

Delving into the Pradhan Mantri Krishi Sinchayee Yojana : Boosting Horticulture in the Mamit District of Mizoram

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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.

Table No. 1 Gender of the Respondents under PMKSY

Sl. No	Gender	Mamit	Percentage
1	Male	20	100
2	Female		

Table 1 shows the gender distribution of respondents under PMKSY. In Mamit district, all respondents are males respectively. It is found that the scheme is dominated by males in terms of beneficiaries.

Table No.2 shows the educational level of the respondents in three districts. Among the total number of 20 respondents, there is no respondent who can neither read nor write.

Table No.2: Education Level of the Respondents under PMKSY

Sl. No	Education Level	Mamit	Percentage
1	Illiterate		
2	Primary School	8	40
3	Middle School		
4	HSLC	8	40
5	HSSLC	4	20
6	Graduate		
7	Post Graduate		

In Mamit district, there were no beneficiaries who had completed their Middle School level education, while 40 percent each possessed Primary education and HSLC. The other 20 percent had HSSLC level education.

The marital status of respondents in the districts is shown in Table No 3. Of the total respondents, 80 percent of respondents are married and living with their family while 20 percent respondents of the total respondents are single.

Table No.3: Marital Status of Respondents under PMKSY

Sl.No	District	Married	Unmarried	Total
1	Mamit	16	4	20
2	Percentage	80	20	100

Table No.4: Age Group of Respondents under PMKSY

Sl. No	Category	Mamit Distriict	Percentage
1	Below 18		
2	18-30		
3	31-40		
4	41-50		
5	51-60	8	40
6	61-70	8	40
7	71-80	4	20

Table 4 depicts the age group of respondents in all the selected districts. Respondents belonging to the age group of 51-60 and 61-70 stood first in terms of the number of respondents constituting 40 percent each. There are 4 respondents in the age group of 71-80 constituting 20 percent.

Table No.5: No of Crop/Trade undertaken under PMKSY

Sl.No	Trade	Mamit District	Percentage
1	Fruits	20	100
2	Vegetables		

The number of respondents based on the activity carried out under the scheme is shown in Table5. With regards to the number of respondents, Mamit district contribute 100 percent in fruits component.

Table No6: 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	Mamit	Fruits			4	8			8
		Vegetables							
2	Total			4	8			8	
3	Percentage			20	40			40	

Table6 shows the land holding status of respondents in terms of area. In respect of the number of respondents having 2-2.9 hectare of land, all respondents are engaged in fruit with 20 percent and 40 percent each from 3-3.9 hectare and 6 or hectare of land in the district.

Table No7: Land Holding Status (Ownership)

Sl.No	District	Crop/Trade	Owned	Rented
1	Mamit	Fruit	20	
		Vegetable		
2	Percentage		100	

The above table No. 7 depicts the land ownership status of the respondents. Out of the total of 20 respondents all respondents possess the land on which they are undertaking the scheme .

Table No8: Was Assistance Received in Cash or Kind

Sl.No	District	Crop/Trade	In Cash	In Kind	Both
1	Mamit	Fruit		4	16
		Vegetable			
2	Percentage			20	80

The above table No 8 reflects whether respondents received assistance in cash or kind. 20 percent respondents received assistance in kind only while 80 percent received assistance in cash and in kind.

Table No9: No. of Instalments Received

Sl.No	District	Crop/Trade	1 Instalment	2 instalments	3 or more instalments
1	Mamit	Fruit	12	4	4
		Vegetable			
2	Percentage		60	20	20

The above table No 9 is about the number of instalment received by respondents.12 respondents which accounts for 60 percent received assistance only once while 20 percent received assistance twice and thrice or more.

Table No10: Was Assistance (s) Received on Time?

Sl.No	District	Crop/Trade	Yes	No
1	Mamit	Fruit	20	
		Vegetable		
2	Percentage		100	

The above table no 10 reveals whether respondents received assistance on time. All respondents in both components from the districts stated that there was timely receipt of assistance.

Table No.11: Membership of FIG

Sl No	District	Crop/Trade	Yes	No
1	Mamit	Fruit	16	4
		Vegetable		
2	Percentage		80	20

The above table no 11 shows respondents' membership in any association or society related to their horticulture activities. 80 percent are registered in one or more associations related to their horticulture activities while 20 percent do not have membership in any related association.

Table No12: Participation in Training (s)

Sl.No	District	Crop/Trade	Yes	No
1	Mamit	Fruit	16	4
		Vegetable		
2	Percentage		80	20

Table No12 highlights whether the respondents attended training (s) organised for their activity under the scheme. 80 percent attended one or more trainings whereas 20 percent did not attend any.

Table No13: Is/Are Training (s) Helpful?

Sl.No	District	Crop/Trade	Yes	No	No Idea
1	Mamit	Fruit	12		4
		Vegetable			
2	Percentage		60		40

As shown in Table No 13, 60 percent have found the training(s) attended by them helpful in the course of their work whereas 40 percent did not have any concrete opinion on the utility of the trainings underwent.

Table No.14: Whether received technical/extension Guidance?

Sl.No	District	Crop/Trade	Yes	No
1	Mamit	Fruit	16	4
		Vegetable		
2	Percentage		80	20

Technical/extension guidance from the concerned department was received by 80 percent of the respondents in the course of their work whereas 20 percent did not receive any guidance.

Table No.15: Inspection and Monitoring from the Department

Sl.No	District	Crop/Trade	Yes	No
1	Mamit	Fruit	12	8
		Vegetable		
2	Percentage		60	40

Table no15 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. 60 percent of respondents were inspected and monitored by the department whereas 40 percent were not.

Table No.16: 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	Mamit	Fruit	20	
		Vegetable		
2	Percentage		100	

The table above depicts the number of respondents who have problems and those who have no problems or issues in the course of their activities under the scheme. All respondents have been facing one or more problems which hampered their works.

Labour Utilisation

As can be seen in Table No.17 farmers employing regular additional labour accounts for 20 percent of the respondents while those employing labour occasionally are at 80 percent.

Table No. 17: Utilisation of Labour

Sl.No	District	Trade	Farmers with additional Labour (Regular)	Farmers with additional labour (Occasional)	Farmers without additional labour
1	Mamit	Fruit	4	16	
		Veg			
		Total			
2	Percentage		20	80	

Financial Profit of Respondents

Table No.18 highlights the average monetary profits of the respondents (district-wise) under PMKSY. 20 percent of respondents failed to make any profit. Among the 20 percent of respondents with profit amounting Rs 50000-99000, 1 lakh – 1.9 lakh, 4-4.9 lakh and 5-5.9 lakh respectively.

Table No. 18: Average Monetary Profit of Respondents

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

Marketing

The different mechanisms for selling off the produces by the respondents are reflected in Table No. 19. Respondents who sold their produces to the intermediaries are with 20 percent while 60 percent sold their produces through the arrangement made by the concerned department as well as the intermediaries and 20 percent sold through department arrangement alone.

Table No. 19: Marketing of the produces

Sl.No	Mode of selling	Mamit	Percentage
1	Sold directly		
2	Sold to Intermediaries	4	20
3	Both Sl No 1 and 2	12	60
4	Through Dept Arrangement		
5	Both Sl no 2 and 4		
6	Not Sold	4	20

Marketing Problems

Table No.20 represents the number of respondents with problems and those having no problem in marketing their produces. 43.75 percent of respondents could sell their produces without any obstacle whereas 56.25 percent are facing some problem in marketing their produces.

Table No. 20: Problems/Issues in selling off the produces

Sl.No	District	Crop/Trade	Respondent with no problem	Respondents with problem
1	Mamit	Fruit	12	8
		Vegetable		
2	Percentage		60	40

In Mamit districts, 60 percent of respondents have not experienced any difficulties in selling off their produces. The number of respondents facing problems in the districts stands at 40 percent.

Table No. 21: Utilisation of Post Harvest Management

Sl No	District	Crop/Trade	No. of Respondents with PHM	No. of Respondents with no PHM
1	Mamit	Fruit	4	16
		Vegetable		
2	Percentage		20	80

Table above 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 20 percent of the respondents while 80 have not incorporated post harvest management processes.

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 80 percent of respondents. 20 percent of respondents already quit from their activities.

Table No. 22: 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	Mamit	Fruit		16		4
		Vegetable				
2	Percentage			80		20

Table No. 23: 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	Mamit	Fruit	16	4
		Vegetable		
2	Percentage		80	20

Table No. 23 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 much higher in number constituting 80 percent while 20 percent of respondents solely depend on their horticultural activities for their livelihood.

Table No. 24: Farmers with additional back up from the Dept

Sl.No	District	Crop/Trade	Respondents with additional back up	Respondents without additional back up
1	Mamit	Fruit	8	12
		Vegetable		
2	Percentage		40	60

As can be seen in Table No. 24, respondents receiving additional assistances/back up from the government stands at 40 percent while 60 percent have not received any back up other than the assistance they received under the scheme.

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

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

subjects including Fruit Development, 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. As per the record of the Department of Horticulture, about 13200 ha. of land has been covered so far under the horticulture sector. However, it should be kept in mind that horticulture covers only 11.96 per cent of the area identified as horticulture potential area which reflects that there still is much to be done for the further development of horticulture in the state.

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. 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.

10. 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.

11. 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.,

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.

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.

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.
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.

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.

Limitations of the Study

The study was confined to three schemes in three districts only. Other horticulture schemes in collaboration with National Bank for Agriculture and Rural Development (NABARD), Japan, NLUP, SEDP, Article 275 (1), National Bamboo Mission (NBM) etc., have been implemented in the state with the allocation of considerable amount of fund. These schemes seem to have some impacts on the horticulture context of Mizoram. Therefore, it is thought that further research on these schemes would be very helpful to understand the status of Horticulture in Mizoram.

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. **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.
5. **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.

6. **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.
7. **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.
8. **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.
9. **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.

Conclusion

Regarding the implementation of PMKSY in Mizoram, much effort has been put by both Government of India and the State Government in terms of fund allocation, dissemination of expertise through training, technical guidance, market arrangement etc. However, desirable results have not been achieved so far due to several problems such as cultivation of poor-quality planting materials, shortage of technical and non-technical staff to look after the schemes, selection of undeserving beneficiaries, absence of stable market etc.

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