

Horticulture in Mizoram

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Mizoram is a state in North East India with Aizawl as its capital. It is the second least populous state in India with a population of 1.25 lakh as of 2023. Mizoram is a highly literate agrarian economy. Slash-and-burn farming, also known as Jhum, is the most common form of farming in the state. In recent years, the Jhum farming practices have been steadily replaced with a significant horticulture and bamboo products industry. The state's gross state domestic product for 2012 was estimated at ₹69.91 billion (US\$840 million). About 20% of Mizoram's population lives below the poverty line, with 35% rural poverty as of 2014. The state has about 871 kilometres of national highways, with NH-54 and NH-150 connecting it to Assam and Manipur respectively. It is also a growing transit point for trade with Myanmar and Bangladesh. A report by Ministry of Environment, Forest and Climate Change in 2021 states that Mizoram has the highest forest cover as a percentage of its geographical area of any Indian state, being 84.53% forest.

Mizoram has a mild climate, being relatively cool in summer 20 to 29°C (68 to 84°F) but progressively warmer, most probably due to climate change, with summer temperatures crossing 30°C and winter temperatures ranging from 7 to 22°C (45 to 72°F). The region is influenced by monsoons, raining heavily from May to September with little rain in the dry (cold) season. The climate pattern is moist tropical to moist sub-tropical, with average state rainfall of 254 centimeters (100 in) per annum. In the capital Aizawl, rainfall is about 215 centimeters (85 in) and in Lunglei, another major center, about 350 centimeters (140 in). The state is in a region where cyclones and landslides can cause weather-related emergencies. Between 55% and 60% of the working population of the state is annually deployed on agriculture. The sector's contribution to the gross state domestic product was 30% in 1994, just 14% in 2009 due to economic growth of other sectors. Agriculture has traditionally been a subsistence profession in Mizoram. It is seen as a means to generate food for one's family, ignoring its potential for commerce, growth and prosperity. Rice remains the largest crop grown in Mizoram by gross value of output. Fruits have grown to become the second largest category, followed by condiments and spices.

The Horticulture Department of Mizoram was established in the year 1993 and became a full-fledged Department since 1997. Mizoram covers an area of 21,081 Sq. km., out of which 11.56 lakh hectares (55%) is an identified potential area for horticulture crops. At present, the total area under horticulture crops is 1.10 lakh hectares. The geo-climatic situation of Mizoram offers an excellent scope for growing different horticulture crops including fruits, vegetables, spices, plantation crops, medicinal and aromatic plants of high economic value. The climatic condition in Mizoram is ideal for the cultivation of almost all types of flowers. In spite of this, only two flowers i.e. Anthurium and Rose are cultivated at commercial scale. The success of Anthurium production in Mizoram is known countrywide due to its large export (over 7 lakh a year). Because of its popularity within the state, Anthurium Festival is celebrated in the month of October every year.

Mizoram is also a significant producer and domestic supplier of banana, ginger, turmeric, passion fruit, orange and chowchow. It has accomplished this horticulture success and exports in 2009, with just 6% of its cultivated land dedicated to horticulture and floriculture, indicating a large potential for further growth and economic integration with other Indian states as well export driven economy. In 2013, the area dedicated to horticulture and floriculture increased to 9.4% of 1.2 lakh hectare potential.

The agricultural productivity is very low in Mizoram. The state gets a lot of rain, but its soil is porous and irrigation infrastructure very inadequate; this has affected its crop yield and reliability. The yield issue can be addressed by building irrigation infrastructure and adoption of better crop technologies. The state also has very low consumption of fertilizer and pesticides, which scholars suggest offers an opportunity for organic farming particularly of vegetables and fruits. The Horticulture Department, Government of Mizoram is implementing various important projects/schemes for increasing area, production and productivity of Horticultural Crops in the State such as

Mission for Integrated Development of Horticulture (MIDH): The most important Centrally Sponsored Scheme being implemented by Horticulture

Department is Mission for Integrated Development of Horticulture. Previously, it was known as 'Technology Mission for North-Eastern States (TMNE)', which was later changed to HMNEH in 2010-2011, and is now under the umbrella of Mission for Integrated Development of Horticulture (MIDH) since the year 2014-2015. Major activities under this scheme includes establishment of new garden of Fruits, Vegetables, Mushroom, Flowers, Spice crops and Aromatic plants, Rejuvenation/replacement of senile plantation and canopy management on fruit crops, creation of water sources for irrigation of crops etc. During 2016 – 2017, more than 1770 Ha area has been covered under Area Expansion Scheme of fruits, vegetables, flowers and spices. Protected cultivation covered more than 1,700,00 sq.m enabling cultivation of flowers and vegetables throughout the season. For provision of Irrigation to the crops, 5 nos. of community water tanks and 157 nos. of individual water tanks have been constructed. Rejuvenation of 1600 Ha of existing orchards was also successfully completed during the same year.

New Land Use Policy (NLUP)/New Economic Development Policy (NEDP): The State Government of Mizoram launched a flagship programme - New Land Use Policy (NLUP) on 14th January 2011 (this day of 14th January was since then observed as State's Labour Day every year). NLUP was implemented by the Horticulture Department as an important programme for uplifting the economy of Mizo farmers. Out of total target of 1,20,000 families to be covered by various Agriculture and Allied Departments, Horticulture Department has covered 24,039 families taking up various horticulture trades such as cultivation of Mandarin Orange, Passion fruit, Pineapple, Grapes, Mango, Tung, Tea, Squash, Arecanut and Aloe Vera.

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

New Economic Development Policy (NEDP) was launched in the year 2016-2017 to address the problem of unproductive farming practices in Mizoram. Under NEDP, Horticulture Department took up two programmes viz., Intensive Cultivation of Off-Season Cabbage and Intensive Cultivation of

Turmeric (Convergence with Mission Organic Value Chain Development, MOVCD) covering 120 and 475 families respectively. There is another important programme i.e., NLUP-NEDP Convergence, Horticulture Department where 78 families were included to take up 7 (seven) different trades such as Mandarin Orange, Pineapple, Grape, Arecanut, Tung, Tea and Banana.

Rashtrya Krishi Vikas Yojana (RKVY): RKVY programme was started in Mizoram since 2011-2012, owing to significant increase in the budget allocation of Agriculture & Allied Sector under NLUP Programme. An important component under RKVY is the National Vegetable Initiative for Urban Clusters (NVIUC) under which stress is given to vegetable crop production. The use of high yielding hybrid seeds and adoption of latest scientific technology have greatly increased the production of vegetables due to higher productivity per unit area. Under RKVY, various activities like cultivation of Mandarin Orange, Dragon fruit, Strawberry and Hybrid vegetable, Integrated Nutrient Management, Integrated Pest Management, Farmers Training, construction of Tubular structure Green House Structures, individual Water Tank, and allocation of 10% flexi fund for link road construction are being taken up. The project established "Farmers' Training Centre" which will focus round the year crop production under protected cultivation by training the farmers, especially educated unemployed youth for more sustainable production and income. The training centres are established in 3 Districts viz. Aizawl, Lunglei and Kolasib as pilot projects which will be replicated in the rest of the districts. Apart from the flagship programme, focus is given on infrastructure support to Zo Anthurium Growers' Society, Aizawl District, equipping them with systematic post-harvest facilities for proper grading and storage to increase shelf-life and fetch better market prices.

Pradhan Mantri Krishi Sinchai Yojana (PMKSY): Substantial Dependency on rainfall renders cultivation in unirrigated areas a high-risk affair. Lack of sufficient water or prolonged dry periods have been a serious constraint to crop production under rainfed condition resulting in significant reduction in both yields and cultivated area, inturn leading to significant impacts on rural livelihoods and food security. The vision of Pradhan Mantri Krishi Sinchai Yojana (PMKSY) will be to ensure access to some means of protective irrigation to all agricultural farms in the country, to produce 'Per Drop More Crop', thus bringing about the much-desired rural prosperity.

This new programme was introduced and implemented since 2015-16. Micro Irrigation under 'Per Drop More Crop' component of PMKSY aims at round the year production of vegetables and flowers through provision of Sprinkler & Drip Irrigation system etc. to provide water supply to the crops during the dry spell period as life-saving irrigation. It ensures, sufficient supply of water during droughts of short duration and unpredictable climate. One of the main objectives being improvement of on farm water use efficiency to reduce wastage and increase availability both in duration and extent. During the year 2016-2017, fund amounting to Rs.390 lakhs was released by Govt. of India and Rs.40.11 lakhs as SMS by the State Govt. The scheme will be implemented in all the districts at open field and under protected

cultivation for both Horticultural and Agricultural crops.

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