



Hello!

Sa wad dee ka

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IPROMO

***Managing mountain resources and diversities:
the role of protected areas***

Ormea 8-18 July 2016

Education

Year	Qualification	Major field of study	Institution
2006	Ph. D.	Agronomy (Crop production)	Chiang Mai University, Thailand
2000	B. Sc. (Agric.) 2 nd Honor	Plant Pathology	Chiang Mai University, Thailand

Thesis title: Effects of Temperature, CO₂, and Water Deficit on Peanut Growth and *Aspergillus flavus* Infection

Employment and main activities

2007-present:

- **Head of Natural Resources and Biodiversity Research Program**
- **3 research projects**
 - Participatory Research on Food Resources and Biodiversity Restoration in the Highland Community, in Purpose of Creating Food Bank, Herb, and Energy Resources
 - Action Research and Development of Royal Project Models of Society in Harmony with Nature
 - Mushroom Cultivation Study for Consuming and Income of Highland Community



Nature trail walking



Cactus & Succulents

Other interests



Volunteer activities



Orchids



Highland Research and Development Institute (Public Organization): HRDI

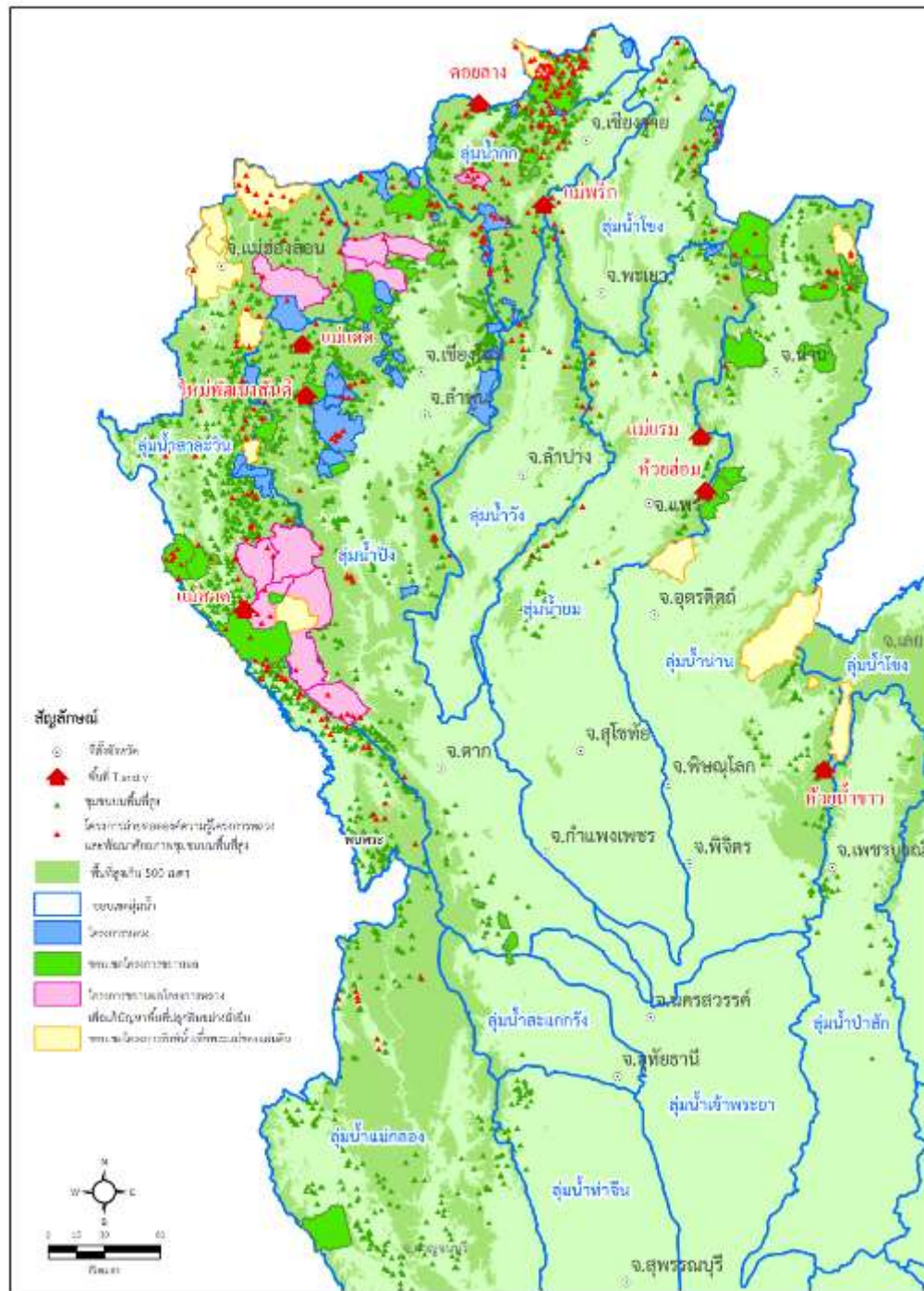
Vision

To ensure socially and environmentally sustainable highland development by supporting the Royal Project's research and development efforts and extending them to highland communities throughout the country as well as to manage the Royal Park Rajapruek as an internationally recognized center of horticultural and cultural knowledge, biodiversity, culture, an eco-tourism.

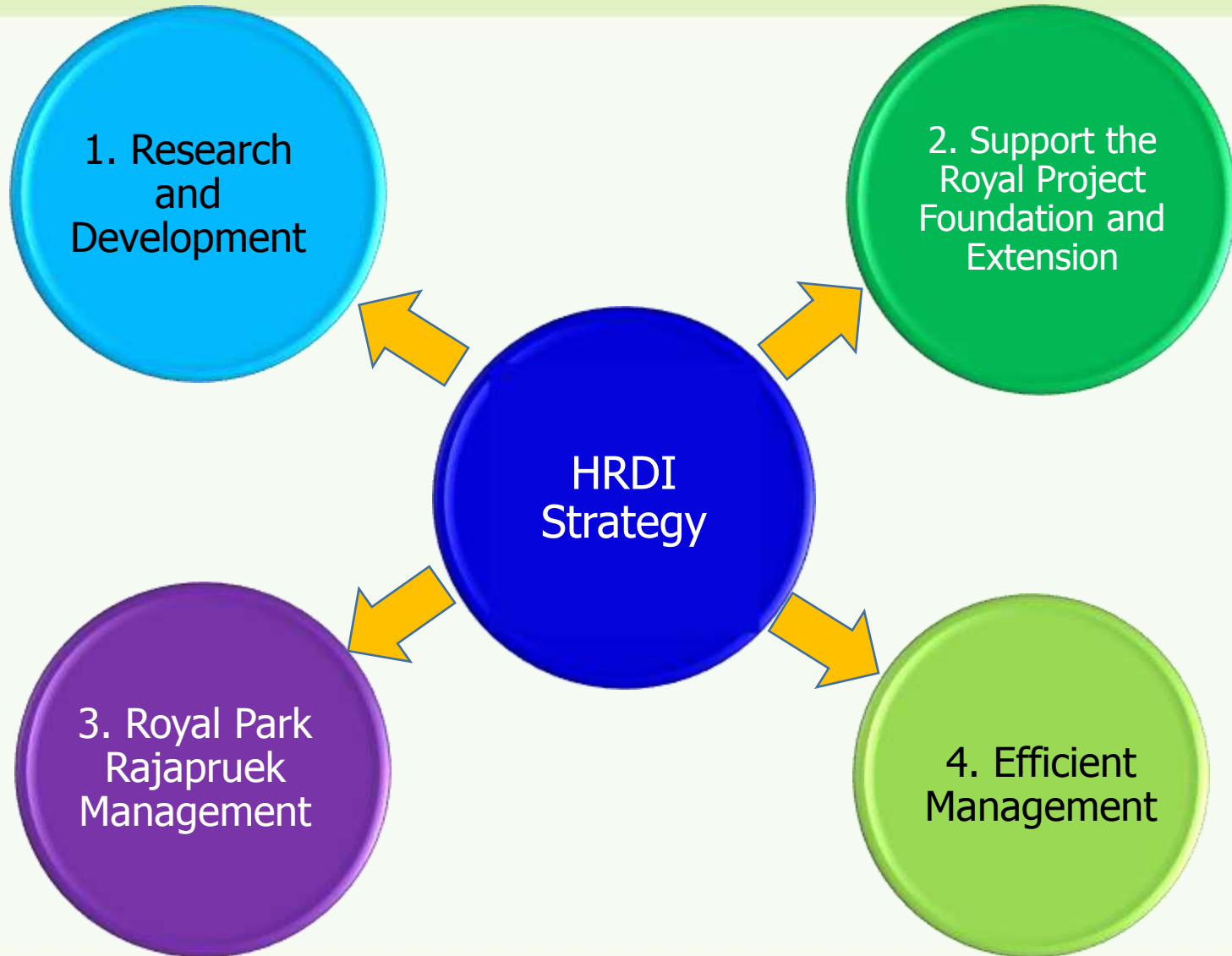
Operation areas

- ▲ **Highland communities (Goal)**
(20 Provinces 3,829 Clusters)
- **Royal Project: 38 Areas**
(5 Provinces 500 Clusters)
- **Royal Project Extension: 29 Areas**
(7 Provinces 354 Clusters)
- ▲ **Expansion of the Royal Project Model for
Sustainably Develop Highland
Communities Program: 13 Areas**
(8 Provinces 453 Clusters)
- **Expansion of the Royal Project Model for
Sustainable Opium Eradication**
(3 Provinces 126 Clusters)
- **Watershed Conservation project: 11 Areas**
(6 Provinces 118 Clusters)

1,064 Clusters (28%)



Goal: Highland people live with a sufficient income along with a better livelihood which is generated from more environmental friendly agriculture production and strengthened community.

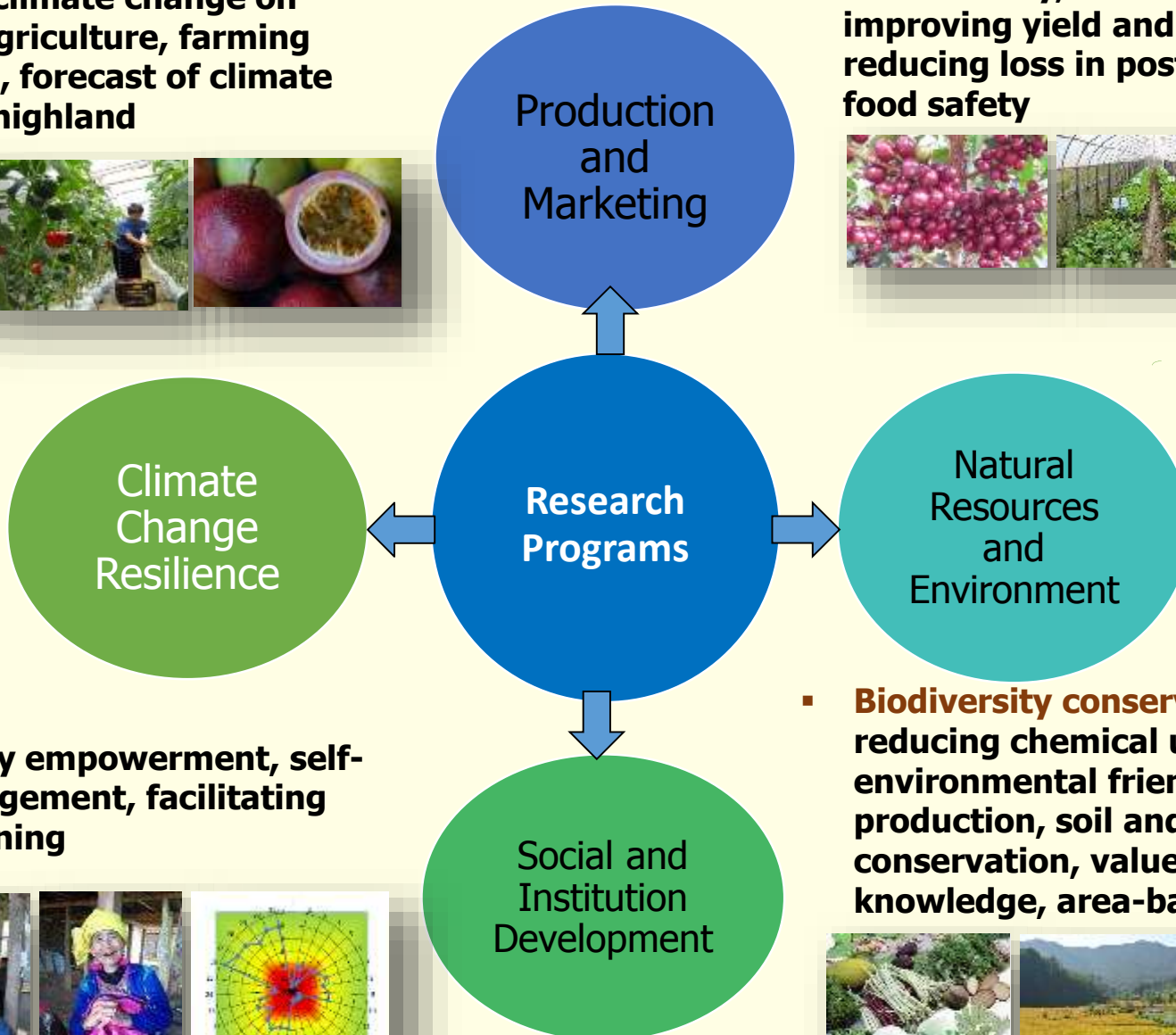


HRDI Development-Oriented Research Program

- **Impact of climate change on highland agriculture, farming adaptation, forecast of climate change in highland**



- **Good variety, reducing cost, improving yield and quality, reducing loss in post harvest, food safety**



- **Community empowerment, self-help management, facilitating social learning**

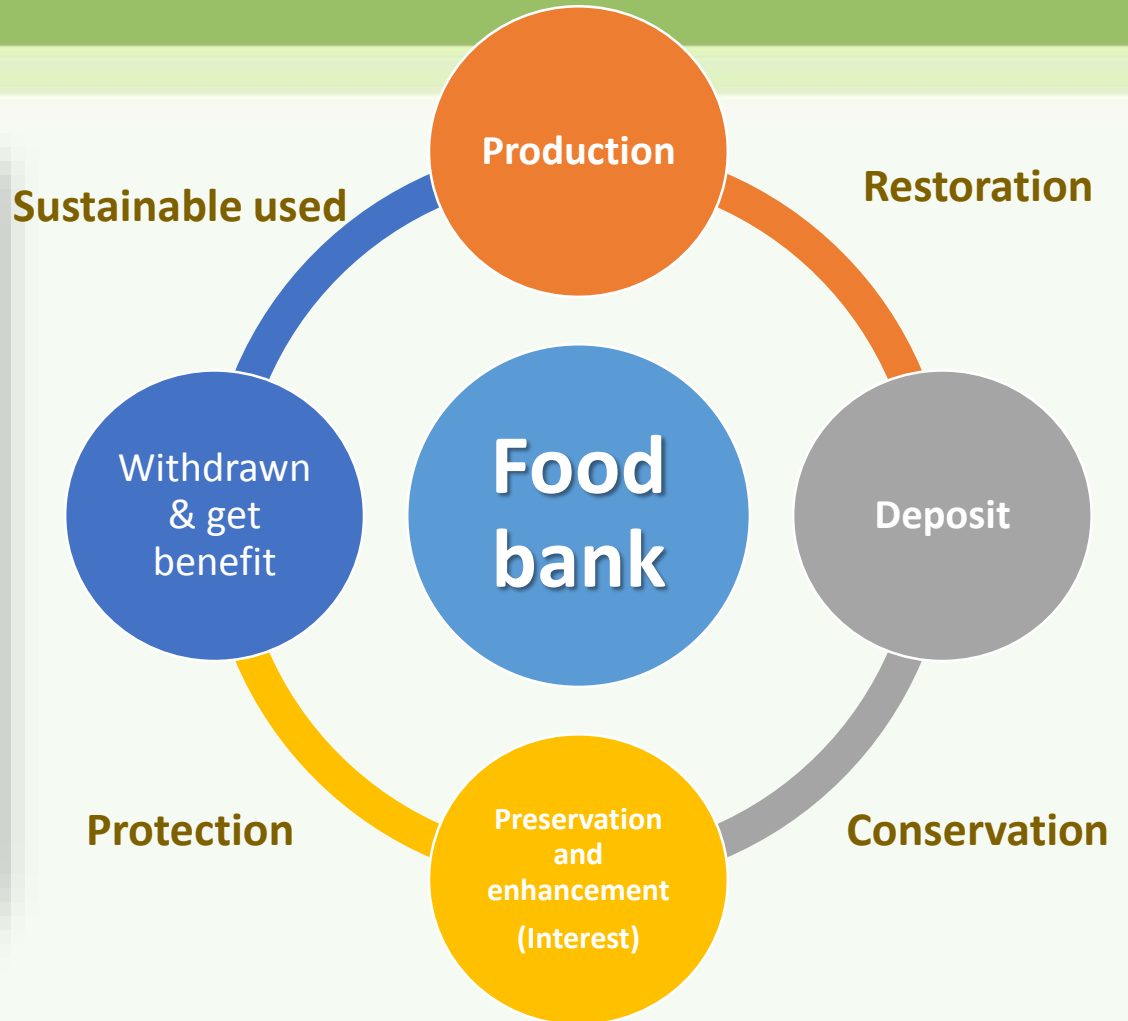


- **Biodiversity conservation, reducing chemical uses, environmental friendly production, soil and water conservation, value-added local knowledge, area-based approach**



Local Biodiversity Conservation and Restoration for Food Bank in the Highland Community

The Royal Initiative Project



The work emphasizes on the participation of the highland community in restoring and conserving of native plants in each area which used as food, herbs and energy for the community and maintaining abundance of local biodiversity.



Karen



Akha



Palong



Northern Thai

60 communities
8 provinces



Yao



Lisu



Thaiyai



Morn



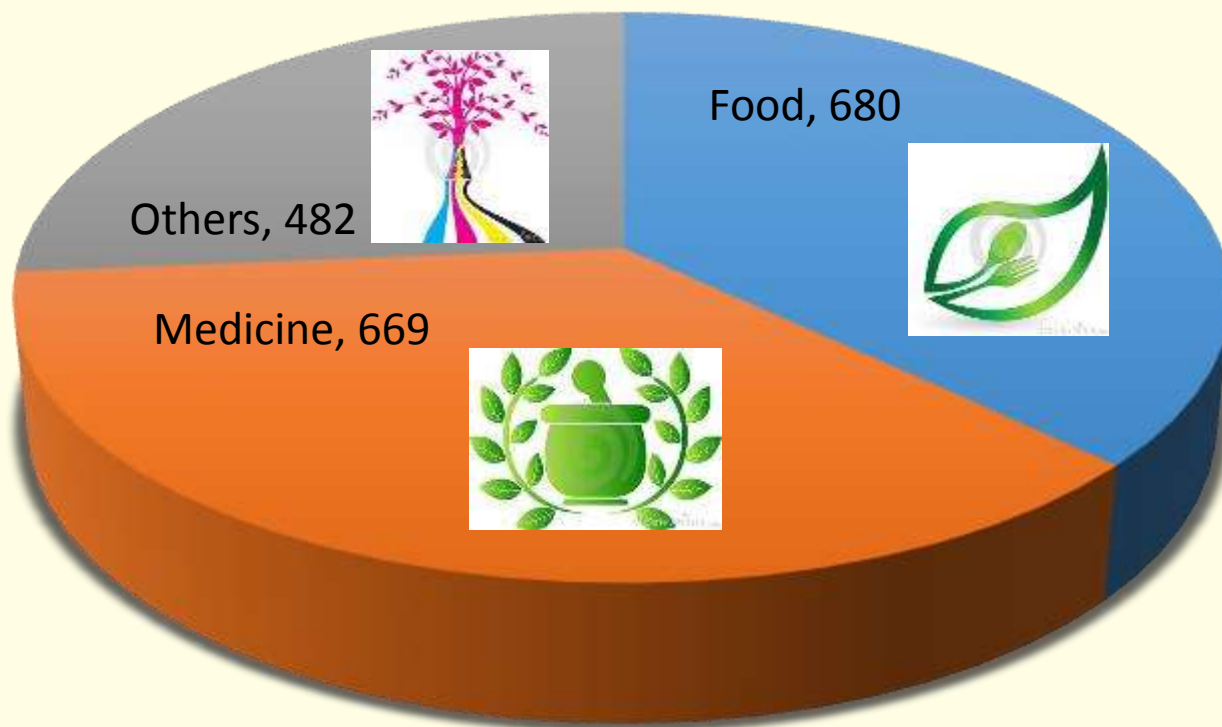
Luea



Hmong

1. Inventory of biodiversity and local knowledge on plant utilizations

- Database development: 1,262 species, 60 communities, 8 ethnic groups



- Focus group interview
- Survey
- Classification
- Database

www.eherb.hrdi.or.th





Thunbergia coccinea Wall.



Paris polyphylla Sm.



Hodgsonia heteroclita



Rynchanthus sp.

Rare plants: 38 species



Calamus sp.



S. secunda



A. pinnata



Mahonia siamensis

2. Plant collection and propagation in local communities: Nurseries



Houy Pao



Pang Ma-O



Pang Dang Nai

□ 950 species (47 communities)



Doi Pui



Wang Pai



Wavee



**Local seed bank
>150 species**



3. Local biodiversity restoration in community forest and household area (41 communities)



**Home garden
403 members**



**Community forest
1,032 rai**



Raising awareness in plant conservation and restoration (4,518 people participated)



4. The community learning network for food bank conservation and restoration

- ❑ Knowledge transfer over the local course of instruction within 11 schools in Nan and Chiang Mai provinces.
- ❑ Traditional knowledge on plant utilization were shared between each community
- ❑ The 69 species of native plant were exchanged between 9 communities



Pa Dad School, Nan



**Pa Klauy Pattana
School**



Pong Kham School

5. Value creation from biodiversity and local knowledge

➤ Herbal products

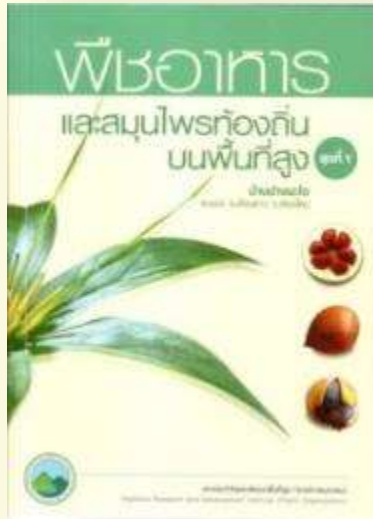


➤ Plant seedling production



Income generation for 59 members : 822,100 Baht

6. Documents and publications

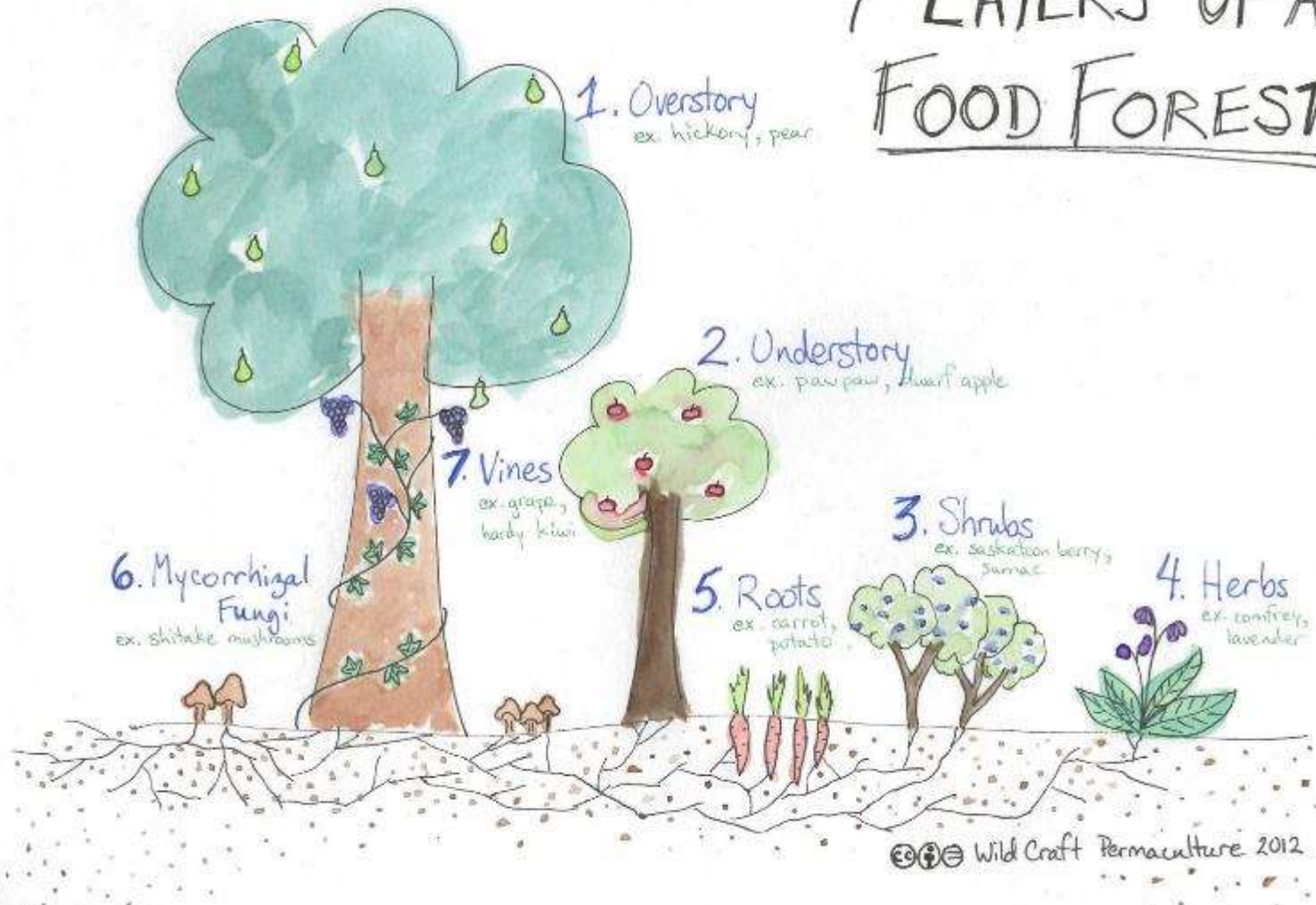


Conclusions

- Plants used by each community represented a wide range of genera and families and most used for household consumption.
- Local biodiversity can be used to provide benefits to the local people, however proper management should be carried out to improve benefit sharing and distribute the opportunity to earn the new income.
- The conservation and restoration of local biodiversity should be managed properly and efficiently so that forest resources can be maintained and used in a sustainable way.
- Participatory process takes time, but it leads to more effective and sustainable results.



7 LAYERS OF A FOOD FOREST



Thank you for your kind attention!