

CLIMATE CHANGE IN A NORTHERN KAREN VILLAGE

Reflections on Luthaw Township Livelihoods - Part Two

Research Briefing by Ashley and Joe South

May 2022

Burning the swiddens



→ Note

Poo Thawaw village

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NOTE

This research briefing is based on a visit to Luthaw Township (KNU Mudraw/Papun District, northern Karen State; KNLA 5 Brigade), between 8-13 April 2022. This is the northern part of the Salween Peace Park.¹

The authors spent five days in an upland Karen village, where we have long-term connections with the local community. However, one of us had never been there before. We conducted two focus group discussions, and eight key informant interviews.

The situation at Poo Thawaw is in some ways unique. However, hundreds of upland Karen villages face similar challenges.

The aim of this memo is to support food sovereignty in Kawthoolei. At present, most people have enough rice to eat, most of the time - although for Internally Displaced People there are many challenges, including regular Myanmar Army attacks on civilians and Tatmadaw occupation of farmland. Northern Karen State may soon approach a 'tipping point', where climate change and conflict undermine food security, unless steps are taken to address these challenges.

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¹ The 5000 km² Salween Peace Park (SPP, established in 2018) is the most important development and conservation initiative in Karen areas. This radical alternative vision of sovereignty can be a model for future efforts at locally owned forest management and conservation. The SPP was awarded the UN's Equator Prize in September 2020, the same year one of its founders (Paul Sein Twa from KESAN) won the Goldman Environmental Prize (the 'Nobel Prize for nature').

POO THAWAW VILLAGE

'Poo Thawaw' village (not its real name) is located in the northern part of Luthaw Township, not far from the Karenni State border. The community consists of about 40 households, most of which are located on a ridge overlooking a small valley. About 10 households are located a few minutes' walk from the main village, in or above adjacent valleys.

None of the villagers have Myanmar ID cards. Those we spoke to said they were not interested in being recognised by or engaging with the Myanmar authorities. They recognised the KNU as their legitimate government.

The villagers speak Sgaw Karen. A few speak Burmese, and one or two individuals have some English-language skills. About three-quarters of the villagers are Christian; the rest practice traditional Karen religion (sometimes referred to as animism: *moe-lu par la*). Relations between the different religious communities seem very good.

The village was originally established some way to the south, by four siblings who moved up into the hills following Burmese independence, and the subsequent outbreak of armed conflict.² Poo Thawaw village has moved a few times since then, mostly "following the hku" – i.e. moving location according to the shifting patterns of upland rice cultivation.

Most houses are made of bamboo, with wooden frames. There are three small (privately owned) rice mills in the village, and a generator at the church which provides electricity occasionally to some houses. Some households also have access to solar power, enough to charge mobile phones and lights. There is a hilltop not far from the village, which provides limited access to the Myanmar mobile phone network.

Poo Thawaw village has never been directly attacked by the Myanmar Army. However, villagers have often had to flee in the past - mostly temporarily - when Myanmar Army patrols came nearby. During our visit,

² An earlier settlement was burned down by Japanese forces during World War II. Villagers remember being split up and displaced, with no food at times except goat milk.

there was much concern about attacks from the Tatmadaw. On at least two occasions during our visit, MiG jet fighters flew low over the village. Local KNU authorities have instructed villagers to be prepared to flee, if necessary, including by preparing cakes of sticky rice and sesame (*may toh pee*) a portable food supply.



May toh pee (sticky rice and sesame cakes)

Village leadership is provided by a headman selected by the villagers, supported by a couple of local (village tract - *G'roo*) security personnel, and village elders including the church pastor and school headteacher. The church is the most impressive and well-built (brick and concrete) structure in the village. This was constructed with funds provided by a Poo Thawaw villager who resettled in the USA some years ago. The old church located nearby is now the site of the village middle school, which provides education up to Grade 8 (using the KNU's KECD system).

Over the years, several Poo Thawaw villagers have moved to Thailand and currently reside in the refugee camps. Some also work as migrant workers in the neighbouring kingdom. A few villagers have also moved to the USA, under refugee resettlement programs. Some families (a minority) receive occasional remittances from family in Thailand or beyond.

In addition to rice cultivation (see below), many families raise chickens, pigs, goats and/or ducks, or buffaloes. However, meat is generally eaten quite rarely - not more than once a week, even for better-off families. Many families also own buffaloes, which are primarily used for ploughing and fertilising rice fields.





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Three small streams pass through the valleys below the main village. The surrounding area is forested, and quite beautiful. Many of the nearby hills show signs of past or present rice cultivation.



Rice fields

This village is some way behind the “front-lines” of armed conflict in southeast Myanmar. One of the most interesting findings was the relative lack of immediate impact of renewed armed conflict in this area. Security concerns preclude further details.

MAP: LUTHAW TOWNSHIP IN HPAPUN (MUTRAW) DISTRICT



AGRICULTURE, INCOMES AND LIVELIHOODS

There are two types of rice production at Poo Thawaw: irrigated paddy fields (*si plaw*) and upland, shifting swidden cultivation (so-called 'slash and burn' farming: *hku*).

About one third of the villagers have irrigated rice fields. These are privately owned, fixed assets, inherited from the ancestors. (Generally, rice fields are divided equally among the children.) There is some terracing of rice fields, although mostly these are located on valley floors, rather than hillsides. Most of the outlying households are located in nearby small valleys with their own paddy terraces.

The paddy fields are fed by streams. Buffaloes wander across the fields, fertilising them and breaking up the soil with their hooves. No additional fertilisers or pesticides are used. A few villagers have (or can hire) mechanised rice ploughs. During our visit (mid-April, supposedly at the height of the dry season - see below), the fields were mostly fallow. In a few places, a second rice crop was growing (to be harvested in June). Villagers often grow green beans in their rice fields, after harvest. This provides additional nutrition (or if ploughed in, fixes nitrogen in the soil).

A few families are able to grow enough rice for the whole year in their paddy fields. For most wet rice cultivation households however, this is supplemented by additional *hku* cultivation. The majority of villagers do not have *si plaw* irrigated (relatively fixed) rice fields, so rely exclusively on *hku*. Villagers also have small gardens, where they grow a variety of vegetables. *Hku* cultivation is organised according to the indigenous Karen *Kaw* system.³

³ The research was not specifically directed at the *Kaw* system. During the period of this research trip, the KNU and Karen CSOs held a celebration to formally recognise and incorporate the indigenous *Kaw* governance system as part of the KNU's (already quite progressive) land law. For the first time, a governance authority in Myanmar formally recognises and supports indigenous local landscape and natural resource management regimes: *Kaw Recognition and Certificate Awarding Ceremony Statement* (KNU Central Land Committee, 14 April 2022). Five sets of customary land were recognised, in two KNU districts (Mudraw and Toungoo/Taw Oo).



View from the ridge-top: irrigated rice fields (*si plaw*) and swiddens (*hku*)

The location of swidden rice fields is decided by the community, according to the *Kaw* system. Upland rice fields are never located on watershed ridge tops. (Unlike many other Karen villages, Poo Thawaw does not have a specifically demarcated community forest.)

Upland *hku* rice fields are cleared in January-March. This involves the labour-intensive chopping of vegetation, which is left to dry during the hot season. Usually sometime in April, the fields are burned - releasing nutrients into the soil (and also releasing large amounts of carbon dioxide into the atmosphere, in the form of smoke). This is hard work, which may be repeated after the first burn - with non-combusted vegetation (particularly small trees and shrubs) gathered together to be re-burned. In May, around the time that the rainy season starts, rice seeds are planted. During the rainy season, the fields must be regularly weeded, before the rice is harvested in November.

Key elements of rice cultivation are undertaken communally: families join together to help each other cut trees and vegetation, to plant rice seeds, and later to harvest - moving from field to field as a group. However, weeding during the rainy season is done by individual families in their own fields.



Traditional Karen rice cultivation practices require cultivated lands to be left fallow for a period ideally of 10 years or more. In some areas, this cycle has been severely restricted, leading farmers to return to previous *hku* sooner than optimal. The pressure on land, causing farmers to return early to previous swiddens, is partly explained by organic population growth (more babies), and also by increasing numbers of displaced villagers in the Karen hills, as a result of armed conflict and attacks by the Myanmar Army. In the Poo Thawaw area, population density has not so far been too much of a problem. In most cases, farmers return to previous fields after a gap of 7-10 years.

As discussed below, many families are unable to grow enough rice to last the year. When the harvest is exhausted, they may borrow from fellow villagers - paying back what they can, when they can. Sometimes, this takes the form of working on other villagers' land, as a form of recompense. A couple of villagers earn additional income through renting out (or more often, loaning or renting-out) their small rice mills. Very little day-labour for cash is available, although some villages can earn supplemental income (including to repay debts) through working as porters, including providing motorbike transportation. There are a couple of dozen motor-cycles in the village. The previous footpath (the only form of access to the village) was expanded to a motorbike track five or six years ago, in the context of the ceasefire which lasted from 2012-20.



Village rice mill



Local seed varieties

There are reportedly no moneylenders in northern Karen state. Villagers sometimes borrow cash from friends or relatives, which is repaid without interest. There are four small shops in the village, selling a small range of mostly dried and canned goods. Traders (always Karen) occasionally visit the village, to sell dried fish, clothes, supplementary foods etc. Villagers sometimes travel more than a day's walk to other villages (or even towns – e.g. Toungoo, or Mawchi in Karenni) to buy salt, fish paste, monosodium glutamate, betel nut etc (and supplies which are sometimes bought from nearby villages - e.g. betel nut). Sometimes they trade rice for these goods, rather than using cash. Villagers also gather wild foods and other useful products from the forest (for example bamboo shoots and rattan); hunting used to be more productive, but these days there are a few wild animals left close to the village. Smaller local animals which contribute towards the diet (and family fun) include small fish and crabs, and frogs from the streams, collected on family outings together with nutritious wild vegetables.

Villagers report that in recent years many have had to sell their few valuables (small amounts of gold, or old coins), in order to supplement reduced rice yields. If they do not have enough rice, villagers will eat rice diluted as rice soup. About one third of the community are expected to face significant food insecurity this year.



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Aid has been provided in the past by KESAN (including a still-functioning and much valued water supply system in the village), and KDHW (the KNU humanitarian wing, which provides health support⁴). The KTWG provide students with stationery, and teachers with salaries; schools are administered by the KECD (KNU education department⁵). Private individuals and diaspora members have helped out over the years, donating mosquito nets, blankets and clothing, food, and in 2008 setting up a small local hydropower project (which unfortunately has not been well-maintained).

Young people often leave the village, seeking education (particularly in refugee camps). Some return; many do not. Young people in a separate focus group discussion talked about wanting to become teachers, doctors or nurses, or to proceed with further education. They talked about the need for IT skills, motor mechanic training, and more opportunities to learn and perform music.

⁴ Kawthoolei Department of Health and Welfare: https://www.knuhq.org/public/en/department/health_welfare

IMPACTS OF CLIMATE CHANGE

Villagers have noticed an increase in temperatures over the past several years. They pointed out that this year leaves are beginning to bud on deciduous trees in early April - whereas normally they would not appear until late May. Most worrying has been the changing pattern of rainfall. In previous years, it may have rained lightly a few times during the dry season. From the end of the last rainy season (in October 2021) however, it rained every few weeks, and during the hottest part of the dry season (March-April) it rained almost weekly. In addition, in the context of local deforestation (including clearing hillsides for rice fields), the flow of streams through the village and into the rice fields has significantly reduced over the last several years.

⁵ Karen Education and Culture Department: https://www.knuhq.org/public/en/department/education_and_culture



Burning the swiddens (peh hku) and Swiddens after burning





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These developments have had serious impacts:

- › Irrigated rice (*si plaw*) - less water in the rice fields has led to reduced crops. There is some anecdotal evidence that increased temperatures are also leading to smaller rice grains at harvest time.
- › Upland, swidden rice (*hku*) - rains during the cutting and burning season result in less successful burning of cleared vegetation, with fewer nutrients entering the soil, and more weeds. Often, villagers have to undertake a second burn, with additional backbreaking work. Rains near the harvest time also cause rice stems to rot. Additional problems are sometimes caused by rats, which eat the rice grains.

As a result of these stresses, the rice yield is in decline. In combination with the impacts of armed conflict in Karen State - causing many villagers to flee, often at crucial times in the agricultural cycle - these factors may indicate a looming food security crisis.

⁶ KESAN provides access to possible new agricultural strategies (including seeds), and supports farmers to decide if and how to adopt these. Farmer Field Schools have been established in several villages in Mudraw District, although these have been disrupted by conflict and airstrikes. Among other innovations, KESAN has worked with local farmers to experiment with 25 varieties of rice. A preliminary finding is the need for quick-germinating seeds, in order to harvest a second (irrigated) rice crop. One of KESAN's most successful projects has been the introduction community rice banks in several villages. Used both for seeds and eating, these are often run by local women who return what they have borrowed, when they can. In order to join the rice bank, farmers have to invest some of their own crop.

RECOMMENDATIONS

- › Support to Karen agricultural and livelihood systems should be based on the indigenous *Kaw* system, and extensive consultations with communities and local (KNU) authorities. Coordinate with KESAN and other relevant CSOs.⁶
- › For cultural reasons, and because changes in agricultural practice will come slowly and have to be owned by farmers, swidden (*hku*) cultivation will remain a key part of upland Karen villagers' agricultural strategies. However, due to the impacts of climate change (unseasonal rains), and also because this agricultural practice contributes significantly to seasonal haze, where possible it should be supplemented by increased cultivation of irrigated rice.
- › Rice paddy cultivation could be improved by:
 - Growing more trees (including edible and other useful cultivars) in watershed areas around creeks and springs. This is already being done in several villages.
 - Conducting further research, in partnership with local farmers, regarding (changing) weather patterns, local soil conditions and (changing) availability of water - in order to identify sites for pilot projects. Undertake surveys in pilot villages, to identify land which could be converted to irrigated paddy. This would include new rice paddy terracing, which is quite labour-intensive.
 - Agricultural innovation projects should include measures to support farmers, should new crops fail (including because of the security situation).
 - Establish pilot rice fields (using the Farmer Field School, peer-to-peer learning model), to experiment with new varieties of rice seed, and cultivation techniques. In some areas, villagers are al-



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ready using varieties of the System of Rice Intensification (SRI), which can produce improved yields while using less water, under the right circumstances. While SRI may not be appropriate for all landscapes (depending on availability of water, and soil fertility), participatory studies, accompanied by technical experts in SRI, could explore where and under what circumstances SRI techniques could be expanded. Explore and build on farmers' existing wisdom and skills, as expressed through the *Kaw* system.

- Concerns about reduced fallowing on swidden hillsides could be addressed by planting perennial food and cash crops on hillside fields formerly used for upland rice. High-value tree crops would anchor the soil, improve groundwater penetration, and yield income streams that allow village families to purchase rice to supplement their own production, as well as buy goods that are not produced locally.

- > Villagers suggested the following crops could be cultivated, in order to improve food variety and security (in some cases these are already grown): Dog-fruit, mangoes, pomelo, sugarcane - Seeds are requested, and guidance in cultivation techniques (including improved rice cultivation advice). Technical experts in hillside perennial agriculture might also discuss with villagers other crop options appropriate to their conditions – e.g. coffee, cocoa, fruit (durians, pineapples, longans, lychees, etc.), betel nut, cardamom, gum, yams etc.
- > Villagers' request research on possible markets for cash crops. These markets may be in Thailand or in lowland cities such as Toungoo.
- > Villagers request fresh supplies of seeds. In the case of tree crops, grafting scions might also be needed. For crops new to the local area, seeds need to be accompanied by technical training in order to ensure their success.



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