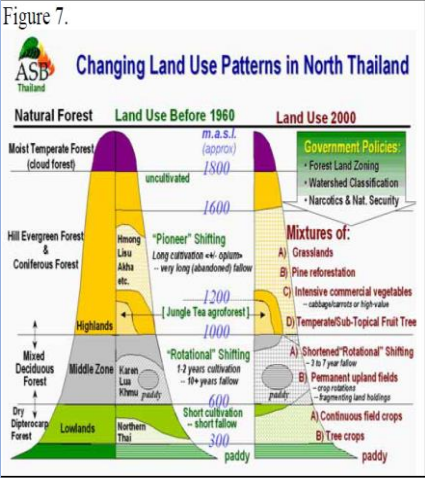


RESEARCH BRIEF

Landscape Transformations and Agri-food Systems Transitions: Case Study of Mae Chaem District, Chiang Mai province, Thailand

BRITISH COUNCIL NEWTON FUND, INSTITUTIONAL LINKS PARTNERSHIP PROJECT
BETWEEN THE UNIVERSITY OF YORK & CHIANG MAI UNIVERSITY, THAILAND. 2018-19

(NB: All photos taken by David J.H. Blake, unless otherwise stated)



(Source: Thomas et al., 2004, p.10)



Mixed deciduous forest in a protected area, Mae Na Chon sub-district, at an elevation of c. 600 masl are extensively foraged by villagers. Nov. 2018



In the fore and middle distance, recently harvested maize, while in the background, upper watershed forest in Ban Thap sub-district. Maize area varies from year to year, depending on farmgate price. Nov. 2018.



Typical upland scene in Mae Chaem, showing mosaic of terraced paddy, maize fields, fallow land, village settlements and natural forest areas in different stages of regrowth. Aug. 2018



Lowland paddy fields, with land ownership documents, form less than 1.4 % of the entire land area of Mae Chaem district. 79.6 % is National Forest Reserve and the remaining areas is classified as “Protected Area”. Aug, 2018



A mixed coffee and fruit tree plantation being trialed in a social enterprise project sponsored by CP Group in Ban Thap sub-district, as part of the “Mae Chaem Model”.



Terracing, intercropping and other soil conservation innovations are mostly limited to state-sponsored demonstration sites, with relatively little uptake in the general population.



A privately-funded initiative to convert 15 rai of former maize fields to an integrated farm, including fruit, hardwood, coffee trees; fish and native pig raising; some upland rice on terraces; and an area of natural forest.



Grazing cattle are a relatively rare sight in Mae Chaem district, partly because they need secure fencing to avoid damage to maize crops. In the middle distance, terraces are visible, but such land-engineering was the exception rather than the rule.



This is a contemporary scene in northern Myanmar. Up until the early 1970s, it would not have been unusual in Mae Chaem district, but successive projects and policies have nearly eliminated the opium poppy, replacing it with other cash crops, the latest of which is animal feed maize. Source: <https://news.un.org/en/story/2011/12/398382-myanmar-leads-rise-opium-poppy-cultivation-south-east-asia-un-survey>

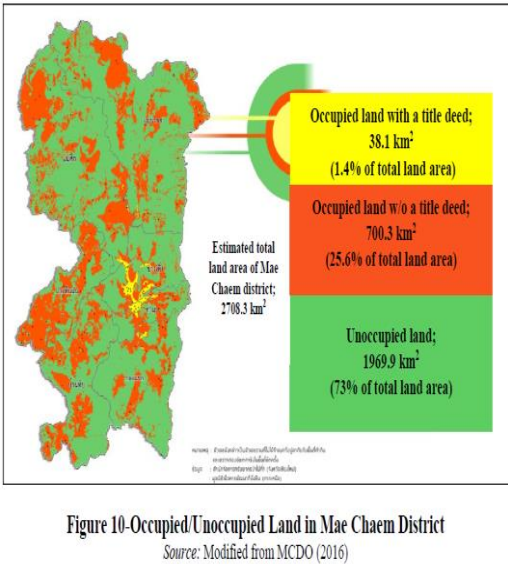
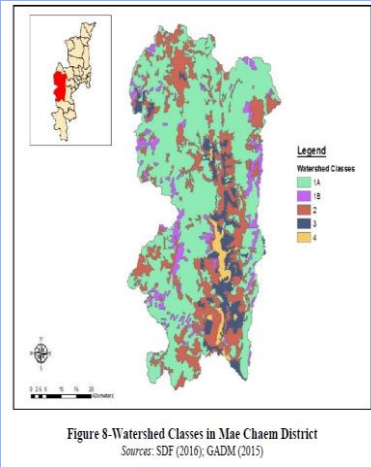


An irrigated vegetable cultivation area found alongside the Mae Chaem to Hot main road in Gong Hin Kaek sub-district. It was converted from forest to intensive agriculture in the 1970s, and now forms part of the Long Pong Agricultural Land Settlement scheme

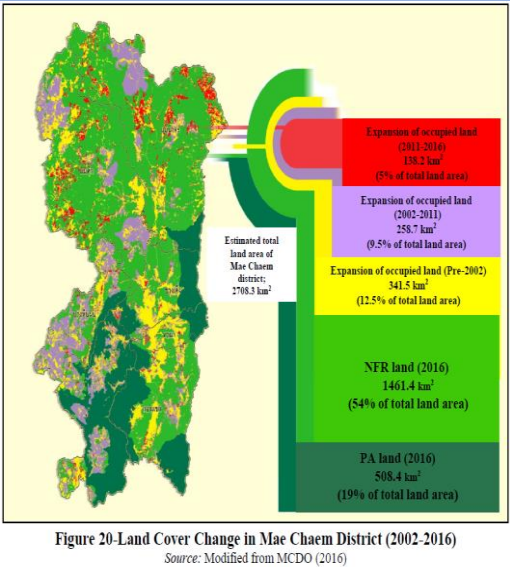


Table 6-Land Use Change in Mae Chaem District (2002-2010)
Source: ICRAF (2016)

Aggregated land use classes	Total land area (%) in 2002	Total land area (%) in 2010	Total land area (%) change (+/-) 2002-2010
Agriculture	6.1	14.4	+8.3
Forest	90.6	78.7	-11.9
Other	3.3	6.9	+3.6



Source: Beaulieu, 2017, p.25



Source: Beaulieu, 2017, p.49

Table 4-Watershed Classification in Thailand
Source: Modified from UNDP (2012, p.10)

Watershed Classes	Characteristics of Watershed Classes
1A - Protected forest areas	Includes permanent forest and headwater sources located in high elevation/steep slope areas.
1B - Protected forest areas	Includes permanent forest and headwater sources located in high elevation/steep slope areas. Allows for some agricultural concessions, albeit with strict conditions.
2 - Commercial forest areas	Includes permanent and commercially-orientated forest located in high elevation/steep slope areas. Allows for logging, grazing, agriculture, and mining, albeit with certain conditions.
3 - Fruit tree plantation areas	Includes permanent and commercially-orientated forest located in high elevation/steep slope erosion-resistant areas. Allows for agroforestry, agriculture, and grazing, albeit with certain conditions.
4 - Upland farming areas	Includes land suitable for certain types of agriculture, located in gentle slope areas. Allows for agroforestry and grazing, albeit with certain conditions.
5 - Lowland farming areas	Includes land suitable for certain types of agriculture, located in relatively level land and with few conditions.

Source: Beaulieu, 2017, p.24

RIGHT: A farmer is standing next to a teak tree he planted in his maize plantation in Tha Pha sub-district, along with various other fruit trees. He and his wife intend that these will provide a less labour-intensive alternative to maize, as his children do not want to practice agriculture, added to which they are tired of the hard work involved in cash cropping with low returns and debt the norm. Aug, 2018



BELOW & RIGHT: Serious gully erosion in maize fields was observed to be a common problem at locations across Mae Chaem district.



A state-sponsored tree planting project in Pang Hin Fon sub-district alongside a typical dirt road inside a watershed conservation area. Aug. 2018