

Ngao Model Forest

Where communities and women lead forest resilience



Member of the Regional Model Forest Network – Asia since 2004

2 National Parks

5 National Reserved Forests



Mae Pong



Mae Moh



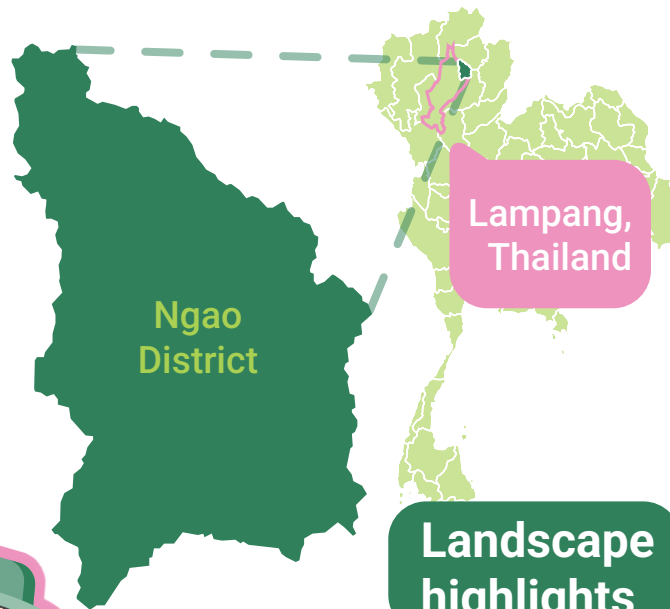
Mae Ta–Mae Mai



Mae Ngao (left bank)



Mae Ngao (right bank)



Landscape highlights

- Ngao Model Forest hosts the Hauty Tak Teak Biosphere Reserve, Thailand's largest teak gene bank (29,440 hectares).



HUMAN POPULATION

~ 55,000 inhabitants

9 ethnic groups across 85 villages, including Hmong, Lu Mien or Yao, Karen, Lahu or Muser, Lisu or Lisaw, Akha, Tai Lue, Khmu and other Indigenous Peoples



AREA

87,536 hectares

encompassing the entire Ngao district

Landscape snapshot

Ngao Model Forest represents a watershed area tucked away in steep and gently rolling uplands.



68% forest cover
21,688 hectares
of agricultural land



10,118 hectares of upland crops



6,680 hectares of paddy

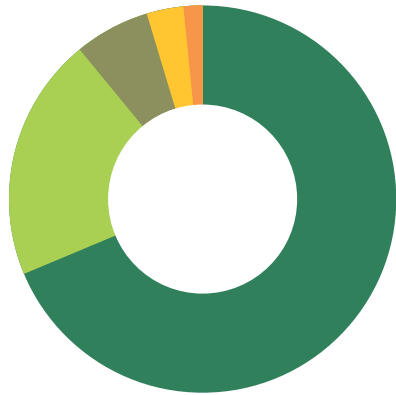


1,829 hectares of commercially valuable trees
(e.g. rubber trees, bamboo, teak, rambutan, durian and cocoa)



Forest profile

57 community-managed forests



- 44.58%
Mixed deciduous forest
- 13.83%
Dry dipterocarp forest
- 4.03%
Forest plantation for production
- 2.38%
Dry evergreen forest
- 1.46%
Forest plantation for conservation



Biodiversity highlights

Home to at least **3 threatened** species



Notable achievements

From 10 community forests in 2000 to **57 in 2025**



2000 : 10



2025 : 57



Lac cultivation in Ban Bor Si Liam

USD 618,582 of annual average income across 100 households



~ **10,000 lychee trees** planted as host trees for lac insects



Slash-and-burn agriculture phased out - **fewer fires and reduced smog**



20 years
of community-based fire management

Ngao Model Forest:

Living proof of community-led conservation



Spanning 175,159 hectares, Ngao Model Forest is home to over 57 community-managed forests, where local people have built strong traditions of collaboration in protecting and restoring their landscapes. Fire has long been a pressing challenge in the district, with the dry season bringing heightened risk of wildfires that threaten forests, farms and homes.

Within the Ngao landscape, communities have combined check dam construction with a self-organized fire prevention system to secure water year-round for daily use, agriculture and forest restoration. Each year, villagers establish firebreaks around settlements to reduce wildfire risks. During the fire season (February through April), village patrols work in coordination with a central hub that uses satellite technology to detect and respond rapidly to fire hotspots. This central–local structure is community led. The locally designed system has been shaped and sustained by the commitment of women volunteers, whose leadership has been crucial in organizing patrols, maintaining firebreaks and passing on knowledge to younger generations. Their role ensures that fire prevention remains both a community responsibility and a women-led legacy.

At the same time, sustainable livelihood shifts have also reinforced fire prevention. In Ban Bor Si Liam, the transition from slash-and-burn agriculture to lac cultivation has created new incentives for forest protection. More than 10,000 lychee trees have been planted to host lac insects, which are highly sensitive to fire. As a result, reducing fires now directly safeguards both the environment and community income. Today, lac-related enterprises generate an annual income of over USD 618,000 for 100 households, showing how fire prevention, women's leadership and sustainable livelihoods can come together to build resilience.

Current work

- Deforestation is being reduced through strong community monitoring.
- Government line agencies and local communities are working more closely together.
- Community forests are expanding, with management practices improving.
- Land use is shifting; less corn, more teak and bamboo.

Future priorities

1. Wildfire and resilience



- Promote lac cultivation as both an income source and a tool for wildfire prevention.
- Strengthen wildfire management, prevention and control.

2. Youth and leadership



- Engage young people in sustainable forest management.
- Build and support youth leadership roles.

3. Community enterprises



- Support community-based enterprises producing non-timber forest products such as natural dyes, medicinal herbs and forest-based foods.

4. Innovation and ecosystems



- Scale up participatory research with communities and universities to standardize and improve non-timber forest products.
- Enhance forest ecosystems through low-cost, locally driven innovations.



IMFN Climate 2025-2026 and REVIVE–Asia 2026-2029

Through collaboration and funding support from the International Model Forest Network (IMFN), the Model Forest is reviving traditional lac cultivation to create sustainable livelihoods, protect forests, restore forest cover and prevent wildfire-driven land and soil degradation.

The Model Forest is also a pilot landscape under the 'Post-fire forest and landscape restoration: Strengthening community-led nature-based solutions for food system transformation in Asia' (REVIVE–Asia) project, which aims to advance inclusive and financially viable nature-based solutions models and partnership approaches for integrated fire management and forest landscape restoration to support food system transformation and climate resilience in Model Forests in Asia.



Vision

Living with nature, where lush, green forests thrive, clean water sources are plentiful and native wildlife flourish.

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