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# Study of food security conditions, and climate vulnerability of indigenous karen communities in Mutraw (Hpa-pun) district, Kawthoolei, southeast Myanmar

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**Abstract**

This study assesses the livelihood systems, food security conditions, and climate vulnerability of Indigenous Karen communities in Mutraw (Hpa-pun) District, Kawthoolei, Southeast Myanmar. The study was conducted across eight village tracts covering 75 villages, with data collected from 334 households using a mixed-methods approach that combined structured household surveys and focus group discussions between May and June 2025. The baseline aims to generate quantitative and qualitative evidence to inform project design, identify priority livelihood challenges, and establish reference indicators for monitoring future project impacts.

Findings indicate that rural livelihoods in the study area remain highly dependent on smallholder agriculture, shifting cultivation, livestock rearing, and forest-based resources, including non-timber forest products. Rice cultivation is the dominant agricultural activity, complemented by crops such as sesame, soybean, chilli, and elephant foot yam, while poultry and pig rearing represent important supplementary income sources. However, livelihood systems are increasingly affected by multiple structural and environmental pressures, including protracted conflict, displacement, restricted market access, and limited agricultural infrastructure. Climate-related hazards—particularly irregular rainfall, drought, pest outbreaks, and rising temperatures—have emerged as critical threats to agricultural productivity and food security.

Food security analysis using indicators such as Food Consumption Score (FCS), Livelihood Coping Strategies (LCS), and the Food Insecurity Experience Scale (FIES) highlights varying degrees of vulnerability across communities, with seasonal food shortages and constrained livelihood diversification among the most affected households. Despite these challenges, local communities demonstrate adaptive capacity through diversified farming systems, traditional ecological knowledge, and emerging climate-smart practices, including mixed cropping, organic fertilisation, and agroforestry approaches.

The findings provide critical empirical evidence to guide the implementation of targeted interventions aimed at strengthening livelihood resilience, enhancing climate-adaptive agricultural practices, and improving food security among Indigenous communities in conflict-affected and environmentally vulnerable contexts. Furthermore, the study establishes a benchmark dataset for tracking changes in livelihood outcomes and resilience capacities throughout the project lifecycle.

**Keywords:** Farming, food security, Indigenous communities, mutraw

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