

Sustainable Management and Marketing of NTFPs

Mushrooms in Myanmar

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Workshop on Sustainable Management and
Marketing of NTFPs

FORHEAL-Project



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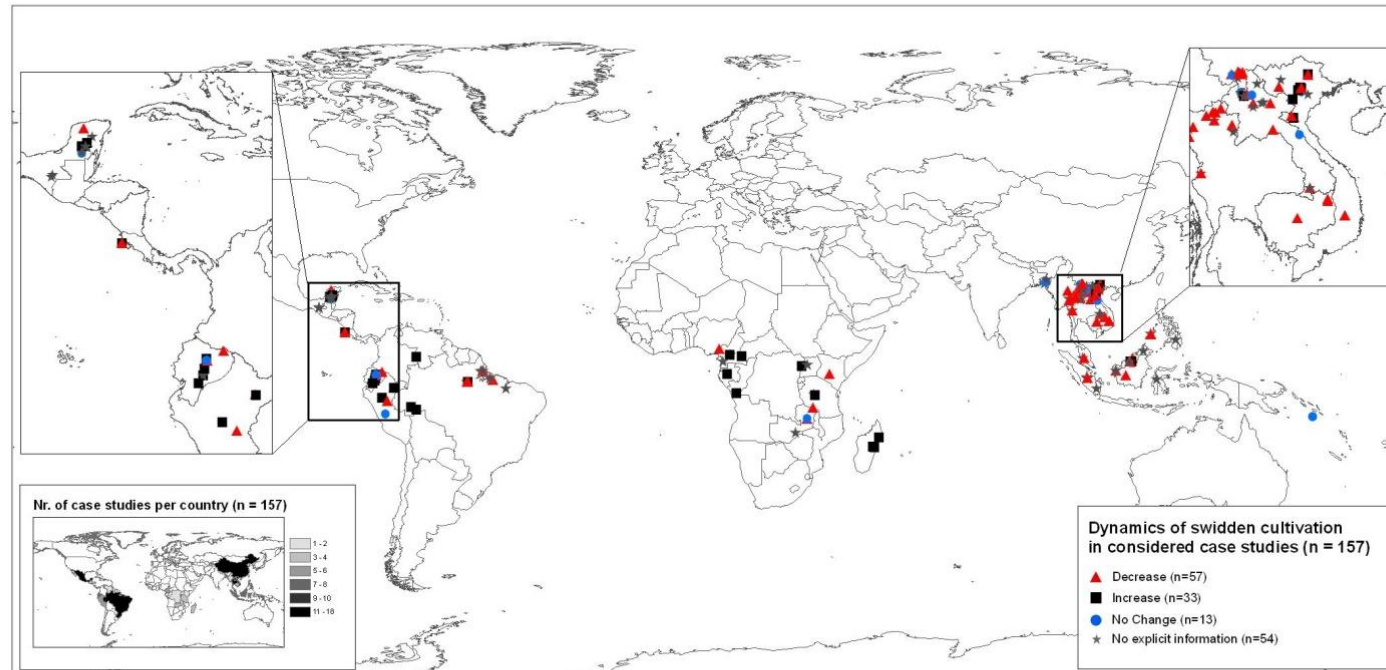
- Key points
- Global and regional context
 - The decline of shifting cultivation
 - The emergence of China as a change agent
- Alternatives to shifting cultivation in Chin state, N Myanmar
- Local context of Chin state
- Mushrooms as an NTFP for conservation and commodification

- Though widely utilized, the potential of NTFPs goes largely unrecognized
- They are often collected and marketed in a haphazard and unsustainable way
 - → resource depletion and environmental degradation
 - → economic potential not fully realized
- This can be done differently

Flying into Luang Prabang

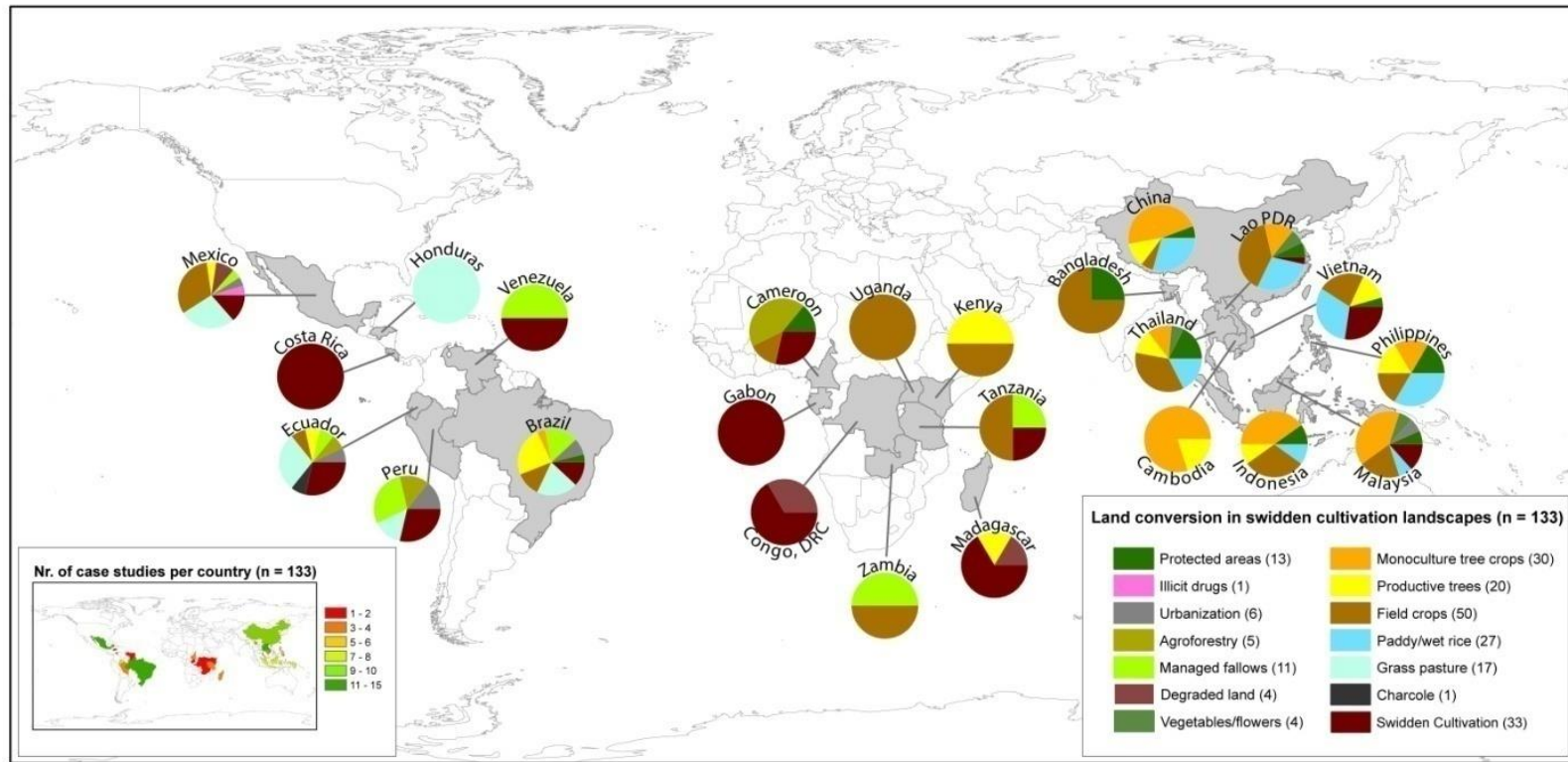


Global and Regional Context: The Decline of Shifting Cultivation in SE-Asia



Van Vlieth et al. 2012. Trends, drivers and impacts of changes in swidden cultivation in tropical forest-agriculture frontiers: a global assessment. *Global Environmental Change* 22: 418-420.

Global and Regional Context: Land Use Change

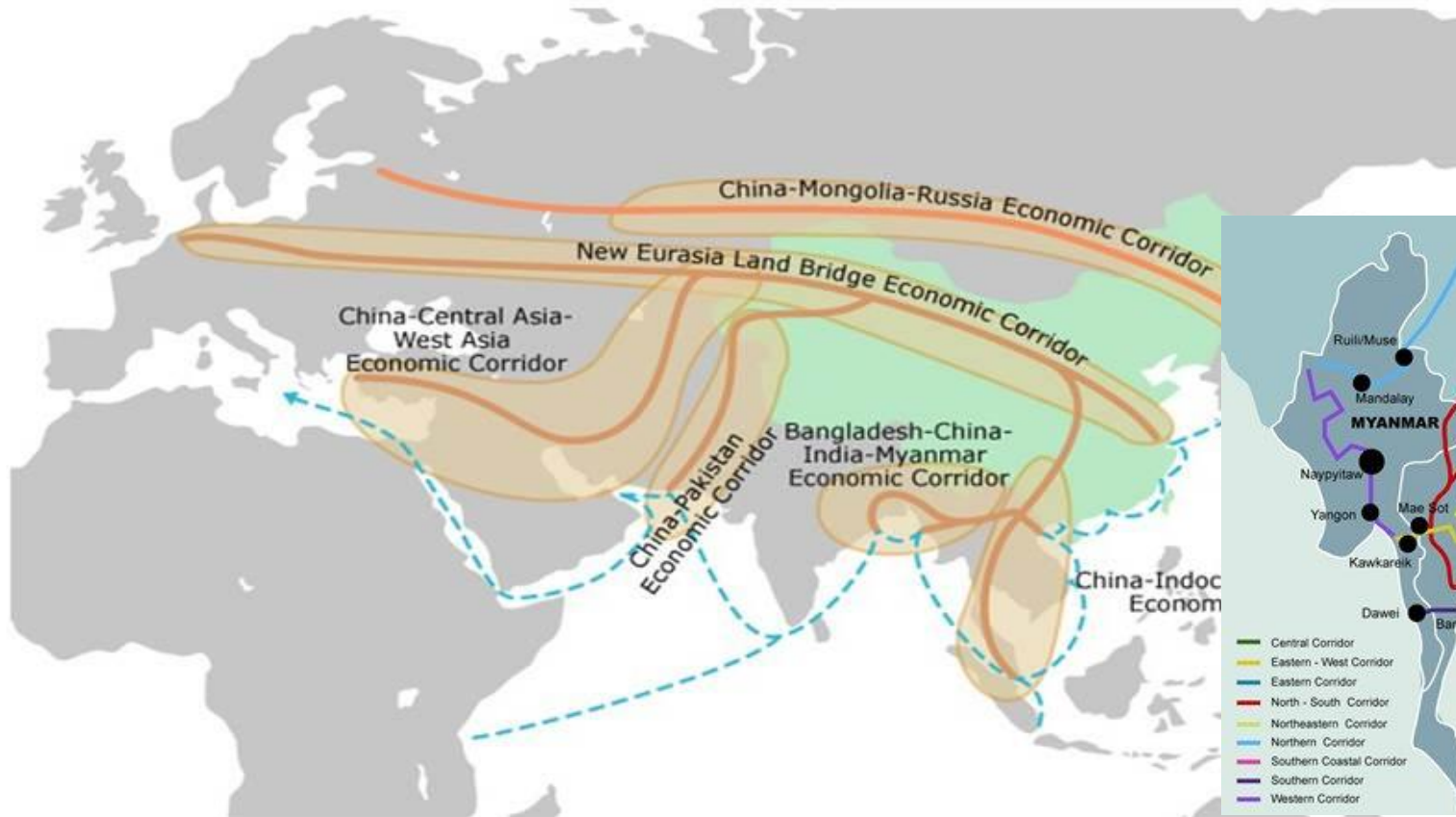


Van Vlieth et al. 2012. Trends, drivers and impacts of changes in swidden cultivation in tropical forest-agriculture frontiers: a global assessment. *Global Environmental Change* 22: 418-420.

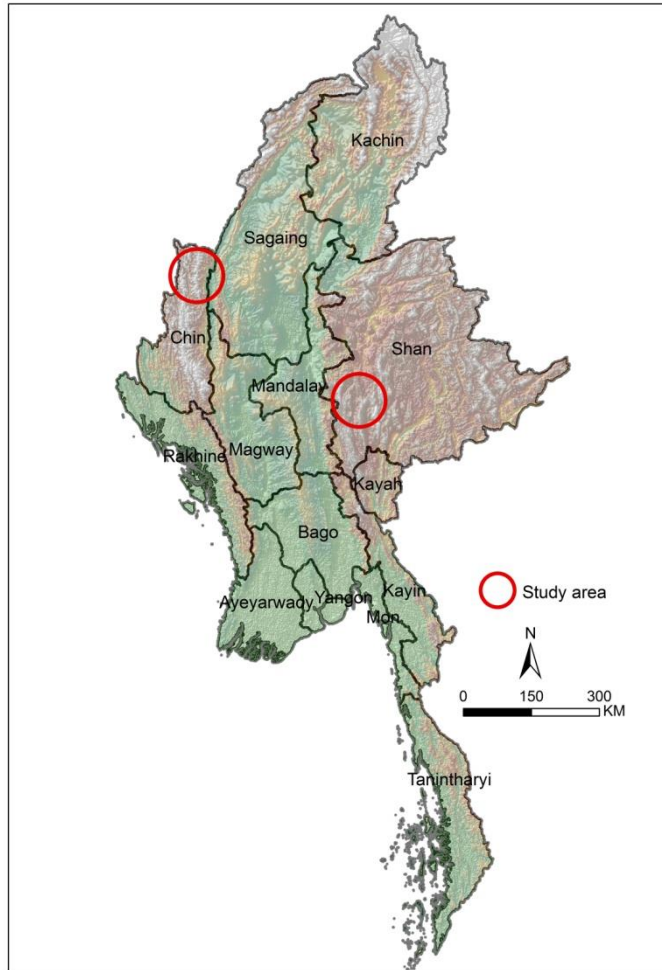
Global and Regional Context: The Emergence of China as an Agent for Change



The Belt and Road Initiative: Six Economic Corridors Spanning Asia, Europe and Africa



Alternatives to Shifting Cultivation in Chin State, N Myanmar



- to identify shifting cultivation systems with a potential for being converted into agroforestry systems .
- to strengthen the environmental and economic contribution of trees within these systems.
- to improve management and marketing of selected agroforestry products for higher and more sustainable incomes.

Challenges of Chin State



Working in the Chin State is a challenge at the best of times, but during the rainy season it can be impossible at times: flooding and landslides a constant threat, bad roads always a challenge, and connecting with local communities requires good local partners



Kalymno 2016 at the start of our intended sampling trip



Bad roads and delays are just part of the everyday experience

Local Context



Phasing out of swidden agriculture – loss of land and livelihoods
Communities reliant on forest for firewood and timber – forest degradation
Seasonal burning leading to additional forest degradation



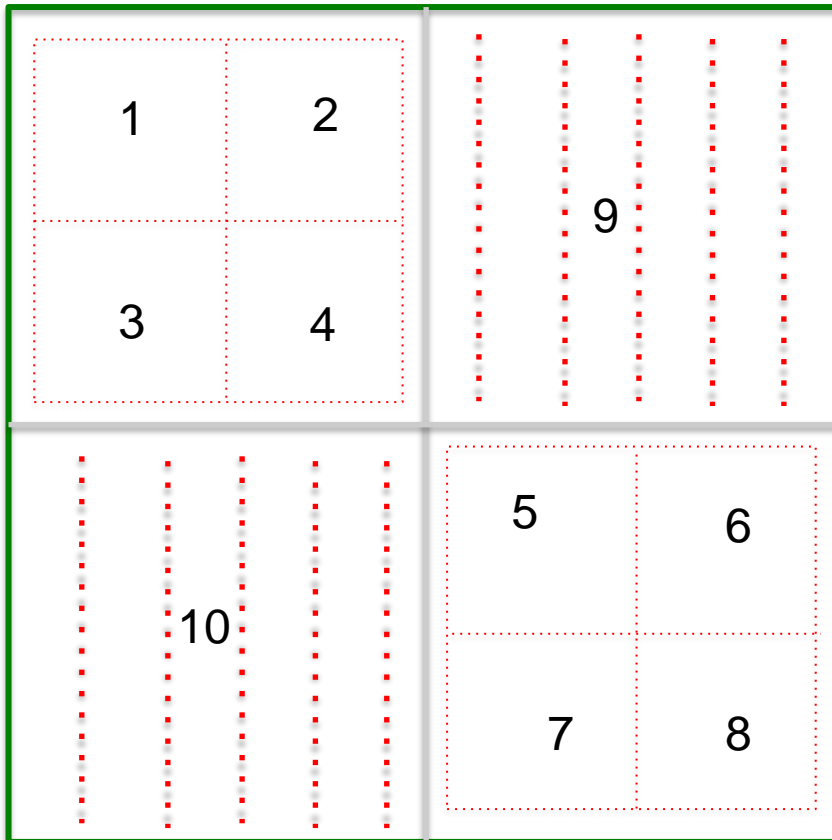
Local Context



Restricted market access and restricted access to quality crops limit the capacity to generate income



Agroforestry plot management



Blocks 1 and 4: **Vegetable** crops for **home consumption** or **markets**

Blocks 5 and 8: **Vegetable** crops for **home consumption** or **markets** – with improved soil fertility management

Blocks 2 and 3: **Cash crops** for **the market**

Blocks 5 and 8: **Cash crops** for **the market** – with improved soil fertility management

Block 9: Perennial crops between trees

Block 10: Perennial crop between **pollarded** trees

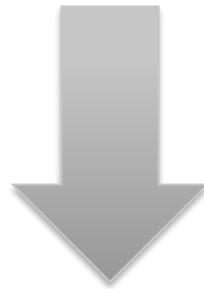
Note: tree species and crop selection based on needs of local farmers and environmental variables.



Utilizing NTFPs from fallow forests



Agroforestry is a viable alternative to shifting cultivation however, to fully utilize the **resources** available within a landscape, and still help **conserve the landscape**, we need to provide **alternative sources of income** from the **fallow forest** systems.



Mushroom
harvesting



Some facts about mushrooms



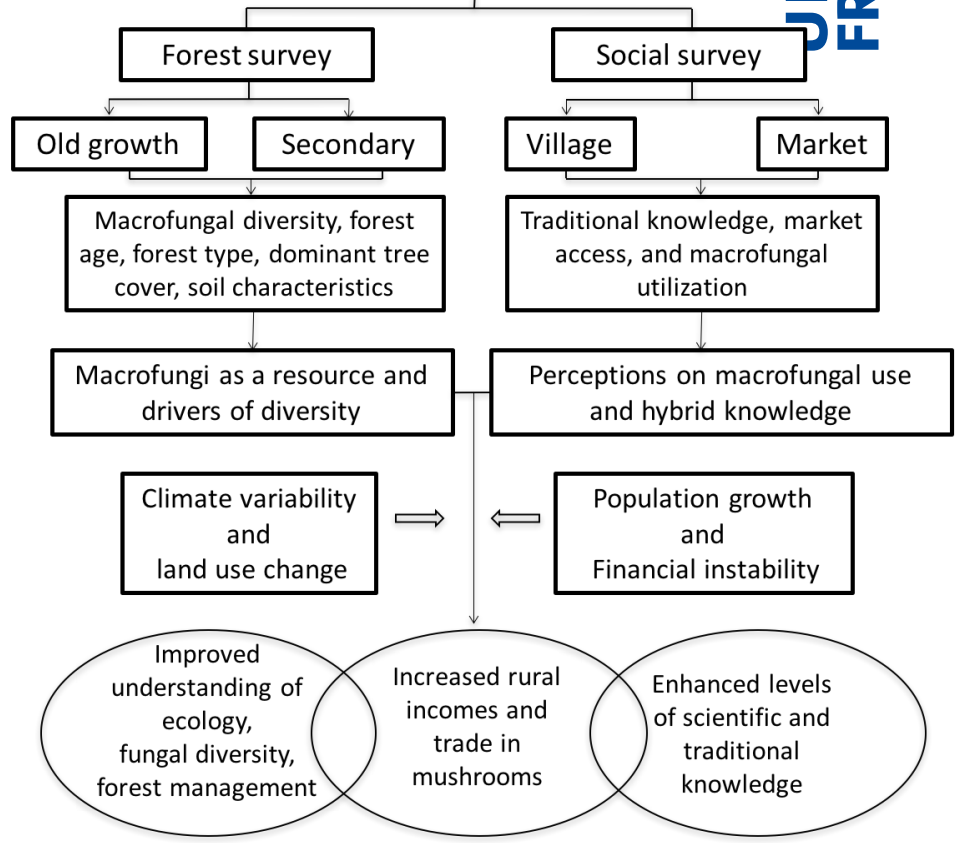
- Annually, the mushroom trade in Yunnan Province, China generates **1 Billion USD**
- Mushrooms are extremely high in **protein** and **nutrients** – great food source
- Mushrooms are a source of many **traditional medicines**
- Mycorrhizal fungi provide nutrition to **90% of all tree species** – and at the same time provide many **edible mushrooms**
- Mushrooms and fungi are responsible for much of the **nutrient cycling** in a forest
- Many **industrial products** and **cosmetic compounds** derived from mushrooms
- Harvesting mushrooms from the forest **does not** diminish the following season harvest or affect forest health



Regional knowledge gaps in the mushroom ecology and trade in Chin State



Knowledge gaps in fungal ecology and trade: Myanmar vs Yunnan Province



Gathering knowledge....mushroom surveys



- Rapid surveys in 2015, 2016, and 2017.
- Surveys consisted of a half day in respective forests and then a half day identifying mushrooms collected (totaling 6 forest visits).
- Forms the baseline for the more intensive surveys planned for next 2 wet seasons (2018 and 2019).



Gathering knowledgemarket surveys



- Markets surveys at village, town and city level
- Looking for range of mushrooms being sold



Training on the identification and use of wild mushrooms in chin State



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Mushrooms and agroforestry



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Benefits from cultivating mushrooms



- Diversified, enriched and healthy diet
- Additional and secure income
- Contribution to nutrient cycling in forests
- Incentive to conserve forest patches for mushroom collecting
- Component of sustainable land use systems, e.g. agroforestry systems
- Starting point for developing cooperatives