

# Northern Thailand

Mean Annual  
Rainfall: 1,300 mm

## Who is planting or removing trees?

### Traditional land use systems

With strong co-variance of forest types, ethnic composition and land use practices according to altitude zones, previous studies suggest three major types of traditions with which traditional land use systems have associated. Their basic features and trends of change are summarized below:

DO YOU  
KNOW?

#### Major Ethnic Groups in Mae Chaem



**(1) Highland traditions** have been associated with relatively mobile villages and 'pioneer'-type long cropping with very long 'abandoned' forest fallow. Today, pioneer shifting cultivation and opium have been replaced by commercial vegetable production. There has also been substantial planting of pine plantations by the forest department in grassland areas the state claims to have resulted from pioneer shifting cultivation.

**Land user concerns:** center on markets for commercial crops and land security.

**Wider environmental concern:** centers on deforestation of hill evergreen forest areas, and impacts on stream flow, erosion and pesticide pollution.



**(2) Midland traditions** are associated with 'established' villages and systematic short cropping with long 'rotational' forest fallow systems that often include paddy land. Today, pressures from population growth, expansion of both lowland and highland systems, and especially government policy, have reduced land availability, often resulting in much shorter forest fallow cycles, and even conversion to fixed fields in some areas.

**Major concerns:** food security, land security and crop markets.

**Wider environmental concerns:** tend to focus primarily on deforestation, and to some extent on water use and stream pollution.

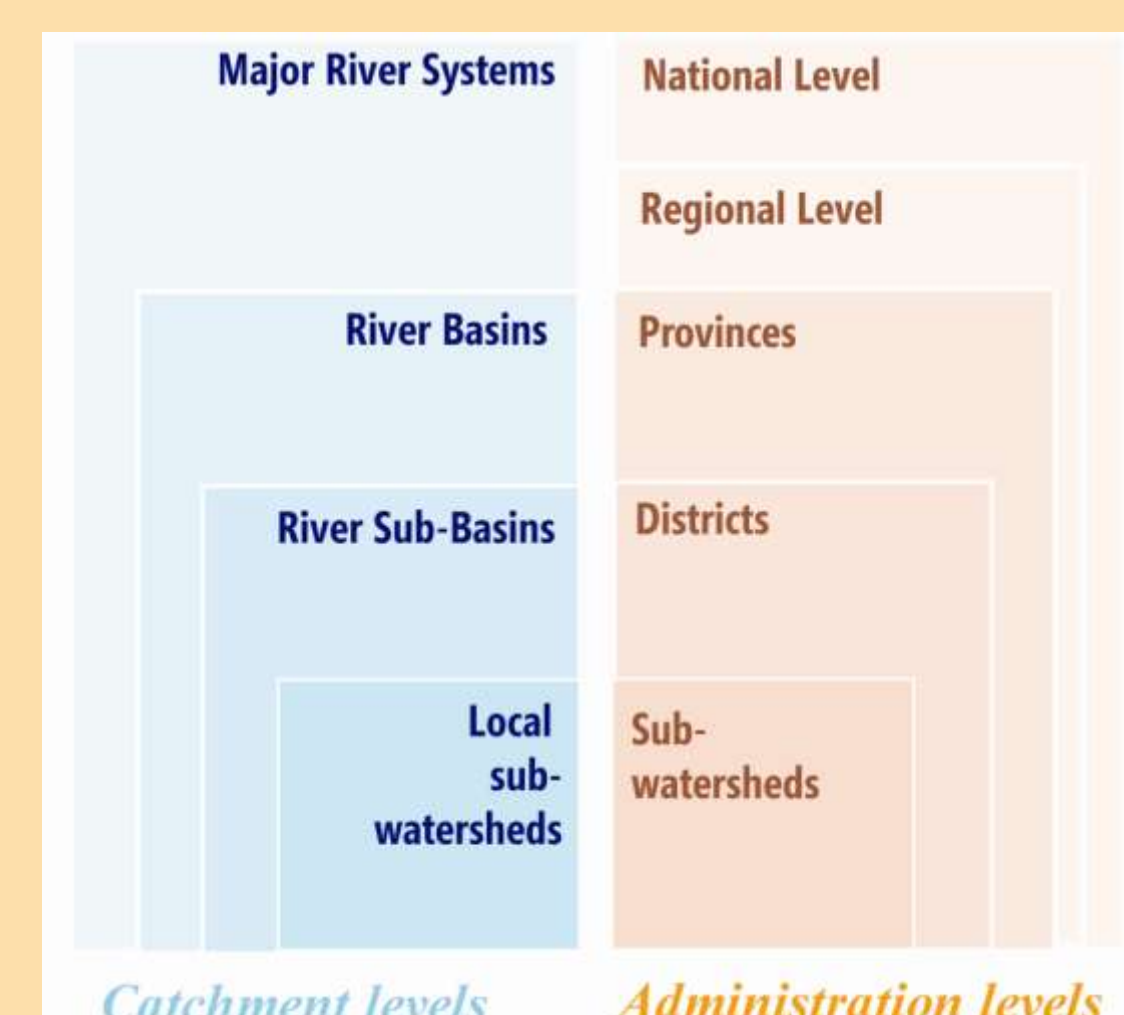
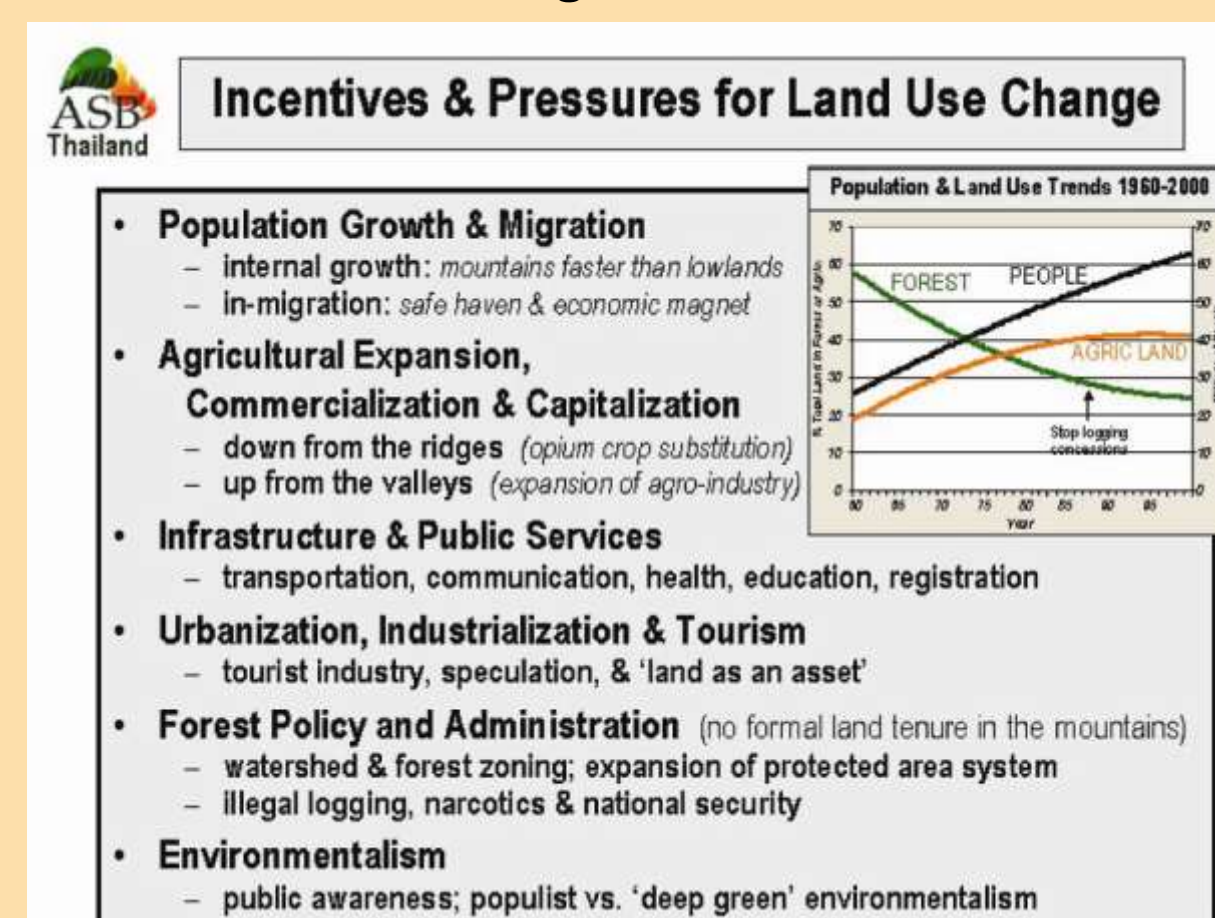


**(3) Lowland Thai traditions** have largely focused on irrigated paddies and home gardens, sometimes with supplemental short cropping - short fallow cultivation on nearby lower slopes. During recent decades, in addition to intensification of paddy and lowland vegetable production, there has been considerable further expansion of field crops, and in some cases orchards, into forested watersheds above paddy lands.

**Major concerns:** markets for commercial crops, availability and quality of irrigation water, and land security.

**Wider environmental concerns:** tend to focus on water use, pollution and deforestation – primarily as they relate to perceived negative externalities of upstream land use.

#### Macro-View'of Forces Driving Land Use Change in North Thailand



Managing natural resources at multiple  
levels : from local to international

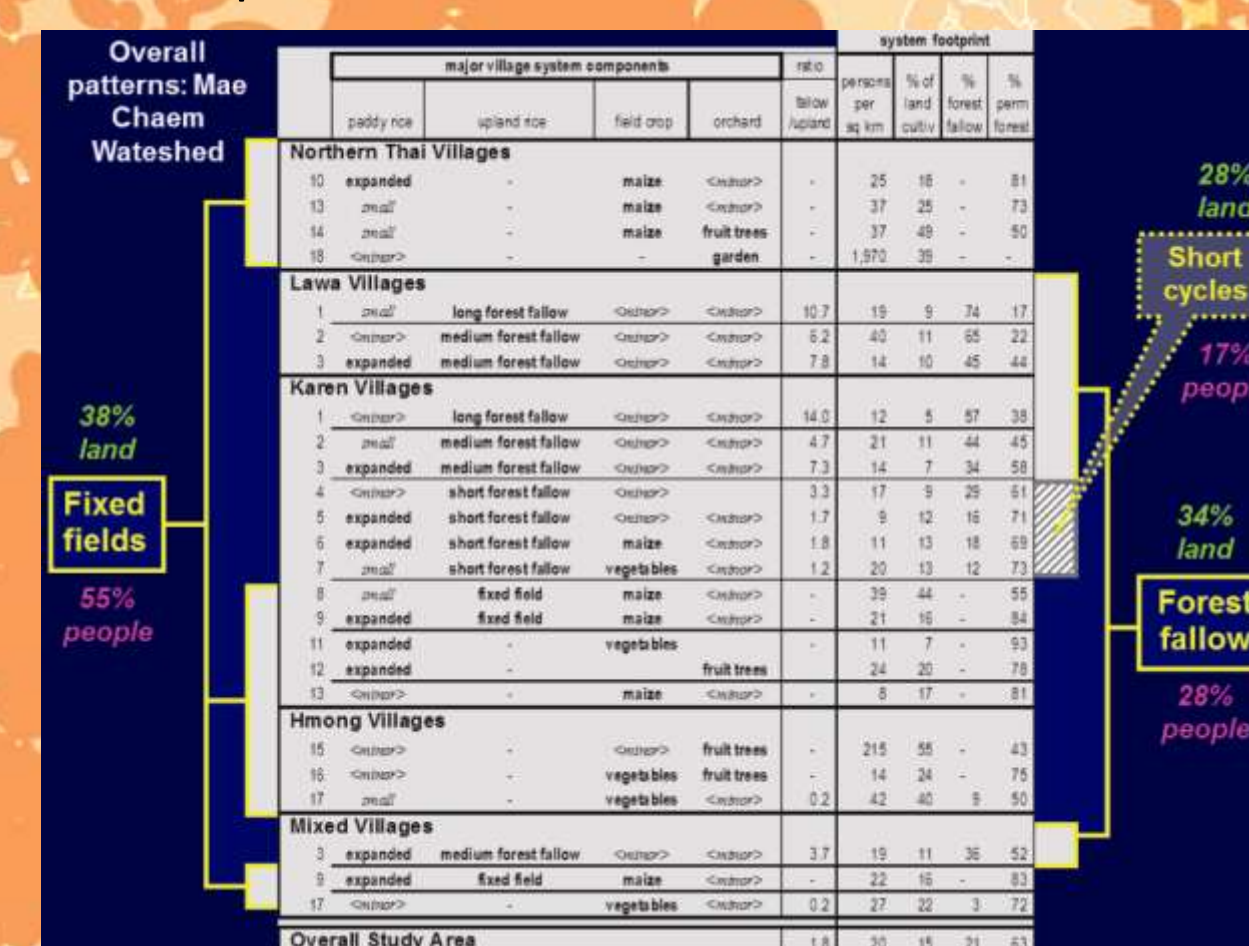
**Overall** trends associated with changing land use mixtures of mosaic patterns include:

- Differences between altitude zone land use domains of ethnic groups are becoming less distinct.
- Change appears to be associated with increased competition over land resources, 'degradation' or conversion of traditional systems, increased agricultural commercialization based on 'lowland' technologies, and larger areas cleared of forest at any one time.
- Very little research and development has aimed at understanding traditional systems or the impacts of the transformations they are going through.

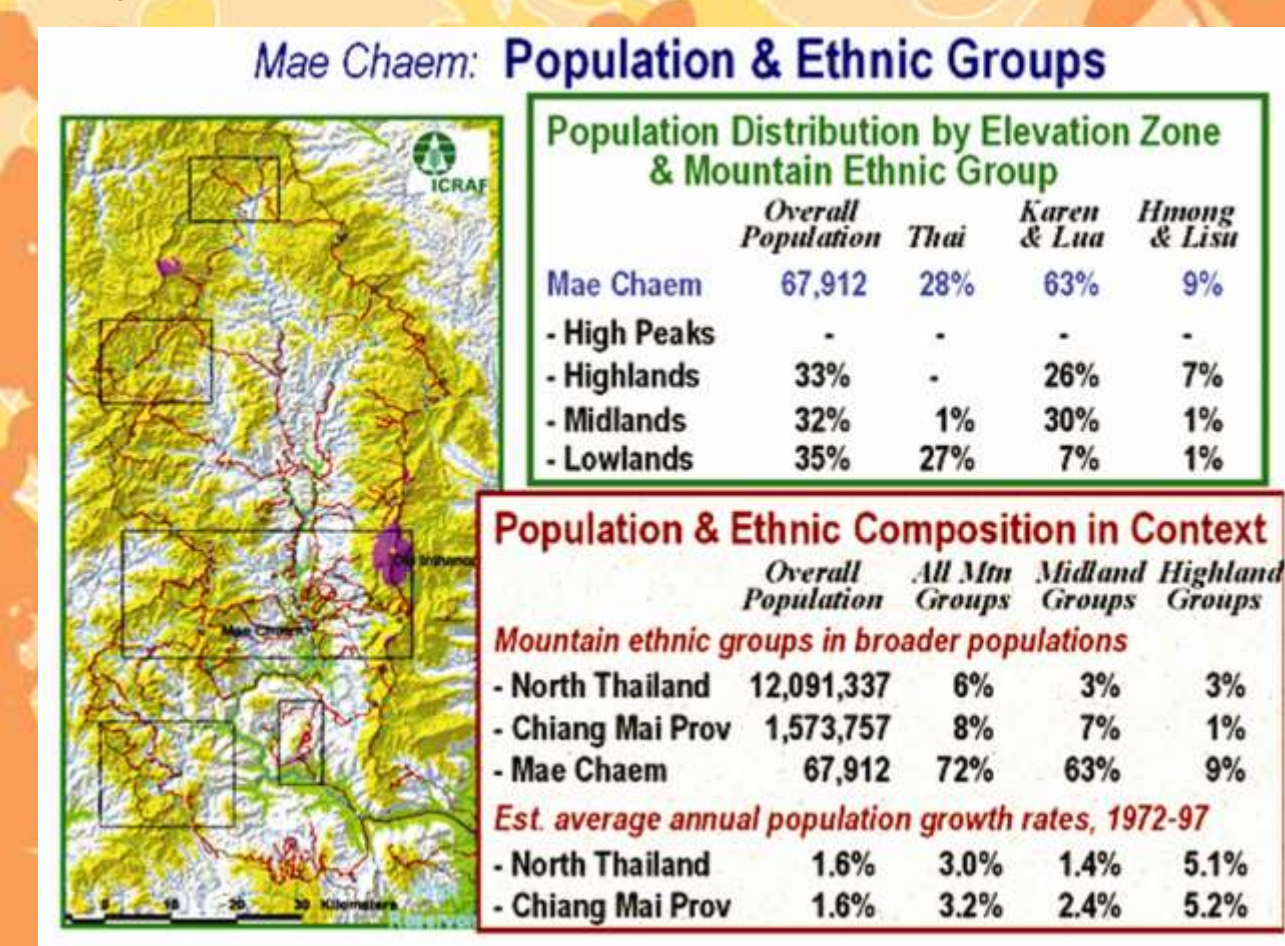
**Major policy**-related issues associated with changes in Mae Chaem include:

- state and lowland perceived deterioration of the natural resource base due to deforestation and intensifying agricultural production in upper tributary watersheds, and its immediate and longer-term impacts on resources used by downstream society
- needs of poor mountain communities to have secure access to resources and services that will allow them to improve their food security and livelihoods
- associated growing upstream-downstream tension and conflict.

#### Overall patterns: Mae Chaem Watershed



#### Population distribution circa 1997



#### Reference :

Thomas, David E., P. Preechapanya and P. Saiponthong. 2004. *Landscape Agroforestry in Northern Thailand: Impacts of Changing Land Use in an Upper Tributary Watershed of Montane Mainland Southeast Asia*. ASB-Thailand synthesis report 1996-2004. Chiang Mai: World Agroforestry Centre. 184p.

Prepared by: Prasit Wangpakapattana Wong, David Thomas, Natjan Chairat, Anantika Ratnamhin and Praphatsorn Punsompong



**ICRAF Thailand**  
PO Box 267, CMU Post Office, Chiang Mai, Thailand  
Ph: +66 5335 7906 or 7907 Fax: +665335 7908  
Email: [icraf@icraf-cm.org](mailto:icraf@icraf-cm.org)  
[http://worldagroforestry.org/regions/southeast\\_asia/thailand](http://worldagroforestry.org/regions/southeast_asia/thailand)