



Maturing cropland

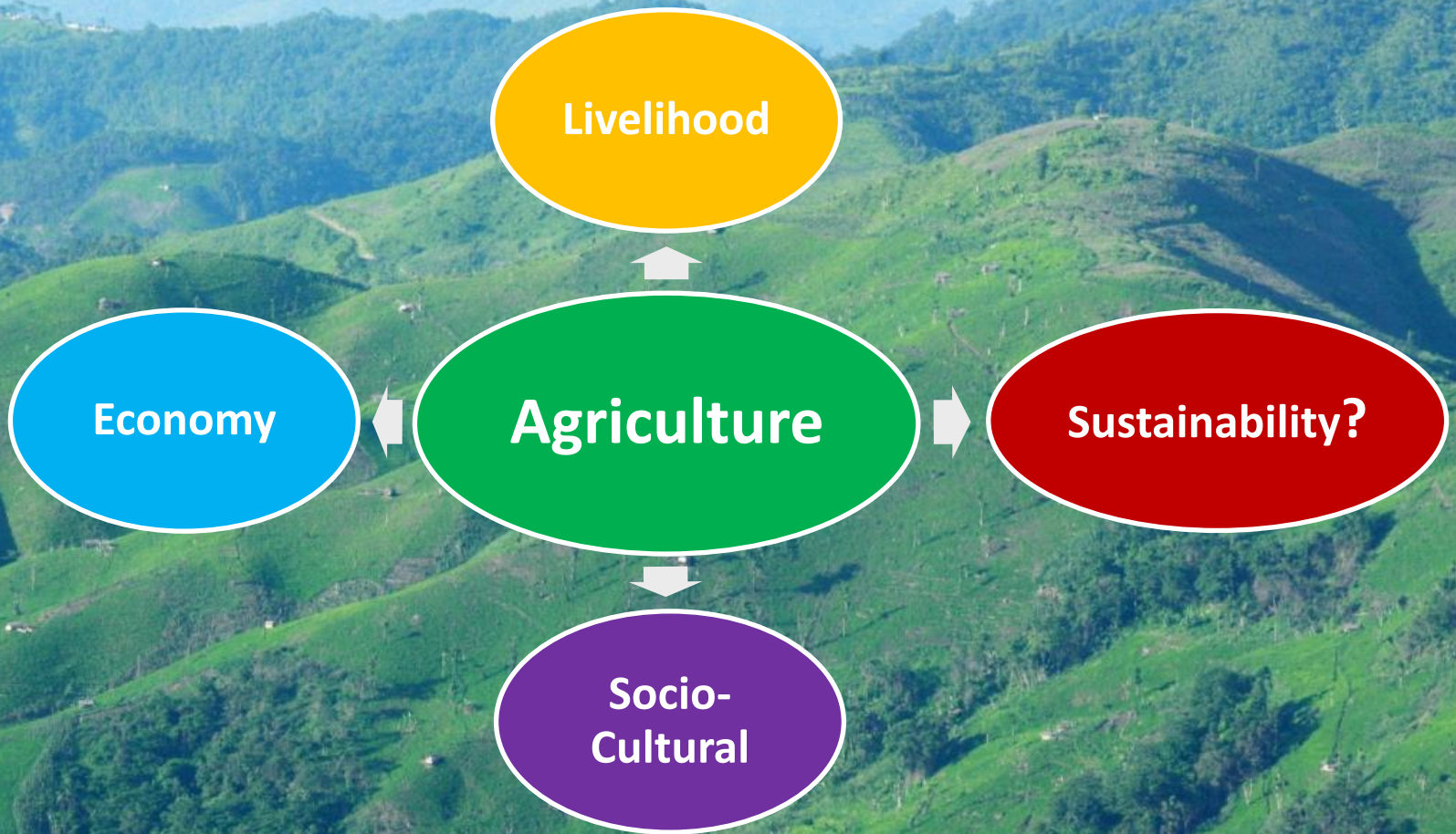
Agriculture and Land Use in Nagaland

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University of Minnesota, 2015



Recently burned cropland



Livelihood

Economy

Agriculture

Sustainability?

Socio-Cultural

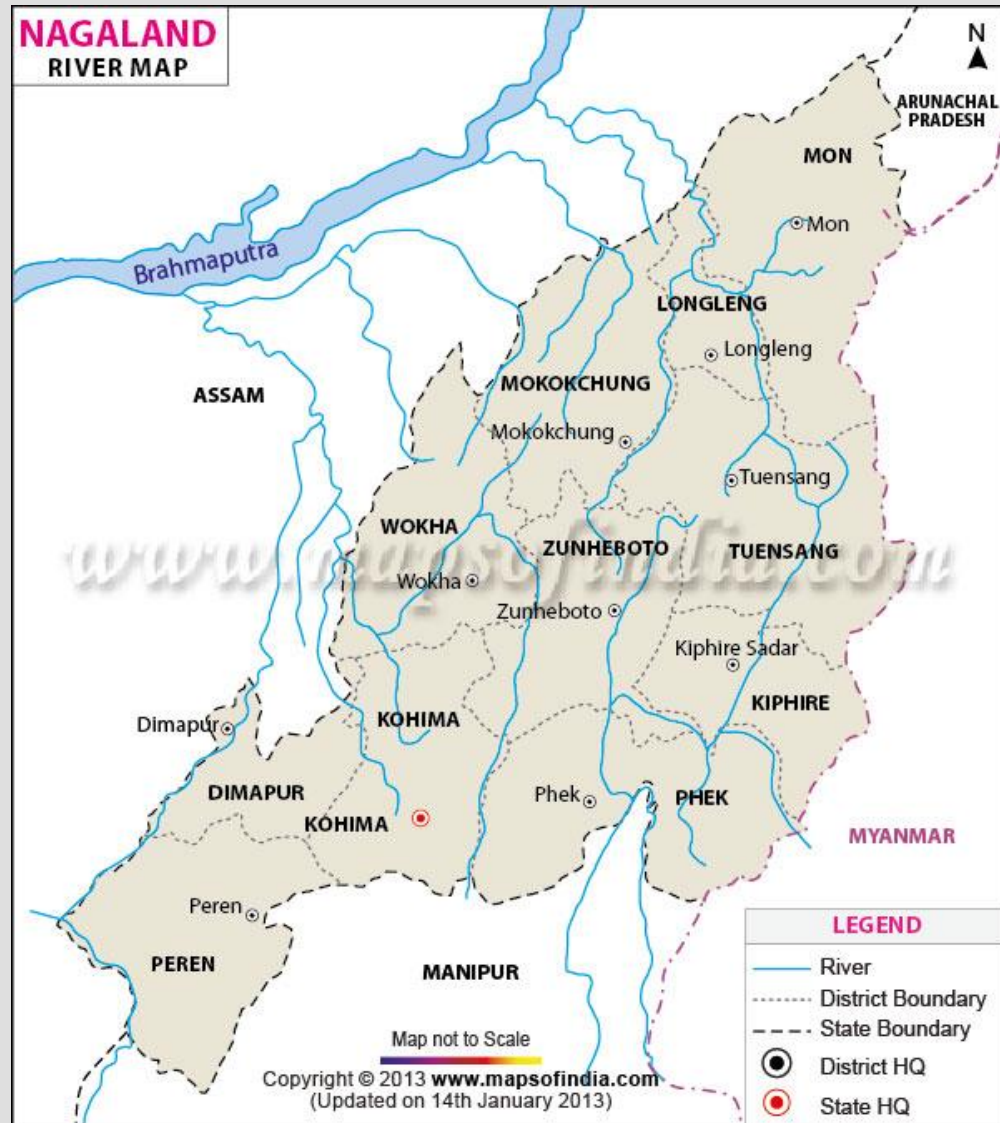
Population & Geography

- Area: 16,579 km²
- Population: 1.98 million
- Rural Population: 71%
- Tribal (16 tribes)
- 60 dialects



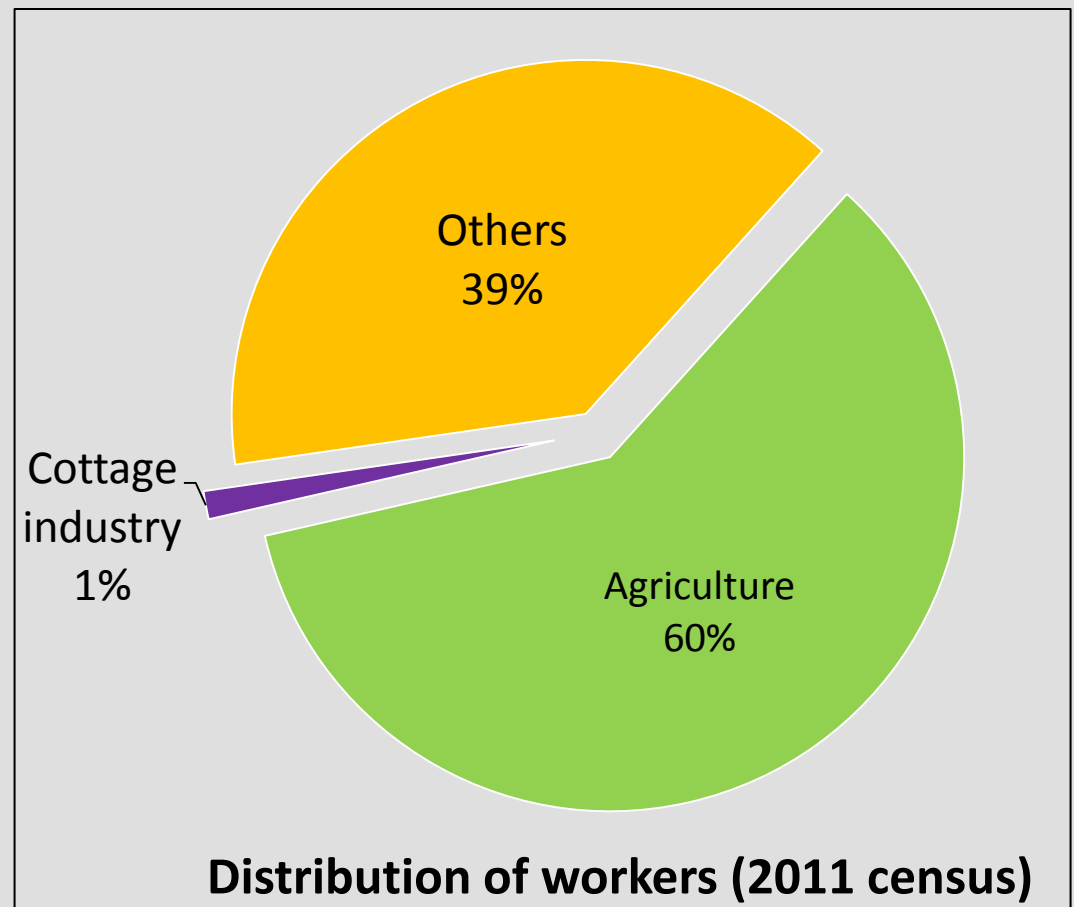
Climate & Topography

- Precipitation :
~ 1000 to 3000 mm
- Temperature:
Summer ~ 15 - 30 °C
Winter ~ 5 - 25°C
- Elevation:
~ 194 to 3048 m



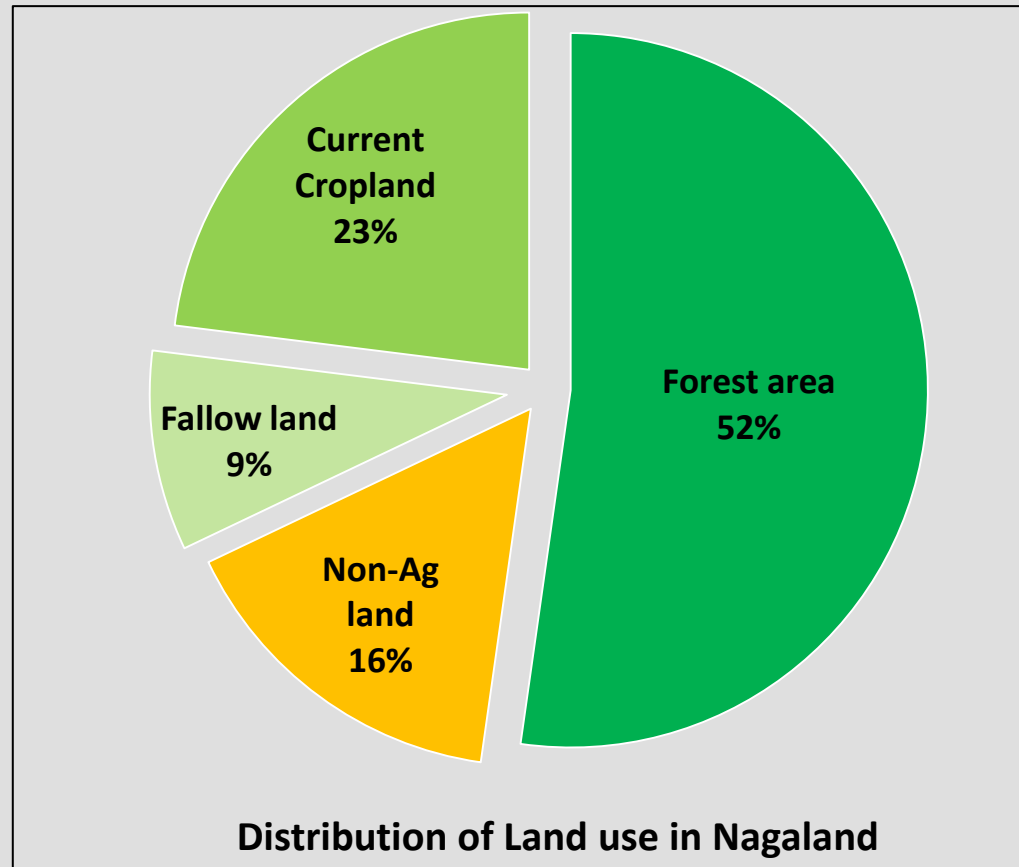
Contributors to Economy Growth

- Agriculture: 23%
- Services: 44%
- Industry: 33%



Land Use & Ownership

- 70 % cropland is in hilly terrain
- Land ownership
 - ~ 88% private/community
 - ~ 12% government



Cropping Systems

Shifting cultivation (Jhum)

Wet rice cultivation





After 2 or 3yrs fallow **(6)**



Slashed forest: Dec/Jan **(1)**



Burning: Feb **(2)**

Jhum Cycle



Harvest: Aug/Sept **(5)**



Weeding: Mid-season **(4)**



Photo: Kichu

Seedbed prep/planting: March **(3)**

Alder-based Jhum



Wet Rice Cultivation



Food Production & External Input

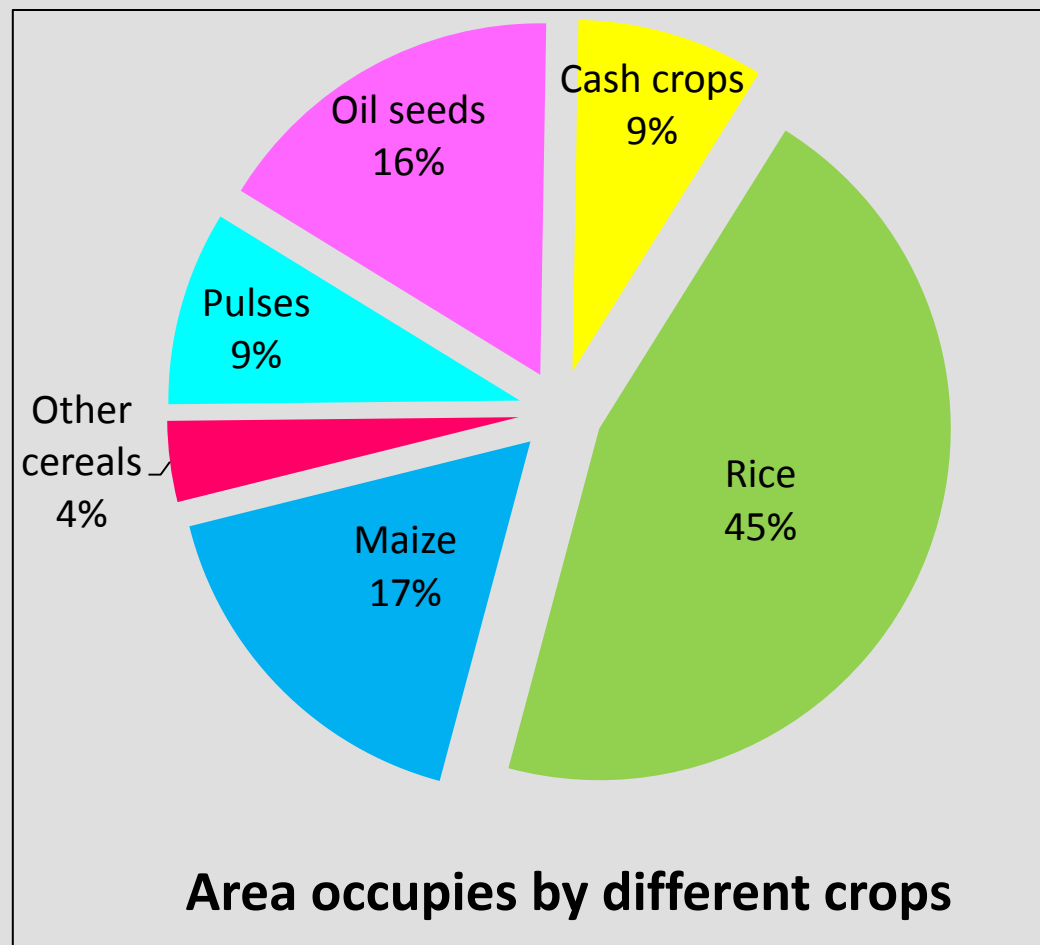
- Average rice production (2013)

- Jhum $\sim 1.9 \text{ MT ha}^{-1}$
- Wet rice $\sim 2.5 \text{ MT ha}^{-1}$
 - Rice variety
 - Fertility

- Fertilizer Use (2013)

$\sim 6 \text{ kg ha}^{-1}$

- N:P:K consumption ratio 3:2:1



Soil Conservation



Zabo: Nutrient & Water Management



Post-harvest: Crop & Field Management



Photo: Changkija



Photo: Krug, 2009

Sustainability

- Land use - Food security
- Infrastructure
- Economic Income



Thank You

Dr. Karlyn Eckman

[Photo Courtesy](#)

Dr. Sapu Changkija
Suchamayang Kichu



Question?

