

Implementation of the Pradhan Mantri Krishi Sinchayee Yojana for the advancement of Horticulture in the State 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 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

SN	Gender	Serchhip	Percentage
1	Male	24	100
2	Female		

Above table shows the gender distribution of respondents under PMKSY In Serchhip all respondents are males at 24 respectively. It is found that the scheme is dominated by males in terms of beneficiaries Below table shows the educational level of the respondents in three districts.

Education Level of the Respondents under PMKSY

SN	Education Level	No of respondents	Percentage
1	Illiterate		
2	Primary School	4	20
3	Middle School	12	60
4	HSLC	4	20
5	HSSLC	4	20
6	Graduate		
7	Post Graduate		

Among the respondents of Serchhip district, there were no illiterates, Graduate or Post Graduate degree holders. The highest number of respondents was those who studied up to Middle School at 12, that is, 50 percent of the respondents. The marital status of respondents in the three districts is shown in Table below. All respondents in Serchhip district are married accounting for 37.5 percent of the total respondents respectively.

Marital Status of Respondents under PMKSY

SN	District	Married	Unmarried	Total	Percentage
1	Serchhip	24		24	100

Age Group of Respondents under PMKSY

SN	Category	No of respondents	Total	Percentage
1	Below 18			
2	18-30			
3	31-40	4	4	16.66
4	41-50	8	8	33.33
5	51-60	4	4	16.66
6	61-70	4	4	16.66
7	71-80	4	4	16.66

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 33.33 percent each of the total respondents. There are no respondents in the age group of 30 years and below. Respondents in the age group of 51-60 and 71-80 stood second in terms of the number of respondents constituting 16.66 percent each.

No of Crop/Trade undertaken under PMKSY

SN	Trade	Total	Percentage
1	Fruits	12	50
2	Vegetables	12	50

The number of respondents based on the activity carried out under the scheme is shown in Table above. Respondents who are dealing with fruits and vegetables constitute the same number within the areas with 50 percent each.

Land Holding Status (Area)

SN	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
2	Serchhip	Fruits			4	4			4
		Vegetables	8	4					
4	Total		8	4	4	4			4
5	Percentage		33.33	16.66	16.66	16.66			16.66

Table shows the land holding status of respondents in terms of area. Respondents having below 1 hectare share 33.33 percent constitute highest in number. None of the respondents were found to have possessed 5-5.9 hectares of land while the remaining respondents share equal percentage of 16.66 percent of land.

Land Holding Status (Ownership)

SN	District	Crop/Trade	Owned	Rented
2	Serchhip	Fruit	12	
		Vegetable		12
4	Total		12	12
5	Percentage		50	50

The above table depicts the land ownership status of the respondents. Out of the total of 24 respondents 12 (50 percent) possesses the land on which they are undertaking the scheme while 12 (50 percent) respondents are working on land owned by others. Serchhip district has respondents working on rented land who are all under the vegetable component.

Was Assistance Received in Cash or Kind

SN	District	Crop/Trade	In Cash	In Kind	Both
2	Serchhip	Fruit		4	8
		Vegetable		8	4
4	Total			12	12
5	Percentage			50	50

The above table reflects whether respondents received assistance in cash or kind. No respondents received assistance in cash while 50 percent received assistance in kind and 50 percent received assistance both in cash and kind. In respect of the number of respondents who received assistance in kind only, vegetables comprise 33.33 percent of the respondents and fruits 16.66 percent. Out of the 24 respondents who received assistance both in cash and in kind, fruit constituted 16.66 percent and vegetables 33.33 percent.

No. of Instalments Received

SN	District	Crop/Trade	1 Instalment	2 instalments	3 or more instalments
2	Serchhip	Fruit	4	8	
		Vegetable		12	
4	Total		4	20	
5	Percentage		16.67	83.33	

The above table is about the number of instalments received by respondents. 20 respondents which accounts for 83.33 percent received assistance twice while 16.66 percent received assistance once and no respondents received thrice or more. Among the fruits respondents, 16.67 percent respondents received one instalment, 33.33 percent received two instalments. With regard to the number of respondents with vegetables, all respondents received assistance twice.

Was Assistance (s) Received on Time?

SN	District	Crop/Trade	Yes	No
1	Serchhip	Fruit	12	
		Vegetable	12	
2	Total		24	
3	Percentage		100	

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

Membership of FIG

Sl No	District	Crop/Trade	Yes	No
2	Serchhip	Fruit	12	
		Vegetable	12	
4	Total		24	
5	Percentage		100	

The above table shows respondents' membership in any association or society related to their horticulture activities. 100 percent are registered in one or more associations related to their horticulture activities.

Participation in Training (s)

SN	District	Crop/Trade	Yes	No
2	Serchhip	Fruit	12	
		Vegetable	12	

4	Total	24	
5	Percentage	100	

Table above highlights whether the respondents attended training (s) organised for their activity under the scheme. 100 percent attended one or more trainings. In Serchhip district 12 respondents accounting for 50 percent of the respondents attended training from fruits category and another 50 percent respondents attended training from.

Is/Are Training (s) Helpful?

SN	District	Crop/Trade	Yes	No	No Idea
2	Serchhip	Fruit	12		
		Vegetable	12		
4	Total		24		
5	Percentage		100		

As shown in Table above 100 percent have found the training(s) attended by them helpful in the course of their work. In Serchhip district all respondents of both trades felt that the trainings were useful accounting for 50 percent and 50 percent of the total respondents with training respondents respectively.

Table No. 5.3.14: Whether received technical/extension Guidance?

SN	District	Crop/Trade	Yes	No
2	Serchhip	Fruit	12	
		Vegetable	12	
4	Total		24	
5	Percentage		100	

Technical/extension guidance from the concerned department was received by 100 percent of the respondents in the course of their work.

Inspection and Monitoring from the Department

SN	District	Crop/Trade	Yes	No
2	Serchhip	Fruit	12	
		Vegetable	12	
4	Total		24	
5	Percentage		100	

Table 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 Serchhip district all respondents were inspected and monitored by the concerned department with regard to the utilization of assistance received.

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

SN	District	Crop/Trade	No of Respondents with Problems	No of Respondents without Problems
2	Serchhip	Fruit	12	
		Vegetable	12	
4	Total		24	
6	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. In Serchhip all respondents have been facing one or more problems which hampered their works. With regard to the number of respondents with problems in their horticulture activities under the scheme, respondents with fruit constitute 50 percent, and those with vegetables constitute 50 percent.

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

SN	Problem/Issue	Total	Percentage
1	No Problem		
2	Scarcity of water	8	33.33
3	Poor quality of Soil		
4	Plant Disease	20	83.33
5	Poor Quality of Planting Materials		
6	Scarcity of fertilizers		
7	Storms/Flood/ other calamities		
8	Scarcity of farm materials		
9	Insufficient Assistance		
10	Pest	12	50
11	Robbery		
12	Extreme temperature of GH	4	16.67
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. During the course of the interview with the beneficiaries, there were a number of multiple responses in relation to the problems faced. Out of the total number of respondents with problems those facing the problem of plant diseases are the highest in number constituting at 20 respondents which is followed by pest with 12 respondents, scarcity of water issues by 8 respondents, 4 respondents with issues regarding extreme temperature in the greenhouses which are set up without temperature control mechanisms.

Labour Utilisation

As can be seen in Table below farmers employing regular additional labour accounts for 16.67percent of the respondents while those employing labour occasionally are at 66.67 percent and those which manages their trade without any additional labour comprises 16.67 percent.

Utilisation of Labour

Sn	District	Trade	Farmers with additional Labour (Regular)	Farmers with additional labour (Occasional)	Farmers without additional labour
1	Serchhip	Fruit	4	8	
		Veg		8	4
		Total			
2	G. Total		4	16	4
3	Percentage		16.67	66.67	16.67

Financial Profit of Respondents

Table below highlights the average monetary profits of the respondents (district-wise) under PMKSY. there are none from Serchhip district who did not make any profit. Among the 43.75 percent of respondents with profit amounting Rs 50000-99000, Serchhip district contribute 66.67 percent respectively.

Average Monetary Profit of Respondents

Sn	Profit	Serchhip	Percentage
1	No Profit		
2	Below 10000		
3	10000-29000		
4	30000-49000		
5	50000-99000	16	66.67
6	1 Lakh-1.9 lakh	4	16.67
7	2 lakh-2.9 lakh		
8	3 lakh-3.9 lakh		
9	4 Lakh-4.9 Lakh	4	16.67
10	5 lakh- 5.9 lakh		

With regard to the number of respondents with profit of Rs 1-1.9 lakh, Serchhip district constituted 50 percent. Regarding the number of respondents with profit Rs 4-4.9, Serchhip district has equal number of respondents within this range of profit.

Marketing

The different mechanisms for selling off the produces by the respondents are reflected in Table below. Respondents who sold their produces to the intermediaries are highest in number with 50 percent followed by 33.33 percent who sold their produces both directly and through intermediaries, while 16.67 percent sold their produces through the arrangement made by the concerned department.

Marketing of the produces

SN	Mode of selling	No of respondents	Percentage
1	Sold directly		
2	Sold to Intermediaries	12	50
3	Both Sl No 1 and 2		
4	Through Dept Arrangement	4	16.67
5	Both Sl no 2 and 4	8	33.33
6	Not Sold		

Marketing Problems

Table below represents the number of respondents with problems and those having no problem in marketing their produces. 66.67 percent of respondents could sell their produces without any obstacle whereas 33.33 percent are facing some problem in marketing their produces.

Problems/Issues in selling off the produces

SN	District	Crop/Trade	Respondent with no problem	Respondents with problem
2	Serchhip	Fruit	8	4
		Vegetable	8	4
4	Total		16	8
5	Percentage		66.67	33.33

With regard to the number of respondents with crop/trade having no issue in marketing, respondents with fruits constituted 33.33 percent while respondents with vegetables accounts for the same percent. The number of respondents facing problems in marketing, respondents with fruits and vegetables contributed 33.33 percent.

Utilisation of Post Harvest Management

Sl No	District	Crop/Trade	No. of Respondents with PHM	No. of Respondents with no PHM
2	Serchhip	Fruit	4	8
		Vegetable	12	
4	Total		16	8
5	Percentage		66.67	33.33

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 66.67 percent of the respondents while 33.33 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.

Future Plan of the Respondents

SN	District	Crop/Trade	Respondents who can grow/expand	Respondents who can continue with further assistance	Can't Say	Respondent who already quit
2	Serchhip	Fruit		12		
		Vegetable		12		
4	Total			24		
5	Percentage			100		

All respondents from Serchhip district stated that they can continue their activities only with additional assistance accounting for 100 percent . When viewed from the perspective of the crop/trade those undertaking fruit component and vegetable component comprises 50 percent each of the respondents all being confined to the district.

Whether Respondents are with other source of income

SN	District	Crop/Trade	Respondents with other Regular source of income	Respondent without other Regular source of income
2	Serchhip	Fruit	16	
		Vegetable	8	
4	Total		24	
5	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. All respondents at Serchhip district has regular additional source of income and comprises. With regard to respondents who are dealing with fruits 66.67 percent have regular additional income source while the number stands at 33.33 percent among those dealing with vegetables.

Farmers with additional back up from the Dept

SN	District	Crop/Trade	Respondents with additional back up	Respondents without additional back up
2	Serchhip	Fruit	12	
		Vegetable	12	
4	Total		24	
5	Percentage		100	

As can be seen in Table above, respondents receiving additional assistances/back up from the government stands at 100 percent. In respect of the number of respondents based on crops/trade who received additional back up, vegetables contributed 50 percent while fruits contributed 50 percent.

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

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

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, 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. 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.

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. 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

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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