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# Sustainable Land and Ecosystem Management in Shifting Cultivation Areas of Nagaland for Livelihood and Ecological Security



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**Millennium Development Goal:**  
Goal 7 - Ensure Environmental Sustainability

**Targets:**  
Integrate the principles of sustainable development into country programmes and reverse the loss of environmental resources

**Relevant India Development Goal:**  
As a signatory to the United Nations Framework Convention on Climate Change, United Nations Convention to Combat Desertification and the Convention on Biological Diversity, India is committed to meet the objectives under these agreements to address the impacts of climate change, biodiversity loss and desertification

## Background

The north-eastern state of Nagaland is located at the confluence of the Indo-China and Indo-Myanmar region, and is endowed with rich diversity of species, flora and fauna. Shifting cultivation, locally referred to as *jhum*, is the main form of agriculture, most suitable for the state's climate conditions and steep terrain. In recent years, however, the duration of *jhum* cycles have shortened. This has meant that there is little time for restoring soil fertility and yields are declining over time. Families that were once self-sufficient in food grains are now not able to produce enough even for a few months of the year. There is little time for regeneration, which has accelerated soil erosion and disrupted the hydrology of the area.

Nagaland faces a major challenge in adapting land use and production systems to meet rising populations and changing lifestyles, while also maintaining its ecological sustainability. In partnership with the Government of Nagaland, the UNDP project focuses on reducing land degradation resulting from shifting cultivation practices.

## Objectives

The project aims to address land degradation in shifting cultivation locations in three districts of Nagaland covering 70 villages, through participatory planning, generating awareness, building institutions and supporting integrated farm development that enable sustainable land and ecological management.

## Project Information

**Area:** Environment and Energy

**Budget:** US\$ 3.6 million

**Co-financing:**  
US\$ 25m (In-kind)  
(Government of Nagaland)

**Duration:** 2009-2013

**Government Counterpart:** Ministry of Environment and Forests, Government of India

**Implementing Partner(s):** Department of Soil and Water Conservation, Government of Nagaland

**Location(s):**  
Nagaland (districts- Mokukchung, Mon and Wokha)

## Results so far

- Horticulture, agro-forestry plantations and soil and water conservation measures have improved vegetation cover by over 2,000 hectares of land in project areas
- Soil erosion rate has decreased from 50 m/ha per year to 26 m/ha per year
- Incomes of 4,400 women have increased by 10 percent as a result of sale of organic farm produce from *jhum* fields
- Average incomes of 5,008 households have increased by 15-20 percent annually through access to existing credit facilities, agriculture revolving fund and sales from increased yield of *jhum* fields
- Over 800 *jhum*-practicing households have benefited from the introduction of integrated farm development practices that integrate crop, livestock, fishery, forestry and horticulture and reduce soil erosion
- The *jhum* cropping phase has increased from two to three years in pilot *jhum* farms as a result of timely introduction of soil and water conservation measures
- Informed decision making by traditional institutions on land management systems through participatory land use plans (PLUP). Formal codification of land use has led to more effective participatory planning and management. PLUP has helped to address conservation challenges including rampant burning of *jhum* fields, protection of forest and water bodies, land degradation, etc
- Land use committees have been formed to ensure implementation of the land use plans and to create an enabling environment for improved local ecosystem and livelihoods
- Strengthened coordination and convergence mechanisms between line departments through increased awareness of linkages between land degradation, forest resources and rural development

## Looking to the Future

- Create an enabling policy environment that recognizes the links between improved *jhum* practices and forest ecosystems
- Strengthen agricultural policies and frameworks that support and enhance sustainability of the *jhum* system
- Promote integrated land use planning across landscapes
- Consistent decrease in soil erosion over time
- Improve capacities of local communities to diversify income-generating activities
- Increase incomes of target communities, especially women, through encouraging sales of organic produce from *jhum* lands and establish market linkages for organic produce
- Produce and disseminate best practice models that demonstrate a range of approaches to addressing land degradation in shifting cultivation across other states in India
- Build strong partnerships with other states in the north-east where shifting cultivation practices are common to effectively address land degradation in the region
- Land use plan participatory three dimensional model (P3D) model will be developed for all the project villages. The plan will include good practice guidelines which outline key steps and processes for stakeholders to come together and discuss how to manage lands sustainability

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