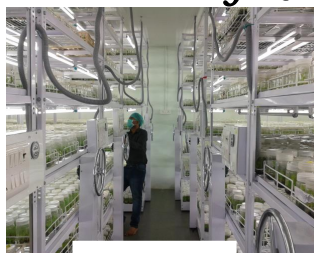


REPORT OF JOINT INSPECTION TEAM ON THEIR VISIT TO GUJARAT DURING 13-17 MAY, 2013



Tissue culture



Green House



Bio Control agents



Drip Irrigation



FIG – VIUC



Ripening Chamber



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**REPORT OF JOINT INSPECITON TEAM UNDER THE LEADERSHIP OF
DR. JOSE C. SAMUEL, CHIEF CONSULTANT (NHM) WHICH VISITED
GUJARAT DURING 13-17 MAY 2013**

Joint Inspection Team (JIT) comprising of the following Members visited Gujarat during 13-17 May, 2013 to review the progress under National Horticulture Mission (NHM) and other schemes on horticulture being implemented with GOI assistance in the State.

1. Dr. Jose C. Samuel, Chief Consultant (NHM)
2. Shri P.S. Kohli, Senior Resource Person (NHM)
3. Shri K. K. Kaushal, Project Officer, NCPAH
4. Dr. M.C. Patel, Associate Professor (Hort.) C P College of Agriculture, Banaskantha

Shri C. M. Patel, Senior Executive Officer, SHM, Gujarat accompanied the JIT throughout the visit.

JIT covered the districts of Vadodra, Anand, Kheda and Ahmedabad. Activities covered in these districts include production of planting material (Tissue culture labs), protected cultivation (Green houses, shade net houses, plastic mulching), Post Harvest Management infrastructure (cold storage, ripening chamber), IPM infrastructure (Bio Control lab), vegetable cultivation under VIUC scheme and drip irrigation under NMMI. Record of observations of JIT in Vadodra, Anand, Kheda and Ahmedabad districts are placed at **Appendix I, Appendix II, Appendix III** and **Appendix IV** respectively.

A meeting was held at Gandhinagar on 16th May, 2013 to review the progress under NMMI, NBM, NHB and RKVY schemes. Subsequently, a wrap up meeting was held with Additional Secretary (Hort.), Dr. R.C. Mistry.

Main observations of the JIT are summarized below:

A. NHM

- Positive shift in focus towards creation of infrastructure facilities like tissue culture labs, bio control labs, green houses, shadenet houses, ripening chambers, cold storages etc. is a welcome sign.
- During 2012-13, Gujarat SHM incurred an expenditure of Rs. 7738.69 lakh for covering 2249 ha under protected cultivation. Quantum jump in the investments on protected cultivation has been witnessed since the year 2010-11 with corresponding reduction in expenditure on area expansion programme as reflected in the Table below.

Area in ha, Rupees in lakh

Year	Area Expansion		Protected Cultivation	
	Phy.	Fin.	Phy.	Fin.
2007-08	24388	2684.60	302	62.60
2008-09	24392	2388.85	495	68.10
2009-10	11767	1344.35	521	131.64
2010-11	5988	1258.27	1175	1104.75
2011-12	6181	1045.90	2218	4040.43
2012-13	4326	841.91	2249	7738.69

- Increase in protected cultivation activity in Gujarat State witnessed mushrooming of a large number of green house / shadenet house fabricators and as many as 100 fabricators were in operation during 2011-12. SHM did not have any mechanism to verify the authenticity and expertise of the GH fabricators, leading to compromise in design and quality of the structures. In order to check this, SHM has introduced a system of registration whereby each fabricator has to register themselves along with payment of a security deposit at the time of registration. This has helped to reduce the number of GH fabricators to about 22-23 during 2012-13.

- In order to encourage protected cultivation, State Government is providing additional 15% subsidy on green houses. Thus, a farmer in Gujarat is able to get 65% subsidy on green houses.
- Mainly vegetables crops like cucumber, sponge gourd and capsicum and flowers like gerbera and rose are being cultivated by the farmers under protected cover in the districts covered for which farmers are making their own arrangement for planting material.
- Mostly naturally ventilated green house are being constructed in the district visited. JIT observed deficiencies in the green house and shade net houses inspected. SHM was advised for taking steps on following:-
 - Proper insect proofing and hygiene needs to be maintained by providing double door entrance / anti chamber.
 - Cladding material need to be anchored properly at the base as well as on the main structure, to avoid damage,
 - Proper pathway need to be provided for movement of men and material inside the GH.
 - Drip system needs to be installed in such a manner so that length of the laterals do not exceed 60 m,
 - For GH structures exceeding 1000 Sq. m., it would be appropriate to use curtains and screens with motorized crank mechanism,
 - Proper plant density needs to be maintained to avoid over crowding and excess drawl of nutrients,
 - Green House Reference Manual brought out by NCPAH (available on their web site www.ncpahindia.com) needs to be disseminated widely among the field staff involved in monitoring the construction of green houses.
 - Farmers need to be trained on green house cultivation as well as maintenance of GH structures,
 - Green house fabricators need also to be trained about GH standards and norms of assistance under NHM.
 - There is need to bring out reference manual for shade net house also.

- Bio control lab set up by Agri land Biotech Pvt. Ltd. At Savli, Vadodra have evolved Institute of Marketecology (IMO), Switzerland certified bio agents. They have employed Surface Technology for producing Tricoderma and Beveria. Moreover, they have switched over from liquid fermentation to pulverization technology for enhancing spore count.
- Tissue culture labs being set up at Anand Agriculture University is expected to provide planting material for date palm, for which t here is a high demand. Date palm cultivation is being promoted under NHM and RKVY scheme in Gujarat.
- TC labs in the Private sector visited at Anand and Kheda districts are producing plantlets for fruit crops like banana & pomegranate and few vegetables also. As these labs do not have virus indexing facility it is got done from outside. It would be necessary to have virus indexing facility in the State.
- Between 2004-05 and 2011-12, there has been increase in area under fruit crops in the State from 2.52 lakh ha to 3.54 lakh ha while the production increased from 39.01 lakh MT to 75.22 lakh MT during this period. Productivity of fruit crops increased from 14.75 MT/ha to 20.31 MT/ha.
- Kesar mango is a major attraction of Gujarat state. Production of mangoes has increased from 7.29 lakh MT in 2004-05 to 9.66 lakh MT in 2011-12.
- Gujarat State Marketing Board have taken steps to promote direct marketing of Kesar mangoes by the producers, which are ripened in ripening chambers. This is a welcome step, worth appreciation.

B. NMMI

- Micro irrigation is being promoted in Gujarat State in a big way by Gujarat Green Revolution Company (GGRC) under National Mission on Micro irrigation (NMMI).

- It needs to be ensured that the drip system is installed as per the required specifications. Visit to the plot of Shri Dasbai Kantibai Patel, Ajod village, Vadodra indicated that the drip system was over designed with excess length of man line and laterals leading to excess irrigation at high cost. Moreover, the farmer was providing furrow irrigation to his bitter gourd and bottle gourd crops, resulting in excessive weed growth. Close monitoring was needed to avoid such faculty designs.
- Farmers need to be trained on concepts, adoption and maintenance of drip system.
- Use of plastic mulch need to be promoted along with drip irrigation for improving efficiency of irrigation system and increasing yield of crop. Some of the farmers growing papaya and water melons in are convinced about the need to use plastic mulch for reducing labour on improving yield.
- Availability of plastic mulch of right thickness need to be ensured.

C. VIUC

- Vegetable Initiative for Urban Clusters was taken up in Ahmedabad city during 2011-12. Baseline survey was concluded by cohesion Foundation Trust, Ahmedabad. International Traceability System Ltd. and Development Supper Centre were engaged as Resources Institute (RI) by SFAC to mobilize farmers into FIGs and FPOs.
- JIT interacted with RI and FIG at Nazz Village and Mirul village. While two FPOs have been registered remaining two are in the process of registration.
- JIT observed that vegetable cultivation was under progress by FIG members at Nazz village. RI has engaged Excel Genetics Ltd., Ahmedabad for supplying seeds to the farmers. However, cost on inputs was provided through an existing society viz. Sarvodaya Telibia Cooperative Society to the farmers. Once the FPOs become functional, it should be possible to supply the inputs to farmers through the FPOs.

Visit to Vadodra District

NHM is being implemented in Vadodra district since 2005-06 for the development of focus crops, viz. banana, guava, papaya, Citrus (K. lime), spices (cumin) and aromatic plants. Details of progress achieved in the district during 2011-12 and 2012-13 are given below.

Year	Expenditure incurred (Rs. In lakh)	Activities under taken
2011-12	392.23	Area expansion under papaya, banana (TC), guava, lime, flowers , NV Green house (Tabular structure), plastic mulching, Shadenet (Tubular) Horticulture Mechanization, HRD and PHM - Pack house
2012-13	997.3	Area expansion under banana (TC), papaya, lime, mango, flowers, Rejuvenation, NV Green House, Plastic mulch, Shadenet house, Promotion of IPM, Horticulture Mechanization and PHM - Ripening Chamber

Summary details of area, production and productivity of horticulture crops in Vadodra district during 2011-12, as compared to 2004-05 is given in the following tables.

Area, Production and Productivity of Horticultural Crops in Vadodra District

A. Fruits

Crop	Area (ha)			Production (MT)			Productivity (MT/ha)		
	2004-05	2011-12	% Diff.	2004-05	2011-12	% Diff.	2004-05	2011-12	% Diff.
Mango	4090	5813	42.1	34990	37798	8.0	8.6	6.5	-24.0
Sapots	585	823	40.7	5967	8325	39.5	10.2	10.1	-0.8
Citrus	1650	2652	60.7	18975	35535	87.3	11.5	13.4	16.5

Ber	1677	734	-56.2	18447	8085	-56.2	11.0	11.0	0.1
Banana	6185	9452	52.8	204105	583598	185.9	33.0	61.7	87.1
Guava	1292	2010	55.6	19380	31540	62.8	15.0	15.7	4.6
Pomegranate	305	625	104.9	915	6889	652.9	3.0	11.0	267.3
Papaya	455	1925	323.1	15925	79680	400.4	35.0	41.4	18.3
Custard Apple	350	625	78.61	3500	7692	119.8	10.0	12.3	23.1
Aonla	745	890	19.5	11175	14267	27.7	15.0	16.0	6.9
Total	17334	25549	47.4	333379	813409	144.0	19.2	31.8	65.5

B. Vegetables

Crop	Area (ha)			Production (MT)			Productivity (MT/ha)		
	2004-05	2011-12	% Diff.	2004-05	2011-12	% Diff.	2004-05	2011-12	% Diff.
Potato	1000	0	0.0	17000	0	0.0	17.0	0.0	0.0
Onion	605	0	0.0	10890	0	0.0	18.0	0.0	0.0
Brinjal	5320	8020	50.8	80578	164500	104.2	15.2	20.5	35.4
Cabbage	1160	1110	-4.3	18560	16983	-8.5	16.0	15.3	-4.4
Okra	4183	5158	23.3	40818	64500	58.0	9.8	12.5	28.1
Tomato	1872	3567	90.5	33696	129940	285.6	18.0	36.4	102.4
Cauliflower	1050	1220	16.2	15756	18925	20.1	15.0	15.5	3.4
Clusterbean	2160	4285	98.4	13465	32325	140.1	6.2	7.5	21.0
Cowpea	950	2585	172.1	6650	26796	303.0	7.0	10.4	48.1
Cucurbits		4456			52510			11.8	
Others	7176	638	-91.1	48797	12431	-74.5	6.8	19.5	186.6
Total	25476	31039	21.8	286210	518910	81.3	11.2	16.7	48.8

C. Spices

Crop	Area (ha)			Production (MT)			Productivity (000/ha)		
	2004-05	2011-12	% Diff.	2004-05	2011-12	% Diff.	2004-05	2011-12	% Diff.
Cumin	1000	0	0.0	480	0	0.0	0.5	0.0	0.0
Fennel	100	0	0.0	120	0	0.0	1.2	0.0	0.0
Chilly	0	5115	0.0	0	8745	0.0		1.7	0.0
Garlic	0	0	0.0	0	0	0.0		0.0	0.0
Ginger	290	331	14.1	4930	7559	53.3	17.0	22.8	34.4
Turmeric	210	212	1.0	2940	4272	45.3	14.0	20.2	43.9
Coriander	320	121	-62.2	256	185	-27.7	0.8	1.5	91.3
Fenugreek	320	219	-31.6	640	1012	58.1	2.0	4.6	131.0
Total	2240	5998	167.8	9366	21773	132.5	4.2	3.6	-13.2

Flowers

Crop	Area (ha)			Production (MT)			Productivity (MT/ha)		
	2004-05	2011-12	% Diff.	2004-05	2011-12	% Diff.	2004-05	2011-12	% Diff.
Rose	475	505	6.3	2850	3569	25.2	6.0	7.1	17.8
Marigold	410	612	49.3	3775	6410	69.8	9.2	10.5	13.7
Mogra	240	231	-3.8	1680	715	-57.4	7.0	3.1	-55.7
Lilly	105	122	16.2	208*	315			2.6	
Others	215	158	-26.5	1591	1355	-14.8	7.4	8.6	16.0
Total	1445	1628	12.7	9896	12364	24.9	6.9	7.6	10.9

*In lakh bundle

Source: SHM, Gujarat

It has been observed that there is significant increase in area, production and productivity of fruits and vegetables in Vadodra District. Banana, followed by mangoes and papaya constitute major share of area and production of fruits in the district. There has been 400% increase in production of papaya in the district. There has been increase in area and production of spices. But the productivity has declined marginally. Besides, there is marginal increase in area, production and productivity of flowers in the district.

Activities visited in Vadodra district

The following local officials accompanied the JIT during visits in Vadodra district:-

1. Shri S. S. Sanvit, Divisional Joint Director of Horticulture, Vadodra
2. Shri Baldev Patil, Deputy Director of Horticulture Vadodra.
3. Shri Kunal Patel, Horticulture Officer
4. Dr. R.V. Limbashia, Technical Officer, GGRC

JIT visited protected cultivation in three plots, Bio control lab set up by Agriland Biotech Ltd. and Ripening chamber set up by APMC, Vadodra.

JIT also visited drip irrigation in the field of Shri Dasbai Kantibai Patel at Ajod village.

Glimpses of activities visited are given in the following pages.

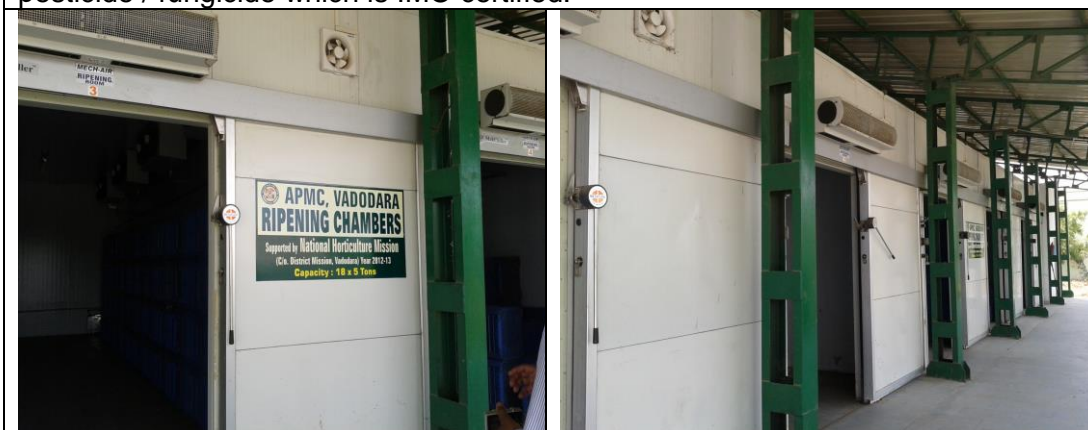
GLIMPSES OF NHM ACTIVITIES VISITED IN VADODRA DISTRICT



Shri Jashbhai Zaverbhai Patel Aajod village has taken up cultivation of ridge gourd in shadenet house during 2012-13. He has used imported seed from Israel.



Shri Ramji Manguhia has established a bio-control lab (Agriland Biotech) at Samlaya, SavliTal. during 2012-13 which is producing different types of bio pesticide / fungicide which is IMO certified.



View of Ripening chamber established at APMC, Vadodra during 2012-13 which has a capacity of 90 MT. During the time of visit the RC was not in use due to lean season of banana.

GLIMPSES OF NHM ACTIVITIES VISITED IN VADODRA DISTRICT



Shri Chintubhai B. Patel, Karjan has taken up cultivation of cucumber in naturally ventilated green house (4000 sq. m) during 2012-13. Except for few leaf spots, fairly good growth was noticed. Total cost of the GH structure, erected by Netafim is Rs. 41.00 lakh. First installment of Rs. 8.00 lakh towards NHM subsidy has been released. 2nd installment is due for release after verification.



View of GH established by Shri Ghanshyambhai P. Patel, Sadhi village, who has taken up cultivation of cucumber and few other vegetables during 2012-13 in a naturally ventilated green house. Nitrogen deficiency was observed in the crop. Besides, length of drip laterals was too long. Another NV green house was being constructed near the existing one, which indicate the popularity and high demand for green houses in the State.

GLIMPSES OF NMMI ACTIVITY VISITED IN VADODRA DISTRICT



Shri Shantibhai M. Patel has availed subsidy for setting up drip irrigation in 1.61 ha during 2012-13.



Use of double lateral lines, instead of one, has resulted in excess irrigation and growth of unwanted weeds in the plots.

Observation of JIT in Vadodra District

- Two green houses (4000 sq.m. each) and one shade net house (3872 Sq. m.) were visited. Green house were fabricated by Netafim in the plot of Shri Chintubhai Bhagilal Patel, Ganpatpura village and by Pink Vision in the plot of Shri Ghanshyambhai Parshottambhai, Sadhi village. Shadenet house was fabricated by Neel Agrotech.
- All these structures were constructed during 2012-13 and were observed to be in good condition. There was, however, need for proper design and layout of drip irrigation system to reduce the length of laterals within stipulated limit of 60 m from sub main line.
- Farmers needed training on protected cultivation. Moreover, they had their own tie up with local markets.
- Balance payment of subsidy was pending release from SHM Gujarat, pending final verification for which a mechanism has been put in place by SHM.
- Shri Jashbai Zaverbhai, who has availed loan for setting up shadenet house at Aajod village mentioned that he was being charged interest on industrial rates @ 12% per annum. He expressed the need to reduce interest rates as per agriculture loan @ 8% p.a.
- Bio control lab set up by Agriland Biotech Ltd. during 2012-13 is producing *Trichoderma viride* (5%F) which is a bio fungicide, *Beauveria bassiana* (5%)-a bio insecticide and *Pecilomyces lilacimus* (1%)- a bionematode. There are water soluble, high potency plant protection products, which are being produced by deploying Surface Technology. *Trichoderma viride* (2×10^8 cfu/gm) is being marketed under brand name 'MONITOR' which has been recommended for control of following horticulture crops:-

Crop	Disease
Brinjal, Chilli, Tomato, Cabbage	Damping off
Potato	Scab
Cucurbit vegetables	Wilts & rots

Ginger & Turmeric	Wilts & rots
Banana, papaya, grape, mango	Wilts & rots
Pomegranate	Phytophthora
Citrus & other fruits crops	Foliar diseases like Downy mildew
Roses and other flowers/ green house crops	Wilts & rots

- *Beauveria bassina* (1×10^9 cfu/gm) is being marketed under the brand name 'BIOSOFT' which has been recommended for crops like mango, citrus, and grapes for protection from sucking insects, hoppers, mealy bugs etc. Similarly, *Pacilomyces lilacinus* (2×10^8 cfu /gm) is being marketed under the brand name 'YORKER' which has been recommended for horticulture crops like grape, papaya, banana, pomegranate and other fruit crops for controlling nematodes.
- The products are IMO certified. Surface Technology has enabled to obtain high spore count, which is about 10 times higher than normal bio products.
- EMC had approved an amount of Rs. 37.50 lakh for this project in its meeting held on 3.8.2013. An amount of Rs. 31.875 lakh has been released, contributing 85% as GOI share. SHM, Gujarat has since released an amount of Rs. 18.75 lakh to Firm, towards first installment.
- APMC, Vadodra have set up a ripening chamber (90 MT) at a cost of Rs. 120.86 lakh for banana ripening within the market yard. The RC was commissioned in October, 2012. During the time of visit no ripening was taking place due to lean season. APMC was planning to take up ripening of mangoes with the onset of mango harvest in the State.
- The market yard has been well maintained by making arrangements for converting bio waste into bio manure through shredding machine.

NMMI

- JIT visited the plot of Shri Dashbai Kanti Patel at Aajod village who has taken up drip irrigation in 1.6 ha for bitter gourd and bottle gourd during 2012-13. The system was installed by Netafim irrigation.
- It was observed that excess water was being applied through the drip system due to over design by providing two lateral lines instead of one. Flood irrigation was also being given by the farmer, resulting in excess weed growth in the plot. The length of main line has been increased unnecessarily by providing connection to sub mains from the opposite site of the control unit. This has resulted in excess expenditure on the system, which was avoidable.
- Layout design of the plot along with cost estimates was not provided to the JIT.
- The beneficiary needed training on the running and maintenance of drip irrigation system.
- Shri Limbashia, Technical officer, GGRC was advised to ensure optimum design of drip irrigation system to economize cost.
- There were prospects for use of plastic mulch to prevent weed growth.

Visit to Anand District

NHM is being implemented in Anand District since 2005-06 for the development of potential horticulture crops viz. Aonla, banana, citrus, guava, papaya, floriculture and aromatic plants. So far an expenditure of Rs. 2491.04 lakh has been incurred in the district for taking up various activities, as detailed in Table below:

Year	Expenditure incurred (Rs. In lakh)	Activities under taken
2005-06	69.49	Area expansion of fruits (perennial & non perennial), Flower and spices.
2006-07	130.12	Area expansion of fruits (perennial & non perennial), Flower, Green House

		(Hi-Tech), Mulching.
2007-08	412.39	Area expansion of fruits (perennial & non perennial), Flower and Aromatic Plants, Plastic Mulching, shadenet, Green House (Hi-Tech), Promotion of IPM, Setting up of vermi compost units.
2008-09	244.45	Model Nursery, area expansion of fruits (perennial & non perennial) and flowers, Plastic Mulching, shadenet house, Green House, Promotion of IPM and Setting up of vermi compost units
2009-10	199.23	Area expansion of fruits (perennial & non perennial), Flowers, Plastic mulching, shadenet have and promotion of IPM.
2010-11	336.72	Area expansion of fruits (perennial & non-perennial), Sucker, Papaya and flowers setting up TC units, Green House (Tubular Structure), Plastic Mulching, Shade net house, promotion of IPM and Horticulture Mechanization.
2011-12	437.94	Small Nursery (public sector), setting up of tissue culture unit (Public sector and private sector), area expansion of perennial and non perennial and flowers, Green House (Tubular Structure), Plastic Mulching, Shade net house (Tubular Structure, wooden and bamboo), Promotion of IPM, Horticulture Mechanization and Post Harvest Management (Cold Storage

		and Ripening Chambers).
2012-13	660.70	Green House, Plastic Mulching, Shadenet house (Tubular, wooden) and Horticulture Mechanization, HRD).
Total	2491.04	

Details of area, production and productivity of horticultural crops in Annad District during 2011-12 as compared to 2004-05 are given in the following Table:-

Area, Production and Productivity of Horticultural crops in Annand District

A. Fruits

Crop	Area (ha)			Production (MT)			Productivity (MT/ha)		
	2004-05	2011-12	% Diff.	2004-05	2011-12	% Diff.	2004-05	2011-12	% Diff.
Mango	1662	2395	44.1	14620	9640	-34.1	8.8	4.0	-54.2
Sapota	225	435	93.3	2250	3490	55.1	10.0	8.0	-19.8
Citrus	3425	5310	55.0	38702	56636	46.3	11.3	10.7	-5.6
Ber	14	157	1021.4	168	1408	738.1	12.0	9.0	-25.3
Banana	9361	14085	50.5	430606	881021	104.6	46.0	92.6	101.2
Guava	132	385	191.7	2640	4885	85.0	20.0	12.7	-36.6
Pomegranate	15	56	273.3	90	348	286.7	6.0	6.2	3.5
Date palm	0	1		0	0			0.0	
Papaya	1400	2525	80.4	63000	106863	69.6	45.0	42.3	-6.0
Custard Apple	0	102		0	539			5.3	
Aonla	1091	1580	44.8	16365	16740	2.3	15.0	10.6	-29.4
Total	17325	27031	56.0	568441	1081570	90.3	32.8	40.0	21.9

B. Vegetables

Crop	Area (ha)			Production (MT)			Productivity (MT/ha)		
	2004-05	2011-12	% Diff.	2004-05	2011-12	% Diff.	2004-05	2011-12	% Diff.
Potato	3382	4100	21.2	74404	131610	76.9	22.0	32.1	45.9
Onion	680	500	-26.5	12920	6750	-47.8	19.0	13.5	-29.0
Brinjal	1850	4200	127.0	14800	60018	305.5	8.0	14.3	78.6
Cabbage	1050	1600	52.4	21000	27200	29.5	20.0	17.0	-15.0
Okra	1350	1700	25.9	8100	13600	67.9	6.0	8.0	33.3
Tomato	1400	2200	57.1	28000	69036	146.6	20.0	31.4	56.9
Cauliflower	1030	1400	35.9	10300	25900	151.5	10.0	18.5	85.0

Clusterbean	610	900	47.5	3050	4968	62.9	5.0	5.5	10.4
Cowpea	0	1300		0	12064			9.3	
Cucurbits		1885			36984			19.6	
Others	7688	1526	-80.2	38440	21694	-43.6	5.0	14.2	184.4
Total	19040	21311	11.9	211014	409824	94.2	11.1	19.2	73.5

C. Spices

Crop	Area (ha)			Production (MT)			Productivity (MT/ha)		
	2004-05	2011-12	% Diff.	2004-05	2011-12	% Diff.	2004-05	2011-12	% Diff.
Cumin	331	400	20.9	162	218	34.6	0.5	0.6	12.4
Fennel	0	0		0	0			0.0	
Chilly	1458	5000	242.9	1866	5000	168.0	1.3	1.0	-21.9
Garlic	300	800	166.7	1440	4100	184.7	4.8	5.1	6.9
Ginger	200	210	5.0	3000	2948	-1.7	15.0	14.0	-6.4
Turmeric	250	310	24.0	2500	3100	24.0	10.0	10.0	0.0
Corriander	200	75	-62.5	200	105	-47.5	1.0	1.4	40.0
Fenugreek	700	235	-66.4	700	496	-29.1	1.0	2.1	111.0
Isabgul	0	0		0	0			0.0	
Ajwain	0	0		0	0			0.0	
Suva	0	0		0	0			0.0	
Others	1024	10	-99.0	512	50	-90.2	0.5	5.0	900.0
Total	4463	7040	57.7	10380	16017	54.3	2.3	2.3	-2.2

D. Flowers

Crop	Area (ha)			Production (MT)			Productivity (MT/ha)		
	2004-05	2011-12	% Diff.	2004-05	2011-12	% Diff.	2004-05	2011-12	% Diff.
Rose	315	510	61.9	2363	3890	64.6	7.5	7.6	1.7
Marigold	52	525	909.6	780	6179	692.2	15.0	11.8	-21.5
Mogra	0	10		0	54			5.4	
Lilly	187	600	220.9	370*	1416			2.4	
Others	15	36	140.0	46	245	432.6	3.1	6.8	122.1
Total	569	1681	195.4	2819	11784	318.0	5.0	7.0	41.5

*In lakh bundle

Source: SHM, Gujarat

It has been observed that there is increase in area, production and productivity of all horticulture crops in the district with marginal decline in the productivity of spices. These has been significant increase in area production and productivity of banana.

Activities visited in Anand District

The following local officials accompanied the JIT during visit in Anand district.

1. Shri B. Vanand, Deputy Director (Hort.)
2. Shri Nilesh Patil, Horticulture Officer

JIT visited Anand Agriculture University and interacted with Prof. N. Subhash, Professor & Head, Department of Agriculture Biotechnology about progress regarding setting up of TC lab for date palm. JIT visited another TC lab at Hathipura which was producing plantlets for banana and few vegetable crops. Two naturally ventilated green house, two shade net houses and one cold storage unit were also visited by the JIT.

Glimpse of visit in Anand district is given in the following pages.

GLIMPSES OF NHM ACTIVITIES VISITED IN ANAND DISTRICT



Tissue culture lab established by Shri Chandrasinh Parmar at Hathipura during 2010-11 at a cost of Rs. 272.00 lakh. NHM assistance of Rs. 50.00 lakh was provided. TC plantlets of banana and vegetables like parwal and spine gourds was being produced in the lab.



TC lab under establishment at Anand Agricultural University, Anand. Dr. N. Subhash, Prof. & Head, Deptt. of Agriculture Biotechnology mentioned that there was high demand for date palm in the State. The lab was expected to produce 50,000 plantlets each year. Some of the date palms produced in the lab is also seen.

GLIMPSES OF NHM ACTIVITIES VISITED IN ANAND DISTRICT



Shri Raj Hati Singh has taken up cultivation of green capsicum in a naturally ventilated GH (4000 sq. m) during 2012-13. Since the plants were densely populated, thinning operation was demonstrated.



Shri Vijaybhai has taken up cultivation of vegetables and medicinal plants in a shade net house (700 sq. m) during 2012-13.



Shri Chandrusinh Chauhan has taken up cultivation of green capsicum in NV green house (4000 sq.m) during 2012-13. Farmer was advised to provide anti chamber for the GH.

Shri Vikrambhai Patel has taken up cultivation of gerbera in a NV green house (4000 sq. m) during 2011-12. Plants appeared to be under stress due to excess heat.

Observations of JIT in Anand district

- TC unit was set up by Shri Chhatrasingh Parmar during 2010-11 with NHM assistance for producing planting material for banana, pointed gourd and spine gourd. Plantlets were being sold @ Rs. 12/- per plant for banana and Rs. 10/- per plant each for gourds.
- The project was approved by EMC on 22/2/2011 with an outlay of Rs. 50.00 lakh and an amount of Rs. 42.50 lakh was released to the SHM. Full amount has been disbursed to the beneficiary.
- TC lab for date palm was approved by EMC on 27.12.2011 with an outlay of Rs. 100.00 lakh and Rs. 85.00 lakh was released to SHM, Gujarat. SHM, Gujarat has released an amount of Rs. 50.00 lakh to Anand Agriculture University (AAU).
- During the time of visit, work on construction of growth room was under progress. With the available set up, 25 Nos of date palm plants have been produced.
- Prof. Subhash mentioned that they have perfected the technology for *in vitro* propagation of date palm. There is increasing demand for the crop in other districts of Gujarat apart from Kutch district. They propose to produce about 50,000 date palms. Each plant would cost about Rs. 1,500/-.
- Shadenet house constructed by Shri Raj Hathisinh Kulusinh during 2012-13 at Sudan village was being used for cultivating green capsicum (Indira variety). The plants (14,000 Nos) were planted in September, 2012. He could harvest about 36 MT and has realized about six lakh rupees so far. His success story has been publicized in the local news paper.
- JIT observed that the plants have become densely populated and required thinning. This was explained and demonstrated to the beneficiary.
- Ms Gitaben and Ajay Bhai, have taken up cultivation of vegetables (Okra, tomato) and medicinal plants in shadenet house (700 Sq.m)

during 2012-13. Interactions were held with Mr. Francis, husband of the beneficiary, who informed that they were earning upto Rs. 7000/- per month since January, 2013 from the sale of vegetables, which is being cultivated organically Tie up has been made with NDDB.

- Shri Chauhan Chandrasinh Hathisinh, has taken up cultivation of green capsicum in a naturally ventilated green house (4000 sq. m) since 2012-13 (planted in December, 2012 in Mongur village.
- The GH structure did not have anti chamber. Moreover, drip laterals were too long.
- Shri Vikrambhai Manganbhai Patel has taken up cultivation of gerbera in a naturally ventilated GH (4000 Sq. m.) at Samskha village during 2011-12.
- Shri K.C. Patel, retired from NDDB, has been providing consultancy to Shri Vikrambhai in GH cultivation of flowers. He mentioned that six varieties of gerbera have been taken up for GH cultivation. About four lakh sticks have been harvested. On an average, one stick fetches about Rs. 6/-.
- During the time of visit the plants appeared to be under stress due to high temperature.

Visit to Kheda District

Kheda district was carved out of Annand district in October, 1997. A variety of fruit crops are being cultivated in Kheda district, prominent being aonla and citrus. Main crops which have been identified for development under NHM in Kheda district are aonla, banana, citrus (K. lime), mango, papaya, sapota and floriculture.

Comparative details of area, production and productivity of fruit crops in Kheda district during 2004-05 and 2011-12 are given below:

Area, Production and Productivity of Fruit crops in Kheda District

Sl. No.	Crops	Area (ha)			Production (MT)			Productivity (MT/ha)		
		2004-05	2011-12	% Change	2004-05	2011-12	% Change	2004-05	2011-12	% Change
1	Mango	337	902	167.7	3188	9020	182.9	9.4	10.0	6.4
2	Sapota	210	395	88.1	1785	3950	121.3	8.5	10.0	17.6
3	Citrus	1551	2186	40.9	17450	30604	75.4	11.2	14.0	25.0
4	Ber	429	531	23.8	3480	5320	52.9	8.1	10.0	23.5
5	Banana	248	886	257.3	8184	39996	388.7	33	45.1	36.7
6	Guava	369	694	88.1	5490	10410	89.6	14.9	15.0	0.7
7	Pomegranate	195	117	-40.0	950	1053	10.8	4.9	9.0	83.7
8	Papaya	505	966	91.3	19800	41838	111.3	39.2	43.3	10.5
9	Aonla	2480	2580	4.0	17000	25800	51.8	6.8	10.0	47.1
10	Other	591	213	-64.0	3460	9342	170.0	5.8	43.9	656.9
	Total	6915	9470	36.9	80787	177333	119.5	11.7	18.7	60.3

There has been marginal increase in area under fruit crops which production and productivity has increased significantly.

JIT visited the Tissue Culture lab established by ABC Biotechnology Ltd. with NHM assistance during 2012-13. The lab was approved with an outlay of Rs. 50.00 lakh by the EMC on 08.01.2013. Shri Sukla, Deputy Director of Horticulture and Shri Himanshu Parikh, Assistant Director (Hort.) were present during the visit.

Shri Mihir Pandya, Director informed that 30 lakh banana plantlets have been produced so far. They are planning to produce TC based planting material for pomegranate and teak. Commercial sale of banana is expected to commence from June, 2013. Unit price of Rs. 13/- per plant has been fixed for banana. Virus indexing of banana plantlets were being done at NRC Trichi.

It was observed that the TC did not have any hardening facility in its premises. Shri Pandya mentioned that the plants were hardened in the hardening units set up in their nursery, located about 60 km away.

Glimpses of the TC lab and equipments used for media filling is given below:

GLIMPSES OF T.C LAB AT KHEDA DISTRICT



Visit to Ahmedabad district

NHM is being implemented in Ahmedabad district since 2007-08 for the development of fruit crops viz. aonla, citrus (kagzi lime), guava and papaya along with floriculture and spices (cumin). A total expenditure of Rs.1173.85 lakh has been incurred in Ahmedabad district under NHM. Details of progress achieved under NHM in the district is given below:-

Year	Expenditure incurred (Rs. In lakh)	Activities under taken
2007-08	79.19	Area expansion of fruits (perennial and non perennial) and flower and spices, Green House (Hi Tech) , Shadenet house, promotion of IPM, adoption of Organic Farming, setting of Vermi Compost Units and HRD.
2008-09	123.30	Area expansion of fruits (perennial and non perennial, flowers and spices, Green House (Hi Tech) , Shadenet, Plastic Mulching and promotion of IPM.
2009-10	63.51	Area expansion of fruits (perennial and non perennial), flowers and spices, spices, Green House (Hi Tech), Shadenet, plastic Mulching and Promotion of IPM.
2010-11	110.32	Area expansion fruit crops (perennial and non perennial), flowers and seed spices, Green Houses, Shadenet house (Tubular Structure), Plastic mulching, IPM, Beekeeping and Horticulture Mechanization.
2011-12	199.53	Setting up of tissue culture units (private sector), fruit crops other than cost intensive crops(Lime), Floriculture, Green House (Tubular Structure), Mulching, Shade net (Tubular Structure), IPM, Horticulture Mechanization, Training of farmers (within districts).

2012-13	598.00	Fruit crops other than cost intensive crops (lime), Spices, Green House (Tubular Structure), Mulching, Shadenet Tubular Structure, Training of farmers and PHM(Setting up of pack house).
Total	1173.85	

Comparative details of area, production and productivity of horticulture crops in Ahmedabad district during 2004-05 and 2011-12 is given in the following Tables.

Area, Production and Productivity of Horticultural crops in Ahmedabad district

Fruits

Crop	Area (ha)			Production (MT)			Productivity (MT/ha)		
	2004-05	2011-12	% Diff.	2004-05	2011-12	% Diff.	2004-05	2011-12	% Diff.
Mango	477	235	-50.73	3100	718	-76.84	6.50	3.06	-52.92
Sapota	310	110	-64.52	2325	1012	-56.47	7.50	9.20	22.67
Citrus	1897	1240	-34.63	18970	13770	-27.41	10.00	11.10	11.00
Ber	1653	710	-57.05	19836	6555	-66.95	12.00	9.23	-23.08
Banana	194	115	-40.72	6984	3040	-56.47	36.00	26.43	-26.58
Guava	297	250	-15.82	4455	3500	-21.44	15.00	14.00	-6.67
Pomegranate	47	72	53.19	423	1150	171.87	9.00	15.97	77.44
Datepalm	6	1	-83.33	48	8	-83.33	8.00	8.00	0.00
Papaya	497	190	-61.77	14910	6000	-59.76	30.00	31.58	5.27
Custard Apple	456	450	-1.32	3648	4793	31.39	8.00	10.65	33.13
Aonla	811	205	-74.72	8110	2340	-71.15	10.00	11.41	14.10
Total	6645	3578	-46.16	82809	42886	-48.21	12.46	12.13	-2.66

Vegetables

Crop	Area (ha)			Production (MT)			Productivity (MT/ha)		
	2004-05	2011-12	% Diff.	2004-05	2011-12	% Diff.	2004-05	2011-12	% Diff.
Potato	0	0	0	0	0	0	0	0	0
Onion	11	0	0	209	0	0	19.00	0	0
Brinjal	2013	3175	57.72	30195	58150	92.58	15.00	19.31	28.73
Cabbage	1283	1077	-16.06	19245	19500	1.33	15.00	18.11	20.73
Okra	667	2064	209.45	4669	16000	242.69	7.00	7.75	10.71
Tomato	3571	3078	-13.81	49994	85150	70.32	14.00	27.66	97.57

Cauliflower	1180	1223	3.64	20060	19950	-0.55	17.00	16.31	-4.06
Clusterbean	187	2507	1240.64	748	14050	1778.34	4.00	5.6	40.00
Cowpea	0	2287	0.00	0	23250	0.00	0.00	10.17	0.00
Cucurbits		7191	0.00		98600	0.00		13.71	0.00
Others	2100	3091	47.19	9450	74948	693.10	4.50	24.25	438.89
Total	11012	25693	133.32	134570	409598	204.38	12.22	15.94	30.46

Spices

Crop	Area (ha)			Production (MT)			Productivity (MT/ha)		
	2004-05	2011-12	% Diff.	2004-05	2011-12	% Diff.	2004-05	2011-12	% Diff.
Cumin	13264	26600	100.54	6433	9044	40.59	0.48	0.34	-29.90
Fennel	15	100	566.67	15	85	466.67	1.00	0.85	-15.00
Chilly	882	85	-90.36	882	142	-83.90	1.00	1.67	67.00
Garlic	9	0	-100.00	45	0	-100.00	5.00	0	-100.00
Ginger	0	0		0	0			0	
Turmeric	0	0		0	0			0	
Corriander	147	0	-100.00	88	0	-100.00	0.60	0	-100.00
Fenugreek	133	578	334.59	1330	1220	-8.27	10.00	2.11	-78.90
Isabgul	178	0	-100.00	89	0	-100.00	0.50	0	-100.00
Ajwain	21	0	-100.00	13	0	-100.00	0.62	0	-100.00
Suva	2585	2300	-11.03	1293	2310	78.65	0.50	1	99.92
Others	0	0		0	0			0	
Total	17234	29663	72.12	10188	12801	25.65	0.59	0.43	-27.00

Flowers

Crop	Area (ha)			Production (MT)			Productivity (MT/ha)		
	2004-05	2011-12	% Diff.	2004-05	2011-12	% Diff.	2004-05	2011-12	% Diff.
Rose	172	350	103.5	1290	2340	81.4	7.5	6.69	-10.8
Marigold	310	550	77.4	2015	2900	43.9	6.5	5.27	-18.9
Mogra	83	160	92.8	623	1100	76.6	7.5	6.88	-8.3
Lilly	46	130	182.6	91*	1050			8.08	
Others	63	135	114.3	315	425	34.9	5	3.15	-37.0
Total	674	1325	96.6	4243	7815	84.2	6.30	5.90	-6.3

*In lakh bundle

Source: SHM, Gujarat

It has been observed that there is marked decline in area and production of fruit crops, except for pomegranate. This has been attributed to effect of urbanization. There is however, significant increase in area and production of vegetables and flowers. There has been decline in the productivity of cumin.

Activities visited in Ahmedabad district

The following local officials accompanied the JIT during visit in Ahmedabad district.

1. Shri D. M. Vaghela, Deputy Director
2. Shri Jatin Patil, Assistant Director

JIT visited two naturally ventilated green house structures and plastic mulching of water melon. JIT also interacted with FIG members under VIUC scheme and visited some of their plots where vegetables were being cultivated.

Glimpses of visit to Ahmedabad district is given on the following pages.

GLIMPSES OF NHM ACTIVITIES VISITED IN AHMEDABAD DISTRICT



Shri Indrajeet Barot has taken up cultivation of roses in NV green house (4000 sq. m) during 2012-13. The structure was fabricated by Prema Enterprise, Gandhinagar. The UV film needed better anchoring.



View of plot where plastic mulching was used for cultivating water melon. Harvesting has been completed during the time of the visit. Farmers are fully convinced about the positive impact of plastic mulching for getting better yield of melons in the area.

VIUC ACTIVITIES VISITED IN AHMEDABAD DISTRICT

	
Cultivation of bottle gourd at Mirul village under VIUC	
	
Cultivation of Okra at Dhulipura village	Interaction with FIG at Dhulipura village
	
View of Krishi Mahotsav being organized at Nazz village	

Observations of JIT in Ahmedabad

A. NHM

- Naturally ventilated green house (4000 Sq. m) constructed during 2012-13 for cultivating roses by Shri Inderjeet Barot at Bilashia village was observed to be poorly maintained. Anti chamber has not been provided and the UV film was in a damaged condition. Subsidy amount of Rs. 12.00 lakh has been released. Release of balance payment is pending for want of repairs by the fabricator, viz. M/s Prema Enterprises. Total expenditure of Rs. 72.00 lakh has been incurred by the farmer. Harvesting of roses has commenced since February, 2013.
- NV Green house constructed in the adjacent plot by Giraben Inderjit Barot also lacked anti chamber and proper anchoring of UV film.
- Plastic mulching for cultivation of water melon (Ice box variety) at Bilashia village has enabled to fetch him about Rs. 1.25 lakh in 70 days from four ha. Farmers in the locality are fully convinced about the advantages of plastic mulching for growing crops like melons.
- Interactions held with Dr. Dinesh Patel, Sardar Patel Farm, Kathwada revealed that good income could be derived through organic farming, which he has adopted in his farm of 150 acres. He has availed subsidy under NHM for honey bee colonies. However, the colonies were under migration during the time of visit of JIT.

B. VIUC

JIT visited the plots of Shri Chuganbhai, Shri J. C. Parmar, Shri J. A Parmar and Shri Parabhai Parmar at Miroli village who have taken up cultivation of vegetables under VIUC scheme.

- Mostly bottle gourd was being cultivated for which the seeds were arranged by Excel Genetics Ltd., Ahmedabad. Okra has been taken up for cultivation by some of the farmers, who were members of local FIG.

- Baseline survey for Ahmedabad city was conducted by M/s Cohesion Foundation Trust, Ahmedabad. Two Resource Institutes viz. (i) Development Support Centre DSC and (ii) International Traceability Systems (ITS) Ltd. were engaged by SFAC for mobilizing farmers into FIGs and FPOs. So far two FPOs have been registered against the target of four.
- In Ahmedabad district, 58 FIGs involving 936 farmers in 19 villages have been formed into one FPO, viz, The Ahmedabad NVI Coopeative Vegetable Marketing Federation has been formed in Viramgam village, Duljipura and formally registered. A group of 15 farmers have joined the FIG at Miroli village. Cost of seeds and other inputs are being channelized through Sarvodaya Telibia Cooperative Society. However, for actual supply of seeds and inputs, ITS Ltd. have engaged Ms Excel Genetics. Rate of seeds and inputs are decided by the office of Deputy Director (Hort.), Ahmedabad.
- Shri Mukesh Solanki, Deputy Manager, ITS Ltd. mentioned that the cost of inputs is being channelized through Sarvodaya Telibia Cooperative Society as the society has been in existence under ATMA for quite some time and all state Government inputs are channelized through such societies, which exists in other districts of the State also. Once the FPOs become functional, all inputs could be channelized through the FPOs.
- Shri Krishna S. Chauhan representative of DSC informed that they have registered one FPO and are in the process of registering another FPOs. Their target was to form two FPOs and 45 FIGs. While Ekta FPO, comprising of 660 farmers, 33 FIGs in 11 village has been registered. Adarsh FPO comprising of 720 farmers, 36 FIGs in 10 village was in the process of registration.
- FIG group members are being assisted by the RI by organizing exposure visits, workshops, campaigns, video shows, demonstrations on vegetable cultivation besides facilitating them in opening Bank accounts and providing market linkage.

- Discussions with Shri Khodabhai Kanjibai Thakur president of one of the FIG at Dhuljipur village revealed that they were getting good support From the RI. However, proper market tie up remained a problem.
- Shri C. M. Patel, Joint Director or of Horticulture, SHM, Gujarat mentioned that process was on for identification of market aggregator. In the mean while tie up has been made with Mother Dairy. Some of the farmers are selling their produce through APMC markets. Vending carts could not be distributed as the design of the proto type developed needed improvement to reduce its weight.

C. Krishi Mahotsav

JIT witnessed the Krishi Mahotsav at Nazz village, Dascroi Tehsil on 16.5.2013. Such Mahatsovs are being organized in the State periodically for enabling the farmers to interact with officials of line departments and Scientists from SAUs and KVK. Importance of protected cultivation was highlighted by Shri K.K. Kaushal, PO, NCPAH.

D. Review meeting at Ahmedabad

A review meeting was held at Ahmedabad on 16.5.2013 to discuss the observations of JIT and to review the progress of Centrally Sponsored and Central sector schemes being implemented in Gujarat States. List of participants is given at Annexure.

1. NHM

- (i) Observation of JIT during this field visits and interaction with the farmers was highlighted.
- (ii) Matter relating to operationalization of HORTNET software was discussed with NIC representative. It was informed that while it was possible to process non-project based proposals, they were not able to process project based proposals, as the software did not accept the same. Moreover, they were not able to process proposals relating to

protected cultivation due to want of proper format. Presently forms for area expansion and protected cultivation were the same. Besides this, error message appeared frequently while using HORTNET Software. It was agreed to take this matter with NIC, HQ, New Delhi.

2. NMMI

- (i) Observation of JIT with regard to over design of drip irrigation system was highlighted.
- (ii) Issue of bringing down achievements under sprinkler irrigation during March, 2013 vis-à-vis February, 2013 was also raised. Dr. Limbashia, TO, GGRC informed that this matter was being dealt by another officer of GGRC. Clarification regarding the variation has, however, been sent to Ministry of Agriculture.
- (iii) Shri Gawit Joint Director mentioned that many farmers in Gujarat were going in for automation in micro irrigation system. Hence, subsidy needs to be provided for automation component of MIS. It was, however, clarified that automation will be valid for large fields. Moreover, proper standards on automation of MIS would be needed for consideration of subsidy as an optional item under NMMI.

3. NBM

- (i) Shri B.R. Pandya, Conservator of Forest, Gandhinagar informed that about 40,000 ha is under bamboo in the State, which is mainly located in National Parks.
- (ii) An area of 1000 ha. has been brought under bamboo of local varieties in non-forest area and 80 ha. in forest areas. To give impetus, established in collaboration with NGO in Ahmedabad.
- (iii) He requested for early release of funds. Action Plan and UC have been sent to DAC. Moreover, HRD related programme need to be approved.

- (iv) He added that labour rates are revised twice in a year, in April and October. Present wage rate was Rs. 193/day. Looking into this, the cost norms for NBM would need revision.

4. NHB

- (i) Shri D.K Pal, Deputy Director, NHB, Ahmedabad informed that during 2010-11 to 2012-13, NHB has assisted 472 projects costing upto Rs. 50.00 lakh at a total subsidy of Rs. 14.06 crore. Besides, 186 project costing more than Rs. 50.00 lakh , involving total subsidy assistance of Rs. 12.93 crore was sanctioned by NHB, HQ, Gurgaon during the same period.
- (ii) NHB has accredited 14 nurseries during 2012-13, out of which, one nursery was ranked as four-star.
- (iii) NHB has received 3 mango pulp processing project proposals, which is being processed. Besides cashew processing projects with project cost of upto Rs. 1.5 crore are under consideration for approval. NHB has also taken up area expansion of fruits in Bhuj District in clusters having area ranging form 4 ha to 40 ha.

5. RKVY

- (i) Shri Vaghasiya, Joint Director (Horticulture) informed that during the period 2009-10 to 2012-13 funds to the tune of Rs. 269.91 crore was sanctioned for horticulture sector under RKVY scheme. An amount of Rs. 191.78 crore was released against which an expenditure of Rs. 183.05 crore has been incurred.
- (ii) During 2012-13, funds amounting to Rs. 122.19 crore was sanction out of which an amount of Rs. 92.17 crore was released. Expenditure during the year was Rs. 83.46 crore.
- (iii) State has taken up Mission mode Horticulture Development in non-NHM districts at an expenditure of Rs. 6.64 crore during 2012-13.
- (iv) Some of the programmes introduced during 2012-13 included area expansion of Dates through Tissue culture raised plants, providing Hybrid

melon and vegetable seeds & micro nutrients, Precision Farming in Banana, Vegetable roof gardening in Towns, besides VIUC.

6. Meeting with the Additional Secretary (Hort.)

Shri R. C. Mistry, Additional Secretary (Hort.) was briefed by the JIT about its observations.

He mentioned that the State was giving more focus for setting up infrastructure and is providing additional subsidy on cluster based infrastructure development. He added that interest of loan on Green house / shade net construction was charged at par with industrial loan as the banks considered the production in these infrastructures as cash crop. He expressed his concern over water scarcity in different parts of the state. He also suggested the need to introduce in Micro irrigation in Oil Palm plantations.

Annexure

List of Participants during Review Meeting by JIT at Gandhinagar on 16.05.2013

A: Members of JIT

1. Dr. Jose C. Samuel,
Chief Consultant (NHM),
Ministry of Agriculture,
New Delhi
2. ER. K.K. Kaushal
Project Officer
NCPAH
New Delhi
3. Dr. M.C. Patel,
Associate Professor,
Gujarat Agriculture University
4. Shri P.S. Kohli,
Senior Resource Person (NHM),
Ministry of Agriculture,
New Delhi

B: State Government

1. Shri C.M. Patel,
Senior Executive Officer,
Gujarat Horticulture Mission,
Gandhi Nagar, Gujarat
2. Shri S.S. Gawit,
Joint Director
Vadodra Division
Vadodra
3. Dr. P.M. Vaghasiya
Joint Director (Horticulture)
(Planning & RKVY)
Gandhinagar

4. Shri Bharat R. Pandya
Conservator of Forests,
Development & Management,
Gandhinagar
5. Dr. R. Limbashia,
Technical Officer,
Gujarat Green Revolution Company (GGRC)
Vadodra
6. Shri B.P. Patel,
Deputy Director (Horticulture)
Vadodra
7. Shri B.S. Valand,
Deputy Director (Horticulture)
Anand
8. Shri P.N. Shukla,
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Kheda
9. Shri D.M. Vaghela,
Deputy Director (Horticulture)
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10. Shri J.R. Patel
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11. Shri D.K. Pal,
Deputy Director,
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12. Dr. F.G. Panj
Assistant Director Hort. & NHM)
Gandhinagar
13. Shri Pradeep Kumar
Mar. (Processing)
Gandhinagar

APPENDIX

APPENDIX – I

RECORD OF OBSERVATIONS OF JIT IN VADODARA DISTRICT

Micro Irrigation

Sr. No.	Details	
1	Name & address of beneficiary visited.	Shri Shantibhai Motibhai Patel, Shri Dasbai Kanti Bai Patel
2	Total land available with the beneficiary (ha).	1.61
3	Type of MI system availed Drip/ Sprinkler	Drip
4	Crop(s) covered	Bitter Gourd
5.	Total area covered (ha)	1.61
6	Crop Spacing (for drip)	5 x 5 m
7	Year of establishment	2012-13
8	Name of Manufacturer/ Supplier	Netafim
9	Total subsidy paid & date of payment	96,600/-
10	Mode of payment	D.D.
11	Status of crop	Plot needed maintenance and weeding.
12	General upkeep (Very good/ Good/ Average/ Poor)	Average. Weeding needed.
13.	Any other relevant observation by JIT.	<ul style="list-style-type: none">• No display board• Over design of drip system• Training in proper use of drip needed• Flood Irrigation was also being provided

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Protected Cultivation

Sr. No.	Details	
1	Name & address of Beneficiary whose field visited.	Shri Patel Jashbhai Zaverbhai Vill: Aajod Ta: Vadodara Distt: Vadodara
2	Total land available with the beneficiary (ha).	2.5
3	Type of Protected cultivation activity (Hi-tech / Normal GH, Shade net, Plastic tunnel)	Shadenet House
4.	Year of establishment	2012-13
5.	Size of Structure (Sq. m)	3872
6.	Total cost	Rs. 25.00 lakh
7.	Agency involved in fabrication and installation	Neel Agrotech, Ahmedabad
8.	Total subsidy paid and date of payment.	Rs. 11.05 lakh
9.	Crop being grown	Ridge gourd as 2 nd crop after cucumber
10.	Condition of Structure	Good length of drip lateral was too long.
11.	Condition of Crop	Plants too density populated. Thinning of plants was advised.
12.	Tie up with market	None
13.	General upkeep (Very good/ Good/ Average/ Poor)	Cucumber seed imported from Israel
14	Any other relevant observation by JIT.	<ul style="list-style-type: none"> • Display board in place but no logo. • Needed training, as only one day seminar attended. • Interaction with PFDC needed.

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IPM/INM Infrastructure
Bio Control Lab (Private Sector)

Sr. No.	Details	
1	Name of the project	Agriland Biotech Ltd./Bio Control Laboratory
2	Year of Implementation	2012-13
3	Project Period	11 Month
4	Name of Implementing Agency	Agriland Biotech Pvt. Ltd.
5	Location of Project	Samlya Ta: Savli Dist: Vadodara
6	Total Project Cost	234.00 lakh
7	Amount Released by DAC	18.75 lakh (1 st installment)
8	Expenditure incurred	234 lakh
9	List of equipments procured	Liquid fermentation facility, Pulvitizer, Centrige, Culture room, A.H.U.
10	Whether trained manpower employed	Yes
11	Arrangements made to meet recurring cost	40% Company contribution 60% Term Loan
12	Current status	Project partially completed
	Name of agents produced	Trichoderma, Buveria, (Monitor) (Biosoft) (Yorker)
	Quantity produced	Biosoft 7000 kgs Monitor 16000 kgs
	Quantity sold	Biosoft 6214 kgs Monitor 15336 kgs
	Amount realized through sale	Rs. 151.00 lakh
13	General condition of lab during the time of inspection	<ul style="list-style-type: none"> • Good • IMO certified products • Innovation- product with high spore count being produced

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PHM Infrastructure

Ripening Chamber

Sr. No.	Details	
1	Name of the project	Ripening Chamber Vadodara
2	Year of Implementation	2012-13
3	Project Period	10 Month, Commissioned in Oct, 2012
4	Name of Implementing Agency	APMC, Vadodara (Sayaji Pura)
5	Location of Project	Vadodara City
6	Total Project Cost	120.86 lacks
7	Amount Released by DAC	20.00 lakh + 13.94 lakh + 33.94 lakh
8	Expenditure incurred	108.86 lakh
9	List of equipments procured	Ripening Chambers, ethylene generator
10	Whether trained manpower employed	Yes
11	Arrangements made to meet recurring cost	APMC source
12	Current status	Project completed
	Name of product	Banana (18 MT x 5 Chambers each)
	Quantity produced	90 MT
	Quantity sold	90 MT
	Amount realized through sale	6.31 lacs
13	General condition of lab during the time of inspection	<ul style="list-style-type: none"> Under utilized in non-season Multi use of chambers to be explored. Proposed to use for ripening mangoes.

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Protected Cultivation

Sr. No.	Details	
1	Name & address of Beneficiary whose field visited.	Shri Chintubhai B. Patel, Ganpatpura, Karjan Ta., Vadodra
2	Total land available with the beneficiary (ha).	NA
3	Type of Protected cultivation activity (Hi-tech / Normal GH, Shade net, Plastic tunnel)	Naturally ventilated a Green House
4.	Year of establishment	2012-13
5.	Size of Structure (Sq. m)	4000
6.	Total cost	Rs. 41.00 lakh
7.	Agency involved in fabrication and installation	Netafin Irrigation
8.	Total subsidy paid and date of payment.	Rs. 8.00 lakh (1 st installment)
9.	Crop being grown	Cucumber
10.	Condition of Structure	Good
11.	Condition of Crop	Leaf spots on plants
12.	Tie up with market	None
13.	General upkeep (Very good/ Good/ Average/ Poor)	Good
14	Any other relevant observation by JIT.	2 nd installment yet to be disbursed.

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Protected Cultivation

Sr. No.	Details	
1	Name & address of Beneficiary whose field visited.	Shri Patel Ghanshyambhai Parshottambhai Vill: Sadhi, Ta: Padra Dist: Vadodara
2	Total land available with the beneficiary (ha).	2.00 ha
3	Type of Protected cultivation activity (Hi-tech / Normal GH, Shade net, Plastic tunnel)	Naturally ventilated Green House
4.	Year of establishment	2012-13
5.	Size of Structure (Sq. m)	4000
6.	Total cost	Rs. 45.00 lakh (All inclusive)
7.	Agency involved in fabrication and installation	Pink Vision
8.	Total subsidy paid and date of payment.	Rs. 21.502 lakh 21-11-2012
9.	Crop being grown	Cucumber
10.	Condition of Structure	Very Good. Length of drip lateral was too long.
11.	Condition of Crop	Good. Nitrogen deficiency was observed.
12.	Tie up with market	local
13.	General upkeep (Very good/ Good/ Average/ Poor)	Good
14	Any other relevant observation by JIT.	Another NV green house was being constructed

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APPENDIX – II

RECORD OF OBSERVATIONS OF JIT IN ANAND DISTRICT

Production of Planting Material

Tissue Culture

Sr. No.	Details	
1	Name of the project	Tissue culture Lab
2	Year of Implementation	2010-11
3	Project Period	2 Years
4	Name of Implementing Agency	Shri Siddhi Plantek, (Shri Chandrasinh Parmar)
5	Location of Project	Hathipura, Tehsil: Ankav, Distt.: Anand
6	Total Project Cost	Rs. 272.00 lakh
7	Amount Released by DAC	Rs. 50.00 lakh
8	Expenditure incurred	Rs. 3.50 lakh
9	Status of Project	
	• Name of crops for which seeds produced	Banana Parwal
	• Quantity produced	3 lakh of banana 2 lakh of parwal
	• Quantity sold	3 lakh of Banana 2 lakh of parwal
	• Rate	Rs. 12/- Banana Rs. 10/- parwal
	• Amount realized through sale	Rs. 56.00 lakh
	• Whether NHM logo displayed	Yes
	• Observations	<ul style="list-style-type: none"> Unit in working condition Marketing in Maharashtra Planning for sugarcane culture

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Production of Planting Material

Tissue Culture

Sr. No.	Details	
1	Name of the project	Tissue Culture lab (Dates)
2	Year of Implementation	2011-12
3	Project Period	2 years
4	Name of Implementing Agency	Anand Agriculture University, Anand
5	Location of Project	University Campus, Anand
6	Total Project Cost	Rs 100 lakh approved
7	Amount Released by DAC	Rs. 100 lakh
8	Expenditure incurred	Under progress. New Growth room under construction
9	Status of Project	
	• Name of crops for which seeds produced	Datepalm
	• Quantity produced	50,000 plants (Proposed capacity)
	• Quantity sold	
	• Rate	
	• Amount realized through sale	
	• Whether NHM logo displayed	Board displayed
	• Observations	

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Protected Cultivation

S.N	Details	
1	Name & address of Beneficiary whose field visited.	Shri Raj Hathi Sinh & Kalu Sinh Sundan, Anand
2	Total land available with the beneficiary (ha	1.88 ha.
3	Type of Protected cultivation activity (Hi-tech / Normal GH, Shade net, Plastic tunnel)	Shade net
4.	Year of establishment	2012-13
5.	Size of Structure (Sq. m)	4000 Sq. mtr.
6.	Total cost	Rs 24 lakh
7.	Agency involved in fabrication and installation	Krushi Dishu Agrotech
8.	Total subsidy paid and date of payment.	Rs. 11, 87,531/-22.2.2013
9.	Crop being grown	Green Capsicum – Indira Variety14, 000 plants @Rs. 1.59/plant
10.	Condition of Structure	Good
11.	Condition of Crop	Densely populated, thinning was recommended and demonstrated
12.	Tie up with market	Local (self)
13.	General upkeep (Very good/ Good/ Average/ Poor	Good
14	Any other relevant observation by JIT.	<ul style="list-style-type: none"> • Low yield due to high plant density, poor size of fruit • 36 tons of capsicum harvested & sold @Rs. 12/kg. and Rs 6 lakh realized • Yield of 25 tons worth Rs 3-4 lakh expected • Leaf fold & mites • Training recommended in cultivation techniques • Logo displayed

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Protected Cultivation

Sr. No.	Details	
1	Name & address of Beneficiary whose field visited.	Smt. Gitaben & Shri Ajay Bhai Sundan, Anand
2	Total land available with the beneficiary (ha).	2 ha.
3	Type of Protected cultivation activity (Hi-tech / Normal GH, Shade net, Plastic tunnel)	Shade net
4.	Year of establishment	2012-13
5.	Size of Structure (Sq. m)	700 Sq. mtr.
6.	Total cost	Rs 3.15 lakh
7.	Agency involved in fabrication and installation	Krusha Dishu Agrotech
8.	Total subsidy paid and date of payment.	Rs. 2.18 lakh
9.	Crop being grown	Vegetables and Medicinal Plants
10.	Condition of Structure	Good
11.	Condition of Crop	Good
12.	Tie up with market	NDDB
13.	General upkeep (Very good/ Good/ Average/ Poor)	Good
14	Any other relevant observation by JIT.	<ul style="list-style-type: none"> NHM Logo not displayed From January, 2013, an amount of Rs. 7,000/- p.m. is being realized

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Protected Cultivation

Sr. No.	Details	
1	Name & address of Beneficiary whose field visited.	Shri Chauhan Chandrusinh & Shri Hotusinh Mogas, Anand
2	Total land available with the beneficiary ha).	0.73 ha.
3	Type of Protected cultivation activity (Hi-tech / Normal GH, Shade net, Plastic tunnel)	Normal Green House
4.	Year of establishment	2012-13
5.	Size of Structure (Sq. m)	4000 Sq. mtr.
6.	Total cost	Rs 39.40 lakh
7.	Agency involved in fabrication and installation	Pipes and Flow
8.	Total subsidy paid and date of payment.	Rs. 17, 17,833/- 02.2.2013
9.	Crop being grown	Green Capsicum. To be followed with cucurbits.
10.	Condition of Structure	Anti chamber missing
11.	Condition of Crop	Plant Protection measures needed
12.	Tie up with market	Anand City
13.	General upkeep (Very good/ Good/ Average/ Poor)	Plant Protection measures needed
14	Any other relevant observation by JIT.	<ul style="list-style-type: none"> • Logo displayed • GH completed in Dec. 2012 • 20 tons of capsicum harvested & sold @Rs.20/kg. • An amount of Rs.4 lakh realized

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Protected Cultivation

Sr. No.	Details	
1	Name & address of Beneficiary whose field visited.	Shri Patel Vikrambhai & Shri Maganbhai Samaskha, Anaand
2	Total land available with the beneficiary (ha).	1.24 ha.
3	Type of Protected cultivation activity (Hi-tech / Normal GH, Shade net, Plastic tunnel)	Normal Green House
4.	Year of establishment	2011-12
5.	Size of Structure (Sq. m)	4000 Sq. mtr.
6.	Total cost	Rs 47.72 lakh
7.	Agency involved in fabrication and installation	IGPL, Pune
8.	Total subsidy paid and date of payment.	Rs. 14, 61,860/- 18.3.2012
9.	Crop being grown	Gerbera – 6 colors
10.	Condition of Structure	Good
11.	Condition of Crop	Plants appeared to be under stress
12.	Tie up with market	Local, Delhi. Ahmedabad, Vadodra
13.	General upkeep (Very good/ Good/ Average/ Poor)	Good
14	Any other relevant observation by JIT.	<ul style="list-style-type: none"> • Logo displayed • Blight and thrips in plants • 4 lakh Sticks @ Rs 4 to 6/stick sold.

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Post Harvest Management

Pack House/**Cold Storage**/Ref Van/ Primary processing

Sr. No.	Details	
1	Name of the project	Shree Laxmi Cold Storage - Multi Chamber
2	Year of Implementation	2011-12
3	Project Period	One year 2011-12
4	Name of Beneficiary	Sh. Sunil Bhai Sutaria
5	Location of Project	Kanthuria, Tesi: Ankлав
6	Total Project Cost	Rs 164.00 lakh
7	Amount Released & date	Rs 32 lakh – 29.11.2011
8	Expenditure incurred	Rs 164 lakh
9	Status	
	Capacity of unit	4500 MT – 90,000 bags
	Commodity	Potato
	Equipments purchased	Kirloskar Compressor, SS fin coils
	Condition of infrastructure	Good
	Whether NHM logo displayed	No
	Whether funds disbursed to agency	Yes. Subsidy as per old norms @25% of cost. Horticulture Department is providing 25% subsidy on electricity bills of the cold storage.

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APPENDIX – III

RECORD OF OBSERVATIONS OF JIT IN KHEDA DISTRICT

Production of Planting Material

Tissue Culture

Sr. No.	Details	Remarks
1	Name of the project	Tissue Culture Lab
2	Year of Implementation	2012-13
3	Project Period	2012-13
4	Name of Implementing Agency	ABC Agro biotechnology (P) Ltd.
5	Location of Project	At- Chapra, Ta- Mehmdeebad District Kheda.
6	Total Project Cost	Rs. 386.00 lakh
7	Amount Released by DAC	65.00 lakh (50% NHM & 15% State Govt.)
8	Expenditure incurred	Rs. 451.0 lakh.
9	Status of Project	
	• Name of crops for which seeds produced	Pomegranate, Teak
	• Quantity produced	30.00 lakh
	• Quantity sold	-
	• Rate	Rs. 12/- per plant
	• Amount realized through sale	Nil
	• Whether NHM logo displayed	Yes
10.	Any other relevant observation by the JIT.	<ul style="list-style-type: none"> • No Primary or secondary hardening facility in the vicinity of lab. • Subsidy released.

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APPENDIX – IV

RECORD OF OBSERVATIONS OF JIT IN AHMEDABAD DISTRICT

Protected Cultivation

Sr. No.	Details	Remarks
1	Name & address of Beneficiary whose field visited.	Shri Inderajeet D. Barot village, Bilasiya, Ta- Dascroi, District Ahmedabad.
2	Total land available with the beneficiary (ha).	3.90 ha.
3	Type of Protected cultivation activity (Hi-tech / Normal GH, Shade net, Plastic tunnel)	Natural Ventilated Green House
4.	Year of establishment	2012-13
5.	Size of Structure (Sq. m)	4000
6.	Total cost	Rs. 37.00 lakh
7.	Agency involved in fabrication and installation	Prema Enterprise ,Gandhinagar
8.	Total subsidy paid and date of payment.	Rs. 12.00 lakh (1 st Installation)
9.	Crop being grown	Dutch Rose
10.	Condition of Structure	UV film damaged on the sides. Anti chamber need to be provided.
11.	Condition of Crop	Good
12.	Tie up with market	Local. So far has realized Rs. 4.00 lakh through sale.
13.	General upkeep (Very good/ Good/ Average/ Poor)	UV film needed better anchoring.
14	Any other relevant observation by JIT.	

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Protected Cultivation

Sr. No.	Details	Remarks
1	Name & address of Beneficiary whose field visited.	Shri Giraben Indrajit Barot village Bilusiya Ta- Dascroi, District Ahmedabad.
2	Total land available with the beneficiary (ha).	1.75 ha.
3	Type of Protected cultivation activity (Hi-tech / Normal GH, Shade net, Plastic tunnel)	Naturally ventilated Green House
4.	Year of establishment	2012-13
5.	Size of Structure (Sq. m)	4000
6.	Total cost	Rs. 37.00 lakh
7.	Agency involved in fabrication and installation	Prema Enterprise ,Gandhinagar
8.	Total subsidy paid and date of payment.	Rs. 12.00 lakh
9.	Crop being grown	Dutch Rose
10.	Condition of Structure	Anti chamber need to be provided.
11.	Condition of Crop	Good
12.	Tie up with market	APMC, Ahmedabad
13.	General upkeep (Very good/ Good/ Average/ Poor)	Good
14	Any other relevant observation by JIT.	

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Protected Cultivation (Mulching)

Sr. No.	Details	Remarks
1	Name & address of Beneficiary whose field visited.	Shri Manibhai A Patel, village Bilasiya, Ta. Dascroi, Ahmedabad
2	Total land available with the beneficiary (ha).	4.5
3	Type of Protected cultivation activity (Hi-tech / Normal GH, Shade net, Plastic tunnel)	Plastic mulching
4.	Year of establishment	2012-13
5.	Size of Structure (Sq. m)	-
6.	Total cost	20,000/ha
7.	Agency involved in fabrication and installation	Prema Enterprise, Gandhinagar
8.	Total subsidy paid and date of payment.	
9.	Crop being grown	Water melon (Ice box variety)
10.	Condition of Structure	
11.	Condition of Crop	Harvesting completed.
12.	Tie up with market	Local
13.	General upkeep (Very good/ Good/ Average/ Poor)	
14	Any other relevant observation by JIT.	<ul style="list-style-type: none"> • 96 MT of water melon harvested. • Farmers of the area are convinced about the importance of plastic mulching in growing melons.

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Area Expansion / Vegetable- VIUC

Sr. No.	Details	Remarks
1	Name & address of Beneficiary whose field visited.	Shri Chaganbhai Shamabhi village-Miroli, Ta. Dascroi, District Ahmedabad
2	Total land available with the beneficiary (ha).	2.5 ha
3	Crop Cluster under which covered.	Bottle gourd / Okra
4	Name & variety of crop planted.	Excel – Ayush-Bottlegourd1 Excel-106 okra
5	Source of planting material.	Excel genetics Ltd. Ahmedabad
6	Number of planting material.	
9	Total amount of subsidy assistance due to the beneficiary as (Rs.)	13,500/ha
10	Amount paid and date of payment.	13500/- 28/3/2013
11	Mode of payment.	RTGS to Co. op Society
12	Source of Irrigation Water (Bore well/ Tube well/ Canel)	Canal
13.	Whether Drip/ Sprinkle System in use.	No
14.	Other inputs provided.	Inputs through Sarvodaya Telibia Cooperative Society
15.	Whether assistance available for Organic Farming	No.
16.	Available marketing facility for the crop.	APMC Market
17.	General upkeep of the plot; Very good/ Good / Average/ Poor.	Good
18.	Any other relevant observation by the JIT.	A group of 15 farmers, have taken up veghetables cultivation in the village. Market tie up was yet to be made.

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Area Expansion / Vegetable

RKVY (Peri Urban)

Sr. No.	Details	Remarks
1	Name & address of Beneficiary whose field visited.	Shri Jayant bhai C. Parmar Vilalge- Miroli Ta. Discroi, Dist. Ahmedabad
2	Total land available with the beneficiary (ha).	2.8 ha
3	Crop Cluster under which covered.	Bottle gourd
4	Name & variety of crop planted.	Bottle gourd Excel Ayush
5	Source of plant material.	Excel genetics Ltd. Alba 2
6	Total amount of subsidy assistance due to the beneficiary as (Rs.)	13500/ha
7	Amount paid and date of payment.	28/3/2012 16280
8	Mode of payment.	RTGS to Co. Op. Society, Pirama
9	Source of Irrigation Water (Bore well/ Tube well/ Canel)	Canal
10	Whether Drip/ Sprinkle System in use.	No
11	Other inputs provided.	Micro nutrients & Bio fertilizers
12	Whether assistance available for Organic Farming	No
13	Available marketing facility for the crop.	
14	General upkeep of the plot; Very good/ Good / Average/ Poor.	Good
15	Any other relevant observation by the JIT.	Tie up with market was yet to be need.

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(C.M. Patel)
Senior Executive Officer, SHM, Gujarat

(P. S Kohli)
SRP (NHM)

(Dr. Jose C. Samuel)
Chief Consultant (NHM)

Area Expansion / Vegetable

RKVY (Peri Urban)

Sr. No.	Details	Remarks
1	Name & address of Beneficiary whose field visited.	Shri Janshventbhai Aljibhai Parmar village Miroli Ta Dascroi, District Ahmedabad
2	Total land available with the beneficiary (ha).	3.2 ha
3	Crop Cluster under which covered.	Bottle gourd
4	Name & variety of crop planted.	Excel Ayush-Bottle gourd1
5	Source of plant material.	Excel genetics Ltd., Albad
6	Total amount of subsidy assistance due to the beneficiary as (Rs.)	20500/-
7	Amount paid and date of payment.	Rs. 20,500 281372013
8	Mode of payment.	RTGS to Co. op. Society, Pirara
9	Source of Irrigation Water (Bore well/ Tube well/ Canel)	Canal
10	Whether Drip/ Sprinkle System in use.	No
11	Other inputs provided.	Micro nutrient & Bio fertilizer
12	Whether assistance available for Organic Farming	No
13	Available marketing facility for the crop.	Local market
14	Other infrastructure available in the vicinity.	
15	General upkeep of the plot; Very good/ Good / Average/ Poor.	
16	Any other relevant observation by the JIT.	

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Area Expansion / Vegetable

RKVY (Peri Urban)

Sr. No.	Details	Remarks
1	Name & address of Beneficiary whose field visited.	Shri Pasabhi Dhubashid Parmar village- Miroli Ta. Dasroi District Ahmedabad.
2	Total land available with the beneficiary (ha).	1.7 ha
3	Crop Cluster under which covered.	Bottle gourd
4	Name & variety of crop planted.	Bottle gourd Excel Ayush
5	Source of planting material.	Excel Crop genetics Ahmedabad
6	Total amount of subsidy assistance due to the beneficiary as (Rs.)	13500/ha
7	Amount paid and date of payment.	28/3/2013 Rs. 13,500
8	Mode of payment.	RTGs to Co-operative Society, Piramu
9	Source of Irrigation Water (Bore well/ Tube well/ Canel)	Canal
10	Whether Drip/ Sprinkle System in use.	No
11	Other inputs provided.	Micro nutrients & Bio Fertilizers
12	Whether assistance available for Organic Farming	No
13	Is so, area covered	
14	Assistance available	
15	Available marketing facility for the crop.	Local arrangement
16.	General upkeep of the plot; Very good/ Good / Average/ Poor.	Good
17.	Any other relevant observation by the JIT.	Market tie up yet to be made.

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