

Background

Telangana State is the **29th** State of India, the state is divided into 4 Agro-Climatic zones. Telangana is endowed with suitable agro-climatic conditions for production of various horticulture crops like mango, citrus, guava, banana, vegetables and flowers etc. Horticulture sector has been identified as one of the prime sector contributing to State GSDP.

Horticulture is a major sub sector of agriculture sector and is a significant contributor to the economy by generating employment to unskilled and semiskilled rural poor. Telangana state total Horticulture area and production are 4.85 Lakh Ha and 38.70 lakh MTs respectively.

Out of which, area under Fruit crops is 1.66 Lakh Ha., which is accounting for 34.22% of the total Horticulture area. After the Fruit crops, major area is covered under Spices i.e. 1.82 Lakh Ha. accounting for 37.73 % of Horticulture area, followed by Vegetables (25.15%) and plantation crops (2.47%) (2016-17 final estimates).

Horticulture sector in Telangana State has emerged as a potential player in the economy. Since international airport is available in Hyderabad, the state has potential to become export Hub for Mango, Banana, Vegetables and Flowers.

Strategies for furthering Horticulture development

Over the years, agriculturists and farmers have adopted several area- specific and times specific cultivation practices to meet the requirement of their staple food crops. There is currently a shift towards cultivating high-value crops such as, flowers, vegetables etc. round the year under protected cultivation.

New avenues are being explored for investment. The department is also promoting diversification of agricultural crops to motivate farmers to move towards high value crops like Vegetables, Flowers etc in Poly houses. The concerted efforts of the Horticulture Department have triggered a new hope among the farmers, which promises profitability and dignity in the agriculture as an occupation.

The goal before the Horticulture Department is to enhance the income of farmers and to generate employment in Horticulture sector. The strategy adopted for this purpose is to increase production and productivity of the crops and to enable farmers to diversify their crop production so as to take advantage of market opportunities. The main role of the department is to help farmers to adopt better technology and to facilitate establishment of infrastructure for farm production and marketing.

Rashtriya Krishi Vikasa Yojana (RKVY) is a Central Sector Scheme with 60:40 funding pattern by GOI and State Govt. respectively. Horticulture Sector under RKVY was launched in the erstwhile unified Andhra Pradesh State during 2008-09.

Major Milestones since inception:

S. No.	Component	Achievement
1	Hybrid Veg. Seed Distribution	1.95 Lakh Ha
2	Vegetable Mini-kits	4.71 Lakhs Nos
3	Pandals	2120.01 Ha
4	Trellies	583.81 Ha
5	Farmers Groups	269 Nos
6	Farm Fresh Vegetables on wheels	72 Nos
7	Vegetable clusters	11 Nos
8	Market linkages – Collection Centres	11 Nos

COMPONENTS APPROVED PROJECTS UNDER RKVY-RAFTAAR FOR THE YEAR 2018-19.

Sl. No	Name of the Component	Unit	Unit Cost in Rs	% of assistance	Subsidy in Rs	State Target	
						Phy. in units	Fin. Rs. in Crores
I	Infrastructure and Assets						
1	Construction of Permanent Pandal structures for Creeper vegetable production (each unit of 2000 sq. m)	No.	1,00,000	50%	50,000	3908	19.540
2	Turmeric Bed raisers (As per SMAM Norms)	No.	70,000	***	35,000	100	0.350
Sub Total-I							19.890
II	Value Addition						
1	Upgradation of integrated pack house facility existing at PHTRS, SKLTHU, Rajendranagar, Hyd., for promotion of exports of Fruits, Vegetables, and Cut flowers through TSHDC Ltd., Hyd., in co-operation and certification of APEDA, Hyd.(as per APEDA norms)	No.	4,00,00,000	40%	1,00,00,000	1	1.000
Sub Total-II							1.000
III	Flexi fund schemes						
1	Front Line Demonstration on Integrated Summer Vegetable Production (each unit of 4000 sq. m)	No.	1,20,800	75%	90,600	917	8.3080
2	Mulching	Ha.	32,000	50%	16,000	1000	1.600
3	Exposure visit to SC/ST Farmers outside the state for 6 days & Rs. 1000/- per farmer per day	Nos	6000	100%	6,000	50	0.0300
4	HRD - Trainings - Trainings of farmers within the state	Nos	1000 per farmer	100%	1,000	1400	0.1400
5	Workshops / Publicity / Administrative Expenses	Nos	LS	100%			1.3500
Sub Total-III							11.428
Horticulture Total							32.318

*** 1. For SC/ST, Small & Marginal farmers & Women 50% assistance not exceeding Rs. 44000/- per machine. 2. For other farmers 40% assistance not exceeding Rs. 35000/- per machine.

District wise AAP of RKVY 2018-19 is Annexed.

1. Construction of Permanent pandals

I. Context/Background

Vegetables are an important part of our daily diet and are essential to provide the nutritional requirement of people of all age groups. Population explosion has increased the daily demand for vegetables by manifolds. One third population of Telangana State stays in and around Hyderabad city, creating huge and continuous demand for supply of Vegetables.

II. Problems to be addressed.

In Telangana there is huge gap between demand and supply of vegetables, because of which they are imported from neighbouring states. Total vegetable requirement of the state is (for population of 3.52 crores) - 38.54 Lakh MTs per annum, but the state production is only 15.94 L MTs with an area of 1.22 lakh ha. Thus there is Gap of – 22.60 Lakh MTs. Additional area required to meet the Gap is 90,400 Ha. Urbanization is one of the major constraints in expansion of vegetable area. Due to constraint of resources increasing productivity is the only alternative.

Most of the vegetable farmers (Approx. 95%) in Telangana state are small and marginal in nature. Though large extents are available under various vegetable crops, the productivity levels of many of the vegetables are not fully tapped to the expected potential. Various factors limiting the production and productivity of vegetables are

- ✓ Limited awareness to the farmers on adoption of latest advanced technologies in crop production, like production of Gourds on Pandal system, cultivation of vegetables under shadenets and Poly houses etc.
- ✓ High initial investment for establishment of pandals due to which often farmers are unable to go in for pandal cultivation of vegetables.
- ✓ High cost of the seed and high mortality levels in traditional nursery raising.

III. Aims and Objectives:

- 1.Promotion of creeper vegetables like gourds on pandals.
- 2.Enhancing the productivity of creeper vegetables per unit area.
- 3.Enhancing quality of vegetable produce by reduced pest & disease incidence.
- 4.To support the farmers to establish permanent pandals for creeper vegetable cultivation

IV. Strategy

Vegetable cultivation on pandals is technological improvement for vegetable crops like Ridge gourd, Bitter gourd, Bottle gourd, Sponge gourd and Coccinia. The weak climbers utilize this support, which protects the produce from soiling and increases exposure to sunlight and aeration, thereby increasing the number of flower buds, ultimately resulting in more fruit of superior size and quality.

The pandal is established by using cement pillars or stone pillars having height of 10 ft and 20-25 cm girth. At the spacing of 18 x 15 ft distance 30 x 45 cms pits is dugged to erect pillars. Approximately 185 pillars are required for establishment of one acre pandal for cultivation. Approximately 1.5 to 2.0 ft of pillar is kept in the pit and covered with soil/concrete mixture. Remaining 8.5 ft of pillar will be above the ground. Training and pruning practices are followed to facilitate growth on the pandal resulting in higher yield as compared to open field cultivations. Due to High initial investment for establishment of pandals due to which often farmers are unable to go in a big way for pandal cultivation of vegetables.

Estimated cost for construction of Permanent Pandal in 2000 Sq. m

S. No.	Particulars	Unit	Qty.	Rate(in Rs.)	Amount(in Rs.)
1	Stone/CC Pillars of 10' Height @ 15'x18' Spacing (including support pillars)	Nos.	93	350	32550
2	Steel wire for framework & internal network. (8 Guage & 10 Guage)	Qtl.	7.5	7500	56250
3	Labour Charges (For Digging of Pits, Fixing of pillars, Stretching of wire etc.,)	Nos.	LS	-	20000
TOTAL					108800

The unit cost is restricted to Rs. 1,00,000/- (Rupees One lakh only), part of the labour cost is borne by farmer


- Pattern of Assistance : 50% assistance on total construction cost of the Permanent pandal, subject to maximum of Rs.50,000/- per unit.
- Maximum eligibility : (5) units per beneficiary
- Area of operation : 30 districts

V. Target beneficiaries: All the vegetable cultivators of Telangana state

VI. Management:

- ❖ The Cluster Level Horticulture and Sericulture Officer (CLH&SO) / Mandal Level Horticulture and sericulture Officer (MLH&SO) shall identify the beneficiaries and collect the application form along with all necessary documents viz., Proof of Ownership of land, Copy of Adhar card, Copy of Bank pass book with IFS code, Photograph of the vacant land with farmer and a notarized affidavit (on 100/- Stamp paper) from the farmers stating that beneficiary / farmer shall be responsible for methodology of the erection of the pandal and shall take up cultivation of vegetables on the pandal for a minimum period of 5 years from date of release of subsidy and if the pandal is removed before the completion of 5 year period the amount is liable to be recovered from the beneficiary under R.R. Act.etc.
- ❖ CLH&SO concerned shall register the beneficiary details on HORTNET/RKVY portal.
- ❖ District Horticulture and Sericulture Officer (DH&SO) shall issue administrative sanction (within 15 days from receipt of application) with the approval of District Collector indicating a maximum time frame of 3 months (90 days) for completion of erection permanent pandal.
- ❖ After receipt of administrative sanction the farmer shall construct/erect permanent pandal and submit completion certificate to the DH&SO/CLH&SO concerned along with photographs at 3 stages i.e. 1) open/plain/bare land, 2) at the time of pandal erection and 3) after completion of pandal erection) of newly erected permanent pandal.
- ❖ On receipt of completion report from farmer, the CLH&SO and MLH&SO shall inspect the field personally and they shall record the GPS coordinates for ascertaining the actual area of permanent pandal construction in the field and record the same in the invoice to be submitted to the DH&SO.
- ❖ The CLH&SO / MLH&SO shall also compulsorily Geo-tag the pandal asset on the Bhuvan Geo Web portal.
- ❖ The CLH&SO shall take the field photographs & obtain the concerned bills (material / labour charges etc) from the farmer, certify the same and upload the bill details in to the HORTNET/RKVY web portal.
- ❖ CLH&SO shall submit the HORTNET/RKVY generated invoice to the DH&SO duly enclosing certified bills (obtained from the farmers) with due recommendation for release of corresponding subsidy amount.
- ❖ The DH&SO shall submit financial sanction proceedings with the approval of District Collector to the Director of Horticulture, TS, Hyd.
- ❖ The subsidy amount shall be directly credited in to the accounts of the beneficiaries (as per the account details filed in the HORTNET web portal) from the state head office through online transfer (DBT).

❖ A board shall be installed mandatorily at the unit as shown below.

GOVERNMENT OF TELANGANA			
DEPARTMENT OF HORTICULTURE			
			
Financial Assistance by Department of Horticulture (RKVY)			
Name of the Component : Permanent Pandal			
Name	:	S/o	:
Village	:	Mandal	:
District	:		
Unit size	:	Unit cost (in Rs.)	:
Year of sanction:		Dept. Assistance (in Rs.)	:
		Farmer share (in Rs.):	

VII. Finance:

Total physical Target: 3908 units (each unit of 2000 sq. m)

Total project cost : Rs. 1954.00 lakhs (Rs. 1172.00 lakhs from Central share and Rs. 782.00 lakhs from state share)

VIII. Time frame: up to 31.03.2019

IX. Cost benefit analysis:

		Amount in Rs.
For the 1st crop	Cost of the Pandal erection for 5 units (each unit of 2000 Sq. m) i.e. one Hectare	500000
	Avg. Cost of Cultivation per Ha.	60000
	Total Cost/expenditure	560000
	Net expenditure (i.e after deducting subsidy amount @ Rs. 250000/- per ha.)	310000
	Avg. Yield per Ha (MTs)	21
	Average Market Price (Per MT)	20000
	Gross Returns per Ha.	420000
	Net Returns per Ha.	110000
	Benefit to Cost ratio per Ha.	0.20
From 2nd crop onwards	Avg. Cost of Cultivation per Ha. (i.e Expenditure)	60000
	Avg. Yield per Ha (MTs)	21
	Avg. Market Price (Per MT)	20000
	Gross Returns per Ha.	420000
	Net Returns per Ha.	360000
	Benefit to Cost ratio per Ha.	6.00

Note: Due to the erection cost of Pandal, the net income for the 1st crop is less.

From the 2nd crop onwards the net income will be around Rs.3,60,000/- per Ha.

X.Outcome:

- Increase in productivity of creeper vegetables by 30% to 40%.
- Sustainable & year round continuous production of creeper vegetables.
- Reduced pest and disease incidence.
- Enhanced quality of vegetables and there by increased income to farmers from unit area.



2. Turmeric Bed Raisers

I. Context/Background:

Turmeric is grown for its underground rhizome, which is mainly used as spice and condiment; apart from this, it also has a wide range of medicinal properties. In Telangana State the Turmeric is one of the major commercial crop grown in an area of 1,260,438 acres, in 8 Districts like Nizamabad, Jagityal, Nirmal, Warangal (Rural), Mahabubabad, Jayashankar Bhupalpally, Vikarabad & Sangareddy with a minimum yield of 20 Qntrs per acre in the State which is very less and uneconomical to the farmers.

II. Problems to be addressed:

Low productivity/Poor yields, Rhizome rot disease and huge labour requirement are some of the hurdles to the Turmeric farmers. In order to overcome these problems raised bed cultivation of Turmeric suggested and for making such raised beds, the implement of Turmeric Bed raiser is required as a tractor attachment.

III. Aims and Objectives:

- ✓ To encourage the Turmeric farmers towards farm mechanization by promoting Turmeric Bed Raisers.
- ✓ To reduce the intensity of Rhizome rot disease of Turmeric
- ✓ To save time and to reduce the labour component
- ✓ To facilitate better weed control & better irrigation
- ✓ To promote enhanced growth and development of Turmeric.

IV. Strategy:

Planting method is a soil management tool, used to affect the plant root environment. Raised bed planting of turmeric save labour, lowers seed rate, facilitate better weed control & better irrigation management, improves soil physical conditions and thereby enhance growth and development of Turmeric.

Manual preparation of raised beds for planting of Turmeric planting is a cumbersome process and requires huge time and labour. Hence, preparation of raised beds using Bed raisers is the best alternative to the turmeric farmers.

- Unit cost: Rs. 70,000/-
- Pattern of Assistance : 1. For SC/ST, Small & Marginal farmers & Women 50% assistance not exceeding Rs. 44000/- per machine
2. For other farmers 40% assistance not exceeding Rs. 35000/- per machine
- Maximum eligibility : (1) unit per beneficiary

XI. Target beneficiaries: All the Turmeric cultivators in Nizamabad, Jagityal, Nirmal, Warangal (Rural), Mahabubabad, Jayashankar Bhupalpally, Vikarabad & Sangareddy districts of Telangana State.

V. Management:

- ❖ Telangana State AGROS Development Corporation will approve the firms as well the unit prices for different models of Turmeric Bed Raisers on request of Horticulture Department.

- ❖ The Cluster Level Horticulture and Sericulture Officer (CLH&SO) / Mandal Level Horticulture and sericulture Officer (MLH&SO) shall identify the beneficiaries and collect the application form along with all necessary documents viz., Proof of Ownership of land, Copy of Adhar card, Copy of Bank pass book with IFS code.
- ❖ CLH&SO concerned shall register the beneficiary details on HORTNET/RKVY web portal.
- ❖ District Horticulture and Sericulture Officer (DH&SO) shall issue administrative sanction with the approval of District Collector within 15 days from receipt of application.
- ❖ After receipt of administrative sanction the farmer shall purchase the Turmeric Bed Raiser from the TS AGROS approved firm and inform to the officer concerned.
- ❖ The CLH&SO shall take the unit photograph & obtain the concerned bill/invoice from the farmer, certify the same and upload the bill/invoice details in to the HORTNET web portal.
- ❖ CLH&SO shall submit the HORTNET/RKVY generated invoice along with original certified unit bill/invoice (obtained from the farmers) to the DH&SO with due recommendation for release of corresponding subsidy amount.
- ❖ The DH&SO shall submit financial sanction proceedings with the approval of District Collector to the Director of Horticulture, TS, Hyd.
- ❖ The subsidy amount shall be directly credited in to the accounts of the beneficiaries (as per the account details filed in the HORTNET/RKVY web portal) from the state head office through online transfer (DBT).

VI. Finance:

Total physical Target : 100 units

Total project cost : Rs. 35.00 lakhs (Rs. 21.00 lakhs from Central share and Rs. 14.00 lakhs from state share)

VII. Time frame: up to 31.03.2019

VIII. Outcome:

Low risk of rhizome rot disease, reduced the labour component, better weed control & better irrigation and enhanced growth and development of Turmeric.

3. Front Line Demonstration on Integrated Summer Vegetable Production

I. Context/Background

Front-Line Demonstration is the new concept of field demonstration. “Seeing is believing” is the basic philosophy in these demonstrations. Field demonstrations educate farmers through results obtained in terms of different new technologies. In addition, it also educates the farmers in terms of input-output ratio and economic gains in terms of net returns.

Field demonstrations provide an effective learning situation as farmers “See the crops themselves”, “interact with the scientists and extension workers on the fields”, and “get doubts clarified then and there itself”.

II. Problems to be addressed

In general in Telangana state a temperature of 39°C to 41°C prevails from March to May which hinders the vegetable production drastically and thereby causing for increase in market prices of vegetables.

To address this issue it is proposed to encourage the farmers towards off-season vegetable cultivation under shadenets by integrating other advanced farming techniques like Mulching and Micro irrigation.

III. Aims and Objectives:

- To demonstrate the benefit of integration of different agriculture practices viz., Shadenetting, Plastic Mulching, Micro irrigation for increased vegetable production during summer season, thereby encouraging off season vegetable cultivation by the farmers.
- To reduce the gap between demand and supply of vegetables and to achieve self sufficiency.

IV. Strategy:

The agriculture techniques viz., Shadenetting, Plastic Mulching, Micro irrigation have proven its efficiency in increased production, improved produce quality and increased water-use efficiency etc. Hence, it is proposed to demonstrate the all these techniques in farmers fields by providing 75% assistance of the unit cost.

These field demonstrations lead to higher adoption of demonstrated practices by the farmers as they developed the confidence amongst them in the practices demonstrated.

The sub-component wise breakup for FLD on Integrated Summer Vegetable Production is as follows.

S. No.	Item wise Details	Unit (4000 Sq. m) cost (in Rs.)	Subsidy (75%) (in Rs.)
1	Planting material / Seedlings	8000	6000
4	Shadenet	100000	75000
5	Plastic Mulching	12800	9600
	Total	120800	90600

**Micro irrigation shall be facilitated from the TSMIP Scheme.

- Unit area: 4000 Sq. m
- Unit cost: Rs. 1,20,800/-
- Pattern of Assistance : 75% assistance, subject to maximum of Rs. 90,600/- per unit.
- Maximum eligibility : (2) units per beneficiary

V. Target beneficiaries: vegetable farmers in districts of surrounding Hyderabad and in surrounding areas of major Municipalities/Towns.

VI. Management:

- Department officers (CLH&SO/MLH&SO) shall identify and the guide the framers in FLD programme.
- CLH&SO shall collect the application form the farmer along with all necessary documents viz., Proof of Ownership of land, Copy of Adhar card, Copy of Bank pass book with IFS code.
- Vegetable seedlings to be supplied from COE Jeedimetla / Pulug tupe nursery unit at COE, Mulugu.

- DH&SO, Shall issue administrative sanction within 15 days from receipt of application.
- Farmers shall purchase all the other required inputs (Manures/ Fertilizers & PP Chemicals, Shadenet and Plastic Mulching etc.) from open market by paying full cost.
- Farmer is eligible for 75% subsidy on the cost of the FLD or Rs.90,600/- per acre of FLD whichever is less.
- The farmer should submit GST bills to the Department against purchase of Mulch sheet of 25-30 microns and against purchase of 35% / 50% Shadenet of his/her choice colour.
- Maximum eligibility is (2) FLD units per beneficiary.
- DH&SO should ensure that all the FLD units are compulsorily facilitated with Micro irrigation. Subsidy for micro irrigation shall be claimed from the TSMIP Scheme.
- After installation of all the components (Mulching, shadenet and micro irrigation system) in the farmer field, the CLH&SO shall inspect the farmer field, take filed photographs along with farmer and collect the concerned bills from farmer.
- CLH&SO shall submit the HORTNET/RKVY generated invoice along with original certified unit bill/invoice (obtained from the farmers) to the DH&SO with due recommendation for release of corresponding subsidy amount.
- The DH&SO shall submit financial sanction proceedings along with concerned beneficiary list with the approval of District Collector to the Director of Horticulture, TS, Hyd.
- The subsidy amount shall be directly credited in to the accounts of the beneficiaries (as per the account details filed in the HORTNET/RKVY web portal) from the state head office through online transfer (DBT).
- The FLD should be implemented in strategic identified locations duly recording performance data of FLD.

VII. Finance:

Total physical Target : 750 units

Total project cost : Rs. 831.38 lakhs (Rs. 498.83 lakhs from Central share and Rs. 332.55 lakhs from state share)

VIII. Time frame: up to 31.03.2019

IX. Outcome:

- Increase in area and production of vegetables in the state towards self sufficiency.
- Encouraging new farmers towards vegetable cultivation and covering non-traditional area under vegetable cultivation.
- Availability of vegetables throughout the year at reasonable prices.

4. Mulching

I. Context/Background

Plastic mulching has become a globally applied agricultural practice for its instant economic benefits such as improved fruit quality, earlier harvests, restricted weed growth, higher crop yields and increased water-use efficiency.

II. Problems to be addressed

Recurring weed growth and depleting ground water are most challenging constraints to Horticulture farmers. To address these issues it is proposed to encourage the farmers to adopt plastic mulching for vegetable cultivation.

III. Aims and Objectives:

- To encourage the Horticulture farmers towards plastic mulching in cultivation of Horticulture crops.

IV. Strategy:

In order to encourage the Horticulture farmers towards plastic mulch usage in vegetable cultivation, it is proposed to provide 50% assistance on plastic mulching.

Under this project the farmers shall be encouraged to purchase Plastic mulch from any of the firm by paying full cost from the open market.

- Unit cost: Rs. 32,000/- per Ha.
- Pattern of Assistance : 50% assistance, subject to maximum of Rs. 16,000/- per Ha.
- Maximum eligibility : (2) Ha. per beneficiary

V. Target beneficiaries: All Horticulture farmers of Telangana State.

VI. Management:

- ❖ The CLH&SO / MLH&SO shall identify the beneficiaries and collect the application form along with all necessary documents viz., Proof of Ownership of land, Copy of Adhar card, Copy of Bank pass book with IFS code.

- ❖ CLH&SO concerned shall register the beneficiary details in HORTNET/RKVY web portal.
- ❖ District Horticulture and Sericulture Officer (DH&SO) shall issue administrative sanction (with 15 days from receipt of applications) with the approval of District Collector.
- ❖ After receipt of administrative sanction the farmer shall purchase Mulching sheet of from any of the firm by paying full cost from the open market, complete the laying in the field and inform to the concerned officer.
- ❖ The CLH&SO shall visit the farmer field, take the field photograph & obtain the concerned GST bill/invoice from the farmer, certify the same and upload the bill/invoice details in to the HORTNET web portal.
- ❖ Farmer should invariably submit GST bill to the Dept., against purchase of Mulch sheet. The bill should contain all the technical specifications of the mulch sheet viz. GSM, No. of rolls etc.
- ❖ CLH&SO shall submit the HORTNET generated invoice along with original certified mulch sheet bill/invoice (obtained from the farmers) to the DH&SO with due recommendation for release of corresponding subsidy amount.
- ❖ The DH&SO shall submit financial sanction proceedings with the approval of District Collector to the Director of Horticulture, TS, Hyd.
- ❖ Before submitting financial sanction proceedings to the Head office, the DH&SO should ensure that the subsidy amount for the same field did not claimed from MIDH programme 2018-19.
- ❖ The subsidy amount shall be directly credited in to the accounts of the beneficiaries (as per the account details filed in the HORTNET/RKVY web portal) from the state head office through online transfer (DBT).
- ❖ The farmers are suggested to use different colours of mulching sheet i.e., Black & White (summer season) Black & Silver (Kharif and Rabi Season).
- ❖ Mulching is mandatory to the farmers who avail subsidy under Drip irrigation.
- ❖ To remove the mulch sheet the farmers should wet the Soil before ploughing the mulching sheet after completion of the cropping.
- ❖ Burning of mulching sheet should be avoided and it should be disposed for recycling.

Specifications and calculation of mulch sheet requirement:

❖ **Thickness of Film:**

In plastic mulching, the thickness of mulch film should be in accordance with type & age of crops. Economics suggest that the film thickness should be the minimum possible commensurate with desired life & strength. The recommended thickness of mulch films for different crops is as under:

Thickness (microns)	Crops Recommended
20-25	Annual - Short duration crops
40-50	Biennial - Medium duration crops
50-100	Perennial - long duration crops & crops taken up in Pandalis

❖ **Extent of Surface to be Covered under Film:**

% Coverage	Crops Recommended
20-25	All creeper crops
40-50	Initial stage of orchard crops
40-60	Fruit crops & cucurbitaceous
70-80	Vegetables, Papaya, Pine apple etc.,
90-100	Soil Solarization

** Mulching area should preferably be equivalent to the canopy of the plant (larger the canopy, larger the area of mulching and vice versa).

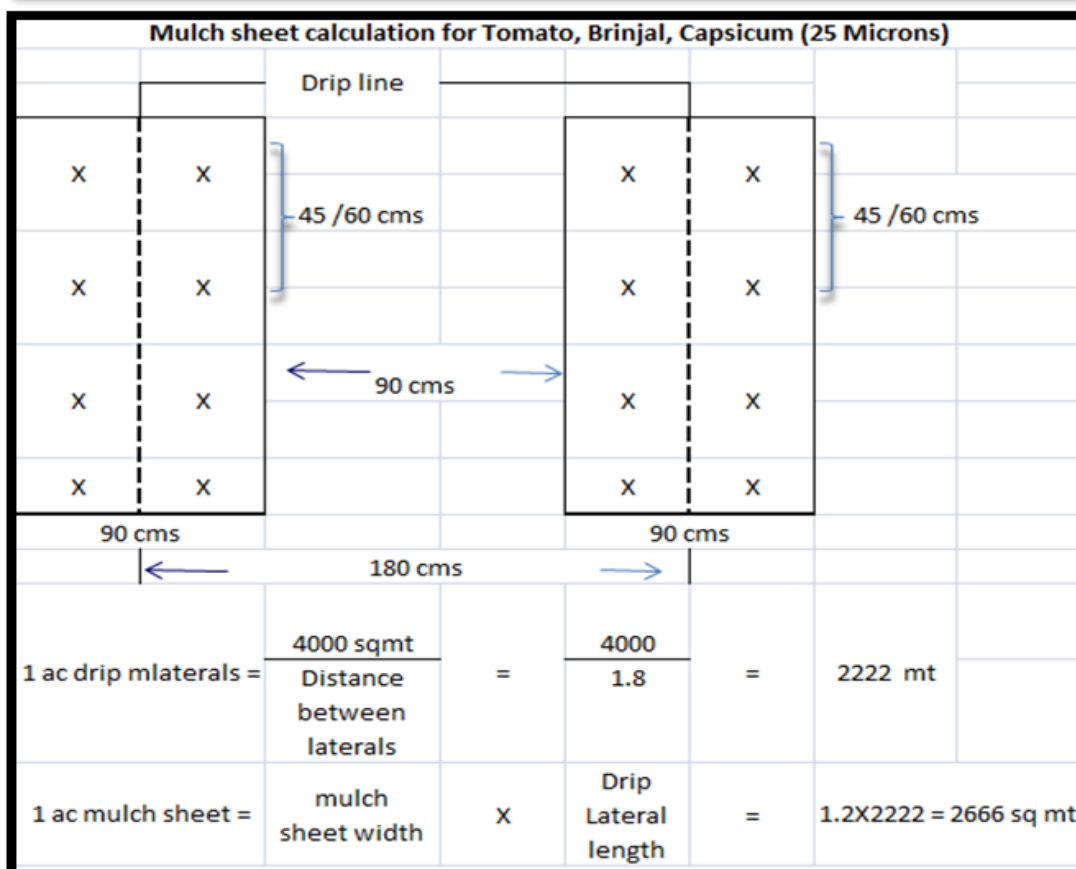
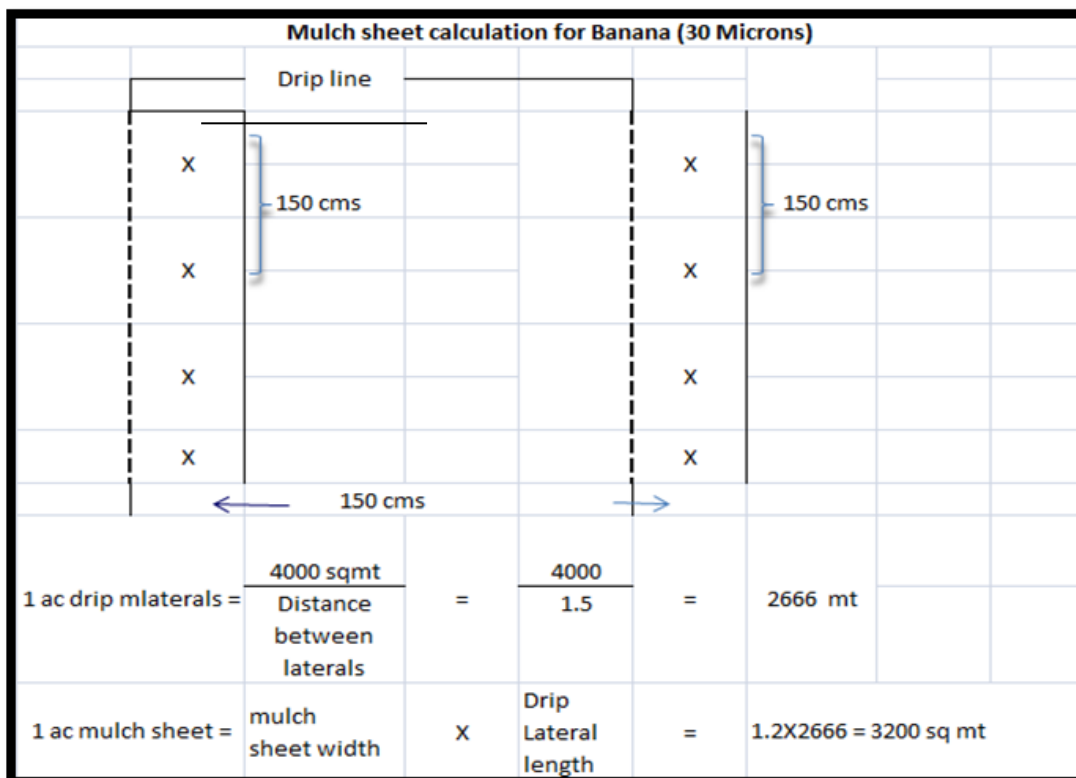
❖ **Calculation of Mulch Film Requirement (Approximately):**

Thickness			Area coverage (m ² /kg)	Weight (Gram/m ²)
Micron	Gauge	mm		
7	28	0.007	144	6.9
20	80	0.02	54	18.4
25	100	0.25	42	23
40	160	0.04	26	38
50	200	0.05	21	46
100	400	0.10	11	93

❖ **Indicative Cost of Plastic Mulching:**

On the basis of 80% coverage of area under the film, indicative cost of mulching for Horticulture crops would be approximately Rs. 32,000/- per ha.

Examples for calculation of requirement of Mulch Sheet :



Terms & Conditions:

1. Farmer's **once** availed subsidy for this component either under RKVY or under MIDH scheme **is not eligible for the 2nd time** during 2018-19.
2. Subsidy shall **not be claimed for two times** for the **same filed area** from both the schemes (i.e MIDH and RKVY). **Cluster Level Horticulture and Sericulture Officer (CLHSO)** should be should give a **declaration** in his/her inspection report to this extent.
3. The selected beneficiaries should be given training programme on concept of Mulching, benefits of mulching, selection of mulch sheet, quantity required and gauge of mulch sheet.
4. It is mandatory to display a board depicting “ **Department of Horticulture**”, **Scheme area in Ha., Name of the scheme from which subsidy availed (i.e., RKVY/MIDH), Year, Farmer name, Sy. No. Village, Madal, District etc.**
5. Only Horticulture crops are eligible for mulching assistance.
6. DMC approval to be obtained for indentified beneficiaries and for final release of assistance.
7. The scheme shall be implemented for promoting intensive cultivation of vegetables in a cluster mode by giving due priority to SF, MF and SC & ST farmers.
8. Documentation with photographs after laying out of mulch sheet.

CHECK LIST FOR INSPECTION FOR RELEASE OF FUNDS UNDER COMPONENT MULCHING

Sl.No.	Description	Remarks (YES/NO)
1	Application of the farmers along with photos and relevant documents	
2	Existing crop and spacing	
3	Drip Irrigation system installed in the field	
4	Bills & Vouchers submitted	
5	Details of Beneficiaries were uploaded in the HORTNET	
6	DMC approval for sanction & release of funds	
7	Feedback of the farmers	
8	Inspection report of Concerned Horticulture Officer	

Inspection Report of CLHSO

Date of Inspection:

1. Name of the Farmer:
2. Father Name:
3. Village:
4. Mandal:
5. District:
6. Survey No:
7. Crop:
8. Total Extent (Ha):
9. Extent (Ha.) applied for Mulching:
10. Extent (Ha.) for which Admin Sanction issued:
11. Extent (Ha.) for which mulching done:
12. Actual Expenditure (Rs.) :
13. Recommended Subsidy (Rs.) :
14. **Declaration:**

i) **The recommended subsidy for mulching for the said field did not claimed so far from MIDH scheme in the year 2018-19.**

ii) **The above farmer did not availed subsidy for Mulching earlier during 2018-19 either from RKVY or from MIDH.**

**Signature of Mandal Level
Horticulture and Sericulture Officer**

**Signature of Cluster Level
Horticulture and Sericulture Officer**

VII. Finance:

Total physical Target : 1000 Ha.

Total project cost : Rs. 160.00 lakhs (Rs. 96.00 lakhs from Central share and Rs. 64.00 lakhs from state share)

VIII. Time frame: up to 31.03.2019

IX. Outcome:

- Increased vegetable/fruit quality.
- Minimized expenditure on weeding.
- Increased water use efficiency to the farmers.

5. Exposure visit to SC/ST Farmers outside the state

Exposure visits are organised so that people living in one place can visit another to observe and learn from their activities. Exposure visits enable farmers from different place to interact with and learn from each other, allowing them to view practical examples of successful integration of sustainable practices in farming communities like their own.

Objectives:

- To observe, understand and learn the various advanced farming practices, market linkages being adopted in different places of india.
- To explore the possibilities of replication of the advanced practices by the SC/ST farmers at their own places.
- Enhance the knowledge and skills of SC/ST farmers.

Target : 50 Nos

Unit cost : Rs. 1000/- per farmer per day for 6 days i.e.
Rs.6000/- per head

Pattern of Assistance : 100% assistance

Total project cost : Rs. 3.00 lakhs (Rs. 2.00 lakhs from central share and Rs. 1.00 lakhs from state share)

Justification / Expected Outcome: Updating of knowledge of SC/ST farmers time to time on latest technologies through exposure visits shall enable them to achieve increased yields and thereby to realize better net returns from the farming.

6. HRD – Training of farmers within the state

Objectives:

- Providing appropriate training to the farmers for adoption of latest and emerging trends and technology at field level / class rooms.
- To familiarize the farmers about the production & Post harvest practices being followed by progressive farmers.

Target : 1400 Nos
Unit cost : Rs. 1000 per farmer
Pattern of Assistance : 100% assistance
Total project cost : Rs. 14.00 lakhs (Rs. 8.40 lakhs from Central share and Rs. 5.60 lakhs from state share).

Places of trainings: 1)Telangana Horticulture Training Institute (THTI), Hyderabad, 2) Centre of Excellence for Vegetables and Flowers, Jeedimetla, Hyd., 3) Centre of Excellence for fruits, Mulugu, Siddipet district and 4) Identified villages in the state

Expected Outcome: Farmers shall be updated with latest technologies in horticulture from time to time by organizing training programmes and field visits frequently



Sd/- L. Venkatram Reddy
Director of Horticulture

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Dy. Director of Horticulture (RKVY)