

Exploring Pradhan Mantri Krishi Sinchayee Yojana :Enhancing Horticulture in Mizoram's Kolasib District

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Abstract

Horticulture seems to get more attention and recognition in Mizoram. This is due to the growing health consciousness among the people, economic viability and feasibility of the horticulture crops, suitability of soil of the land etc. The topography of the state also has a significant contribution for the development of horticulture as large scale industries could not be set up due to the absence of vast flat land and scarcity of mineral resources, power etc. However, the climatic conditions and soil composition of Mizoram is found to be suitable for the cultivation of a vast variety of horticulture crops. Farmers in different regions are slowly weaning away from the age-old practice of Jhum cultivation which is detrimental to the environment and are moving towards permanent farming where they can grow more profitable crops with more environment friendly activities without having to shift and clear new plots every year. Even before the introduction of various Central and State horticulture programs and projects, horticulture occupied a very important place in the lives of the people of Mizoram. The Mizos used to be self-sufficient in foodgrains, fruits and vegetables. They grew most of the horticulture crops that are grown today but at a rather less commercial level. Most crops they grew were for their consumption alone. They hardly thought of making profits. However, during those days, they gave more emphasis on cereals particularly rice which is the the staple food item of the Mizos since time immemorial.

Keyword: Cultivation, Horticulture, Economic, Contribution, Resources, Crops, Environment, Foodgrains.

Introduction

Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) has also been an important Centrally Sponsored Scheme implemented for horticulture development in the state. Though Horticulture Department has been dealing with just one of the component related to horticulture sector, namely, PMKSY (Per Drop More Crop), 7500 hectare of horticulture land has been covered with an expenditure of Rupees 5000 lakhs (approx) under the scheme. As PMKSY has been designed to cover all districts in Mizoram, no district has been left out in its implementation.

Gender of the Respondents under PMKSY

Sl.No	Gender	Kolasib	Percentage
1	Male	16	80
2	Female	4	20

Table above shows the gender distribution of respondents under PMKSY. In Kolasib district, there are 20 respondents with 20 (80 percent) males and 4 (20 percent) females.

Table below shows the educational level of the respondents in three districts. Among the total number of 64 respondents, there is no respondent who can neither read nor write. Respondents who have passed Middle School and Matriculation or High School Leaving Certificate (HSLC) are highest in number contributing 25 percent each of the total number of respondents. They are followed by respondents who have completed their Primary level and Graduation at 18.75 percent each while those with Higher Secondary School Leaving Certificate (HSSLC) comprises a 12.5 percent. There are no Post Graduates among the respondents.

Education Level of the Respondents under PMKSY

Sl.No	Education Level	Kolasib	Percentage
1	Illiterate		
2	Primary School		
3	Middle School	4	20
4	HSLC	4	20
5	HSSLC		
6	Graduate	12	60
7	Post Graduate		

All the respondents of the study who have completed their graduation were from Kolasib district accounting for 60 percent of the total respondents of the district.

The marital status of respondents in the three districts is shown in Table below. All respondents- in Kolasib district are married accounting for 100 percent

Marital Status of Respondents under PMKSY

District	Married	Unmarried	Total	Percentage
Kolasib	20		20	100

Age Group of Respondents under PMKSY

Sl.No	Category	Kolasib	Percentage
1	Below 18		
2	18-30		
3	31-40	4	20
4	41-50	8	40

5	51-60		
6	61-70	4	20
7	71-80	4	20

Table above depicts the age group of respondents in all the three selected districts. Respondents belonging to the age group of 41-50 are highest in number forming 40 percent of the total respondents. The age group of 31-40,61-70 and 71-80 are having the same number and constitute 20 percent each. While there are no respondents found among the age group of below 18 and 18-30 and 51-60 years.

No of Crop/Trade undertaken under PMKSY

Sl.No	Trade	Kolasib	Percentage
1	Fruits	16	80
2	Vegetables	4	20

With regards to the number of respondents under vegetables Kolasib districts contribute 20 percent while Fruits contribute 80 percent respondents.

Land Holding Status (Area)

Sl.No	District	Crop/Trade	Area						
			Below 1 Hectare	1-1.9 Hectare	2-2.9 Hectare	3-3.9 Hectare	4-4.9 Hectare	5-5.9 Hectare	6 or More
1	Kolasib	Fruits		4	8		4		
		Vegetables				4			
4	Total			4	8	4	4		
5	Percentage			20	40	20	20		

Table above shows the land holding status of respondents in terms of area. Respondents having 2 -2.9 hectare of land contributed 80 percent while no respondents in below 1 hectare were. Those working on 3-3.9 and 4-4.9 hectares of land were constituting 20 percent only. With regards to landholding of 1-1.9 hectare of land, all respondents belonged to those undertaking fruit component with equal number in the district. In respect of the number of respondents having 2-2.9 hectare of land, all respondents are engaged in fruit with 50 percent from Kolasib district.

Land Holding Status (Ownership)

Sl.No	District	Crop/Trade	Owned	Rented
1	Kolasib	Fruit	16	
		Vegetable	4	
4	Total		20	
5	Percentage		100	

The above table above depicts the land ownership status of the respondents. Out of the total of 20 respondents 16 (80.00 percent) possesses the land on which they owned while 4 respondents (20 percent) respondents are working on land owned by others. In Kolasib district 80 percent of those who owned the land were involved in fruit while 20 percent were undertaking vegetables.

Was Assistance Received in Cash or Kind

Sl.No	District	Crop/Trade	In Cash	In Kind	Both
1	Kolasib	Fruit	8	4	4
		Vegetable			4
		Vegetable			
2	Total		8	4	8
3	Percentage		40	20	40

The above table above reflects whether respondents received assistance in cash or kind. 40 percent respondents received assistance in cash only while 20 percent received assistance in kind only. 40 percent received assistance both in cash and kind in Kolasib district.

No. of Instalments Received

Sl.No	District	Crop/Trade	1 Instalment	2 instalments	3 or more instalments
1	Kolasib	Fruit	4	4	8
		Vegetable		4	
2	Total		4	8	8
3	Percentage		20	40	40

The above table above is about the number of instalments received by respondents. respondents which account for 20 percent received assistance only once while 40 percent received assistance twice and 40 percent received thrice or more. Among the fruit's respondents, 20 percent respondents received one instalment, and two instalments and 40 percent received three or more instalments.

Was Assistance (s) Received on Time?

Sl.No	District	Crop/Trade	Yes	No
1	Kolasib	Fruit	16	
		Vegetable	4	
2	Total		20	
3	Percentage		100	

The above table above reveals whether respondents received assistance on time. All respondents in both components from the districts stated that there was timely receipt of assistance.

Membership of FIG

Sl No	District	Crop/Trade	Yes	No
1	Kolasib	Fruit	16	
		Vegetable	4	
2	Total		20	
3	Percentage		100	

The above table shows respondents' membership in any association or society related to their horticulture activities. In Kolasib districts the respondents accounting for 100 percent of the total registered respondents are members of their activity related association.

Participation in Training (s)

Sl.No	District	Crop/Trade	Yes	No
1	Kolasib	Fruit	12	4
		Vegetable	4	
2	Total		16	4
3	Percentage		80	20

Table above highlights whether the respondents attended training (s) organised for their activity under the scheme. In Kolasib district, 80 percent attended at least one training and 20 percent did not attend any. Among the fruit respondents, 60 percent attended training while 20 percent had not attended any. Regarding vegetables, 20 percent respondents in the districts have attended training.

Is/Are Training (s) Helpful?

Sl.No	District	Crop/Trade	Yes	No	No Idea
1	Kolasib	Fruit	12		
		Vegetable	8		
2	Total		20		
3	Percentage		100		

As shown in Table above ,100 percent have found the training(s) attended by them helpful in the course of their work.

Whether received technical/extension Guidance?

Sl.No	District	Crop/Trade	Yes	No
1	Kolasib	Fruit	8	8
		Vegetable	4	
2	Total		12	8
3	Percentage		60	40

Technical/extension guidance from the concerned department was received by 60 percent of the respondents in the course of their work whereas 40 percent did not receive any guidance. Among the respondents in Kolasib district, 60 percent received guidance from the concerned department whereas 40 percent carried out their activities without any guidance.

Inspection and Monitoring from the Department

Sl.no	District	Crop/Trade	Yes	No
1	Kolasib	Fruit	12	4
		Vegetable	4	
2	Total		16	4

3	Percentage	80	20
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Table shown above enumerates the number of respondents who received inspection and monitoring from the department to make sure that assistances rendered were utilized as stipulated in the scheme. In Kolasib district, 80 percent of respondents were inspected and monitored to see utilization of the assistance received whereas 20 percent did not witness any inspection and monitoring activities.

No of Respondents with and without problems and issues in the course of work

Sl.No	District	Crop/Trade	No of Respondents with Problems	No of Respondents without Problems
1	Kolasib	Fruits	12	4
		Vegetable		4
2	Total		12	8
3	Percentage		60	40

The table above depicts the number of respondents who have problems and those who have no problems or issues during their activities under the scheme. 60 percent are facing some problems while 40 percent respondents carried out their activities without facing obstacle.

Nature of the Problems and Issues faced by the Respondents in the course of work

Sl.No	Problem/Issue	No of respondents	Total	Percentage
1	No Problem	8	8	40
2	Scarcity of water	4	4	20
3	Poor quality of Soil			
4	Plant Disease	4	4	20
5	Poor Quality of Planting Materials			
6	Scarcity of fertilizers	4	4	20
7	Storms/Flood/ other calamities			
8	Scarcity of farm materials			
9	Insufficient Assistance			
10	Pest		12	60
11	Robbery			
12	Extreme temperature of GH		8	40
13	No device for water distribution (Pipes etc)			

Table above shows the nature of problems faced by the respondents with problems while carrying out their horticulture activities under the scheme with multiple responses. In Kolasib district, the main problems faced are scarcity of water, plant diseases and scarcity of fertilizers with equal number of respondents facing the problems. 40 percent do not face any problems.

Labour Utilisation

As can be seen in Table below farmers employing regular additional labour accounts. In Kolasib District, 20 percent of respondents hired additional labour regularly to carry out their horticulture works whereas 80 percent depends upon additional labour occasionally. None could carry out their activities on their own without additional help.

Utilisation of Labour

Sl.No	District	Trade	Farmers with additional Labour (Regular)	Farmers with additional labour (Occasional)	Farmers without additional labour
1	Kolasib	Fruits	4	12	
		Veg		4	
		Total			
2	G. Total		4	16	
3	Percentage		20	80	

Financial Profit of Respondents

Table below highlights the average monetary profits of the respondents (district-wise) under PMKSY. 4 respondents accounting for 20 percent could not make a profit. 4 respondents make a profit in the category of Rs. 10,000- 29,000. 50,000- 99,000 lakhs profit was made by 8 respondents constituting 40 percent of respondents.

Average Monetary Profit of Respondents

Sl.No	Profit	Kolasib	Percentage
1	No Profit	4	20
2	Below 10000		
3	10000-29000	4	20
4	30000-49000		
5	50000-99000	8	40
6	1 Lakh-1.9 lakh		
7	2 lakh-2.9 lakh	4	20
8	3 lakh-3.9 lakh		
9	4 Lakh-4.9 Lakh		
10	5 lakh- 5.9 lakh		

No respondent from Kolasib district is found to make profit within the range. In respect of profit Rs 2-2.9 lakh, respondents from Kolasib alone could make the said profit.

Marketing:The different mechanisms for selling off the produces by the respondents are reflected in Table below shows Respondents who sold their produces to the intermediaries are highest in number with 40 percent followed by 20 percent who sold their produces both directly and through intermediaries. The respondents who do not sold their product accounts for 40 percent in the district.

Marketing of the produces

Sl.No	Mode of selling	No of respondents	Percentage
1	Sold directly		
2	Sold to Intermediaries	8	40
3	Both Sl No 1 and 2	4	20
4	Through Dept Arrangement		
5	Both Sl no 2 and 4		
6	Not Sold	8	40

Marketing Problems

Table below represents the number of respondents with problems and those having no problem in marketing their produces. Zero percent of respondents could sell their produces without any obstacle whereas 100 percent are facing some problem in marketing their produces. All respondents of Kolasib have stated that they faced certain hurdles in marketing their produces.

Problems/Issues in selling off the produces

Sl.No	District	Crop/Trade	Respondent with no problem	Respondents with problem
1	Kolasib	Fruit		16
		Vegetable		4
2	Total			20
3	Percentage			100

The nature of problem and the number of respondents belonging to different crops/trades among those facing problems in marketing is highlighted. Multiple responses have been stated during the interview with the beneficiaries. Lockdown imposed due to the pandemic during 2020-2022 and less demand of the crop has been the biggest problems which the respondents have dealt with. Other problems stated are competition with imported items and transportation issues.

Utilisation of Post Harvest Management

Sl No	District	Crop/Trade	No. of Respondents with PHM	No. of Respondents with no PHM
1	Kolasib	Fruit		16
		Vegetable		4
2	Total			20
3	Percentage			100

The above table represents the number of respondents who have or have not utilized Post Harvest Management activities. Post Harvest Management activities such as preservation in Cold Storage Facilities, Value Addition etc., have been undertaken by 100 percent of the respondents have not incorporated post-harvest management processes. Regarding the number of respondents based on crop or trade who have

undertaken post-harvest management activities, Fruits has a higher number of respondents with 80 percent and vegetables with 20 percent.

Future Plans

The table below reflects the future plans of the respondents in relation to the continuance of their trades. Respondents who think that they can continue their horticulture activities only with the assistance from government or any other institutions are highest in number constituting 81.25 percent of respondents. They are followed by those who think they can grow and expand their activities even without additional assistance at 12.5 percent. 6.25 percent, all hailing from Mamit district already gave up their activity.

Future Plan of the Respondents

Sl.No	District	Crop/Trade	Respondents who can grow/expand	Respondents who can continue with further assistance	Can't Say	Respondent who already quit
1	Kolasib	Fruit	4	12		
		Vegetable	4			
2	Total		8	12		4
3	Percentage		40	60		20

Regarding the number of respondents who are planning to grow and expand their activities, all respondents belonged to the district. 12 respondents from the district stated that they can continue their activities only with additional assistance accounting for 60 percent of those with similar view, there 20 percents of respondents who quit their activity.

Whether Respondents are with other source of income

Sl.No	District	Crop/Trade	Respondents with other Regular source of income	Respondent without other Regular source of income
1	Kolasib	Fruit	12	
		Vegetable	8	
2	Total		20	
3	Percentage		100	

Table above depicts the number of respondents who have regular source of income in addition to their income from the horticultural activity and those who do not have any other source of income. Respondents who have other regular source of income are constituting 100 percent.

Farmers with additional back up from the Dept

Sl.No	District	Crop/Trade	Respondents with additional back up	Respondents without additional back up
1	Kolasib	Fruit	12	4

		Vegetable		4
2	Total		12	8
3	Percentage		60	40

As can be seen in Table above respondents receiving additional assistances/back up from the government stands at 60 percent while 40 percent have not received any back up other than the assistance they received under the scheme.

Major Findings

1. The Department of Horticulture, Government of Mizoram has been the most important institution available for administration of horticulture in the state since 1993 when it became a full-fledged department. The functions and responsibilities assigned to the Department are carried out by the Directorate, offices at district, sub-division and circle level. Currently, the Department is the implementing agency of CSS like PMKSY etc., and some state horticulture policies.
2. Regarding the age of horticulture farmers under the schemes, farmers belonging to the age group of 51-60 are largest in number whereas number of farmers belonging to age group of 18-30 and 31-41 are the least.
3. In respect of the educational qualifications obtained by farmers under the schemes, those who have passed Middle School standard are highest in number whereas those who possessed Master Degree are the least. There are no illiterate farmers who have undertaken horticultural activities under the schemes.
4. There is a wide gender disparity among the horticulture farmers. Under the three schemes, the number of male beneficiary farmers constituted approximately 70 percent of the total number of farmers while females contributed only 30 percent.
5. With regard to the ownership of land, about 86 percent of farmers under the schemes are undertaking their horticulture activities on their own land whereas the rest conduct their farm activities on borrowed land.
6. Regarding the membership of farmers in FIGs, about 70 percent of respondents are members of at least one association which is linked to their activities while 30 percent of farmers are not members of any association.
7. Training to impart knowledge and expertise has been an important component of each scheme. 78.87 percent of respondents have undergone at least one or two training(s) organized by the implementing agency. Amongst the respondents who have attended trainings, 93.08 percent of them found that their training have been helpful in the course of their work.
8. After organization of training, follow up programme in terms of technical guidance, inspection and monitoring were also given due emphasis to ensure that beneficiaries utilized their assistance in the most effective manner in their activities. 80.93 percent of respondents under the schemes have received such kind of care from the implementing agency.
9. The study discovered that most of the farmers are facing one or more problems in the course of their work. Plant diseases, pest, scarcity of water etc., are common problems encountered by the farmers.
10. Regarding marketing of the produces, farmers sold off their produces in different ways. Those who sold to the intermediaries are highest in number which accounted for 39.06 percent of the total number of respondents. Some sold directly in the market while some utilized arrangements made by the concerned Department. At the same time, there are some farmers who have not sold any of their produces. About half of

the beneficiaries of the schemes encountered marketing problems. Covid-19 pandemic, unstable market, competition with imported commodities etc., are some common marketing problems faced by the beneficiaries of the schemes in relation to marketing of their produces.

11. Respondents who could make profit amounting to Rupees 50000-99000/year are the largest in number comprising about 40 percent of the total respondents while respondents who could make more than Rupees 1 lakh/year are only 9 percent. 8 percent of respondents still fail to make profit from their horticulture activities.

12. The study also revealed that most respondents could not utilize the available post harvest management facilities like cold storage facilities, sorting facilities, grading facilities etc. Value addition activities were also not undertaken by most beneficiaries.

13. The implementation of MIDH, RKVY and PMKSY has brought significant progress in increasing horticulture coverage as well. Since the target areas to be covered under the schemes were successfully achieved in every year of implementation for almost a decade, about 13 percent of the identified horticulture potential area in the state has now been utilized for undertaking cultivation of different kinds of horticulture crops.

Problems & Challenges: It is no doubt that horticulture in Mizoram has seen some progress with the implementation of PMKSY. Area covered, production and productivity are comparatively much higher with the coming of these schemes. In the meantime, many issues and problems are identified in the implementation process which further affected and at times almost led to total failure in some activities. The problems and issues which are discovered during the conduct of the study are as follows:

1. Delay in Release of Funds: The success of every scheme depends on timely release of funds whether it is under the central or state scheme. In the case of centrally sponsored horticulture schemes implemented in Mizoram as well, timely release of fund from both Government of India and the State Government is vital as activities under these schemes very much depends on season, rainfall, climate etc., In respect of the State Matching Share (SMS), the state government has been always late to release fund. This problem has not been specific to horticultures schemes alone, but common to all the schemes where State Government is required to contribute its share of funding. Late release of State Matching Share has created several problems such as lapsing of fund, deduction of Central share, untimely receipt of fund by beneficiaries etc., which hampers the smooth flow of the implementation process.

2. Shortage of Staff (Technical/Non-Technical): One of the biggest problems that the concerned officials reiterated while discussing problems in the implementation process about PMKSY is the shortage of staff. As these schemes are being implemented to cover even the remote areas, the problem is enhanced when there is a need to carry out the monitoring and inspecting activities. The failure of the state government to fill the regular vacant posts due to the death and retirement of personnel on superannuation pension also added to the problem. In addition to this problem, many farmers need technical expertise throughout the year as they are lacking in knowledge in many respects, such as, pest control, application of fertilizers and manures etc.

3. Political Interference in the selection of beneficiaries: Political parties especially those in power have been said to interfere in the selection process of the beneficiaries in most districts either directly or indirectly. It has been stated during the interview that interference of political parties occurs the most when assistances were given in cash.

4. Topography: Mizoram is a hilly terrain with rough hills of irregular height. There is hardly any area which can be called as plain. The rough topography of Mizoram rendered various impediments to horticulture activities. The implementation of PMKSY also sometimes fail to produce the desired results due to the difficulties brought in by the unfavourable landscape of the state.

- i) Difficulties in utilizing heavy farm machineries and equipment necessary for large scale production.
- ii) Construction and improvement of roads which would expedite and ease transportation of raw materials and produces is difficult in the hilly terrains.
- iii) Working on the rough hilly terrain is tedious and exhausting as compared to working in the plain areas with or without improved farming tools and implements.
- iv) The above issues caused by the topography have led to the condition wherein the area that can be taken care of by an individual in hilly areas is comparatively less than that in the plains. This further impedes large scale production. Instances have further been cited where the situation has led to misunderstandings between farmers and officials of the implementing agency which were compensated on certain occasions.

1. **Selection of Uncommitted Beneficiaries:** Thousands of beneficiaries have been given assistance under PMKSY in the whole of Mizoram since their inception. The amount that has been disbursed under the schemes to aid the farmers appears to be sufficient to make remarkable changes. However, several farmers selected as beneficiaries are stated to be half-hearted in their commitment to the schemes. They rather wish to receive assistance without any commitment to progress in their horticulture activities. In some places, there are some beneficiaries who have not taken up their horticulture activity to fulfil the conditions of the scheme under which they are assisted.

2. **Insufficiency of Assistance:** From the discussions and interviews with officials and farmers, it is found that the assistances given under the schemes are often less than the expectation of the farmers to undertake meaningful activities. The area which can be covered with the assistance provided appears to be insufficient in terms of productivity and production.

3. **Unstable Market:** In Mizoram, markets have not been stable in relation to prices as well as quantity of sale of horticulture produces since long time back. As this kind of situation has been experienced several times, many farmers were discouraged and sometimes compelled to give up their activities. Some reasons attributed for instability of market in Mizoram are:

- a) **Shortage of consumers:** The population of Mizoram have not been large enough to consume all the producers of horticulture farmers. Mizoram is one of the least populated states in India having hardly eleven lakhs population as per the 2011 Census.
- b) **Absence of proper channel for export of the produces:** Though some horticulture produces such as Anthurium (Flower), Dragon Fruit etc., are sold to other states and foreign countries through the arrangement made by the concerned department and some societies, many produces are still unable to reach beyond the state
- c) **Too much reliance on intermediaries:** In Kolasib, most of the horticulture farmers do not sell their products directly in the market. Their products are sold on-farm to the intermediaries who collect them from their fields and later sold to the retailers/vendors.

4. **Shortage of Post Harvest Management Facilities and Activities:** Most horticulture crops are perishable commodities which require post-harvest management to increase their shelf life. Though the

Horticulture Department has set- up Multi-Purpose Packing House in five locations, usually equipped with various facilities such as Cold Storage Devices, Sorting and Grading facilities etc., in various horticulture centres, most farmers in the state are not able to utilize these infrastructures as they are inaccessible to them. Only a few farmers are undertaking value addition activities for their produces to ensure better marketability on and off season.

5. **Scarcity of Water:** Scarcity of water during the dry season starting from November and lasting till the beginning of May has rendered it difficult to carry out horticulture activities and produces also tend to be comparatively less. Though the concerned department have taken various steps under under PMKSY, such as, construction of community water tanks, individual water tank of different kinds, etc., not all farmers have received such provisions.

Problems faced during the Study: During the conduct of the study, the researcher has faced some problems which hampered the smooth flow of the research. Some are caused by unavoidable circumstances. There were certain problems faced which, however, could be solved to keep the research going. Few of the problems encountered by the researcher are stated below:

1. **Pandemic:** Covid-19 pandemic and the series of lockdown because of it have been the biggest problem faced during the study.
2. **Difficulty in procuring required data:** The Department officials particularly people at the Headquarters were hesitant to disclose information required by the researcher.
3. **Lack of documentation and maintenance of Record:** About availability of information for the study, the concerned department often had no proper records on the information needed by the researcher to move forward in the study.
4. **Attitude of respondents:** A small number of respondents interviewed by the researcher appeared to be suspicious and reluctant to respond to the questions during the interview until they were given briefing on the purpose of the study.

Suggestion: As mentioned above, the implementing agency as well as the stakeholders of the scheme has encountered many obstacles in the process of the implementation of the scheme. The following are some possible measures which can be taken both by the government and the beneficiaries.

1. **Timely Release of Fund:** To ensure the efficient implementation of the schemes, fund allocated should be released on time at any level whether it is central, state or district. The beneficiaries should be able to take all necessary steps to commence their activities on time.
2. **Appointment of more staff:** More staff (technical or non-technical) need to be recruited and appointed by the Government of Mizoram.
3. **Awareness among the politician:** Politicians (at all levels) especially those in power should be aware of the importance of the schemes and the possible damages that can be caused due to the selection of those who do not deserve assistance.
4. **Thorough study on the suitability of land:** Careful analysis on the suitability of land is a must before undertaking any horticultural activities. Though the topography of the state might not be comparatively conducive for the cultivation of all horticulture crops, but understanding the kind of crops for a particular type of soil can greatly enhance the working of horticulture
5. **Exploration and subsidization of suitable machineries:** Thorough study on the available small machineries suitable for use in the rugged topography of Mizoram would help in reducing the onus of farmers

as well as in expediting their works. Further, provisions for subsidization for the farmers may be explored to enable them to have access to such machineries.

6. **Provision of connectivity:** The sites selected for carrying out horticulture activities should be easily approachable for easy transportation of planting materials and farm materials as well as the farm produces.
7. **Supply of quality planting material:** Productivity and production of horticulture crops largely depend on the quality of planting materials supplied. Good quality planting materials means more productivity and production.
8. **Selection of deserving farmers for assistance:** The implementing agency should take all possible measures to ensure that only the deserving farmers get assistance. It is imperative that the personnel who oversee the schemes should carry out their duties and responsibilities without fear or favour.
9. **Sufficient Assistance:** To make farmers successful in the activities undertaken under the schemes, assistance given to them should be sufficient to meet at least their basic needs.
10. **Stable Market:** Stable market where the farmers can sell off their produces at reasonable and regular prices are necessary for successful working of agriculture and its allied sectors including horticulture. To avoid market problem which have been faced by many farmers across the state, channels for exporting the producers of the farmers needs to be explored.
11. **Utilization of Post Harvest Management Facilities/Activities:** More accessible cold storage facilities should be set up by the government to preserve the producers of the farmers. This is necessary for making the horticulture crop available in the market during the off season at profitable prices for farmers.
12. **Setting up of horticulture-based industries:** More agro/horticulture-based industries in the state should be set up to take up the activities of *value addition*. The provision for regulating such industries should be simplified and more user friendly so that more industry will come up where farmers can sell their produces at lucrative prices. The Government can make huge contribution in this regard.
13. **More irrigation facilities:** Rivers and streams in our state can solve water problems of farmers to a great extent if there are more irrigation facilities. Regarding irrigation, government intervention is a must to have a better system.

CONCLUSION: As mentioned in earlier, horticulture is getting more recognition and appreciation in India due to the contributions of its produces for the survival and wellbeing of the people in respect of nutrition for better health and income generation. Its ability to achieve sustainability of small land holdings, employment generation, environment protection, more export potential etc., has added to its significance. However, importance of horticulture is said to be recognised during the 1980s only after the leaders of the country and the experts realised the said ability of horticulture for achieving the goals of the nation in some respects. As of today, horticulture has become one of the most important sectors which the Government of India has undertaken with the investment of more than 2000 crore¹. Due to the increasing investment and various initiatives in horticulture sector, India became the biggest producer of fruits and vegetables in the world. Only China is ahead of India in this regard. Among the UTs and states in the country, Mizoram is also doing well for promotion of horticulture in the state. As a matter of fact, Mizoram has been very much closely associated with horticulture since time immemorial. Horticulture began to take a new shape when Mizoram was upgraded from the status of District Council to Union Territory in 1972. During those days, the government of Mizoram took initiatives for horticulture development by placing horticulture as one of the wings under the Department of Agriculture. The Horticulture Wing was assigned to look after 12 subjects including Fruit Development,

¹ <https://prsindia.org/budgets/parliament/demand-for-grants-2022-23-analysis-agriculture-and-farmers-welfare>, accessed on 15.10.1022

Vegetable Development, Spices Development, Floriculture Development etc. It was headed by a Joint Director. In Mizoram, much effort has been made by both the Government of India and the State Government for the development of horticulture in the state by formulating and implementing various Centrally Sponsored Schemes (CSS) and State schemes. Under these schemes, thousands of lakhs have been spent to help the horticulture farmers as well as to take various steps for horticulture development in the state. Among the CSS which are meant to develop horticulture in the state, MKSY are some noticeable schemes making some remarkable progress in the state. Due to the efforts of the Department of Horticulture under the said schemes along with the state initiated schemes like NLUP etc., and other CSS, Mizoram was awarded 'Best Horticulture State' in 2019.

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