing areas of Rajganj Panchayet Samiti.
c. Creation of good quality saplings through scientific propagation method in private/public sector nursery.

Strategy for bridging

a. Adequate Coordination between the research Institution like Universities, KVKs and the Extension functionaries like KVK, Govt offices.
b. Identification of progressive interested farmers and impart training to them. Dissemination of technology to the other farmers through them.
c. Utilization of Govt. Farms for creation of suitable cultivation technology through research work.
d. Production of saplings in Govt. Farms and supply of these saplings to the progressive farmers through extension system.

e. Location specific research programme of a particular crop predominant in particular location.

Jalpaiguri District

(i) Vegetables

Name of the Vegetable	**2014-15**		
	Area in'000ha	**Production in'000 MT**	**Productivity in Mt/Ha**
Tomato	1.497	32.119	21.456
Cabbage	1.759	42.654	24.249
Cauliflower	1.670	25.999	15.568
Peas	3.500	28.565	8.161
Brinjal (rainy)	1.662	26.306	15.828
Brinjal (summer)	2.426	45.889	18.915
Brinjal (winter)	3.239	66.090	20.404
Brinjal (total)	7.327	138.285	55.148
Onion	0.071	1.042	14.676
Lady's finger (rainy)	0.998	15.641	15.672
Lady’s finger (summer)	2.178	25.837	11.863
Lady’s finger (winter)	0.043	0.414	9.628
Lady’s finger (total)	3.219	41.892	37.163
Beans (rainy)	0.117	0.897	7.667
Beans (summer)	0.112	0.862	7.696
Beans (winter)	0.112	0.852	7.607
Beans (total)	0.341	2.611	22.970
Cucurbits (summer)	1.450	21.275	14.672
Cucurbits (rainy)	1.745	28.149	16.131
Cucurbits (winter)	1.020	14.155	13.877

Cucurbits (total)	4.215	63.579	44.681
Radish (summer)	0.498	6.740	13.534
Radish (winter)	1.271	15.028	11.824
Radish (total)	1.769	21.768	25.358
Watermelon	0.094	1.324	14.085
Sweet potato	0.475	4.875	10.263
Elephants foot yam	0.122	2.505	20.533
Arum (kachu)	0.216	4.075	18.866
Others (rainy)	1.357	3.048	2.246
Others (summer)	0.304	2.305	7.582
Others (winter)	2.078	8.495	4.088
Others vegetables	3.739	13.848	13.916

(ii) Flower

Name of the Flower	**2014-15**		
	Area in '000ha	**Production in Crore Cut Flowers**	**Productivity in Lakh sticks/Ha**
Rose	0.000	0.000	0.000
Chrysanthemum	0.001	0.017	1.700
Gladiolus	0.090	1.339	14.878
Tuberose	0.000	0.000	0.000
Marigold	0.020	0.166	8.300
Jasmine	0.022	0.021	0.955
Seasonal flowers	0.041	0.045	1.098
Misc flowers	0.002	0.004	2.000
Total loose flowers	0.085	0.236	2.776
Total cut flowers	0.091	1.356	14.901

(iii) Fruits

Name of the Flower	2014-15		
	Area in '000ha	**Production in '000 MT**	**Productivity in Lakh sticks/Ha**
Mango	0.853	2.966	3.477
Banana	0.938	21.687	23.120
Pineapple	1.692	56.726	33.526
Papaya	0.310	16.174	52.174
Guava	0.296	4.524	15.284
Jack fruit	0.864	21.945	25.399
Ltchi	0.148	1.542	10.419
Mandarin orange	0.025	0.131	5.240
Other citrus	0.343	3.132	9.131
Sapota	0.090	1.320	14.667
Temperate fruits	0.000	0.000	0.000
Misc. fruits	0.084	0.843	10.036

(iv)Plantation Crops

Name of the Plantation crops	2014-15		
	Area in '000ha	**Production (Lakh Nuts)**	**Productivity (no. Nuts / Ha)**
Coconut	0.361	52.718	14603
Arecanut	0.853	1.911	2.240
Betelvine	0.070	0.591	844.286

(v)Spices

Name of the District	2014-15		
	Area in '000ha	**Production in '000 MT**	**Productivity in Mt/Ha**
Red pepper(rabi)	1.972	2.052	1.041
Red pepper(kharif)	0.887	0.836	0.943
Red pepper(total)	2.859	2.888	1.983
Ginger (fresh)	0.707	8.307	11.750
Ginger (dry)	0.707	8.307	11.750
Turmeric (dry)	0.849	1.776	2.092
Fenugreek (methi)	0.010	0.012	1.200
Black cumin	0.006	0.005	0.833
Fennel (mouri)	0.006	0.006	1.000
Black pepper (golmorich)	0.058	0.0150	0.259
Garlic	0.033	0.344	10.424
Coriander	0.069	0.123	1.783
Large cardamom	0.000	0.000	0.000
Radhuni	0.004	0.004	1.000

Alipurduar District

(i)Flower

Name of the Flower	2014-15		
	Area in '000ha	**Production in Crore Cut Flowers**	**Productivity in Lakh sticks/Ha**
Rose	0.000	0.000	0.000
Chrysanthemum	0.001	0.015	1.500
Gladiolus	0.039	0.575	14.744

Tuberose	0.000	0.000	0.000
Marigold	0.018	0.144	8.000
Jasmine	0.020	0.020	1.000
Seasonal flowers	0.039	0.042	1.077
Misc. flowers	0.012	0.013	1.083
Total loose flowers	0.089	0.219	2.461
Total cut flowers	0.040	0.590	14.750

(ii)Fruits

Name of the Flower	**2014-15**		
	Area in '000ha	**Production in '000 MT**	**Productivity in Lakh sticks/Ha**
Mango	0.697	2.426	3.481
Banana	1.615	35.384	21.910
Pineapple	0.127	4.270	33.622
Papaya	0.286	14.929	52.199
Huava	0.272	4.176	15.353
Jack fruit	0.706	17.955	25.432
Litchi	0.136	1.423	10.463
Mandarin orange	0.050	0.372	7.440
Other citrus	0.291	2.667	9.165
Sapota	0.100	1.330	13.300
Temperate fruits	0.000	0.000	0.000
Misc. fruits	0.076	0.777	10.224

(iii)Plantation Crops

Name of the Plantation crops	2014-15		
	Area in '000ha	**Production (Lakh Nuts)**	**Productivity (no. Nuts / Ha)**
Coconut	0.441	64.432	14610
Arecanut	1.992	4.459	2.238
Betelvine	0.131	0.885	675.573
Cashewnut	0.000	0.000	0.000

(iv)Spices

Name of the District	2014-15		
	Area in '000ha	**Production in'000 MT**	**Productivity in Mt/Ha**
Red pepper(rabi)	1.821	1.893	1.040
Red pepper(kharif)	0.817	0.771	0.944
Red pepper(total)	2.638	2.664	1.983
Ginger (fresh)	0.865	10.153	11.738
Ginger (dry)	0.865	10.153	11.738
Turmeric (dry)	0.695	1.722	2.478
Fenugreek (methi)	0.012	0.014	1.167
Black cumin	0.008	0.006	
Fennel (mouri)	0.004	0.004	1.000
Black pepper (golmorich)	0.069	0.0180	0.261
Garlic	0.041	0.419	10.220
Coriander	0.083	0.151	1.819
Large cardamom	0.000	0.000	0.000
Radhuni	0.006	0.006	1.000

Financial Achievement of National Horticulture Mission (2014-2015)

Sl No	Component	Fund receipt (Rs.)	Utilized (Rs.)	Balance (Rs.)
1	Area Expansion under Non perennial fruits (New)	3150000.00	2354721.00	795279.00
2	Area Expansion under perennial fruits (New)	724860.00	344743.00	380117.00
3	Vermicompost	1600000.00	119700.00	1480300.00
4	Training within District	250000.00	128000.00	122000.00
5	Seminar	400000.00	400000.00	-
6	Power machinery	900000.00	900000.00	-
7	TC Banana	960165.00	955200.00	4965.00
8	Area Expansion under Rhizomatic Spices	600000.00	282474.00	317526.00

Financial Achievement of National Horticulture Mission (2015-2016)

Sl No	AAP Component	Fund receipt (Rs.)	Utilized (Rs.)	Balance (Rs.)
1	Area Expansion under Non perennial fruits (New)	5715000.00	5715000.00	-
2	Training within District	300000.00	78588.00	221412.00
3	Seminar	400000.00	400000.00	-
4	Power machinery	600000.00	328388.00	271612.00
5	Model Nursery	750000.00	639032.00	110968.00
6	Area expansion under Perennial Spice	1000000.00	50000.00	950000.00
7	Natural ventilated poly house (Tubular)	997500.00	997500.00	-
8	Planting material	420000.00	350000.00	70000.00
9	Low Cost onion Storage	175000.00	175000.00	-

	Structure			

Rashtriya Krishi Vikas Yojna (2014-2015)

Sl No	AAP Component	Fund receipt (Rs.)	Utilized (Rs.)	Balance (Rs.)
1	Vegetable Cultivation	440000.00	392985.00	47015.00

Physical Achievement of different component of NHM

Sl No	Name of the Component	Physical Achievement
1	Private Nursery (1 ha)	8 nos.
2	Perennial Fruits	638 ha
3	Non perennial fruits	1848 ha
4	Cut flowers	25.36 ha
5	Bulbous flower	216.64 ha
6	Loose flower	107.30 ha
7	Spices	668.69 ha
8	Green House (Hi tech)	7000 sqm
9	Green house (normal)	5950 sqm
10	IPM	2000 ha
11	Organic farming	750 ha
12	Vermicompost	186096 cft
13	Estab. of Rural Market and Mandy	6 nos.
14	Training of farmers within the district	14 nos.
15	Exposure visit of farmer within the district	10 nos.
16	Power Machinery above 8 BHP	28
17	Seminar	4 unit
18	Tissue Culture banana	46 ha
19	Perennial Spice	2.5 ha
20	Low Cost Onion Storage Structure	2 nos.

DARJEELING DISTRICT (HILL AREAS)

INTRODUCTION:

Darjeeling hill area is unique from environmental Eco-perception. There are different climatic zones with distinctive attributes .The important rivers of Darjeeling are Tista, Great Rangit, Mechi, Balason, Mahananda, Lish, Gish, Chel,Ramman, Murti and Jaldhaka. The soils that have developed in the Kalimpong area are predominantly reddish in color. Occasional dark soils are found due to extensive existence of phyllitic and schists. Soils in the highlands stretching from the west to the east of the district along most of the interpluvial areas are mainly mixed sandy loam and loamy, while those on the southern slopes of Mirik and Kurseong are mainly clayey loam and reddish in color. Sandy soils are mainly found in the east of the river Tista.

Besides seasonality, another climatic feature in the Darjeeling hills is created by orographic factor; causing the vertical zonation of temperature and decline of precipitation. Thus the mountain front is exposed to heavy rainfall, especially the middle parts of the southern hills. The mean annual temperature fluctuate from 24ºc in the plains and drops below 12ºc on the ridge. During summer month the temperature reaches 16ºc-17ºc on the ridge and during winter drops at 5ºc-6ºc.

There is no distinct relation between total rainfall and altitude. The southern slopes of the ridges get much higher (4000-5000mm) precipitation than the leeward sides (2000-2500mm). The next main ridge with Tiger Hill gets 3000mm while to the north the Great Rangit valley receives about 2000mm of rainfall. The annual total rainfall in Darjeeling town fluctuates between 1870-3690mm.

Horticulture

Darjeeling hills are the natural home for Cardamom, Mandarin Orange and other Temperate fruits. It is also a natural home for countless orchid species like Cymbidiums, Vandas, Dendrobiums, Paphiopedilums, Lycaste, Odontoglossum, Phaius, Arundina etc.the list being endless.

Horticulture is one of the important sectors in Darjeeling. The economy of this District is governed to some extent by one of the plantation crops i.e. Tea. Intervention is required for production of off season vegetable throughout the year as well creation of infrastructure related to vegetable processing. We have, some of the renowned crop and variety which are popular throughout the country.

Major crops grown in this region

Mandarin Orange, Large cardamom, Ginger ,Vegetables ,Orchid, Anthurium, Gerbera, and Gladiolus,

SWOT Analysis of Horticulture in the District

Strength:

1. Large area of unutilized land.
2. Rainfall throughout the year.
3. Large nos. of indigenous varieties.
4. Wide variation of altitude and weather parameters.
5. Availability of Agricultural labour.
6. District is surrounded by two neighbouring countries.
7. The transportation towards Sikkim is passed through the district.

Weakness:

1. Heavy rainfall during rainy season.
2. Mostly hilly hard soil.
3. Mostly acidic soil
4. Lack of water harvesting structure.
5. Lack of awareness of scientific cultivation technologies among the farmers.
6. Lack of quality planting materials/seeds.
7. Lack of proper linkage between producer and consumer.

Opportunities:

1. Utilization of untapped and unutilized land.
2. Utilization of the altitude pattern for cultivation of different crops.
3. Utilization of export opportunities.

Threat:

1. Natural calamities.

2. Soil erosion.
3. Distress sale.

Constraints analysis

- **Reason for production gaps**
    a. Adoption of Improper cultivation practice.
    b. Lack of genuine nursery
    c. Lack of improved cultivars
    d. Lack of awareness among farmers
    e. Lack of infrastructure to support the extension activities.
- **Research gaps**
    a. Development of suitable improved cultivars which will be adopted to the prevailing weather condition of the district
    b. Research work on cultivation practice of a particular crop in particular area where the crop is predominantly cultivated.
    c. Research on low cost storage and preservation practice
- **Processing/Storage gaps**
    a. Lack of adequate quantity of multipurpose/Controlled Atmospheric Storage suitable for storage of different Horticultural commodities to combat distress sale.
    b. Lack of technologically advanced processing unit
    c. Lack of awareness of the farmers on low cost storage unit.
- **Existing Institutional Mechanism in the Government Sector**
    a. Different KVK
    b. Universities
    c. Govt. Offices
    d. CADC
    e. Govt. Farms

Intervention

a. Utilization of existing area through multi-storied cropping/ intercropping.
b. Expansion of area of the crops considering market demand.
c. Adoption of organic farming.
d. Adoption of high-tech horticulture for production of offseason horticultural crops.
e. Adoption of low cost storage structure.
f. Adoption of scientific after harvest care
g. Area expansion of endangered crops through supply of improved saplings.
h. Use of farm machineries in Horticultural crops.
i. Exposure visit of farmers for adoption of scientific cultivation practice
j. Awareness programme to the farmers.

1. Sub-tropical and temperate fruits-The specific agro-climatic condition of the region offers tremendous potential for the development of fruit industry. High productivity and

successful cultivation of fruit crops depends mainly on good quality nursery stock of promising cultivars. In Darjeeling District where peach pear plum strawberry and kiwi are grown on small scale, there has been an ever growing demand for quality planting material. However, non-availability of quality planting material and its dissemination within the area has been one of the main constraints for low productivity and poor pace of expansion in the area of fruit crops in the region. Fruit plants, are the foundation on which an orchard is built. There is no denying to the facts that modem nursery will have to play a vital role in any planned work for increasing the area under fruit crops. The importance of the production of quality fruit plants has been realized but the attempt to standardize the practices involved in the maintenance of the quality is negligible. It is proposed in this proposal that new innovations will be attempted in propagation of In order to boost up the quality nursery stock production, there is a need to develop model fruit nursery of peach pear plum strawberry and kiwi in this zone.

There are large numbers of sub-tropical and temperate fruits but hardly any scientific and economic attention has been devoted to them excluding mandarin orange. The Common indigenous fruits of this region are: mandarin orange, strawberry, banana & plantain, peach, pear, walnut, chestnut, passion fruit, avocado, plum, guava, persimmon, Kiwi, etc. Many of them are in wild forms and have very restricted cultivation and do not have any reliable area of cultivation and production records. These fruits if properly cultivated will have good market in European countries. The measures that are to be taken to improve these fruits and to compete in the international market:

- *Introduction of quality and high yielding varieties from within the country and abroad.*
- To improve the present productivity of fruit crops and economy of the farmers of Darjeeling district. along with readily availability of quality planting materials to make Fruit industry competitive and profitable at national level.

2. Vegetables

Common vegetables (other than Mushroom) in the hills are: cabbage, cauliflower, beans, carrot, radish, pumpkin, squash, sweet Mushroom, tapioca, green chilli, turnip, tomato, peas, etc. The Hill is more or less surplus in vegetable production. But there is scope to increase the yield by growing high yielding/hybrid varieties wherever available and pursuing appropriate technologies including micro-irrigation. The climatic diversity however, is very much suitable for the cultivation of off-season vegetables or English vegetables particularly, broccoli, capsicum, red cabbage, lettuce, asparagus, Brussels sprout, etc. These vegetables have unlimited export demand.

3. Flowers (Cut flowers, bulbous and loose flowers): Floriculture-

Globalization has not yet touched the floriculture of Darjeeling Hills. The decades old system is still in vogue. The old nurseries have the contacts worldwide and in the domestic market. As per their specific indents production is undertaken and this practice is continuing for generations. There are a limited number of Nurseries involved in this process and have their resources to link a few farmers on bye back system. Floriculture is gradually becoming popular among the general farmers and entrepreneurs but become the victim of distressed sale. Quality consciousness, purity of the planting materials and phytosanitation are

completely lacking. Specific strategies are necessary to upgrade the hill floriculture to a competitive one and more remunerative.

The list of ongoing projects of Department of Horticulture, GTA:

i. Orange Development Scheme (On-going):

- Major Achievement: To increase area under orange and encourage farmers of the areas
- Financial involvement : 21.875 Lakhs
- Physical involvement : 130 ha
- Total Benefits : 820 farmers

ii. Distribution of plant protection Equipment (On-going):

- Major Achievement: Since the farmers of the hills need spraying equipments for protecting crops
- Financial involvement : 10.5 Lakhs
- Physical involvement : 300 unit
- Total Benefits : 300 farmers

iii. Floriculture Development programme (On-going):

- Major Achievement: To established a floriculture unit (Carnation) for demonstration and distribution to the farmers
- Financial involvement : 22.00 lakhs
- Physical involvement : 700 sq. mt
- Total Benefits : For training, demonstration and distribution of seedlings

iv. Round chilly Development program (Completed):

- Major Achievement :To increase area under Round chilly and encourage farmers of the areas
- Financial involvement : 4.00 lakhs
- Physical involvement : 37.6 ha.
- Total Benefits : 188 farmers

v. Vegetable seeds distribution (On-going):

- Major Achievement :To increase the production of vegetables
- Financial involvement : 4.5 lakhs
- Total Benefits : 900 farmers

vi. Setting up of Poly Green House (On-going):

- Major Achievement : For production of high value flowers
- Financial involvement : 15 lakhs
- Total Benefits : 100 farmers

vii. Temperate Fruit Development Scheme (On-going):

- Major Achievement : To introduce new varieties of temperate fruits like peach, pear, plum etc
- Financial involvement : 12.33 lakhs
- Physical target : 9.33 ha

viii. Project on Anthurium cultivation at Jamuney (Completed):

- Major Achievement : Production of Anthurium cut-flower in Hi-tech nursery
- Financial involvement : 2.5 crores
- Physical target : 5000 sq. mt. (50000 plants)

ix. Off-season vegetable cultivation (On-going):

- Major Achievement : Production of off-season vegetables in Kalimpong Block I & II
- Financial involvement : 15 lakhs
- Physical target : 70 ha
- Number of beneficiaries : 300

x. Production of Disease free Nucellar Seedlings (On-going)

- Major Achievement : Production of disease free Darjeeling Mandarin seedlings
- Number of seedlings : Approx 13000
- Total number of seedling sold : Approx 12000
- Revenue Generated : Rs. 2.40 lakhs
- Area coverage : 50 ha

xi. Collaborative Project with IARI, Regional Station, Kalimpong on "Scaling up the productivity of Darjeeling mandarin through identification, multiplication and supply of healthy superior clones for improving rural livelihood in Darjeeling hills" (On-going)

- Funding Agency : RKVY, Govt. of India
- Duration : 3 years (From 2014-16)
- Sanctioned sum : Rs. 31.00 lakhs (Rs. 25.00 lakhs for IARI and Rs. 6 Lakhs for R&D Centre for Horticulture)
- Physical Target : 500 acres
- **Achievement:** Production of approx 50000 disease free Grafted/Budded orange seedlings.

Darjeeling District

(i)Vegetables

Name of the Vegetable	2014-15		
	Area in'000ha	Production in'000 MT	Productivity in Mt/Ha
Tomato	1.000	15.020	15.020

Cabbage	1.050	31.645	30.138
Cauliflower	0.965	28.110	29.130
Peas	2.680	12.300	4.590
Brinjal (rainy)	0.259	4.755	18.359
Brinjal (summer)	0.200	5.520	27.600
Brinjal (winter)	0.794	15.820	19.924
Brinjal (total)	1.253	26.095	20.826
Onion	0.070	0.610	8.714
lady's finger (rainy)	0.112	1.528	13.643
Lady’s finger (summer)	4.595	11.722	4.595
Lady’s finger (winter)	0.032	0.314	9.813
Lady’s finger (total)	0.536	6.437	12.009
Beans(rainy)	0.250	1.470	5.880
Beans(summer)	0.321	2.290	7.134
Beans(winter)	0.200	1.145	5.725
Beans(total)	0.771	4.905	6.362
Cucurbits (summer)	1.647	31.540	19.150
Cucurbits (rainy)	2.506	36.700	14.645
Cucurbits (winter)	1.151	14.246	12.377
Cucurbits (total)	5.304	82.486	15.552
Radish (summer)	0.783	10.020	12.797
Radish (winter)	0.369	4.656	12.618
Radish (total)	1.152	14.676	12.740
Sweet potato	0.125	1.325	10.600
Elephants foot yam	0.013	0.255	19.615
Arum (kachu)	0.157	2.900	18.471
Others (rainy)	1.071	2.071	1.934

Others (summer)	4.223	14.930	3.535
Others (winter)	2.225	10.612	4.769
Others vegetables	7.519	27.613	3.672

(ii)Flower

Name of the Flower	**2014-15**		
	Area in '000ha	**Production in Crore Cut Flowers**	**Productivity in Lakh sticks/Ha**
Rose	0.045	1.429	3.176
Chrysanthemum	0.056	1.710	3.054
Gladiolus	1.388	22.049	1.589
Tuberose	0.000	0.000	0.000
Marigold	0.050	0.363	7.260
Jasmine	0.013	0.018	1.385
Seasonal flowers	0.078	0.115	1.474
Misc. flowers	0.064	0.053	0.828
Total loose flowers	0.205	0.549	2.678
Total cut flowers	1.489	25.188	1.692

(iii)Fruits

Name of the Flower	**2014-15**		
	Area in '000ha	**Production in '000 MT**	**Productivity in Lakh sticks/Ha**
Mango	0.048	0.185	3.854
Banana	0.305	4.950	16.230
Pineapple	4.502	140.600	31.231
Papaya	0.120	3.800	31.667

Guava	0.119	1.525	12.815
Jack fruit	0.171	2.620	15.322
Litchi	0.060	0.545	9.083
Mandarin orange	3.935	38.597	9.809
Other citrus	0.144	1.287	8.938
Temperate fruits	2.341	30.570	13.059
Misc. fruits	0.390	2.610	6.692

(iv)Plantation Crops

Name of the Plantation crops	**2014-15**		
	Area in '000ha	**Production (Lakh Nuts)**	**Productivity (no. Nuts / Ha)**
Coconut	0.151	22.805	15103
Arecanut	0.299	0.559	1.870
Betelvine	0.031	0.118	380.645
Cashewnut	0.000	0.000	0.000

(v)Spices

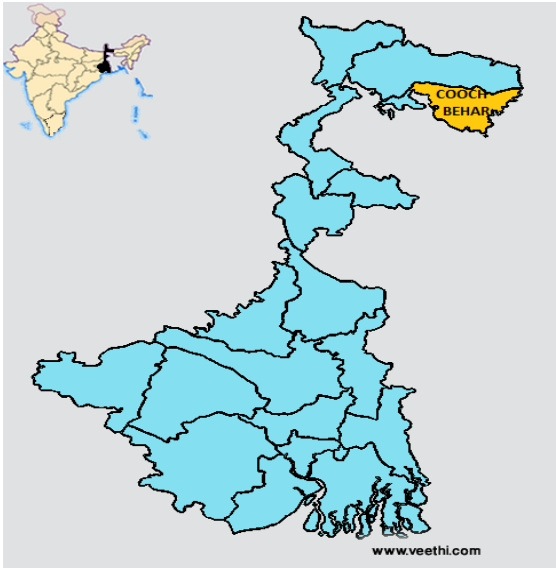
Name of the District	**2014-15**		
	Area in '000ha	**Production in '000 MT**	**Productivity in Mt/Ha**
Red pepper(rabi)	0.372	0.384	1.032
Red pepper(kharif)	0.184	0.200	1.087
Red pepper(total)	0.556	0.584	1.050
Ginger (fresh)	2.233	36.128	16.179
Ginger (dry)	2.233	7.226	3.236
Turmeric (dry)	0.165	0.257	1.558
Fenugreek (methi)	0.130	0.149	1.146

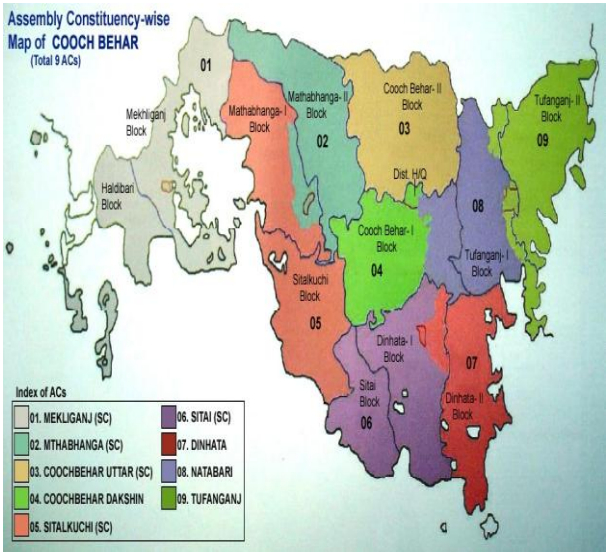
Fennel (mouri)	0.019	0.019	1.000
Black pepper (golmorich)	0.015	0.0029	0.193
Garlic	0.056	0.537	9.589
Coriander	0.220	0.276	1.255
Large cardamom	2.925	0.750	0.256
Radhuni	0.030	0.049	1.633

Area, production & productivity of spices in West Bengal

Name of the District	**2014-15**		
	Area in '000ha	**Production in '000 MT**	**Productivity in Mt/Ha**
Darjeeling	6.349	38.752	6.104

DISTRICT – COOCH BEHAR





Overall Scenario of the District

Cooch Behar district is located in the northern part of the West Bengal and bounded by the district of Jalpaiguri in the north, state of Assam in the east and by Bangladesh in the west as well as in the south. The six rivers namely, Teesta, Jaldhaka, Torsha, Kaljani, RaidakGadhadhar and Gargharia cut through the district of Cooch Behar district.

According to census data (2011), the population of the district is 28, 22,780, out of which 51.49% are male. The population density in the district is 833 persons per sq km. Around 75-80% of the total work force depend on agriculture for their livelihood.

- Total Geographical Area:338700ha
- Net Area sown:254180ha
- Gross Cropped Area:469700ha
- Cropping Intensity:184%
- Irrigation Intensity:42%
- No. of Block:12
- No. of Mouza:1168
- No. of Gram Panchayet:128
- No of Municipality:6
- No. of Cold Storage:11
- No. of Regulated Market:6

Climate:

A highly humid atmosphere and abundant rains characterize the climate of this district, with the temperature being seldom excessive. Average annual rainfall in the district is 5348.8mm.About 70% of the annual rainfall is received during the South West Monsoon season. The period from June to beginning of October is the South West Monsoon season. Cold season being November to February and hot season being March to May.

Type of Soils:

Sl No.	Major Soils	Area ('000ha)	Percentage of total Soil
1	Sandy	4.91	1.4
2	Coarse Sandy	106.13	31.3
3	Deep to very fine Loamy	181.20	53.4
4	Fine	26.03	7.7
5	Misc.	20.43	6.2

The major agricultural crops in the district are paddy, jute, potato, tobacco, maize, wheat, mustard, pulses etc. Beside these agro-climatic conditions has provided an opportunity to grow different kinds of horticultural crops in the district, namely, fruits (6598ha), vegetables (54890ha), spices (11564ha), flowers (197ha) and plantation crops (4293ha).

Physical & Financial Progress under NHM (MIDH) during 2014-15 in Cooch Behar

Sl No	Scheme	Crop/Item	Target (2014-15)		Achievement (2014-15)	
			Physical (Ha/No.)	Financial (Rs. Lakh)	Physical (Ha/No)	Financial (Rs. Lakh)

1	Area Expansion	Banana Sucker without Integration	30ha	5.85	30	5.85
2		Citrus(lime& Lemon) with integration	10ha	2.13312	-	-
3		Spices (Seed & Rhizomatic)	50ha	6.00	50	6.00
4	Protected Cultivation	Green House (Tubular)	1500 sq m	7.0125	1500 sq m	7.0125
5		Shade House (Bamboo)	8000 sq m	12.00	8000sq m	12.00
6		Planting Material (Vegetables)	8000 sq m	4.195	8000 sq m	4.195
7	Organic Farming	Vermicompost Unit	25 unit	12.50	25 Unit	12.50
8	Farm Mechanization	Power Tiller	10unit	6.00	10unit	6.00
9	Human Resource Development	Training of farmers within the State	10 nos.	10.00	10 nos.	10.00
10		Seminar & Krishimela	--	4.00	--	3.99638
TOTAL				**69.69062**		**58.55388**

Physical & Financial Progress under RKVY during 2014-15 in Cooch Behar

Sl. No.	**Crop/Item**	**Target (2014-15)**		**Achievement (2014-15)**	
		Physical (Ha/No.)	**Financial (Rs. Lakh)**	**Physical (Ha/No)**	**Financial (Rs. Lakh)**
1	Small Nursery	10nos.	6.25	10	6.25
2	Homestead Cultivation of Minor Fruits	100ha	15.00	100 ha	15.00
3	Multiple Cropping	50ha	12.50	48 ha	12.00
Total			**33.75**		**33.25**

Physical & Financial Assistance under NHM (MIDH) during 2015-16 in Cooch Behar

Sl No	**Scheme**	**Item**	**Target as per Approved Plan (2015-16)**		**Achievement (2015-16)**	
			Physical (Ha/no/unit)	**Financial (Rs. In Lakh)**	**Physical (Ha/no/unit)**	**Financial (Rs. In Lakh)**

1	Area Expansion	Banana Sucker without Integration	50	9.75	50	9.75
2		Guava without Integration	50	5.751	44	5.06208
3		Citrus without Integration	50	8.247	45	7.42632
4		Bulbous flowers	10	6.00	7.50	4.50
5		Area Exp of Perennial Spices	90	18.00	37	7.40
6	Protected Cultivation	Green House (Tubular)	1500 Sq. m.	7.95	750 sq. m.	3.975
7		Green Hosue (Bamboo)	8600 Sq.m	19.35	8600 Sq.m	19.35
8		Cost of Planting Material (Tubular)	1500 sq m	4.575	750 sq. m.	2.287
9		Cost of Planting Material(Bamboo)	8600 Sq.m	6.20	4000 Sq.m	2.80
10	Protected Cultivation	Vermicompost Unit	20	10.00	-	-
11	Human Resource Development	Training of farmers within the State	10 nos	3.00	10 nos	3.00
TOTAL				**98.823**		**65.2004**

Physical & Financial Progress under RKVY during 2015-16 in Cooch Behar

Sl. No.	**Crop/Item**	**Target (2014-15)**		**Achievement (2014-15)**	
		Physical (Ha/No.)	**Financial (Rs. Lakh)**	**Physical (Ha/No)**	**Financial (Rs. Lakh)**
1	Integrated Cultivation of Vegetables	100 ha	20.00	100 ha	20.00
Total					**20.00**

MAJOR AREA OF CONCERN:

- **Poor infrastructural set up and supporting staff**: shortage of staffs at block as well as subdivision level for meticulous monitoring of different activities.
- **Inadequate marketing network often results distress sale of horticultural commodities:** Uncertainty or fluctuation of market price due to excessive production within a very short period and/or uneven demand from outside states particularly in case of Tomato, Chilli.
- **Lack of processing units & multipurpose cold Storage facilities** for which roughly 30% of produces asperishable in nature either go for waste or unfit for marketing.

IDENTICAL GAPS NEED TO BE DEVELOPED:-

- Establishment of model nursery for production& supply of quality planting materials so that farmers can get the same at reasonable rate.
- Crop diversification through growing of vegetative or tissue cultured crops as well as potential crops having comparative advantages in this area like high value vegetables, flowers, medicinal plants in cluster approaches.
- Adopt multistoried cropping in existing areca nut plantation with black pepper and other short duration crops as well as mixed cropping or intercropping with papaya, pineapple, vegetables, flowers, spices to get better return per unit area.
- Protected cultivation of high value vegetables, flowers or off-season crops or growing seedlings of vegetables in advance using poly-house/shed net house.
- Adopt integrated crop management approaches like Integrated Nutrient Management (INM), Integrated Pest & disease Management (IP&DM), Integrated Weed Management (IWM) to reduce cost of production.
- Adopt drip & Sprinkler system of irrigation on horticultural crops to increase water use efficiency as well as better yield.
- Establishment of processing units & cold Storage for value addition, product diversification as well as to reduce post-harvest losses and thereby extend the shelf life of horticultural commodities.
- Distribution of organic inputs (vermi-compost, Bio-fertilizers), plant protection equipment's as well as plastic crates for easy post-harvest handling.
- Awareness-cum-training programme as well as exposure visit of farmers on improved package of practices, high density plantation, canopy management, post-harvest practices, cropping pattern, nursery management etc.
- Strengthening of supporting staff at Block, Sub-division as well as district level for more effective technology transfer & meticulous monitoring of various departmental activities.

Field Visit Report on Area Expansion under N.H.M (MIDH)

District: Coochbehar

1.	Name and address of beneficiary whose field visited	:	Aparna Poyra Village: Kharija Kawardera Block: Mathabhanga-I
2.	Total land available with the beneficiary (ha)	:	1.0ha
3.	Crop cluster under which covered	:	Perennial Spice
4.	Name and variety of crop planted	:	Cinnamon (Tejpata) & Local
5.	Source of planting material	:	Local Nursery
6.	Number of plants planted	:	125nos.
7.	Date of planting	:	2014
8.	Number of plants which survived (Also indicate percentage survival)	:	118nos.
9.	Total amount of subsidy assistance due to the beneficiary as (Rs.)	:	4000/-
10.	Amount paid and date of payment	:	4000/-

11.	Mode of payment	:	NEFT
12.	Source of irrigation water	:	Pumpset
13.	Whether Drip, Sprinkler system in use	:	No
14.	Other inputs provided	:	No
15.	Whether assistance availed for organic farming	:	No
16.	If so, area covered	:	NA
17.	Assistance availed	:	Nil
18.	Available marketing facility for the crop	:	Yes
19.	Other infrastructure available in the vicinity	:	Close to State highway & Market
20.	General upkeep of the plot	:	Good
21.	Any other relevant observations by the J.I.T	:	-
22.	Whether NHM Logo displayed	:	No

Field Visit Report on Protected Cultivation under NHM (MIDH)

District: Coochbehar

Sl. No	Details	Remarks
1.	Name & Address of Beneficiary whose field visited	Dulal Sarkar Village- Chakchaka Block-Cooch Behar-II
2.	Total land available with the beneficiary (ha)	1ha
3.	Type of protected cultivation activity	Natural Ventilated Green House
4.	Year of establishment	2014
5.	Size of Structure (Sq.)	500Sq.m
6.	Total cost	Rs.4,70,000/-
7.	Agency involved in fabrication & installation	Aasad Agriculture & Horticulture, Siliguri
8.	Total subsidy paid & date of Payment	Rs.2,33,750/-& 04.07.2014
9.	Crop being grown	Gerbera
10.	Condition of Structure	Good
11.	Condition of Crop	Good
12.	Tie up with market	Yes
13.	General upkeep (Very good/ Good/Average/Poor)	Good
14.	Any other relevant observation by JIT	-

Field Visit Report on Protected Cultivation under NHM (MIDH)

District: Coochbehar

Sl.	Details	Remarks

No		
1.	Name & Address of Beneficiary whose field visited	Shri Gopal Mandal Village- Kharija Kakribari Block-Cooch Behar-II
2.	Total land available with the beneficiary (ha)	0.5ha
3.	Type of protected cultivation activity (Hi-Tech/Normal GH, Shade Net, Plastic tunnel….)	Natural Ventilated Green House
4.	Year of establishment	2015
5.	Size of Structure (Sq.)	250Sq.m
6.	Total cost	Rs.2,78,150/-
7.	Agency involved in fabrication & installation	North Bengal Floritech, Siliguri
8.	Total subsidy paid & date of Payment	Rs.1,32,500/- (Structure) & 30.07.2015 Rs.76,250/- (Planting materials) &25.02.2016
9.	Crop being grown	Gerbera
10.	Condition of Structure	Good
11.	Condition of Crop	Good
12.	Tie up with market	Yes
13.	General upkeep (Very good/ Good/Average/Poor)	Good
14.	Any other relevant observation by JIT	-

Field Visit Report on Protected Cultivation under NHM (MIDH)

District: Coochbehar

Sl. No	Details	Remarks
1.	Name & Address of Beneficiary whose field visited	Aparna Poyra Village-Kharija Kawardera Block-Mathabhanga-I
2.	Total land available with the beneficiary (ha)	1.0ha
3.	Type of protected cultivation activity (Hi-Tech/Normal GH, Shade Net, Plastic tunnel….)	Natural Ventilated Green House
4.	Year of establishment	2014
5.	Size of Structure (Sq.)	500Sq.m
6.	Total cost	Rs.4,97,000/-
7.	Agency involved in fabrication & installation	North Bengal Floritech, Siliguri
8.	Total subsidy paid & date of Payment	Rs.2,33,750/-
9.	Crop being grown	Off-season/high value Vegetables
10.	Condition of Structure	Good
11.	Condition of Crop	Good
12.	Tie up with market	Yes

13.	General upkeep (Very good/ Good/Average/Poor)	Average
14.	Any other relevant observation by JIT	-

Field Visit Report on Vermi-compost Production Unit under NHM (MIDH)

District: Cooch Behar

Sl No.	**Details**	**Remarks**
1	Name of the Project	Vermicompost Production unit (Permanent)
2	Year of Implementation	2014
3	Project Period	2014-15
4	Name of the implementing Agency	-
5	Location of the Project	Dwijesh Mishra Village-Kharija Kakribari Block-Cooch Behar-II
6	Total Project Cost	Rs. 50,000/-
7	Amount released by DAC	Rs.25,000/-
8	Expenditure Incurred	Rs.60,500/-
9	Status: Crop Covered	Vegetables, Lime& Lemon
10	No. of Farmers involved	Himself
11	Name & Address of certifying agency	UBKV, Pundibari
12	Whether any certificate issued	No
13	Whether funds disbursed	Yes

Field Visit Report on Vermi-compost Production Unit under NHM (MIDH)

District: Cooch Behar

Sl No.	**Details**	**Remarks**
1	Name of the Project	Vermicompost Production unit (Permanent)

2	Year of Implementation	2014
3	Project Period	2014-15
4	Name of the implementing Agency	Local Mason
5	Location of the Project	Gopal Mandal Village-Kharija Kakribari, Block-Cooch Behar-II
6	Total Project Cost	Rs. 20,000/-
7	Amount released by DAC	Rs.10,000/-
8	Expenditure Incurred	Rs.21,500/-
9	Status: Crop Covered	Flowers (Gerbera & Gladiolus) & Fruits (Banana &Ber)
10	No. of Farmers involved	Himself
11	Name & Address of certifying agency	UBKV, Pundibari
12	Whether any certificate issued	No
13	Whether funds disbursed	Yes

District- District - Malda

The gateway of North Bengal, Malda, was once the capital of Gour-Banga with its 3733 sq kms lay of the land classified into Tal, Diara, and Barind. It is the only district in the State that share's boundaries with Bihar, Jharkhand and Bangladesh. Situated between the latitudes 25°32'08"N and 24°40'20"N, its easternmost extremity is marked by 88°28'10" of longitude and its westernmost extremity by 87°45'50" of longitude.

The word Malda is not of Sanskrit origin but of Arabic, and, therefore, it is safe to conclude that the name Malda came into existence after the Muslim conquest of Bengal. The first mention of the name Malda is found in the Ain-i-Akbari of Abul Fazl written during the reign of Emperor Akbar. The district of Malda came into existence under the British informally only in 1813, although the East India Company obtained the Diwani of the Subah of Bengal, Bihar and Orissa from Emperor Shah Alam in 1765. During the intervening period the district had been parceled out between the districts of Dinajpur (old), Rajshahi, Murshidabad and Purnea..

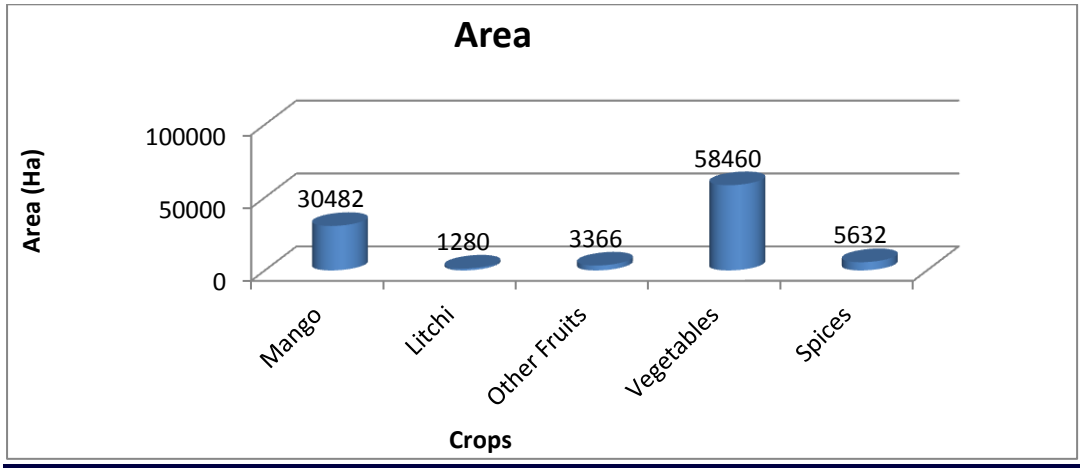
Geographical Area	3733 Sq Kms
Geographical Location	$24^0$40'20"N to $25^0$32' 08"N $87^0$45'50"E to $88^0$28'10" E.
No. of Subdivisions	2
No. Of Police Stations	14
No. of Municipalities	2
No. of Blocks/Panchayat Samitis	15

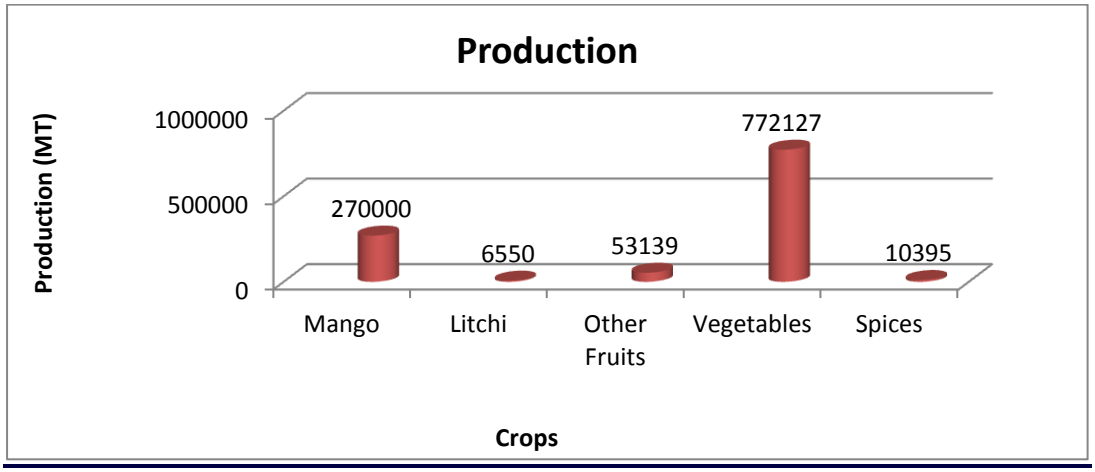
No. of Gram Panchayats	146
No. of Gram Sansads	2008
No. of Mouzas	**1814**
No. of Villages	**3701**
No. of Rural Hospitals	06
No. of Block Primary Health Centres (BPHC)	10
No. of Primary Health Centres (PHC)	35
No. of Sub-centres	520
No. of ICDS projects	26
No. of AWW centres	5573

Population 39,88,845	**Rural**			Urban		
	Male	**Female**	**Total**	**Male**	**Female**	**Total**
	17,68,336	16,78,849	34,47,185	2,83,205	2,58,455	5,41,660

Population Increase rate	21.50 % (2001-2011)
Sex Ratio	939
Literacy Rate	62.71 %
Male Literacy Rate	67.27 %
Female Literacy Rate	57.84 %

Area and Production of Major Horticultural Crops in Malda District





Horticulture Technology Dissemination Centre (HTDC)

- Horticulture Technology Dissemination Centre at Gour Road, Malda
- Project Cost: Rs. 305 Lakh under RKVY 2007-08 and 2014-15
- Project Completed & inaugurated on 28.02.2016
- Technical Support to Horticultural Farmers of the District.

Target & Achievement Report of NHM under MIDH (2014-15)							
Sl. No.	**Component**	**Target**		**Achievement**		**Balance**	
		Phy.	**Fin.**	**Phy.**	**Fin.**	**Phy.**	**Fin.**
1.	Area expansion of Banana (Sucker) without integration	30 Ha.	5.85	30 Ha.	5.85	--	--
2.	Area expansion of Pineapple (Sucker) with integration	5 Ha.	3.87				
3.	Area expansion of Pineapple (Sucker) without integration	15 Ha.	7.11	15 Ha.	7.11	--	--
4.	Area expansion of Banana (TC) without integration	50 Ha.	15.3693	50 Ha.	15.3693	--	--
5.	Area expansion of Papaya without integration	20 Ha.	4.5	20 Ha.	4.5	--	--
6.	Area expansion of Mango without integration	100 Ha.	7.65	100 Ha.	7.65	--	--
7.	Area expansion of Citrus without integration	30 Ha.	4.9482	30 Ha.	4.9482	--	--
8.	Area expansion of Rhizomatic Spices	50 Ha.	6.00	50 Ha.	6.00	--	--
9.	Rejuvenation / Replacement of senile plantation, canopy management	370 Ha.	74.00	370 Ha.	74.00	--	--
10.	Creation of water harvesting system: Pond	5 Nos.	3.75	3 Nos.	2.25	2 Nos.	1.50

11.	Shade Net House (Bamboo)	1000 sq.mt.	1.80	1000 sq.mt.	1.80	--	--
12.	Cost of planting materials in shade net house	1000 sq.mt.	0.70	1000 sq.mt.	0.70	--	--
13.	HDPE Vermicompost Unit	120 Nos.	9.60	120 Nos.	9.60	--	--
14.	Power Tiller (8 BHP & above)	40 Nos.	24.00	40 Nos.	24.00	--	--
15.	HRD: Farmers' Training within state	10 Nos.	5.00	--	--	10 Nos.	5.00
Grand Total			**174.1475**		**163.7775**		**6.5**

Target & Achievement Report of NHM under MIDH (2015-16)							
Sl. No.	**Component**	**Target**		**Achievement**		**Balance**	
		Phy.	**Fin.**	**Phy.**	**Fin.**	**Phy.**	**Fin.**
1.	Area expansion of Banana (Sucker) without integration	30 Ha.	5.85	30 Ha.	5.85	--	--
2.	Area expansion of Pineapple (Sucker) without integration	20 Ha.	9.48	20 Ha.	9.48	--	--
3.	Area expansion of Banana (TC) without integration	80 Ha.	24.59088	80 Ha.	24.59088	--	--
4.	Area expansion of Papaya without integration	25 Ha.	5.78016	--	--	25 Ha.	5.78016
5.	Area expansion of Mango without integration	100 Ha.	7.65	100 Ha.	7.65	--	--
6.	Area expansion of Guava without integration	20 Ha.	2.3004	--	--	20 Ha.	2.3004
7.	Area expansion of Citrus without integration	30 Ha.	4.9482	30 Ha.	4.9482	--	--
8.	Area expansion of Rhizomatic Spices	100 Ha.	12.00	100 Ha.	12.00	--	--
9.	Rejuvenation / Replacement of senile plantation, canopy management	300 Ha.	60.00	300 Ha.	60.00	--	--
10.	Creation of water	5 Nos.	3.75	--	--	5 Nos.	3.75

	harvesting system: Pond						
11.	Green House (Tubular)	1800 sq.mt.	9.54	--	--	1800 sq.mt.	9.54
12.	Shade Net House (Bamboo)	2000 sq.mt.	3.60	--	--	2000 sq.mt.	3.60
13.	Cost of planting materials in shade net house	3800 sq.mt.	2.66	--	--	3800 sq.mt.	2.66
14.	Plastic Tunnel	2000 sq.mt.	0.60	2000 sq.mt.	0.60	--	--
15.	Anti bird – Anti Hail	50000 sq.mt.	8.75	50000 sq.mt.	8.75	--	--
16.	HDPE Vermicompost Unit	400 Nos.	32.00	400 Nos.	32.00	--	--
17.	Power Tiller (8 BHP & above)	50 Nos.	30.00	50 Nos.	30.00	--	--
18.	HRD: Farmers' Training within state	25 Nos.	7.5	--	--	25 Nos.	7.5
19.	Low cost Onion structure	10 Nos.	8.75	--	--	10 Nos.	8.75
Grand Total			**239.7496**		**195.8691**		**43.88056**

Target & Achievement Report of RKVY (2014-15)							
Sl. No.	**Component**	**Target**		**Achievement**		**Balance**	
		Phy.	**Fin.**	**Phy.**	**Fin.**	**Phy.**	**Fin.**
1.	Horticulture Technology Dissemination Centre (2nd Phase)	1 No.	203.00	1 No.	203.00	--	--
2.	Area expansion of Hybrid Vegetable	250 Ha.	50.00	250 Ha.	50.00	--	--
3.	Area expansion of Nawabganj Brinjal	71 Ha.	14.0087	71 Ha.	14.0087	--	--
Grand Total			**269.0087**		**269.0087**		

Target & Achievement Report of RKVY (2015-16)							
Sl. No.	**Component**	**Target**		**Achievement**		**Balance**	
		Phy.	**Fin.**	**Phy.**	**Fin.**	**Phy.**	**Fin.**
1.	Area expansion of Kharif Onion	15 Ha.	3.00	15 Ha.	3.00	--	--
2.	Enrichment of soil health through Bio fertilizer	1000 Ha.	12.00	--	--	1000 Ha.	12.00

3.	Canopy Management of Mango	30 Ha.	6.00	--	--	30 Ha.	6.00
Grand Total			**21.00**		**3.00**		**18.00**

Area Expansion activities under National Horticulture Mission (NHM)

1	Name & address of beneficiary whose field visited	Arun Das, Vill. Titpur, Post. Pakuahaat, Block: Bamongola, Malda
2	Total land available with the beneficiary (ha.)	1 Ha.
3	Crop cluster under which covered	Mango
4	Name & variety of crop planted	Amrapalli & Langra
5	Source of planting materials	Departmental supply
6	No. of plants planted	215 nos.
7	Date of Planting	November, 2015
8	No. of plants which survived (also indicate the percentage of survival)	204 nos. of plants survived i.e. 94.88 %
9	Total amount of subsidy assistance to the beneficiary as Rs.	No financial assistance was provided, only the planting materials was provided free of cost out of the subsidy amount eligible.
10	Amount paid and date of payment	Not Applicable
11	Mode of Payment	Not Applicable
12	Source of Irrigation water	Pond
13	Whether drip or sprinkler irrigation in use	No
14	Other Inputs provided	No other inputs were provided
15	Whether assistance availed for organic farming	No
16	If so, are covered	Nil
17	Assistance availed	Not Applicable
18	Available marketing facility for the crop	Whole sale market at Nalagola, Bamongola
19	Other infrastructure available in the vicinity	Rural Mandi at Bamongola under Malda Zilla Regulated Market Committee
20	General upkeep of the plot (Very Good/ Good / Average / poor)	Good
21	Any other relevant observation by the JIT	Need for installation of Drip Irrigation System was realized
22	Whether NHM Logo was displayed	No

Area Expansion activities under National Horticulture Mission (NHM)

1	Name & address of beneficiary whose field	Nabadwip Debnath, Vill.

	visited	Gunaidanga, Post. Nalagola, Block: Bamongola, Malda
2	Total land available with the beneficiary (ha.)	1.06 Ha
3	Crop cluster under which covered	Pineapple
4	Name & variety of crop planted	Giant Kew
5	Source of planting materials	Bidhannagar Market, Darjeeling District
6	No. of plants planted	25000 nos.
7	Date of Planting	April, 2015
8	No. of plants which survived (also indicate the percentage of survival)	20000 nos. of plants survived i.e. 80 %
9	Total amount of subsidy assistance to the beneficiary as Rs.	18,615/- i.e. for 97 decimal of land
10	Amount paid and date of payment	Rs. 18,615/- on 21.12.2015
11	Mode of Payment	Bank A/C transfer through NEFT
12	Source of Irrigation water	Submersible Pump
13	Whether drip or sprinkler irrigation in use	No
14	Other Inputs provided	No other inputs were provided
15	Whether assistance availed for organic farming	No
16	If so, are covered	Nil
17	Assistance availed	Not Applicable
18	Available marketing facility for the crop	Whole sale market at Nalagola, Bamongola
19	Other infrastructure available in the vicinity	Rural Mandi at Bamongola under Malda Zilla Regulated Market Committee
20	General upkeep of the plot (Very Good/ Good / Average / poor)	Good
21	Any other relevant observation by the JIT	Need for installation of Sprinkler Irrigation System was realized
22	Whether NHM Logo was displayed	No

<u>Area Expansion under Non perennial Fruits-Pineapple (Shri Nabadwip Debnath)</u>

Progress on Area Expansion activities under National Horticulture Mission (NHM)

1	Name & address of beneficiary whose field visited	Tribhanga Mandal, Vill. Balupur, Post: Fulbaria, Block: Englishbazar, Malda
2	Total land available with the beneficiary (ha.)	99 Decimal
3	Crop cluster under which covered	Banana (Tissue Culture)
4	Name & variety of crop planted	Grand Naine
5	Source of planting materials	Departmental supply
6	No. of plants planted	891 nos.

7	Date of Planting	March, 2015
8	No. of plants which survived (also indicate the percentage of survival)	870 nos. of plants survived i.e. 97.6 %
9	Total amount of subsidy assistance to the beneficiary as Rs.	No financial assistance was provided, only the planting materials was provided free of cost out of the subsidy amount eligible.
10	Amount paid and date of payment	Not Applicable
11	Mode of Payment	Not Applicable
12	Source of Irrigation water	Submersible Pump
13	Whether drip or sprinkler irrigation in use	No
14	Other Inputs provided	No other inputs were provided
15	Whether assistance availed for organic farming	No
16	If so, are covered	Nil
17	Assistance availed	Not Applicable
18	Available marketing facility for the crop	Whole sale market at Amrity Bazar and Niyamatpur Haat
19	Other infrastructure available in the vicinity	Principal Market Yard under Malda Zilla Regulated Market Committee at Malda
20	General upkeep of the plot (Very Good/ Good / Average / poor)	Good
21	Any other relevant observation by the JIT	Need for installation of Drip Irrigation System was realized
22	Whether NHM Logo was displayed	No

Post-Harvest Management

(Pack House / Cold Storage / C.A. Storage / Reefer Van / Primary / Mobile Processing Unit)

Sl. No.	**Details**	**Remarks**
1	Name of the Project	**Up-gradation of Processing / Preservation Unit under Post Harvest Management of NHM, 2011-12**
2	Year of Implementation	2011
3	Project Period	Since 2010
4	Name of Implementing Agency	Gita Fruit Products
5	Location of Project	Bachamari, Old Malda Municipality, Dist: Malda
6	Total Project Cost	Rs. 1,00,000/-
7	Amount released by DAC	Rs. 50,000/-
8	Expenditure incurred	Rs. 1,83,570/-
9	Status	
	• Capacity of unit	6 MT per Day

	• Commodity	All types of pickles, chutneys, sauce, RTS beverages and canned mango and pineapple
	• Condition of Infrastructure	Good
	• Whether NHM logo displayed	Yes
	• Whether funds disbursed	Yes

SILIGURI MAHAKUMA PARISHAD

Siliguri sub division was separated from Darjeeling district in 1988 and built up Siliguri Mahakuma Parishad for smoothring the public works of this sub division. It consists of four blocks.

1. Phansidewa block 2. Khoribari block 3. Naxalbari block 4. Matigara block

Profile of Siliguri Mahakuma Parishad

General information:-

1. Geographical area	:	299.68 sq. mile
2. Altitude	:	392 feet from sea level
3. No of panchayet samite	:	4
4. No of gram panchayat	:	22
5. No of mouzas	:	382 (including tea garden)
6. No of gram samsads	:	349
7. No of mouzas under forest	:	13
8. Mean annual maximum temp	:	34.8 degree centigrates
9. Mean annual minimum temp	:	12.8 degree centigrates
10. Average annual rain fall	:	3620 mm
11. Average no of rainy days	:	113

Land:

1. Net area under cultivation – 42700 ha
2. Forest land – 25769 ha
3. Average land holding size 1.66 ha

Cropping pattern:-

1. Gross cropped area – 55367 ha
2. Croping intensity – 186 %

River:-

1. Mahananda
2. Mechi
3. Boon
4. Chenga

Irrigation:-

1. Net irrigated area :- 16480.35 ha
2. Mode of irrigation: - shalow tube well, deep tube well, canals, streams, tanks & ponds, river lift irrigantion, jhora irrigaton etc.

Soil:-

Sandy sandy loam, shallow, shrongly acidic soil. flood prone, ph 4.2 – 6.5, nitrozen medium, phosphorus & potassium low to medium, deficiency of micro nutrient like boron, zinc, copper due to havey rain fall and litching loss.

Crops:-

1. Fruit crops – pineapple, banana, guava, litchi, jackfruit, ber, jamun, bell, phalsa etc.
2. Vegetable crops – cabbage, cauliflower, radish, beet, carrot, tomato, capsicum, chilli, palak, fenugreek, cucumber, bitter gourd, ridge gourd, pointed gourd, ladis finger etc.
3. Flowers – rose, marigold, gladiolus, China rose, tube rose, chrysanthemum, etc.
4. Plantation crops – areacanut, coconut.
5. Spices – ginger, turmeric, black pepper, cinnamon etc.
6. Medicinal plants – basak, tulshi, kalmegh, aswagandha, swarpagandha, alovera etc.

Deptt. of Horticulture, SMP, Darjeeling

Production and productivity of different crops

Sl no	**Name of the crop**	**Total Area under the crop (Ha)**	**Productivity per (MT/Ha)**	**Total Production (MT)**
1	Pineapple	2500	15	37500
2	Banana	250	25	6250
3	Papaya	20	11	220
4	Guava	5	8	40
5	Tomato	40	10	400
6	Ladyfinger	30	14	420
7	Sweet potato	10	8	80
8	Cucurbits	30	13	390
9	Radish	25	13	325
10	Watermelon	5	17	85
11	Arum	80	20	1600
12	Pointed Gourd	45	6	270

13	Bottle Gourd	10	12	120
14	Ridge Gourd	15	7	105
15	Bitter Gourd	25	8	200

Physical achievement report of MIDH under Siliguri Mahakuma Parishad from 2006-2007 to 2015-2016

Sl No.	**Component / Scheme**	**Physical achievement(ha/ no)**
1	Area expansion Pineapple (Sucker)	1400
2	Area expansion Banana (Sucker) without int.	450
3	Area expansion Banana (TC) without int.	150
4	Area expansion Banana(TC)with intrigation	50
5	Area expansion Papaya with intrigation	15
6	Area expansion Papaya without intrigation	10
7	Area expansion Mango HDP	10
8	Area expansion Guava	10
9	Area expansion Spices	200
10	Cut Flower	80
11	Bulbous Flower	70
12	Loose Flower	100
13	Green House Tubular	10
14	Green House Bamboo	12
15	Shade Net Tubular	8
16	Shade Net Bamboo	14
17	Pond/ Well	8
18	Vermicompost	70
19	Vermicompost(HDPE)	100
20	Area Expansion Vegetable (Org. Farming)	200

Physical achievement of RKVY under Siliguri Mahakuma Parishad from 2006-2007 to 2015-2016

Sl no	Component / Scheme	Balance Physical achievement (ha/ no)
1	Banana TC, intrigated package with drip irrigation & mulching	75
2	Lemon , intrigated package with drip irrigation	50
3	Area expansion BAU kul	25
4	Area expansion Arecanut	50
5	Area expansion Aurum / Saji Kachu	100
6	Sprinkler Irrigation with Mulching in pineapple (2013-2014)	100
7	Mushroom Preparation unit (2013-2014)	200

Field Visit Report on Protected Cultivation under NHM (MIDH) by JIT

Sl. No	Details	Remarks
1.	Name & Address of Beneficiary whose field visited	Prakash Roy Budhkaran, Naxalbari
2.	Total land available with the beneficiary (ha)	
3.	Type of protected cultivation activity (Hi-Tech/Normal GH, Shade Net, Plastic tunnel….)	Hi-tech Green House
4.	Year of establishment	2012
5.	Size of Structure (Sq.)	500Sq.m
6.	Total cost	Rs.4,70,000/-
7.	Agency involved in fabrication & installation	M/s. Natural GreenTech Engg. Siliguri.
8.	Total subsidy paid & date of Payment	Rs.2,33,750/-
9.	Crop being grown	High Value Vegetables
10.	Condition of Structure	good
11.	Condition of Crop	good
12.	Tie up with market	No
13.	General upkeep (Very good/ Good/Average/Poor)	average
14.	Any other relevant observation by JIT	-

<u>Oyster Mushroom Production Unit under NADP (RKVY)</u>

Sl No	Details	Remarks
1	Name and address of the beneficiary visited	Ranjit Palan

		Badra jote, Kharibari
2	Total land available with the beneficiary (in Ha)	-
3	Type of MI system available (Drip/Sprinklar)	-
4	Crop(s) Covered	**Oyster Mushroom**
5	Total area covered (in Ha)	2500 nos. Cylinder
6	Crop Spacing (for Drip)	
7	Year of Establishment	March, 2010
8	Name of Manufacturer/ Supplier	
9	Total Subsidy paid and date of Payment	Rs. 128000.00
10	Mode of Payment	NEFT
11	Status of crop	Very Good
12	General Upkeep (Very good/Good/Average/Poor)	Good
13	Any other relevant observation by JIT	-

NADP (RKVY)

Sl No	Details	Remarks
1	Name and address of the beneficiary visited	Shri Bablu Biswas Shyamdhan jote, Kharibari
2	Total land available with the beneficiary (in Ha)	-
3	Type of MI system available (Drip/Sprinklar)	NA
4	Crop(s) Covered	**Oyster Mushroom**
5	Total area covered (in Ha)	525 nos. Cylinder
6	Crop Spacing (for Drip)	-
7	Year of Establishment	October 2012
8	Name of Manufacturer/ Supplier	
9	Total Subsidy paid and date of Payment	Rs. 32000.00 dt. 10.08.2016
10	Mode of Payment	NEFT
11	Status of crop	Good
12	General Upkeep (Very good/Good/Average/Poor)	Good
13	Any other relevant observation by JIT	-

Report submitted by ICAR-Indian Agricultural Research Institute

Regional Station, Kalimpong, Darjeeling, West Bengal

Project name:

Scaling up the productivity of Darjeeling mandarin through identification, multiplication and supply of healthy superior clones for improving rural livelihood in Darjeeling hills.

Funded by: RKVY

Budget: 31 lakh

Project PI: Dr. Natasha Gurung, Scientist, IARI (RS), Kalimpong

Co-PI: Dr. Sujit Sarkar, Scientist, In-Charge, IARI (RS), Kalimpong

Dr. Mahadev Chetri, Citrus dieback research centre, kalimpong

Major problems in Darjeeling Mandarin:

1. Majority of the orchard of Darjeeling Mandarin are infected either by paste, diseases or nutrient deficiencies which need a large scale multi-institutional collaborative approach to address the problem.
2. Water is the major problem from February to June as mandarin needs heavy irrigation. Hence, water management is the major issue for increasing production and productivity of Darjeeling mandarin.
3. Being organic area, farmers were reluctant to use chemical fertilizer and pesticide which restricts the Darjeeling mandarin restoration activities and programme.
4. There are very few healthy nurseries who can supply healthy scion for grafting.
5. There is no healthy mother block which also hampers the future grafting programme.
6. The farmers lack in knowledge and skill on scientific cultivation practices of mandarin, pest management, disease management, nutrient management.
7. There are very few industries on Darjeeling mandarin unlike tea industries. As a result farmers are not getting the fair remuneration.
8. There are no proper marketing arrangements and farmers are getting very low market prices from the middleman.
9. Mismanagement of orchard-intercropping with ginger and large cardamom, no soil testing, no proper irrigation management, no use of micro-nutrient, practicing layering from old plant, no pruning strategies and so on.

Objective of the project:

1. To survey and identify the elite mother plants of Darjeeling mandarin.
2. To survey and detect the major diseases and pests in Darjeeling mandarin.
3. To standardize *in-vitro* propagation of Darjeeling mandarin for multiplication of virus free plants of elite mother plants.
4. To establish mother block and produce healthy planting materials of superior clones of Darjeeling mandarin.
5. To find out the major causes of decline of Darjeeling Mandarin and mapping of declined areas and disease outbreak history.
6. To assess the impact of intervention in ensuring sustainable livelihood security of Darjeeling mandarin growers.

Project activities and achievement:

1. **Identification of horticultural superior genotypes of Darjeeling mandarin:**

Extensive survey was conducted to identify the superior genotypes of Darjeeling Mandarin in different blocks (Sittong-I, Sittong-II and Sittong III from Kurseong block, Soureni, Kolbung, Takling, Mungpo) of Darjeeling district.

2. **Characterization of Darjeeling Mandarin**

   The Darjeeling mandarin was characterized both morphologically (seed weight, no. of seed per fruit, flesh, no. of segments etc) and bio-chemically (ascorbic acid content, total carotenoid, Phenolic content, antioxidant activity etc.) in the above mentioned locations.

3. **Evaluation of suitable rootstock**

   Eleven different root stock genotypes have been collected and raised to evaluate their performance on Darjeeling mandarin- *Poncirus trifoliata* (Trifoliate orange), *Citrus jambhiri* (Rough lemon), *Citrus limonia* (Rangpur lime), *Citrus limon* (Assam lemon), *Citrus reshmi (*Cleoptra mandarin), Troyer citrange, Carizzo citrange, Soh Sarkar, *Citrus taiwanica* (Taiwanica), Sylhet, *Citrus latipes* (Khasi papeda).

4. **Production of tissue culture based Mandarin planting material**

   Experiment on tissue cultural based healthy planting material production was started and the feasibility will be tested in research field and farmer's field.

5. **Farmers participatory rootstock and healthy planting material production:**

   5 famers raised 15000 rootstock which is ready for grafting and will grafted in December, 2016. Once grafted, these will be ready for distribution to the farmers and approximately 33 ha. Area will be replanted with healthy planting material of Darjeeling Mandarin.

6. **Farmers training programme on insect-pest and disease management and grafting and budding technique.**

   Several capacity building programme of Mandarin growers on INM, IPM , water management, budding and grafting technique were conducted in Sitong, Gorubatha, Balason, Kalimpong, and Mongpu.

Future requirement:

1. One health "Model nursery block of Darjeeling Mandarin" needs to be established at the research station.

2. Post harvest processing facilities need to be created at the research station.
3. Large scale healthy planting material production and supply to the farmers.
4. Strengthening of tissue culture laboratory.
5. Establishment of Business incubation centre for Darjeeling Mandarin at the station.

Few glimpse of our field activities:

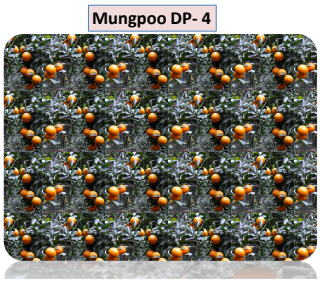
Training programme at Sitong and distribution of fruit fly tarp

Training prg. at Gorubathan

Training on grafting and budding technique

Training on IPM and INM

Glimpse of survey on identification of superior genotype:



Proforma for use by Joint Inspection Team

Protected Cultivation

Sr. No.	Details	Remarks
1.	Name & Address of Beneficiary whose field visited	Prashant Choudhury Haldarpara, Siliguri
2.	Total land available with the beneficiary (ha)	
3.	Type of protected Cultivation activity (Hi-Tech/Normal GH, Shade Net, Plastic tunnel….)	Hi tech tubular Poly House
4.	Year of establishment	2015
5.	Size of Structure (Sq,m)	1000 m²
6.	Total Cost	935000+247024 (Ph. mode)
7.	Agency involved in fabrication and installation	Kishanlal Choudhury & Sons
8.	Total subsidy paid and date of payment	467500+123812 (Ph. mode)
9.	Crop being grown	Orchid
10.	Condition of Structure	V. Good
11.	Condition of Crop	V. Good
12.	Tie up with market	Yes
13.	General upkeep (Very good/Good/Average/Poor)	V. Good
14.	Any other relevant observation by JIT	Good Structure & Management

Deputy Director of Horticulture, Jalpaiguri
District Horticulture Office, Jalpaiguri
Mohitnagar, Jalpaiguri

Proforma for use by Joint Inspection Team

Protected Cultivation

Sr. No.	Details	Remarks
1.	Name & Address of Beneficiary whose field visited	Dhirendra Nath Pal Purbekumarpur, Jalpaiguri
2.	Total land available with the beneficiary (ha)	
3.	Type of protected Cultivation activity (Hi-Tech/Normal GH, Shade Net, Plastic tunnel….)	Bamboo Poly House Naturally ventilated
4.	Year of establishment	2015
5.	Size of Structure (Sq,m)	500 m²
6.	Total Cost	187500.00
7.	Agency involved in fabrication and installation	Krishna Horticulture
8.	Total subsidy paid and date of payment	93750
9.	Crop being grown	Palak
10.	Condition of Structure	Good
11.	Condition of Crop	Good
12.	Tie up with market	–
13.	General upkeep (Very good/Good/Average/Poor)	Good
14.	Any other relevant observation by JIT	–

Deputy Director of Horticulture, Jalpaiguri
District Horticulture Office, Jalpaiguri
Mohitnagar, Jalpaiguri

1

Check list for Reviewing Progress on Area Expansion and Rejuvenation Activities under National Horticulture Mission (NHM) by Joint Inspection Team

1. Name and address of beneficiary whose field visited : Rajani Roy Dhapganj, Jalpaiguri
2. Total land available with the beneficiary (ha) :
3. Crop cluster under which covered :
4. Name and variety of crop planted : Bay leaf
5. Source of planting material : Jalpaiguri Hort. Res. & Dev. Farm, Mohitnagar, Jalpaiguri
6. Number of plants planted : 97
7. Date of planting : Aug, 15
8. Number of plants which survived (Also indicate percentage survival) : 94
9. Total amount of subsidy assistance due to the beneficiary as (Rs.) : [illegible]
10. Amount paid and date of payment : 1860.00
11. Mode of payment : NEFT
12. Source of irrigation water : Ground Water
13. Whether Drip. Sprinkler, system in use : No.
14. Other inputs provided : No.
15. Whether assistance availed for organic farming : No.
16. If so , area covered :
17. Assistance availed :
18. Available marketing facility for the crop :
19. Other infrastructure available in the vicinity :
20. General upkeep of the plot (Very Good/Good/Average/Poor) :
21. Any other relevant observations by the J.I.T :
22. Whether NHM Logo displayed :

Deputy Director of Horticulture, Jalpaiguri
District Horticulture Office, Jalpaiguri
Mohitnagar, Jalpaiguri

Check list for Reviewing Progress on Area Expansion and Rejuvenation Activities under National Horticulture Mission (NHM) by Joint Inspection Team

1. Name and address of beneficiary whose field visited : Ichirul Islam, Paharpur, Jalpaiguri
2. Total land available with the beneficiary (ha) :
3. Crop cluster under which covered : Bay leaf
4. Name and variety of crop planted : Bay leaf
5. Source of planting material : Jalpaiguri Hort. Res & Dev. Farm, Mohitnagar, Jalpaiguri
6. Number of plants planted : 500
7. Date of planting : Aug, 2015
8. Number of plants which survived (Also indicate percentage survival) : 490
9. Total amount of subsidy assistance due to the beneficiary as (Rs.) : 1600
10. Amount paid and date of payment : 16000=00
11. Mode of payment : NEFT
12. Source of irrigation water : Ground water
13. Whether Drip. Sprinkler, system in use : No.
14. Other inputs provided : No.
15. Whether assistance availed for organic farming : No.
16. If so , area covered : —
17. Assistance availed : —
18. Available marketing facility for the crop : —
19. Other infrastructure available in the vicinity : —
20. General upkeep of the plot (Very Good/Good/Average/Poor) : Good
21. Any other relevant observations by the J.I.T : —
22. Whether NHM Logo displayed : No

Deputy Director of Horticulture, Jalpaiguri
District Horticulture Office, Jalpaiguri
Mohitnagar, Jalpaiguri

FORMAT

Organic farming / Vermi composting Units (J.I.T)

Sr. No.	Details	Remarks
1.	Name of the project :	Vermicompost.
2.	Year of Implementation :	2015
3.	Project Period :	2015 - 2016
4.	Name of Implementing Agency:	Pranab Roy, Old Pandapara, Jalpaiguri
5.	Location of project:	Old Pandapara Jalpaiguri
6.	Total project cost:	206130.00
7.	Amount Released by DAC:	103065.00 (1360 ft³)
8.	Expenditure incurred:	206130.00
9.	Status	
	• Crop covered	Vegetables
	• No. of farmers involved	01
	• Name & Address of Certifying agency	—
	• Whether any certificate issued	
10.	Whether funds disbursed	Yes

Deputy Director of Horticulture, Jalpaiguri
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Mohitnagar, Jalpaiguri

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Check list for Reviewing Progress on Area Expansion and Rejuvenation Activities under National Horticulture Mission (NHM) by Joint Inspection Team

1. Name and address of beneficiary whose field visited : Samir Tea Estate (Uttali Hat Gram Panchayet
2. Total land available with the beneficiary (ha) : 1.5 he.
3. Crop cluster under which covered : Mandarin Orange.
4. Name and variety of crop planted :
5. Source of planting material : R & D Centre for Horticulture Kalimpong,
6. Number of plants planted : 803.
7. Date of planting : Aug, 2015
8. Number of plants which survived (Also indicate percentage survival) : 790
9. Total amount of subsidy assistance due to the beneficiary as (Rs.) : ~~17666.00~~
10. Amount paid and date of payment : 17666.00
11. Mode of payment : NEFT
12. Source of irrigation water : Surface water
13. Whether Drip, Sprinkler, system in use : No.
14. Other inputs provided : fertilizer, manure, PP chemicals through MGNREGA.
15. Whether assistance availed for organic farming : No.
16. If so , area covered : —
17. Assistance availed : —
18. Available marketing facility for the crop : —
19. Other infrastructure available in the vicinity : —
20. General upkeep of the plot (Very Good/Good/Average/Poor) : Poor
21. Any other relevant observations by the J.I.T : —
22. Whether NHM Logo displayed : No

Deputy Director of Horticulture, Jalpaiguri
District Horticulture Office, Jalpaiguri
Mohitnagar, Jalpaiguri

Proforma for use by Joint Inspection Team

Protected Cultivation

Sr. No.	Details	Remarks
1.	Name & Address of Beneficiary whose field visited	Arijit Daga, Sipahi Para, Jalpaiguri
2.	Total land available with the beneficiary (ha)	
3.	Type of protected Cultivation activity (Hi-Tech/Normal GH, Shade Net, Plastic tunnel….)	Hi-tech naturally ventilated Poly House.
4.	Year of establishment	2014
5.	Size of Structure (Sq,m)	1000 m²
6.	Total Cost	935000 + 52500 (Pl. mulch)
7.	Agency involved in fabrication and installation	Rishanlal Chowdhury & Sons.
8.	Total subsidy paid and date of payment	467500 + 26250 (Pl. mulch)
9.	Crop being grown	Vegetable
10.	Condition of Structure	Good
11.	Condition of Crop	Good
12.	Tie up with market	—
13.	General upkeep (Very good/Good/Average/Poor)	Good
14.	Any other relevant observation by JIT	No

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Proforma for use by Joint Inspection Team

Protected Cultivation

Sr. No.	Details	Remarks
1.	Name & Address of Beneficiary whose field visited	Arvind Daga, Sapchi Para
2.	Total land available with the beneficiary (ha)	
3.	Type of protected Cultivation activity (Hi-Tech/Normal GH, Shade Net, Plastic tunnel….)	Hi-tech naturally ventilated Poly House.
4.	Year of establishment	2014
5.	Size of Structure (Sq.m)	1000m²
6.	Total Cost	935000 + 52500 (Pl. material)
7.	Agency involved in fabrication and installation	Kishanlal Choudhary & Sons
8.	Total subsidy paid and date of payment	467500 + 26250 (Pl. material)
9.	Crop being grown	Vegetables
10.	Condition of Structure	Good
11.	Condition of Crop	Good
12.	Tie up with market	—
13.	General upkeep (Very good/Good/Average/Poor)	Good
14.	Any other relevant observation by JIT	—

Deputy Director of Horticulture, Jalpaiguri
District Horticulture Office, Jalpaiguri
Mohitnagar, Jalpaiguri

Check list for Reviewing Progress on Area Expansion and Rejuvenation Activities under ~~National Horticulture Mission (NHM)~~ RKVY by Joint Inspection Team

1. Name and address of beneficiary whose field visited : Ranjit Palan, Badrajote, Khoribari
2. Total land available with the beneficiary (ha) : 5000 Sq. ft.
3. Crop cluster under which covered : Mushroom cultivation (RKVY)
4. Name and variety of crop planted : Oester - Mushroom
5. Source of planting material : Bidhan Market, Siliguri
6. Number of plants planted : 7,500 cilinder
7. Date of planting : May - June 2016
8. Number of plants which survived (Also indicate percentage survival) : 98%
9. Total amount of subsidy assistance due to the beneficiary as (Rs.) : 1,28,000/- (RKVY)
10. Amount paid and date of payment : 1,28,000/- (RKVY), 22-08-2016
11. Mode of payment : RTGS
12. Source of irrigation water : Self, Tube wel
13. Whether Drip, Sprinkler, system in use : NO
14. Other inputs provided : NO
15. Whether assistance availed for organic farming : Not Applicable
16. If so , area covered :
17. Assistance availed :
18. Available marketing facility for the crop : Nepal, Bhutan, Darjeeling, Siliguri etc.
19. Other infrastructure available in the vicinity : NA
20. General upkeep of the plot (Very Good/Good/Average/Poor) : Very Good
21. Any other relevant observations by the J.I.T :
22. Whether NHM Logo displayed : NO

21/09/16

1

Check list for Reviewing Progress on Area Expansion and Rejuvenation Activities under ~~National Horticulture Mission~~ RKVY (NHM) by Joint Inspection Team

1. Name and address of beneficiary whose field visited : Bablu Biswas, Shyamdhanjote, Khoribari
2. Total land available with the beneficiary (ha) : 1000 Sq ft.
3. Crop cluster under which covered : Mushroom Cultivation (RKVY)
4. Name and variety of crop planted : Oester Mushroom (RKVY)
5. Source of planting material : Bidhan Market, Siliguri
6. Number of plants planted : 1000 Cilinder
7. Date of planting : June 2016
8. Number of plants which survived (Also indicate percentage survival) : 97%
9. Total amount of subsidy assistance due to the beneficiary as (Rs.) : 32,000/- (RKVY)
10. Amount paid and date of payment : 32,000/- (RKVY), 22/8/2016
11. Mode of payment : RTGS
12. Source of irrigation water : Self, Tubewel
13. Whether Drip, Sprinkler, system in use : NO
14. Other inputs provided : NO
15. Whether assistance availed for organic farming : NA
16. If so , area covered :
17. Assistance availed :
18. Available marketing facility for the crop : Nepal, Bhutan, Darjeeling
19. Other infrastructure available in the vicinity : NO
20. General upkeep of the plot (Very Good/Good/Average/Poor) : Very Good
21. Any other relevant observations by the J.I.T :
22. Whether NHM Logo displayed : NO

21/09/16

1

Check list for Reviewing Progress on Area Expansion and Rejuvenation Activities under National Horticulture Mission (NHM) by Joint Inspection Team

1. Name and address of beneficiary whose field visited : Pintu Singha, Haodavita, Khoribari
2. Total land available with the beneficiary (ha) : 1.5 HA
3. Crop cluster under which covered : Non- Perinnian Fruit
4. Name and variety of crop planted : Guiant Kew, Pineapple
5. Source of planting material : Bidhannagar GP (Phansidewa Block)
6. Number of plants planted : 45,000/-
7. Date of planting : July 2015
8. Number of plants which survived (Also indicate percentage survival) : 99%
9. Total amount of subsidy assistance due to the beneficiary as (Rs.) : 23,700/- (NHM)
10. Amount paid and date of payment : 23,700/- (NHM), 30/5/2016
11. Mode of payment : RTGS
12. Source of irrigation water : Self, Shalow Tube Wel
13. Whether Drip, Sprinkler, system in use : NO
14. Other inputs provided : NO
15. Whether assistance availed for organic farming : NO
16. If so , area covered :
17. Assistance availed :
18. Available marketing facility for the crop : Bidhannagar, Nepal, Delhi etc
19. Other infrastructure available in the vicinity : NA
20. General upkeep of the plot (Very Good/Good/Average/Poor) : Good
21. Any other relevant observations by the J.I.T :
22. Whether NHM Logo displayed : NO

21/09/2016

1

Check list for Reviewing Progress on Area Expansion and Rejuvenation Activities under National Horticulture Mission (NHM) by Joint Inspection Team

1. Name and address of beneficiary whose field visited : Kalyan Ch. Bhadra, Kodali para, Phansidewa
2. Total land available with the beneficiary (ha) : 1 Acra
3. Crop cluster under which covered : Flower (Loose)
4. Name and variety of crop planted : Marigold, Var-African Marigold
5. Source of planting material : Kolaghat & Paskura, Kolkata
6. Number of plants planted : 9000
7. Date of planting : March 2016
8. Number of plants which survived (Also indicate percentage survival) : 96%.
9. Total amount of subsidy assistance due to the beneficiary as (Rs.) : 4,224/- (NHM)
10. Amount paid and date of payment : 4,224/- (NHM), 30/06/2016
11. Mode of payment : RTGS
12. Source of irrigation water : Self, Tube Wel
13. Whether Drip, Sprinkler, system in use : NO
14. Other inputs provided : NO
15. Whether assistance availed for organic farming : NA
16. If so , area covered :
17. Assistance availed : 4224/-
18. Available marketing facility for the crop : Siliguri, Darjeeling
19. Other infrastructure available in the vicinity : NO
20. General upkeep of the plot (Very Good/Good/Average/Poor) : Good
21. Any other relevant observations by the J.I.T :
22. Whether NHM Logo displayed : NO

21/09/16

1

Check list for Reviewing Progress on Area Expansion and Rejuvenation Activities under National Horticulture Mission (NHM) by Joint Inspection Team

1. Name and address of beneficiary whose field visited : Gita Sarkar, Devigaon. Khoribari
2. Total land available with the beneficiary (ha) : 1 HA
3. Crop cluster under which covered : Non Perinnial Fruit
4. Name and variety of crop planted : Banana(Sucker), Var- Champa
5. Source of planting material : Local
6. Number of plants planted : 2600 P
7. Date of planting : November 2015
8. Number of plants which survived (Also indicate percentage survival) : 96%
9. Total amount of subsidy assistance due to the beneficiary as (Rs.) : 13,728 (NHM)
10. Amount paid and date of payment : 13,728 (NHM), 7/6/16
11. Mode of payment : RTGS
12. Source of irrigation water : Self.
13. Whether Drip, Sprinkler, system in use : NO
14. Other inputs provided : NO
15. Whether assistance availed for organic farming : NO
16. If so , area covered :
17. Assistance availed :
18. Available marketing facility for the crop : local Market, Nepal, Siliguri, Assam
19. Other infrastructure available in the vicinity : NO
20. General upkeep of the plot (Very Good/Good/Average/Poor) : Good
21. Any other relevant observations by the J.I.T :
22. Whether NHM Logo displayed : NO

21/09/16

1

Orchids under Net House (Beneficiary- Shri Prashant Choudhury), Jalpaiguri

Vegetable cultivation under Hi-Tech Poly House (Shri Arvind Daga), Jalpaiguri

Area expansion of Perennial Spice-Bay leaf (Shri Rajani Roy)

Bamboo based Poly House (Shri Dhirendra Nath Paul)

Vermicompost Production Unit (Shri Pranab Roy), Jalpaiguri

Area Expansion under Non Perennial Fruit-Pineapple (Shri Nirmal majumdar), Jalpaiguri

Area Expansion under Perennial Fruit-Mandarin Orange
(Directorate of Chinchona & other Medicinal Plant, Karseong)

Orchids under protected structure
(Directorate of Chinchona & other Medicinal Plant, Mungpoo, Darjeeling)

Area expansion under perennial spice- Bayleaf (Aparna Poyra), Kooch Behar

Gerbera cultivation under Hi-tech Poly House (Shri Dulal Sarkar), Kooch Behar

Shri Gopal Mandal, Kooch Bihar

Vermicompost production unit (Shri Dwijash Mishra), Kooch Behar

Area Expansion of TC banana (Shri Tribhanga Mandal), Malda

Fruit Processing Unit (Gita Food Product), Malda

Oyster Mushroom Cultivation under RKVY (Ranjit Palan), Siliguri Mahakuma Parishad

Orchids production unit at Jalpaiguri