Impact of Erratic Weather on Crop Yields in Lambung: A NICRA Village

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Lambung is one of the largest villages in Chandel district, Manipur, located at approximately 24°18'48" N latitude and 94°02'36" E longitude, with an elevation of around 820 meters above mean sea level. The village falls under a subtropical agro-climatic zone. The soil is predominantly lateritic or acidic, and mountainous rocky soil. The main river in the area is the Chakpi. As per the 2011 census, Lambung has a total population of 1,021, which comprises of 489 males and 532 females. The village has a literacy rate of 72.77%, with 71.98% of males and 73.50% of females being literate. There are about 232 households in Lambung.

The main economy is centred around agriculture and its allied activities. It consists of two types of practices i.e. shifting cultivation mainly practiced in rain fed upland with steep slopes and wetland rice cultivation practiced in the rain fed upland with mild slopes. Climate change has affected the village mainly in terms of rainfall. Core climate vulnerabilities include prolonged dry spells and water stress due to erratic rainfall and high-intensity rain events. The steep terrain limits water retention, causing perennial water sources to dry up during the pre-monsoon and post-monsoon periods. As the village is heavily dependent on rainfall, agricultural production is highly vulnerable to these climate variations. The main crops cultivated include rice, maize, soybean, mustard, ginger, and various vegetables, along with scattered fruit trees such as banana, lemon, and mango.

This year, the marginal farmers from Lambung, a NICRA village in Chandel district, Manipur, have reported significant crop losses in recent months due to erratic and extreme rainfall, during a survey conducted by the Project In-charge and SRF of KVK, Chandel. The survey included the village's beneficiary households, all of whom pointed to extreme rainfall as the cause of flash floods that destroyed their fields. These floods not only destroyed standing crops but also disrupted the cropping cycle.

While interacting with some NICRA beneficiaries, farmers shared that the excessive rainfall this year had partially destroyed their French bean crops. Another farmer mentioned that her field was completely flooded due to the heavy rains, preventing her from planting vegetables until the waterlogged soil could drain. Similarly, yet other farmers reported that their cabbage, broccoli, radish, etc seedlings for transplanting during the rabi season were submerged as a result of the excessive rainfall.

Last year, during the same period, soil conditions in the area were notably dry, with minimal moisture content. Despite this, farmers could successfully cultivate and obtain substantial yields of cabbages, coriander and other crops, generating a decent income. However, this year, adverse weather conditions disrupted their plans, thereby they have to make significant adjustments to their agricultural strategies.

The farmers in the village area are totally rainfall-dependent farming. They plough their land using traditional technologies of low input and low output agricultural production practices and rely on predictable planting calendars and schedules. However, with the shifting climate, it is becoming increasingly difficult for them to account for changes in rainfall patterns, temperature fluctuations, and season length. This uncertainty hampers their ability to accurately predict and plan agricultural activities, such as sowing and harvesting, which are closely tied

to rainfall. As a result, their livelihoods are increasingly at risk. This forms a part of the broad challenges faced under programs like NICRA (National Innovations on Climate Resilient Agriculture), where farmers are often encouraged to adapt to climate variability.

Conclusion

Therefore, a research-supported study of climate change and rainfall variability may help traditional farmers plan agricultural crop management options and develop adaptation and mitigation mechanisms. The sustainability of any agricultural production system depends on prior knowledge of climate change, rainfall variability and soil properties.

References

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