

IMPORTANT ACHIEVEMENTS DURING 2016-2017 IN RESPECT OF HORTICULTURE DEPARTMENT

An e-book publication

Horticulture Department was bifurcated from the State Department of Agriculture in the year 1993 and became a full fledged Department since 1997. Mizoram covers an area of 21,081 Sq. km., out of which 11.56 lakh hectares (55%) is identified as potential area for horticulture crops. However, only 9.4 % of the total potential area is covered so far which proves that there is still a vast scope for further development of horticulture in the State. Introduction of Central Sponsored Schemes such as MIDH, RKVY PMKSY, Aricle 275 (1) and State flagship programme , NLUP/ NEDP have brought about remarkable progress in increasing area, production and productivity.

Horticulture Department, Government of Mizoram is being implementing various important projects /schemes for increasing area, production and productivity of Horticultural Crops in the State such as –

1. Mission for Integrated Development of Horticulture (MIDH/HMNEH):

The most important Centrally Sponsored Scheme being implemented by Horticulture Department is Mission for Integrated Development of Horticulture. Previously, it was known as ‘Technology Mission for North-Eastern States (TMNE)’, which was later changed to HMNEH in 2010-2011, and is now under the umbrella of Mission for Integrated Development of Horticulture (MIDH) since the year 2014-2015.

Major activities under this scheme includes establishment of new garden of fruits, Vegetables, Mushroom, Flowers, Spice crops and Aromatic plants, Rejuvenation/ replacement of senile plantation and canopy management on fruit crops, creation of water sources for irrigation of crops etc.

During 2016 – 2017, more than 1770 Ha area has been covered under Area Expansion Scheme of fruits, vegetables, flowers and spices. Protected cultivation covered more than 17,00,00 sq.m enabling cultivation of flowers and vegetables throughout the season. For provision of Irrigation to the crops 5 Nos of community water tanks and 157 Nos of individual water tanks have been constructed. Rejuvenation of 1600 Ha of existing orchards was also successfully completed during the same year.

Detail Physical and Financial Achievements under MIDH 2016 – 2017 may be seen as follows:-

**PHYSICAL AND FINANCIAL ACHIEVEMENTS UNDER MIDH
2016 - 2017**

Sl.No.	Component	Target Approved		Target achieved	
		Phy.	Fin.	Phy.	Fin.
1	Production of Planting Materials	2	50.00	2	50.00
2	Establishment of New Garden				
	a) Fruits				
	i) Cost intensive crops (Dragonfruit, Strawberry, Banana)	292	351.125	292	351.125
	ii) High Density Planting (Avocado, M. Orange, Mango)	400	120.00	400	120.00
	iii) Fruit crops other than cost intensive crops using normal spacing	290	52.20	290	52.20
	b) Vegetables	400	100.00	400	100.00
	c) Mushroom	1	20.00	1	20.00
	d) Flowers	50	25.00	50	25.00
	e) Spices	340	51.00	340	51.00
	1st Year Maintenance	270	45.00	270	45.00
3	Rejuvenation/ Replacement of Senile Plantations	1600	320.00	1600	320.00
4	Creation of water sources	162	266.30	162	266.30
5	Protected Cultivation	170032.8	482.70	170032.8	482.70
6	Integrated Pest/ Nutrient Management (INM/ IPM)	15000	180.00	15000	180.00
7	Horticulture Mechanization	888	186.00	888	186.00
8	Human resource Development	9531	110.77	9531	110.77
9	Technology Dissemination through demonstration / frontline demonstration	4	100.00	4	100.00
10	Integrated Post Harvest Management	203	723.00	203	723.00
11	Mission Management	66	276.90	66	276.90
12	Establishment of marketing infrastructure for horticultural crops	200	30.00	200	30.00
	TOTAL		3500.00		3500.00

2. Rashtrya Krishi Vikas Yojana (RKVY):

RKVY programme was started in Mizoram State since 2011-2012, owing to significant increase in the budget allocation of Agri & Allied Sector under NLUP Programme. An important component under RKVY is the National Vegetable Initiative for Urban Clusters (NVIUC) under which stress is given to vegetable crop production. The use of high yielding hybrid seeds and adoption of latest scientific

technology have greatly increased the production of vegetables due to higher productivity per unit area. Under RKVY, various activities like cultivation of Mandarin Orange, Dragon fruit, Strawberry and Hybrid vegetable, Integrated Nutrient Management, Integrated Pest Management, Farmers Training, construction of Tubular structure Green House Structures, individual Water Tank, and allocation of 10% flexi fund for link road construction are being taken up.

The project established “Farmers’ Training Centre” which will focus round the year crop production under protected cultivation by training the farmers, especially educated unemployed youth for more sustainable production and income. The training centres are established in 3 Districts viz. Aizawl, Lunglei and Kolasib as pilot projects which will be replicated in the rest of the Districts.

Apart from the flagship programme, focus is given on infrastructure support to Zo Anthurium Growers’ Society, Aizawl District, equipping them with systematic post harvest facilities for proper grading and storage to increase shelf – life and fetch better market prices.

Detail Physical and Financial Achievements under RKVY 2016 - 2017 may be as below :

ABSTRACT OF SHELF OF PROJECT UNDER RKVY 2016-2017

(Rs. in lakh)

Sl. No .	Component	Unit	Rate of Assistance	Target		Expenditure pattern 90:10		Total
				Phy	Fin	G.O.I	State	
I.	PRODUCTION GROWTH							
	1.Cultivation of Hi-value vegetables under greenhouse	Sqm.	0.00070	19,000	13.30	13.30	-	13.30
	2. Land development including leveling, preparation of bed.	Sqm.	0.00013	20,000	2.60	2.60	-	2.60
	3.Farm input	LS	LS	Ls	9.35	9.35	-	9.35
	4.Farmers Training	NO.	0.01	15,00	15.00	15.00	-	15.00
	5.Cultivation of Papaya var. Red Lady	Acr.	1.25	51	63.75	39.75	24.00	63.75
	Total of I				104.00	80.00	24.00	104.00
II.	INFRASTRUCTURE & ASSETS							
A	NORMAL							
	1.Construction of Farmers Training Hall	No.	7.0	3	21.00	21.00		21.00
	2.Construction of Farm House for Trainers under Farmers Training Centre	No.	1.0	15	15.00	15.00		15.00
	3.Installation of Green House	Sqm.	0.00970	1,134	11.00	11.00		11.00

	4.Construction of Individual Water Tank	No.	0.9	15	13.5	13.5		13.5
	5.Training Materials	LS.	LS.	LS.	0.60	0.60		0.60
	Sub- Total				61.10	61.10		61.10
B.	FLEXI FUND							
	a)Installation of Green House	Sqm.	0.00970	2464	23.90	23.90		23.90
	Sub-Total				23.90	23.90		23.90
C.	FLAGSHIP DISTRICT							
	1.Pack house for Zo Anthurium Growers Society	No.	4.00	1	4.00	4.00	-	4.00
	2.Cold room of 30 mt. capacity	No.	15.00	1	15.00	15.00	-	15.00
	3.Packaging material	LS.	6.50	1	6.50	6.50	-	6.50
	4.Packing and Grading	No.	7.00	1	7.00	7.00	-	7.00
	5.Installation of Green House	Sqm.	0.00970	1,701	16.50	16.50	-	16.50
	6. Micro Irrigation						-	
	a)Drip Irrigation	Sqm.	0.0000625	10,720	0.67	0.67	-	0.67
	b) Sprinkler Irrigation	Sqm.	0.0000375	8,800	0.33	0.33	-	0.33
	Sub-Total				50.00	50.00	-	50.00
	Total of II				135.00	135.00	-	135.00
	Grand Total of I & II				239.00	215.00	24.00	239.00

3. Pradhan Mantri Krishi Sinchai Yojana (PMKSY):

Substantial Dependency on rainfall renders cultivation in unirrigated areas a high risk affair. Lack of sufficient water or prolonged dry periods have been a serious constraint to crop production under rainfed condition resulting in significant reduction in both yields and cultivated area, inturn leading to significant impacts on rural livelihoods and food security.

. The vision of Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) will be to ensure access to some means of protective irrigation to all agricultural farms in the country, to produce ‘per drop more crop’, thus bringing about the much desired rural prosperity .This new programme was introduced and implemented since 2015-16.

Micro Irrigation under ‘Per Drop More Crop’ component of PMKSY aims at round the year production of vegetables and flowers through provision of Sprinkler & Drip Irrigation system etc. to provide water supply to the crops during the dry spell period as life saving irrigation. It ensures, sufficient supply of water during droughts of short duration and unpredictable climate. One of the main objectives being improvement of on farm water use efficiency to reduce wastage and increase availability both in duration and extent.

During the year 2016-2017, fund amounting to Rs 390 lakhs was released by Govt. of India and Rs 40.11 lakhs as SMS by the State Govt. The scheme will be implemented in all the Districts at open field and under protected cultivation for both Horticultural and Agricultural crops. Target and Achievement made during the year 2016-2017 maybe highlighted as follows:

1)Drip Irrigation System:

Sl No.	Crop & Spacing	Physical (Ha)		Financial (Rs in lakh)		District covered
		Target	Achievement	Target	Achievement	
1	M.Orange (4m - <8m)	30	30	7.21777	7.21777	Aizawl
		12	12	2.88764	2.88764	Mamit
		12	12	2.88764	2.88764	Kolasib
		15	15	3.60933	3.60933	Champhai
		15	15	3.60933	3.60933	Serchhip
		12	12	2.88764	2.88764	Lunglei
		6	6	1.44250	1.44250	Lawngtlai
		6	6	1.44158	1.44158	Siaha
2	Kiwi (4m - < 8m)	48	48	14.33370	14.33370	Champhai
3	Dragon fruit (2m – 4m)	40	40	15.82045	15.82045	Aizawl
		22	22	8.61034	8.61034	Mamit
		16	16	6.32831	6.32831	Kolasib
		23	23	9.15369	9.15369	Khawzawl
4	Grape (2m – 4m)	40	40	18.09094	18.09094	Champhai
5	Flowers (open field) (<1.2m)	41	41	17.42652	17.42652	Aizawl
		22	22	9.35081	9.35081	Kolasib
		8	8	3.40029	3.40029	Serchhip
		10	10	4.25037	4.25037	Lunglei
		10	10	4.25037	4.25037	Lawngtlai
6	Vegetables (open field) (<1.2m)	20	20	12.63691	12.63691	Aizawl
		7	7	3.93671	3.93671	Mamit
		8	8	5.05477	5.05477	Kolasib
		7	7	4.42291	4.42291	Champhai
		7	7	4.42291	4.42291	Serchhip
		6	6	3.79106	3.79106	Lunglei
		7	7	4.42291	4.42291	Lawngtlai
		7	7	4.42292	4.42292	Siaha
7	Strawberry (< 1.2m)	15	15	8.88358	8.88358	Aizawl
		15	15	8.88358	8.88358	Kolasib
		73	73	43.23346	43.23346	Siaha
8	Flowers (protected) (<1.2m)	11	11	8.09875	8.09875	Aizawl
		4	4	1.73755	1.73755	Kolasib
		2	2	1.47250	1.47250	Serchhip
		3	3	1.87008	1.87008	Lunglei
9	Vegetables (protected) (<1.2m)	4	4	2.75954	2.75954	Aizawl
		2	2	1.12816	1.12816	Mamit
		3	3	2.06966	2.06966	Kolasib
		2	2	1.37976	1.37976	Serchhip
		2	2	1.37976	1.37976	Lunglei
		2	2	1.37976	1.37976	Lawngtlai

10	Oil Palm (4m - < 8m)	198	198	49.33748	49.33748	Tuidam
		200	200	49.29426	49.29426	Kolasib
	TOTAL :	993		363.0182		

2) Drip / Sprinkler Irrigation System:

Sl No.	Crop & Spacing	Physical (Ha)		Financial (Rs in lakh)		District covered
		Target	Achievement	Target	Achievement	
1	Vegetables (protected)	11	11	6.65507	6.65507	Aizawl
		2	2	1.21	1.21	Mamit
		2	2	1.21	1.21	Kolasib
		2	2	1.21	1.21	Champhai
		2	2	1.21	1.21	Serchhip
		2	2	1.21	1.21	Lunglei
		2	2	1.21	1.21	Lawngtlai
		4	4	2.42002	2.42002	Siaha
2	Flowers (Protected)	11	11	7.26705	7.26705	Aizawl
		4	4	1.73755	1.73755	Kolasib
		8	8	3.67123	3.67123	Serchhip
		8	8	3.67123	3.67123	Lunglei
		5	5	2.29451	2.29451	Lawngtlai
	TOTAL :	63		34.97666		
	Sub-Total:	1056		397.99486		

Apart from this, 19 nos of Farmers training were conducted in all Horticulture Divisions @ Rs 50,000/-per training. Training on installation of drip/ sprinkler irrigation systems and judicious use of water for irrigating crops as well as cultivation under drip/ sprinkler irrigation systems were imparted to beneficiary farmers.

4. Programme under Article 275 (1) during 2016 – 2017 :

Under the provisions of Article 275 (1), grant amounting to Rs. 170.55 (Rupees one crore seventy lakhs fifty thousand) only have been received during 2016-2017 through Social Welfare Department , Govt. of Mizoram for implementation of the following programmes:-

1. **Cultivation of Dragonfruit** : This programme covers 113 beneficiaries within Aizawl , Serchhip and Lunglei Districts with financial target of Rs. 115.40 lakh. The programme has been implemented during 2017 planting season and the beneficiaries have been assisted in terms of planting materials and other necessary inputs including cash assistance for interculture and trellis erection.
2. **Cultivation of Off-Season Cabbage**: The total approved outlay for taking up this programme is Rs. 55.15 lakhs with which 54 beneficiaries under Champhai , Lawngtlai and Siaha District will be covered. The programme is expected to be carried out as soon as fund is received for the purpose.

5. New Land Use Policy (NLUP)/New Economic Development Policy(NEDP)

The State Government of Mizoram has launched State flagship programme - New Land Use Policy on 14th January 2011 (*this day of 14th January was since then observed as State's Labour day every year*). Out of total target of 1,20,000 families to be covered by various Agriculture and Allied Departments, Horticulture Department has covered 24,838 families in four phases who take up various horticulture trades such as cultivation of M.Orange, Passionfruit, Pineapple, Grapes, Mango, Tung, Tea, Squash, Arecanut and Aloe Vera.

Besides normal NLUP programme, there is Captive Plantation under NLUP which was implemented in the year 2014, covering 497 families under Pineapple and Passionfruit trades. 1st and 2nd Phases were completed covering 17,922 families and the 3rd, 4th and Captive Plantation under NLUP are also on the verge of completion which is expected to be completed by October 2017.

New Economic Development Policy (NEDP) was launched in the year 2016-2017 to address the problem of unproductive farming practices in Mizoram. Under NEDP, Horticulture Department took up two programmes viz., Intensive Cultivation of Off-Season Cabbage and Intensive Cultivation of Turmeric (Convergence with Mission Organic Value Chain Development, MOVCD) covering 120 and 475 families respectively. There is another important programme i.e., NLUP- NEDP Convergence, Horticulture Department where 78 families were included to take up 7 (seven) different trades such as M. Orange, Pineapple, Grape, Arecanut, Tung, Tea and Banana.

Detail Physical and Financial Achievements under NLUP and NEDP may be seen in **Table I-III**

Table – I

Phase-wise number of Family covered in Horticulture sector under NLUP.

<i>Trade</i>	<i>1st Phase</i>	<i>2nd Phase</i>	<i>3rd Phase</i>	<i>4th Phase</i>	<i>Total</i>
<i>M. Orange</i>	4,396	4,138	1,705	845	11085
<i>Arecanut</i>	2,753	2,514	850	379	6496
<i>Pineapple</i>	1,217	1,025	1,053	522	3817
<i>Grape</i>	324	231	40	18	613
<i>Tung</i>	141	207	102	25	475
<i>Chayote</i>	285	131	27	15	458
<i>Passion fruit</i>	166	137	97	49	449
<i>Tea</i>	22	205	78	68	373
<i>Mango</i>	-	-	35	4	39
<i>Aloe Vera</i>	23	6	1	3	33
Total :	9327	8594	3988	1928	23838

Table- II
Family Covered In Horticulture Sector Under NEDP:

1. Intensive Cultivation of Off-Season Cabbage

Sl. No.	Location/ District	No. of beneficiaries
1.	Siaha	22
2.	Lunglei	22
3.	Aizawl	25
4.	Champhai	25
5.	Lawngtlai	26
TOTAL		120

2. Intensive Cultivation of Turmeric (Convergence with Mission Organic Value Chain Development, MOVCD)

Sl. No.	Location/ District	No. of beneficiaries
1.	Reiek	267
2.	Ailawng	130
3.	Khawrihnim	78
TOTAL		475

Table- III
Family Covered In Horticulture Sector Under NLUP- NEDP Convergence:

Sl.No.	Trade	No. Beneficiary
1.	M.Orange	24
2.	Pineapple	18
3.	Grape	1
4.	Arecanut	29
5.	Tung	2
6.	Tea	3
7.	Banana	1
TOTAL		78

Comparative Statement of performance in Horticulture sector between 2006 - 2007 and 2016 - 2017 according to recorded Base line data may show the prolific growth of horticulture in Mizoram as below:

Table V: (Area in thousandth hectare, Production in thousandth MT Productivity in thousandth MT/Ha, no. in lakh)

Crops	Area/Production/Productivity	Year		Decadal growth
		2006-07	2016-2017	
Fruits	Area	14.45	62.79	48.34
	Production	122.05	350.91	228.86
	Productivity	8.44	5.58	-2.86
Vegetables	Area	0.92	45.47	44.55
	Production	12.30	271.53	259.23
	Productivity	13.36	5.97	-7.39
Spices	Area	3.64	27.17	23.53
	Production	55.91	99.96	44.05
	Productivity	15.35	3.67	-11.68
Flowers	Area	0.058	0.200	0.142
	Production	973.86 nos	475.44no	-498.42
	Productivity	167.90 No	237.70 no	69.80

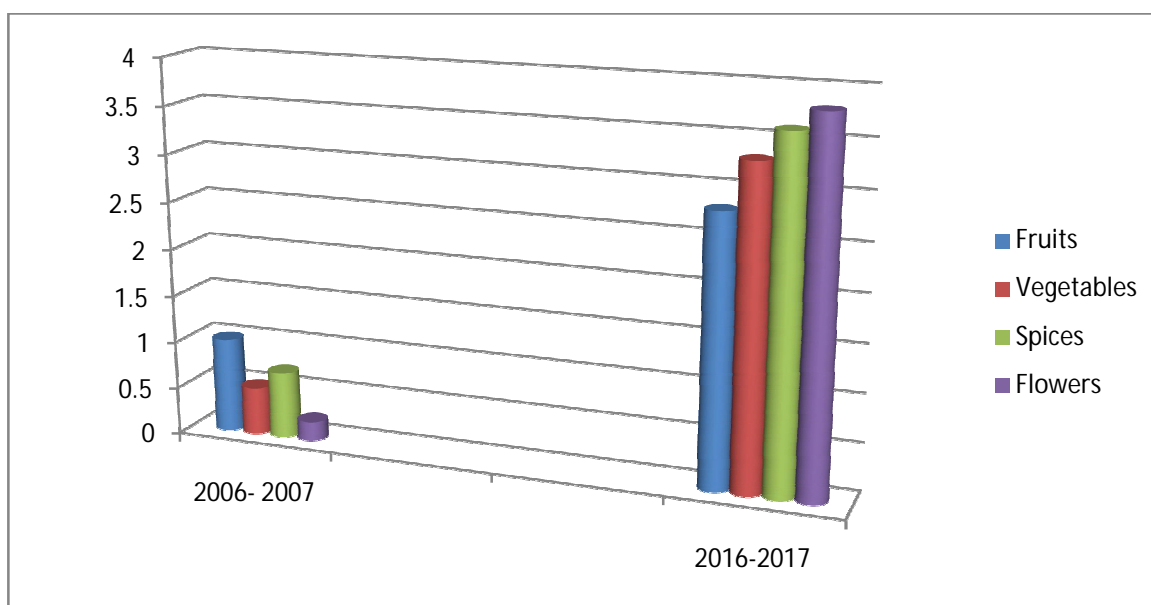


Fig 1: Graphical comparison of production of major Horticulture Crops Production during 2004-05 & 2015-16 in Mizoram

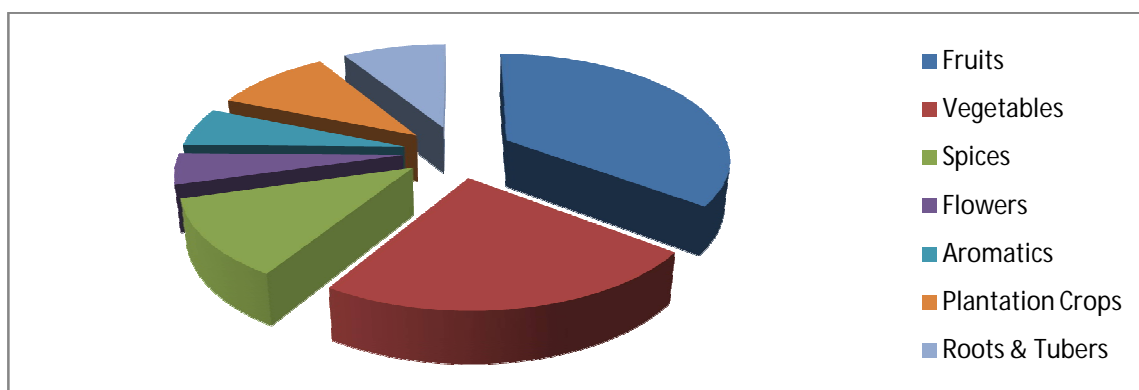


Fig 2: Pie Chart showing area occupied by various horticulture crops in Mizoram (base year 2016-2017)

IMPORTANT PROJECTS RECENTLY ACHIEVED UNDER HORTICULTURE SECTOR INCLUDES:

Centre of excellence:

Apart from the existing Horticulture Centres at Thiak, Serchhip and Thingdawl, to demonstrate advanced technologies in order to boost quality of high value horticultural crops including flowers and vegetables, Mizoram Horticulture Department has set up 3(three) Centres of Excellence for Horticulture at the cost of Rs.500.00 lakhs each at Thiak in Aizawl District, Lunglei Zau in Serchhip District, Thingdawl in Kolasib District and (1)one ongoing project at Saichhoh in Lunglei District. Quality planting materials are being produced at these Centres every year which are distributed to the farmers within the district under the fund provided by MIDH.



Horticulture Centre , Saichhoh , Lunglei

COLLEGE OF HORTICULTURE, THENZAWL

The Central Government, had given approval for establishment of Horticulture College in Mizoram in the year 2010-2011. The proposed site for establishment of College of Horticulture, Thenzawl is having an area of 120 Ha. donated by the local community/Village Council. The Hon'ble Union Minister of State for Agriculture, in his press conference on 17th August, 2015 at Selesih, Aizawl had declared that classes would be started from the academic session of 2016-17 at the campus of Central Agriculture University (CAU), Selesih while the site at Thenzawl is being developed. Classes has commenced at CAU, Selesih since 15th July, 2016 and courses covered are as per prescription of Indian Council of Agricultural Research. This is an



important milestone in the history of Mizoram in general, and in Mizoram Horticulture history in particular .

The first batch of 17 students has completed their 1 year course and there is new batch of 16 students for the Academic year 2017-2018. Currently, there are two batches in the College of Horticulture with 7 Teaching Associates and other Faculty Guests from the Department of Horticulture, Government of Mizoram.

HORTICULTURE FAIR:

Horticulture fair 2017 was successfully organized on 23rd – 26th May, 2017 and was further extended to 27th May, 2017 till 12:00 Noon where Stakeholders, Self Help Groups, FIGs, Florist Associations, Zo Anthurium Growers Society, Fruit Growers Societies, Vegetable Growers Societies, Nursery men etc, individual farmers and entrepreneurs , etc from the length and breadth across the state participated in the fair. Also, Plant Health Clinic was opened by Plant Health Specialists of the Department. As many as 4000 people visited the Fair everyday .There was a total of 140 Stalls ,out of which 110 stalls were Plants and Floriculture , 22 Private Stalls and 8 Divisional Stalls. The number of Stalls/Shops have been the highest as compared to the previous years .For the first time, Aloe Vera Soap, Disposable Plate, bowl made from Arecanut leaves, Gooseberry Oil , Tea leaves produced from Mizoram , Zo-Wine and Dragonfruit seedlings were displayed and sold during the fair.

Comparative Statement of Horticulture Fair between 2012 – 2017

2012	-	Stall 57	-	Rs. 17,39,306.00
2013	-	Stall 75	-	Rs. 22,90,267.00
2014	-	Stall 70	-	Rs. 12,47,142.00
2015	-	Stall 84	-	Rs. 17,31,030.00
2016	-	Stall 103	-	Rs. 34,36,520.00
2017	-	Stall 140	-	Rs. 40,37,358.00



Opening of Horticulture Fair, 2017



Gooseberry Oil displayed at Horticulture Fair, 2017

**SOME PHOTOGRAPHIC EVIDENCE OF SUCCESSFUL IMPLEMENTATION OF
PROJECTS AND SCHEMES DURING 2016-2017**



Cultivation of Anthurium under the scheme MIDH 2016 - 2017



Strawberry cultivation at Siaha District under MIDH 2016-2017



Cultivation of Off-season cabbage under NEDP , 2016 - 2017



Cultivation of Dragonfruit under MIDH and Article 275 (1) , 2016-2017



Hi – Tech Greenhouse under RKVY , 2016 - 2017



Sprinkler Irrigation under PMKSY 2016 -2017



Drip Irrigation under PMKSY 2016-2017



Cultivation of Tomato under MIDH 2016 - 2017



Individual Water Tank under RKVY 2016-2017



Farmers Training under Protected cultivation under the scheme RKVY 2016 - 2017