



Newsletter

CLIMATE ACTION IN MIZORAM

Phuaibuang, Mizoram, India
W4G9+8CX, Phuaibuang, Mizoram 796261, India
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CLIMATE CHANGE AND MITIGATION STRATEGIES

- Adopted by Horticulture Department, Govt. of Mizoram

Climate change poses significant challenges to horticulture, particularly in regions like Mizoram. Shifts in temperature, changing rainfall patterns and increased frequency of extreme weather events can significantly affect crop yields, quality and susceptibility to pests and diseases. In Mizoram, traditional *jhum* cultivation has contributed to a noticeable decline in air quality, with the **Air Quality Index (AQI)** frequently exceeding 90 during February and March. To address these issues, several adaptation strategies have been adopted:-

➤ Climate-Resilient Crop Varieties:

Develop and promote crop varieties that are resilient to climate change, such as drought-tolerant or flood-resistant varieties.

➤ Agroforestry Practices:

Implement agroforestry practices that promote ecological interactions and reduce soil erosion.

➤ Soil Conservation Techniques:

Apply techniques like mulching, contour farming and terracing to reduce soil erosion and improve soil health

➤ Irrigation Management:

Implement efficient irrigation systems and practices to reduce water waste and minimize the environmental impact of horticulture activities.

➤ Vegetable Production:

Vegetable crops help build soil organic matter which can store carbon for long periods. Through evapotranspiration, they release water vapor into the atmosphere, helping regulate local climates. Certain vegetables such as leafy greens, provide shade, reducing soil temperature and retaining moisture.

Additionally, vegetable crops support pollinators like bees, butterflies and birds, thereby maintaining essential ecosystem services.

➤ Fruit Production:

During 2024-2025 the department has covered approx. 70,309 Ha under fruit cultivation. Fruit trees provide shade, thereby reducing the urban heat island effect and cooling the surrounding environment. Planting fruit trees also helps sequester carbon dioxide from the atmosphere, storing it in both the trees and the soil.

➤ Protected Cultivation:

This enables the growth of various crops under polyhouses, facilitating a gradual shift from traditional *jhum* cultivation to more sustainable, permanent farming practices in rural areas.

It mitigates the adverse effects of extreme temperatures and shields crops from harsh weather events. It also supports precision irrigation, significantly reducing water wastage and minimizing the environmental impact on local water resources. Furthermore, this method prevents soil erosion, thereby limiting soil degradation and nutrient loss, and contributing to improved soil health.

➤ Bamboo Plantation:

The State Bamboo Mission, Mizoram, is actively promoting the expansion of bamboo plantations, recognizing bamboo's potential as a climate-resilient crop. As a fast-growing grass species, bamboo thrives even in challenging environmental conditions. Its extensive root system helps stabilize soil, preventing erosion and landslides, while also enhancing soil health by increasing organic matter and nutrient availability.

It contributes to local climate regulation by providing shade and cooling the air. Additionally, dense bamboo growth can act as a natural windbreak, offering protection against strong winds and storms. The expansion of bamboo plantations is therefore expected to positively influence local climate conditions and contribute to climate change mitigation efforts.

MIZORAM'S GREEN TRIBUTE THROUGH 'EK PED MAA KE NAAM' CAMPAIGN

- Environment, Forests & Climate Change Department, Govt. of Mizoram

The tree plantation campaign '*Ek Ped Maa Ke Naam/Plant4Mother*', launched by the Hon'ble Prime Minister of India on the occasion of World Environment Day, *i.e.* June 5th, 2024, was inaugurated with a symbolic and heartfelt gesture—the planting of a Peepal sapling at Buddha Jayanti Park in New Delhi. This act served as a powerful call to action, setting the tone for a nationwide movement encouraging citizens to plant trees in the name of their mothers. Inspired by this gesture, the campaign was actively carried out across Mizoram under the aegis of the State Forest Department. At the heart of '*Ek Ped Maa Ke Naam*' lies a powerful and emotional message: to honor mothers by planting a tree in their name. This symbolic act not only pays tribute to a mother's nurturing role but also contributes to environmental preservation. Like mothers, trees provide life, shelter, and hope for the future—making them perfect living tributes.

Saplings were provided by the Forest Department free of charge for anyone willing to participate in the campaign. *14 territorial divisions and 3 wildlife divisions* of the Forest Department including individuals, organizations, government departments, NGOs, schools, colleges, institutes etc. have extensively contributed towards carrying out the campaign in their own capacity. School students were seen planting saplings along with their mother which clearly signifies the theme itself '*Plant4Mother*'



The reports of plantation were received from all the Territorial Forest Divisions and Wildlife Divisions of the Forest Department, other Govt. departments, individuals, NGOs, Village Councils, Uniformed Personnel at the PCCF Office where the nodal cell for the purpose uploaded the photos and videos along with other details in the portal. There were some institutes who have directly uploaded their reports on the portal viz. *Saitual College, Mizoram University, Sainik School Chhingchhip, Sericulture Dept., RD Block Bungtlang South, KVK Champhai District, G' COY BOP Malsuri 184 BN BSF, CRPF, Prashar Bharati: Akashvani Lunglei, Food Supply Dept., EIACP Hub.*

A total of 6 individuals, 24 Govt. departments, 48 VC's, 66 schools, and 4 NGOs actively participated in the tree plantation campaign, showcasing a strong and collective commitment to both environmental conservation and the emotional essence of the initiative. Altogether, **5,04,709 tree plantations**—comprising *14,175 in urban areas and 4,90,534 in rural areas*—were successfully uploaded to the **MeriLiFE Portal**. Additionally, on September 17, 2024, a special one-day plantation drive saw the planting of 14,339 saplings across Mizoram.

With the monsoon season approaching, it is an ideal time for anyone wishing to plant trees—either as a tribute or in support of environmental conservation. The Environment, Forests & Climate Change Department is ready to provide necessary saplings free of charge. Tree saplings can be collected from the nearest Range Office or DFO Office who is willing to take part in any kind of plantation. Once planted, details of tree planting along with geo-tag photographs is to be uploaded in the **MeriLiFE Portal** or it can be directly sent to **Whatsapp no. 9774475164** or cccellpccf@gmail.com.

CATCH THE RAIN — WHERE IT FALLS, WHEN IT FALLS!

- Public Health Engineering Department, Govt. of Mizoram

Our planet is experiencing rapid and dramatic changes with each passing year, primarily due to the growing impact of *global warming* and *climate change*. These environmental phenomena have disrupted natural systems across the globe, making rainfall patterns erratic, weather events more extreme and essential natural resources such as freshwater and fertile soil increasingly scarce and unstable. Regions that once experienced regular and sufficient rainfall are now facing prolonged dry spells or unexpected floods.

One of the most concerning consequences of these changes is the gradual depletion of our freshwater sources. Rivers that once flowed with strength and consistency, and lakes and ponds that once served as lifelines for communities, are now shrinking or drying up — especially during the hotter months of the year when the demand for water is at its peak. This water scarcity is not just an environmental issue, but a pressing human crisis that threatens health, agriculture and overall well-being.

Contributing to this crisis are widespread deforestation and unchecked tree felling, which have stripped our landscapes of natural protection. Forests, which once absorbed rainfall, retained soil moisture, and prevented erosion, are disappearing. In their place, barren hilltops and degraded land now stand exposed, making them more vulnerable to landslides, soil erosion and loss of biodiversity. Unplanned development, driven by short-term goals and a lack of environmental foresight, has only worsened the situation.

Every drop of rainwater that falls on our land is precious — and must not be allowed to go to waste. Let us embrace a collective responsibility to harvest rainwater effectively and efficiently. Whether it's through rooftop harvesting, community tanks or simple storage methods in our homes and surroundings, each effort counts. By storing and conserving water at both the individual and community levels, we can build resilience against drought and ensure water availability during the dry months.

Imagine a future where every household, every village, and every neighborhood is equipped with the means to capture and preserve rainwater — a future where water shortages no longer threaten our crops, our families or our health. Such a future is within our reach, but only if we take action today.

Recognizing the critical importance of water conservation, the Government of India has initiated the national campaign “**Catch the Rain, Where it Falls, When it Falls.**” This initiative aims to raise awareness, inspire grassroots participation and empower citizens to become guardians of this vital resource. It calls upon each of us to contribute to a sustainable and water-secure future.

Let us answer this call with urgency and commitment. Let us rise to the occasion and work hand-in-hand — as responsible citizens, as communities and as a nation — to protect our water and secure our future. Water is life and its preservation is our shared duty.



Tingdil at 'N' Tingham Village
(Turning a playground into a large reservoir)



Keilunglah at Champhai Town
(A valley transformed into a lake)



Mat Lui March, 2025
(Mat river becomes almost dry)



Rooftop Rainwater Harvesting at Lunglei

FUTURE CLIMATE CHANGE: RISKS AND LONG-TERM RESPONSES

(excerpts from IPCC AR6, 2023)

- Mizoram State Climate Change Cell, MISTIC

As greenhouse gas emissions continue to rise, global temperatures are projected to potentially reach the 1.5°C threshold in the near future, depending on global action. Between 2021 and 2040, global temperature rise will primarily be driven by CO₂ emissions from various sources. Looking further ahead, from 2081 to 2100, projected warming could range from 1.4°C under a very low emissions scenario to as high as 4.4°C under a high emissions scenario—a dramatic shift over the course of just two decades. This trajectory presents serious environmental, economic and social challenges that demand long-term, coordinated responses.

Risks of Future Climate Change

- More frequent and intense heatwaves, storms, droughts and floods threaten lives and livelihoods, especially in vulnerable regions.
- Rising sea levels—caused by melting glaciers and thermal expansion—put coastal cities at risk of submersion and force millions to migrate. According to the IPCC, sea levels could rise by over a meter by 2100 if emissions remain unchecked.
- Changes in rainfall patterns and higher temperatures can reduce crop yields, disrupt fisheries and deplete freshwater supplies. This could lead to increased hunger, conflict over resources and large-scale displacement.
- Climate change is expected to exacerbate existing health threats, such as heat-related illnesses, the spread of vector-borne diseases and mental health stress due to displacement and disaster trauma.
- Coral reefs, which support marine life and protect coastlines are bleaching due to ocean warming and acidification.
- Forests are vulnerable to pests, fires and drought. If these natural systems collapse, it will also undermine their ability to absorb carbon dioxide, creating a feedback loop that worsens global warming.

Long-Term Responses

- The most critical response is rapid decarbonization—reducing fossil fuel use and transitioning to renewable energy sources like solar, wind and green hydrogen.
- Carbon pricing mechanisms, such as carbon taxes and cap-and-trade systems can help drive down emissions by making polluters pay for their impact.
- At the same time, investments in carbon capture technologies and nature-based solutions like reforestation and soil carbon sequestration are vital to remove existing CO₂ from the atmosphere.
- Communities must be equipped to cope with climate impacts through resilient infrastructure, early warning systems and disaster preparedness.
- Such adaptation measures may include development and promotion of drought-tolerant, flood-resistant and heat-tolerant crop varieties; rainwater harvesting; restoration of water bodies; promoting tree plantation, green roofs and urban forests.

The future risks of climate change are stark but they are not set in stone. While rising temperatures, sea level rise, extreme weather events and ecosystem disruptions pose serious threats, these outcomes can still be mitigated through decisive and collective action. The future remains in our hands—and the actions we take today will determine the severity of climate impacts tomorrow.

Global solidarity is essential. Climate change transcends borders and only through international cooperation can we achieve meaningful progress. Individuals, too, have a role to play. From making more sustainable lifestyle choices to holding governments and corporations accountable, collective grassroots efforts can drive cultural shifts and policy changes on a broader scale.



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Mizoram State Climate Change Cell,

Mizoram Science, Technology & Innovation Council (MISTIC)
Address: Top Floor, Directorate of Science & Technology, Mizoram New Capital Complex, Khatla, Aizawl, Mizoram - 796009

Contact: Email: mistic.dst@gmail.com.

Phone: 0389-2336486 Website: www.misticmizoram.gov.in