Taungya (Shifting Cultivation) transformations in Chin
A participatory assessment within AdaptHimal initiative, Myanmar

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Outline

- Findings Situation Analysis about Taugya transformations
- Chun Cung village micro-plan results
General information

Situational analysis:
• In 17 villages/4 townships
• From March-April 2016
• With 341 participants (50% women, 50% men)

This presentation is based on:
• 9 villages analyses
• where households/village are 26 to 373
• with average family size of 5
28% to 100% HHs/village used Taungya Plot or Lopil (2016)

% HH use Lopils for traditional crops and cash crops

- Muallum
- Tuisau
- Sezang
- Ruabuk
- Sopum
- Aibur
- Hrawngvun
- Lungcawi (far)
- Chun Cung
Main production systems for food, income and other ecosystem services (Numbers = HHs)

Villages also have
- **Forests**: village and state reserved
- **Livestock**: pig, chicken, buffalo, cows, mithun
- **Fish ponds** (not all)
- **Streams** are used for fishing
Crop diversity
Average number of crops/production system

Diversity of crops in Lopils, Home gardens, Orchards is more than of Terraces

*E.g.:
Lopils:
Corn, Millet, Taro, Paddy, Bean, Sulphur bean, Soya bean, Pigeon pea, Chili, Potato, Bitter brinjal, Brinjal, Ginger, Ground nut, Roselle, Pumpkin, Sesame

Home Gardens:
Cabbage, Onion, Garlic, ginger, mustard, lime, corn, Pumpkin, grape, Tapioca, chayote, Ginger, Passion Fruit, Non fruit trees, Bamboo

Wet terrace:
Paddy, Straw for fodder

Dry terrace:
Rice, onion, garlic, cabbage, grazing
## Seasonality of supplies: for food/income

<table>
<thead>
<tr>
<th>System</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>June</th>
<th>July</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Jan</th>
<th>Feb</th>
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<tbody>
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<td>Lopil (8 m)</td>
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<td>Terrace (5 m)</td>
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<tr>
<td>Orchard (12 m)</td>
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<td>Livestock (12 m)</td>
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<td>Off-farm income (12 m)</td>
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</tbody>
</table>
• Lopil fallows are very important for ecosystem services
  • Fuel wood, timber, tent posts
  • Soil fertility, groundwater recharge, weed management and biodiversity conservation.
  • Habitats for bees > pollination services.

With transformations, many of these services are lost!
Number of Lopils (Cultivated plot + Fallow plots) reduced, except in Hrawngvun village.

Main reasons: Conversion to other production systems (e.g. orchards and terraces), damage due to land slides.
### Food security

**Food security from own production**

<table>
<thead>
<tr>
<th>Age Group</th>
<th>% HH (average)</th>
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<tbody>
<tr>
<td>&lt; 4 months</td>
<td>19</td>
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<tr>
<td>4-6 months</td>
<td>37</td>
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<tr>
<td>6-8 months</td>
<td>30</td>
</tr>
<tr>
<td>8-12 months</td>
<td>14</td>
</tr>
</tbody>
</table>

Food security has improved but food diversity has reduced (more rice is eaten now)

![Food security from own production ( % HH per village) chart]
Meeting food security through off-farm options

- Off-farm
  - Seasonal labour
    - In Country Mizoram (India)
  - Remittance
    - Many HHs
  - Wood Sawing
    - Only few HHs
  - Small shops
    - Only few HHs
  - Personal networks
  - Borrow
  - 2-way trading e.g. in Ruabuk with Mizoram

For buying food items
Crop diversity and food availability: Challenges and opportunities

- Reduced area / Lopils
- More ginger, potato (Cash crops)
- Reduced fallow period
- Declining soil fertility of Lo and Fallow
- Declining crop yields
- Loss of ecosystem services
- Fire and free grazing
- Market demand and connectivity major factor
Challenges TERRACES

- Low soil fertility
- Low crop diversity
- Landslides
- Increasing use of chemicals
- Pests and diseases
- More inputs (Labour, animals for plough, water)
- Declining crop yields
- Increasing use of chemicals
Increasing environmental stress

- Many terraces, lopils, irrigation canals destroyed due to land slides and flash floods in 2015/2016
- Many streams have dried leading to water stress.
- Storms are becoming stronger damaging crops, houses.
Changing land use and tenurial security

Under the present system, everyone in the community, including the landless, may access land in the shifting cultivation plots. The selection of individual plots must be agreed upon by the villagers in coordination with the village authority. The same is true of water and forest resources.

**Lopil system**

- Ancestral property
- Customarily common tenure;
- Owners get preference while selecting plots
- Lottery system
- Village authority coordinates
- Forest, Agriculture, General Administration and SLRD departments are informed by Village authority

**Land can not be sold to outsiders**

**Terrace**

- (private & registered with SLRD registration certificate)
- Permission from village authority

**Home garden**

- (private)
- Permission from village authority for expansion

**Orchard**

- (private & registered with SLRD)
- Permission from village authority
Challenges concerning terraces:

- Everyone has access to land for construction but everyone does not have the capacity to construct them.
- Area for conversion into terraces is limited.
- Conversion into terraces requires supporting technologies (irrigation systems).
- Land is registered in men’s name, with few exceptions. Single women, daughters without brothers etc. are able to inherit/access land in the absence of male counterparts.
<table>
<thead>
<tr>
<th>Access to programmes and schemes</th>
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</thead>
<tbody>
<tr>
<td><strong>Existing</strong></td>
</tr>
<tr>
<td>Agriculture Development Bank</td>
</tr>
<tr>
<td>Cooperative Department (Loans)</td>
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<tr>
<td>Micro-finance Institution (Gret)</td>
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<tr>
<td><strong>Constraints</strong></td>
</tr>
<tr>
<td>Only access to those who</td>
</tr>
<tr>
<td>have registration certificate</td>
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<tr>
<td>Only for terrace, orchard,</td>
</tr>
<tr>
<td>livestock owners</td>
</tr>
<tr>
<td>Difficult to settle loans</td>
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<tr>
<td>Remoteness of Chin/poor</td>
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<tr>
<td>linkages to Capital/ other</td>
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<tr>
<td>region</td>
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</tbody>
</table>

| **Existing**                    |
| Community forest                |
| Forest management               |
| **Constraints**                 |
| Lack of awareness               |
| Weak local capacities to access |
| and implement                   |
| Documents are not in local Chin |
| language                       |

| **No specific programs**        |
| **to improve Taungya system**   |
Conclusions

Changes within lopil systems
- soil fertility, crop production, cash crops, fallow periods, etc.

Changes from Lopil to other production systems

Changes within settled production systems
Need for promotion of many sustainable options in integrated and collaborative way

- Soil fertility management
- Suitable agroforestry systems
- Fire management
- Water resource management
- Forest management
- Sustainable Energy Management
- Grazing management
- Integrated Pest Management
- Sustainable Value Chains
- Land security for socially marginalized
- Community based NRM planning at landscape level
- Pro-poor, pro-women programmes for improving Taungya as well
- Improved Extension services
- Enterprise development for youth
- Sustainable Energy Management
Community based micro plan

Village: Chun Cung
Township: Hakha
State: Chin

- Founded in 1415
- Village shifted 4 times
- Has 373 HHs 1700 population
- 17 lopils (700-1000 acre per lopil)
- Also orchards, home gardens, fish ponds, terraces
- Main cash crops: Ginger and potato
- Local institutions: Village administration, water committee, land management committee, Farmer groups, electricity committee, livestock committee. Education committee
Community vision
A multi-sector developed village with good unity among people and people and administration

1. Improved agriculture and livestock
2. Better economy and marketing
3. Improved forest, water and energy
4. Good education, health and social equity
5. Better communication
1. Improved agriculture and livestock
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5. Better communication

Actions for achieving objectives (community plans)

1.1. More orchards, terraces
1.2. Rebuild terraces
1.3. Pest management in ginger and potato
1.6. Improved veterinary services
1.7. Access to irrigation water
1.8. Fencing around orchards

2.1. Local bazar
2.2. More jobs
2.3. Access to good quality seeds (e.g. ginger)

Actions for achieving objectives (community plans)

3.1. Improved energy options
3.2. Improved forest resources
3.3. Fire management
3.4. Grazing management

4.1. Better across to education
4.2. Better access to health
4.3. Better access to drinking water
4.4. Fair distribution of Taungya plots

5.1. Better road access to lopils and orchards and within village.
Thank you