



Relations To Land

A Case study of Rumah Emmanuel, Nanga Lipus

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ABSTRACT

By the bank of the Kanowit river lies the longhouse Rumah Emmanuel. Here, rapid development has gradually transformed the rural landscapes and livelihoods. The rural population here is almost solely Iban, one of the major native ethnic groups. Since the Iban have lived in close connection with their land for millennia, concerns are raised about how extensive rural-urban migration will influence 'traditional' Iban practices.

To investigate these dynamics, this report explores 'relations to land' as a conceptualisation of the connection between people and land. The report is based on fieldwork carried out in Rumah Emmanuel over 11 days. With an interdisciplinary approach, data on local relations to land was gathered through multiple methods. To operationalise the concept, Berghöfer et al's 'Societal Relationship with Nature' was used, leading to a focus on the aspects of *knowledge, interactions, and identity*.

The collection of non-timber forest products (NTFPs) and rice cultivation (*bumai*) were selected as characteristic practices of Rumah Emmanuel. Subsequently, the report investigates how these practices have changed, and how these changes influence life in the longhouse. Results show that although *bumai* and NTFP collection is practiced less by the younger generations, new ways of learning about the land are emerging. Analysing the connection between the land and notions of identity revealed that young generations still identify with their land, and that practices like *bumai* are still central to Iban culture, despite decreasing. Lastly, while local relations to land are transformed, not all changes are mourned, revealing dynamic perceptions of nature and change in turn.

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LIST OF IBAN WORDS

Bejalai	Walk/journey
Dampa	Farmhouse
Rumah Panjai	longhouse
Umai	Rice cultivation
Padi	Rice
Bilik	Household
Bekuli	Physical, unskilled labour
Tanjoh	Out veranda
Ruai	Inner veranda
Rampa Menuah	World Environment
Puni	A misfortune or accident following Mali
Mali	A ritually or socially forbidden act/behavior
NCR	Native Customary Rights over land
Kampung	Village/forest
Gawai	Annual ceremonial celebration of the rice harvest
Betabuh	Traditional music with brass instruments and drums
Tuak	Local rice wine
Ngajat	Local dance
Sungai (e.g. Kanowit)	(Kanowit) River
Selabit	Weaving technique for bags
Uyut	Weaved bemban bag (different from Selabit)
Langkau	Small hut or liquor
Adat Iban	Customary law
Sawit	Oil Palm
Tuai Rumah	Headman
Utan	Forest
“Utai ari utan”	Something from the forest // NTFP
“Utai betanam”	Something you cultivate yourself
Tanah	Land
Roh	Soul
Tradisi	Tradition

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1. INTRODUCTION

1.1. Background

According to the UN, close to 1.6 billion people rely on forests resources for their livelihoods (Solberg, 2015). In rural Sarawak – a region in East-Malaysia located on the island of Borneo – native communities have long had a deep-rooted relationship with the surrounding environment, relying on the abundant resources of the forest and farming practices (Maid, et al., 2017; Nelson, 2016; Wong, 2020).

In Sarawak, the largest ethnic group (38,3%) inhabiting the rural areas, is Iban (Department of Statistics, 2010). Historically, the Iban have been depicted as native people with close connection to their land, evident in practices of swidden and subsistence agriculture, riverine dwelling, and animistic belief systems (Abdullah, 2017; Ryoji, 2001). According to Jawol et al. (Jawol, et al., 2018), the Iban were traditionally exclusively dependent on natural resources available within their immediate environment. Forest dependency in livelihoods has long been researched in literature as Non-Timber Forest Products (NTFPs). According to De Beer & McDermott (1996, p. 27) NTFPs encompasses “*all biological materials other than timber which are extracted from forests for human use*”.

Furthermore, agricultural production in Sarawak has until recently primarily consisted of subsistence wet or hill rice cultivation supplemented by cash crops like pepper or rubber (Cramb, 2007). *Bumai* – rice cultivation – has supported Iban livelihoods for millennia (Cramb, 2007; Sait, et al., 2018). However, surrounding land-use changes are influencing these practices. Large forest areas in Sarawak have been logged and transformed into oil palm plantations. This in turn has serious consequences on the availability of natural resources through their impact on biodiversity, habitat loss, soil and water quality and global climate systems (Hansen T. S., 2005; Jaafar, et al., 2020).

At the same time, rapid economic and social transformations are influencing these relations to the land. Since the 1960's, predominantly Iban men have journeyed to the cities for *bekuli* – physical, unskilled labour work (Sim, 2007; Ryoji, 2001). Today, increasing rural-urban

migrations of the younger generations - including women, are now a significant element of the lives and livelihoods of the Iban longhouses (Cramb, 2007; Ryoji, 2001; Abdullah, 2017).

However, the local natives do not only rely on their natural surroundings for physical needs – ‘nature’ is also a vital part of their local culture. This is, for example, evident in the annual Gawai celebration, one of the most important Iban holidays, marking the end of the rice-harvesting period (Hasegawa, 2018). Additionally, Iban customs promote caring for local ecosystems, through governing the relationship between people and nature (Jawol, et al., 2018).

In order to understand these relations to land in a more holistic way – beyond the economic and nutritional services provided by nature – this report will utilise a framework called ‘Societal Relationships with Nature’ (Berghöfer, et al., 2022). The SRN-framework is divided into three analytical categories – *knowledgescapes*, *interactions* and *identity*. Inspired by this framework, this report will be structured around empirical findings and observations on (1) *knowledge* - on the variety of uses of NTFPs and bumai, (2) *practices* - how this knowledge is practiced through collection, cultivation, and handcrafts, and finally (3) *identity* – the identification with and importance of these practices on an individual and collective level. These concepts will inform our descriptions of the (changing) relations to land in Rumah Emmanuel.

1.2. The case of Rumah Emmanuel

Located in Nanga Lipus, along the banks of the Kanowit River lies Rumah Emmanuel, the longhouse in which our fieldwork took place. Nanga Lipus lies in the central Sarawakian district of Kanowit, where 93,3% of the inhabitants identify as Iban (Department of Statistics, 2010). Many of the challenges and transformations regarding relations to land described above were also relevant in Rumah Emmanuel. Here, approximately 40% of the household members live outside the longhouse, mainly coming back during holidays or other special occasions. The inhabitants of Rumah Emmanuel have historically been widely involved in bumai, although currently only a few households practice it. Despite this decrease, the local population are still active in the collection of NTFPs for a variety of purposes including subsistence, income, and material for crafting.

The following chapters of this report are based on our 11 days of interdisciplinary fieldwork in Rumah Emmanuel, conducted in collaboration with Malaysian students from UNIMAS. It is important to know that all participants' names have been pseudonymized to respect their privacy within this report.

The report inquires into local relations to land by answering the following research question:

How are practices related to Bumai and NTFPs changing in Rumah Emmanuel, and how are these changes impacting local relations to land?

In our effort to answer the research question, we have divided the report into the following three sub-questions:

- 1) What practices characterize relations to land in Rumah Emmanuel?*
- 2) How have the above-identified practices changed across generations?*
- 3) How do these changes impact local relations to land?*

These three sub-questions will serve as the analytical structure for our results. Yet, before diving into findings, we will briefly introduce the methodology that serves as the basis of our results. Finally, a discussion will inquire into methodological limitations, shortcomings and findings of the report as well situating our results into a wider academic context.

2. METHODOLOGY

Box I - A participatory mapping exercise

Spread around a plastic table in the middle of the Ruai - Andrew and TR Emmanuel are patiently trying to understand our idea behind mapping the area. At first, both gentlemen were quite hesitant and nervous - and not very comfortable with having to draw a map on our large sheet of paper. After exchanging their markers with pencils and emphasizing that the map need not be pretty or perfectly precise - the two elders slowly began by carefully drawing the Sungai Kanowit. Gradually, more elements were added to the map - with continuous instructions and excited compliments. And after a while, the map took form by itself. Discussions arose around the placement of rivers and road junctions, the names of headmen of other longhouses, and the specific areas and ownerships of padi-fields. Simultaneously, more and more people were attracted to the activity in the Ruai. Kids and women observed from a far - and soon the second headman, Christian joined after being handed a pencil and some hopeful and motivating words. The three elders helped each other map out specific areas and functions of the land - while simultaneously probing discussion elements for each other - and at this point, the process took on its own life. The role of us as researchers lessened - rather into a role of asking follow-up questions, pointing to specific elements, and observing the interaction between the three elders.



Figure 1 Participatory Mapping

2.1. Conducting a case study

Over 11 days, we lived alongside the inhabitants of Rumah Emmanuel, which also served as the setting for most of our fieldwork. By combining different academic backgrounds, our approach has been interdisciplinary at its core. And although this report relies almost single-handedly on qualitative methods, they originate from different disciplines – spanning from ethnobotany over anthropology to geography. Despite several inhabitants speaking English, the predominantly qualitative fieldwork relied heavily on the help of our interpreters. Challenges related to the dependence on interpretations are discussed further in section 6.

To ensure source-triangulation, we have attempted to engage a broad representation of participants within the same topics. Furthermore, a minimum of two students have been analysing the same data, to ensure author-triangulation. Lastly several topics were investigated and informed using different data-collection methods. The following section will dissect the numerous methods applied.

2.2. Survey

Drawing inspiration from Rea and Parker (2014) and former SLUSE reports (Bischoff, et al., 2018) we designed a questionnaire before arrival in Borneo. The survey was designed to gather initial data on the socio-economic composition and dominant land use practices of the longhouse. Upon arrival, we initiated our field work by testing the survey with our Malaysian co-students. After the test, the survey was carefully translated into Iban. This process also gave the interpreters an introductory understanding of our project. Finally, the headman, or *tuai rumah* (TR), of the longhouse tested the survey for potentially overly sensitive or inappropriate topics. With TR's consent, we conducted 18 surveys with individual households (*bilik*) over two days.

Apart from providing data on major land use types, income sources and basic demographics, the survey effectively helped to establish contact and dialogue with most of the longhouse inhabitants. The closing questions (see Appendix 4) helped us identify interesting people, places, and topics to investigate further. In fact, the survey data caused us to change the focus of the fieldwork from general land use practices to bumai and NTFP collection specifically.

2.3. Participatory mapping

The method depicted in the story in Box I is participatory mapping. This activity was carried out on day two, to get an initial understanding and visual overview of the area surrounding the longhouse. Importantly, the map is drawn from the participants' perspective, and is not supposed to reflect accurate geographical information. Furthermore, the method outlines important land use practices, the extents to which they occur, and how access to different land (use) types differs (Mikkelsen, 2012). Therefore, TR was invited to accompany Andrew. As described above, the participants eventually embraced the assignment, and the finished map served as a point of reference for further data collection.

2.4. Transect walk

A method which was particularly informed by the participatory mapping, were the numerous transect walks carried out during our stay. As the map reveals what the participants view as the most important aspects of the surrounding area (Mikkelsen, 2012), it pointed to obvious destinations for the following transect walks. A total of five transect walks were conducted by the KU students to collect data on land use – with a special emphasis on NTFP species and their uses. Here, GPS devices were used to track the routes used for cultivation and NTFP collection. Waypoints were recorded to indicate placement of landmarks, specific species, and areas affected by environmental change. Some of the conversations occurring during transect walks were transcribed and coded like the other interviews. Apart from that, the main data output from the transect walks is the inventory list (Appendix 2) of the NTFPs recorded during the various transect walks. Subsequently, the recorded species were categorized into four uses: edibles, crafts, medicine, and musical instruments. The knowledge and practices revealed through the transect walks later became central topics for the interviews.

2.5. Semi-structured & life-story interviews

With a qualitative approach to assessing changes in the longhouse, interviews constitute the main method of this case-study. The semi-structured interview guide was designed before departure with the initial intention of inquiring into (changing) land use practices and

'relations to land'. Due to rather abstract nature of the latter concept, the SRN-framework was used to operationalise the concepts and inform the interview guide (Berghöfer, et al., 2022). Concretely, the interview guide was structured around the framework's three dimensions, namely 'knowledge', 'practices', and 'identity'. Nonetheless, as the project developed in the field, so did the interview guide, which was often used loosely, depending on the relevance of the different sections to the given respondent. A few interviews were arranged to inquire into the past, and thus resemble oral history interviews as defined by Bryman (2015a). In contrast to semi-structured interviews, oral history interviews loosely investigate specific events of the past. In total, ten interviews were conducted – amongst them three oral history interviews. All interviews lasted between 40 -100 minutes, and all but one was interpreted live. In total, ten interviews were conducted – amongst them three oral history interviews. All interviews lasted between 40 -100 minutes, and all but one was interpreted live.

2.6.Focus groups

An important participatory method for this report is the focus group. Gathering participants in groups and trying to create a less formal environment for dialogues between participants - without much intervention of the researcher(s) (Bryman, 2015b). The basic form of a focus group is thus an interview-like setting with several participants discussing questions and topics amongst them. Other focus groups revolve around specific activities or tasks given to the participants. Importantly, the internal debates and dynamics are in themselves a form of data derived from the activity (Caillaud, et al., 2022).

Throughout the fieldwork, three different kinds of focus groups were arranged. One 'basic' focus group involved two of the younger residents and one of their fathers. Furthermore, both a photovoice and a ranking focus group were conducted during the fieldwork. These are explained in detail below.

2.6.1. Photovoice

Photovoice is a participatory method used to highlight issues of importance to a community through pictures. While photovoice is usually carried out over a longer period, the method

was favoured as it provides a break from the otherwise language-based methods. Thus, five younger women were invited to join the activity and instructed about our intentions and the process, including the plan for a follow-up focus group.

Our intention was for them to take photos individually, using their phones, throughout a four-day period. However, our instructions were apparently not clear, and the women had gone on a photo-quest one afternoon, in which all photos were taken. The photos were all taken by Cornelia, and although she took photos of the other women and their interactions with the land, the photos are clearly biased by Cornelia's view. Thus, the data will primarily be used as a representation of Cornelia's relationship with the environment surrounding the longhouse. Exceptionally, a few images are used to represent the views of Grace, whom they depict. Her participation in the focus group affirmed her ownership of the photos and their meaning.

2.6.2. Ranking

To include more people's perspectives, a ranking exercise was arranged with a panel of five participants, whom we hadn't yet interviewed. A ranking exercise is a participatory method used to gather data on people's perceptions, opinions, or attitudes (Mikkelsen, 2012). In this case, participants were asked to rate the most common NTFP's according to variables including monetary value, accessibility, and frequency of use (Figure 14). Use and accessibility were both rated from a current and past perspective, providing data on how the roles of NTFPs might have changed over time. Exceptionally, this method was carried out entirely in Iban by two UNIMAS students. Nonetheless, the data from the ranking will be used carefully in the report, as the primary data is mostly in Iban.

2.7. Participatory observation

Finally, attention should be paid to the role of participatory observation (PO). The method is crucial in anthropological research and involves taking part in daily activities within a given community. In our case, this meant partaking in both the common and uncommon events and sharing the formal and informal spaces – carrying out methods, sharing dinner and forming social relations. As argued by DeWalt & DeWalt (2010), the method provides data

on some of the less explicit, and rather *tacit*, elements of culture. That is, the habits, customs and movements that take place outside of people's awareness, and therefore do not appear during interviews. These forms of information were also used to triangulate findings from other methods, often revealing contradictions or ambiguities between what people explained and did in practice.

2.8.Data processing

As the above sections have focused solely on data collection, this section will briefly explain how the data has been processed.

Initially, all interviews were recorded and transcribed, which according to Bryman (2012), are crucial parts of processing qualitative data. Transcriptions mainly include English parts of interviews, but some timeslots were also transcribed in Iban and then translated to English.

The main data-processing method used in this report has been coding. Coding is an analytical process of sorting qualitative data into themes, and thereby identifying trends across data sources (Crang, 2005). While contemporary researchers often advocate for a more inductive approach to coding qualitative data, this report relies primarily on pre-determined codes, although new codes such as 'bumai' emerged during the process (Thornberg & Charmaz, 2014). The identified trends in codes have provided findings on perceived changes in bumai and NTFP collection and given an insight into the impacts and perceptions of these changes.

Apart from transcriptions of interviews, transect walks and focus groups, fieldnotes have also been coded. Although fieldnotes are often messy and unstructured, it is evident from the section above that the notes taken during PO can provide important data on parts of an event otherwise not captured. However, one risk of relying on PO is that observations are hard to document – let alone analyse – if they are not written down. Thus, one shortcoming of this analysis is the lack of sufficient fieldnotes. How such shortcomings can have influenced results will be discussed in the final section of the report.

RESULTS & ANALYSIS

3. What practices characterize the relations to land in Rumah Emmanuel?

3.1. The longhouse and its surroundings

Figure 2 Uyuts with lunch and machetes



Box II – not a walk in the park

With *Uyuts* filled with lunch and machetes and arms drenched in mosquito spray and sunscreen, we venture towards the river to cross over to the other side. The lands on the other side of the Sungai Kanowit are where most of the NTFPs used by the inhabitants of the longhouse are collected. Here lies the common forests, NCR-lands and areas of the forest that has been worked on and collected from for many generations. Ancestral land. Our guides on the transect walk, Jacob (70) and Gabriel (60) have walked on these paths for as long as they can remember. They are amongst the last ones from their generation, who are continually journeying to these parts of the forest. Amongst them are also TR Emmanuel and his daughter and grandchild. Each one easily navigating through the forest (even though they do not go there as often as the elders).

We stop for a lunch break once we've reached the shelter of the *dampa*. Our guides craft a seating area by gathering impressively large leaves, while Emmanuel's daughter Cornelia begins to cook lunch by setting up a portable stove on some tree stumps, and Emmanuel's grandchild wades through the river looking for river snails. Clearly, navigating these lands comes as second nature to our guides.

3.1.1. Longhouse composition

Rumah Emmanuel, founded in the early 1990s, consists of 20 bilik. At the time of the study, members of 18 biliks were present, as two had permanently out-migrated. The population of the longhouse totals to 115 people, but not everyone resided in the longhouse at the time of the study, due to current trends of out-migration. There is a hierarchical structure to the longhouse, with a headman as well as a second headman, and a secretary. The headman is a recognized administrative position, and therefore plays an important role in organizing and administering many aspects of the life in the longhouse.

Regarding the age composition of the longhouse, we divided the population into two generations: below 50, and 50 or older. The former is referred to as the younger generation, and the latter as the old generation. There was a higher presence of the old generation amongst survey respondents, with 61% belonging to this age group. This pattern could reflect the trend of rural-urban migration seen in Sarawak in recent years, where especially the younger generations move to urban areas to find employment. Out of the total longhouse members listed through the survey, 40%, or in total 53 people, do not currently reside in the longhouse. Amongst them, 33 migrated due to work, 18 because of marriage and 2 for educational purposes. While the average age of the survey respondents was 48½, the migrated members' age average just below 40. However, with a random sampling strategy, this age difference does not necessarily represent the division between the residing and migrated populations.

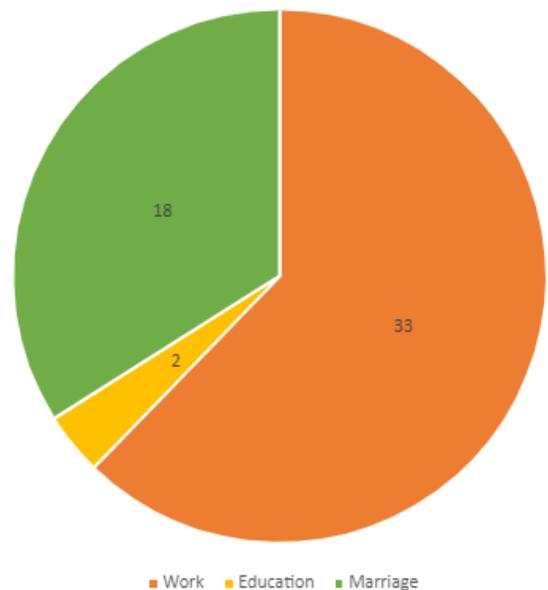
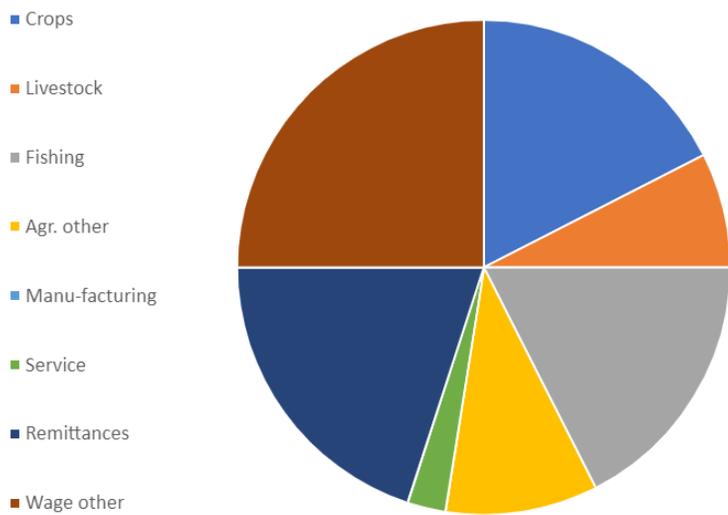


Figure 3 Reasons for Migration



The main income source, aside from different types of wages, is remittances, constituting a significant share of the longhouse income sources. As mentioned in the introduction, new socioeconomic conditions in the longhouse are transforming traditional family and bilik structures, in which remittances are playing a large part.

Figure 4 Main sources of income

“You depend on your child. Depend on your child working at the city, give some money at the end of the month - just a little bit, to help us buy some food stuff at home. This is life going on at the longhouse. You see, the young man - all city life.” (TR)

Subsistence activities are mainly composed of crop cultivation and gathering of NTFPs, including hunting and fishing. Out of 18 households, 15 engage in some form of NTFP collection, making it the most frequently occurring livelihood activity in the longhouse.

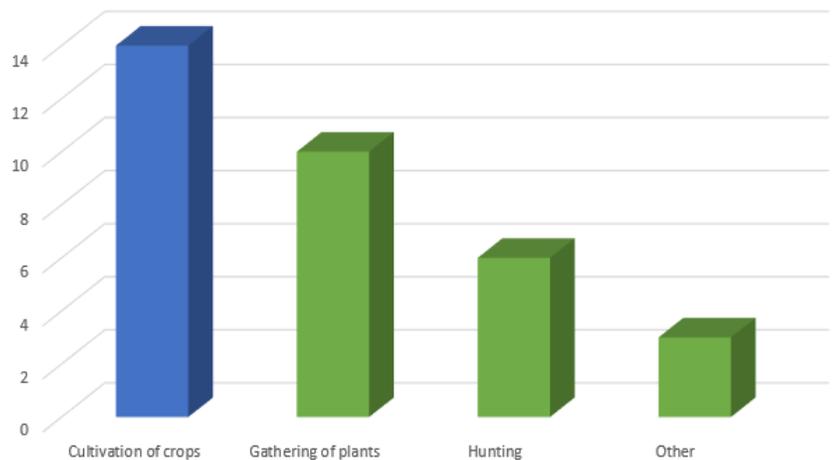


Figure 5 Frequency of land-use practices

3.1.2. The Longhouse Environment

The area around the longhouse was assessed during transect walks and participatory mapping. On one side of the river lies the longhouse and the surrounding cultivated plots of land (Figure 6). The practices on this land mainly consist of subsistence activities, such as gardening, and the cultivation of crops, both subsistence and cash crops, including rice (*padi*). Here, aquaculture is another significant land use practice.



Figure 6 GPS tracking of home gardens and padi fields

On the other side of the river, lies a forest where the main practice is NTFP collection of varying types, including hunting, fishing, and the gathering of numerous wild or planted plant species (Figure 8 & 9). Therefore, there is a distinction between the land ownership and uses of the areas on both sides of the Kanowit River. On the side where the longhouse is situated, the land has been divided into private owners. The land on the other side of the river is mainly Native Customary Rights Land (NCR). In the Sarawak Land Code, NCR acts as one of the five categories into which land can be divided. NCR land is defined as “*land held by*

natives under customary tenure and created before 1 January 1958” (Nelson, et al., 2016). NCR land is usually inherited from the previous generations but does not have a title deed. If a bilik in the longhouse can prove that they have cultivated the land before 1 January 1958, they receive the NCR land status (Nelson, et al., 2016). However, the NCR-land where the farmhouse (*dampa*) is located, about a two hour walk from the longhouse, is also divided into several owners, although ownership is defined less formally.

Additionally, the road leading to the longhouse is called Jalan Kemiding, which translates to Wild Fern Road. *Kemiding* is a wild-growing species collected by the longhouse residents for subsistence purposes (Figure 7). The incorporation of an NTFP in the urban construction of their neighbourhood literally cements the importance of these products for subsistence and life.



Figure 7 Collecting of Kemiding

While the residents of Rumah Emmanuel are engaging in many different practices, the next chapter will elaborate on the collection of NTFPs and bumai related to their importance of the local relations to land.

3.2.NTFPs

From our very arrival at the longhouse, the importance of NTFPs has been evident. We were welcomed with elements of the forest and raw material from the natural environment. The entrances were decorated with palm leaves (Figure 10), our first step into the longhouse was onto handwoven mats, followed by a welcoming shot of homebrewed *tuak*, a traditional rice wine. In the background, we could hear a drumming melody, soon to be discovered as traditional *betabuh* music and instruments.



Figure 10 Entrance welcome ceremony

From early on, it was clear that NTFPs play a multi-functional role amongst the inhabitants of Rumah Emmanuel. As mentioned above, most bilik participate in activities related to NTFPs – for example by foraging for subsistence or income diversification or gathering of raw material for handcrafts. Many respondents expressed that NTFPs play a major role in subsistence and food security in case of economic instability, for example Adam:

“Since way before, we go into the forest to collect and gather the forest product. We don’t have to buy rice, food, meat and so on because there’s lot of wild crops and veggies growing in the forest and also there’s a lot of animals.”

During the transect walks, guides shared their knowledge on how they use raw materials from various trees, plants, fruits, nuts, wild vegetables, fish and snails, and a range of fibres such as rattan (*wi*) and variations of bamboo (*buluh*) along the hike (Figure 11 & 26).



Figure 11 Gabriel collecting NTFPs

“There are a lot of purposes for the forest products. Like selabit” – Olivia

Like Olivia, many respondents mentioned using NTFPs for handicrafts – for example *selabit* and *uyut*, which are baskets designed for different purposes. Such woven bags, baskets, hats, and tools are found all over the longhouse and huts (*langkaus*). TR explained how the crafts and tools are shaped differently for each their practice and purpose.

3.3.Bumai



Figure 12 Handcrafted equipment for bumai



Figure 13 TR Emmanuel doing bumai

Box III – learning bumai

One afternoon in the longhouse, someone comes to tell us, that TR wants to bring us along for harvesting rice. The invitation comes out of the blue, we are caught off guard. But who could say no to a(nother) transect walk with TR? We scramble to gather our things and rush to the back porch; worried TR is waiting for us. He is, but patiently. It is important to him, clearly, that we not only witness bumai in action – but also take part in the harvesting. As we approach the padi field, TR takes us to his little *langkau*, a small shed, first. This is where he keeps the equipment for the harvesting. Not much is needed, though. TR shows us how to tie the basket around the waist and equips us with a *ketap*, a special knife to cut the seeds of the padi stalk. Perhaps thanks to the clouds passing over us, the hand-made hat, otherwise worn in the field, stays in the shed. Perhaps because we are all already wearing hats – although TR’s hat provides no shade.

Watching TR cut the padi is like watching a pianist or painter at work. His hands move steadily, yet swiftly through the waist-high vegetation, as his gaze scans the plants for the right yellowish colour. His eyes are trained well. Despite not shaded from the sharp light, he is able to spot the plants that have been visited – if not devoured – by birds. It is no wonder, though, that this 63-year-old headman has a talent for bumai. As we move through the scattered rows of padi, he explains how he learned how to bumai from his mother before he went to school. He grew up in the padi fields, starting to bumai at just five years of age.

Whilst analysing the interviews, many responses revolving around bumai emerged, despite not being an initial focus. Although only few people still practice bumai, the importance of this cultivation practice is clear from how frequently it was mentioned. The practice of bumai was mentioned at least 43 times across our interviews and focus groups.

Surprisingly, bumai seems to have never been a major income source. According to both Paul and TR, padi has generally been a subsistence product, shared between relatives in the longhouse or other nearby longhouses. Theresa, an elderly woman, explains that she would only sell padi if she produced more than the family could eat. Locally grown *padi* seems to have a special status, and TR prefers it to the store-bought alternative.

Looking at the consumption of padi in the longhouse further emphasizes the importance of this crop. In Rumah Emmanuel, padi is the foundation of most meals. However, it is not just consumed as plain white rice. Padi can be black, glutenous, and apart from being steamed and fried – it can be cooked in banana leaves or buluh stalks collected from the wild. Lastly, padi is the main ingredient in tuak, which is poured generously at numerous occasions. One such occasion, is going swimming in the river.

Box IV – tuak for protection

Before wandering down to the river one hot afternoon, TR pulled out a few small glasses in a bucket, signalling it was time for tuak. We gladly drank the wine, which felt somehow ceremonious, like a way of granting us the blessing of entering the river. Only days later did we inquire about this use of the tuak. In the interview with TR, he explained that “*of course that one is - to protect you from something, certain things to happen*”.

Furthermore, bumai is the foundation for the annual Gawai celebration. Thus, apart from being a staple food, padi is also connected to Iban customs and ceremonies – a connection which will be elaborated in the last section of the results.

In summary, bumai still plays a significant role in the lives of the people in the longhouse. In fact, one of the younger inhabitants of the longhouse, Simon, views bumai as that which determines their connection, and claim, to the land. As Simon phrases it: “*no bumai, no land*” (fieldnotes). As the only representative from his generation still doing bumai, Simon is worried about the changes and future of the land on the other side of the river (*sungai*),

which is increasingly leased to plantation companies. The transformation of the bumai land is elaborated below.

4. How have the above identified practices changed across generations?



Figure 14 The Dampa - 1,5 hour walk across Sungai Kanowit

Box V - Last time, many many padi

Last time, if no people are planting oil palm trees, the forest over there – a lot of place for the monkeys to stay to find some food. Now because the environment over there already cutting down the tree - and then they replant the oil palm. So the monkey has no place to stay, they go down near to over farm - making our problem for planting padi, growing some food. You see, over there, last time we haven't got monkey - just easy for you to plant padi. Last time when they plant padi - no need to use fertilizer. - (TR Emmanuel)

4.1.Stories of the past

During our conversations with the inhabitants of Rumah Emmanuel, stories from the past would often be brought up. Across narratives, the *dampa* was frequently mentioned. A *dampa* is a large wooden hut with individual rooms commonly built next to padi-fields or collection sites. Adam explains how he used to go there for collection wild vegetables: “*We felt excited to stay overnight at the dampa*” which in turn gave him a “*... special connection with nature and environment*” (Adam). As explained by Jacob and Gabriel, the ground upon

which the dampa was built was originally a pathway to the padi-fields cultivated by their ancestors.

Back in the day, bumai provided the longhouse with enough padi to share amongst families for subsistence. Today, while padi continues to be a staple ingredient in Iban cooking, it is increasingly bought from nearby markets. Furthermore, changes in the environment and intergenerational shifts in livelihoods has led to a wave of padi-field abandonments. This has produced new challenges for both the collection of NTFPs and cultivation of padi.

The following section focuses on how different drivers of change are perceived to have influenced practices of cultivation and collection across different generations of longhouse.

4.1.1. The world is getting older.

“I mean, the world is getting older - because all the time something is always changing. Nowadays, you see a lot of pollution because of manufactory at the town centre over there. But last time, when there was still a new world, the season is - when fruit trees are coming, all the fruit bear fruit at the same time. But now, not like that [...] That’s why we say - my mother told me: the world keeps on changing.”

- TR Emmanuel

According to the TR, changing durations of the dry and wet seasons affect the availability of important resources. According to several interviewees, the availability of various plants, fish, snails, etc. have been increasingly inconsistent. TR explains how the wet season is getting longer – and the dry season, when the fruit trees blossom, is getting shorter. Such changes influence the people in the longhouse, who rely on the land for subsistence.

The expanding wet season also influences people’s ability to grow vegetables due to frequent floodings. Currently, most of the cultivated gardens are planted in soil pots, bags, and other recycled materials. According to Grace and Marcus, this is mainly because of the risk of flooding. As Marcus explains: *“I used to plant papaya-trees. Way before, I grew and cultivated papaya-trees but nowadays I don’t do it anymore... Because of the floodings.”*

Environmental and climate changes were repeatedly mentioned during informal conversations and the theme occurred in 9 out of 10 interviews. Floodings and inconsistent

seasons caused concerns and have provoked either abandoning or substituting certain practices.

4.1.2. Many, many monkeys

Monkeys have been a recurring theme during interviews, transect walks, and PO. Mentioned almost 50 times in the transcriptions¹, this pest is evidently a major driver of change in the environment, and thus land use practices, around Rumah Emmanuel.

According to the TR, nearby oil palm plantations are causing monkeys to venture from the highlands to the padi fields: *“So the monkey has no place to stay, they go down near to our farm. Making our problem for planting padi, growing some food, something like that”*. Similar explanations were given by three other respondents.

However, the presence of monkeys not only disturbs bumai – it also influences the availability of NFTP’s – especially wi: *“Yes there has been a drastic change. Especially the rattan is getting extinct, maybe also eaten by the monkey so now drastic change in the amounts and where to find it... There is an ecosystem imbalance.”* – Grace

NON-TIMBER FOREST PRODUCTS (NFTP)	MONEY (DUIT)	VARIABLES				ACCESSIBILITY (SENANG DITAMA)
		FREQUENCY OF PERSONAL USE (PENYUAH DIRUMAH DIRUMAH)		AVAILABILITY (PENYAMPAI)		
		PAST (SUBAR)	PRESENT (DINTU)	PAST (PENYAMPAI SUBAR)	PRESENT (PENYAMPAI DINTU)	
1. ENKABANG	4	6	10	10	10	10
2. POKOK KEPATANG	8	9	7	7	7	8
3. PAKU PAKIS - IKAN	6	8	2	2	2	2
4. WI (ROTAN) - TUNGGAL	2	1	6	3	8	9
5. BULUH - ENKALAT	1	5	5	4	3	3
6. PANTU - IMUH	7	10	4	6	5	5
7. POKOK SENGGANG	10	4	8	9	9	7
8. KEMIDING	5	7	1	1	1	1
9. RUMBIA	9	3	3	5	4	4
10. BEMBAN - BATU	3	2	9	8	6	6

Figure 15 Participatory ranking exercise

As evident from the ranking exercise (Figure 14), the availability of wi – used mainly for crafting – has changed significantly over the years. It went from being the third most

available NTFP to being number eight. Additionally, it was formerly the most frequently used NTFP, but now ranked as the sixth most frequent.

The changing availability of NTFPs also became apparent on the transect walk to the dampa. Apart from telling us a species' name and use, TR would point out how its availability had changed. During the walk, Jacob would set off firecrackers sounding like small bombs to scare away wild animals – yet especially the pig-tailed macaques, who have slowly taken over the forest and damages the padi and young shoots of wi and fruit trees.

The area adjacent to the longhouse is also influenced by monkeys. During the transect walk to TR's garden, he told us how monkeys have destroyed entire harvests of watermelon and pineapple crops (Figure 15).



Figure 16 Pineapple shoots eaten by monkeys

4.1.3. Ageing population

As mentioned in section 3, out-migration and the ageing longhouse population has a variety of effects on land use practices. As described by TR: *“Last time, of course a lot of people padi-planting, but due to the age - nobody can afford to do the farming, because that one is hard work.”*

Furthermore, the physical distance to the various collection sites were mentioned as a challenge to accessing NTFPs in 4 out of 10 interviews. John, Adam, Paul and Marcus's

mother all used to do bumai but are no longer physically able. As expressed by Paul: *“No one is taking care of my Bumai anymore – I feel old and sick and don’t walk to the forest anymore”*.

Thus, age and physical distance increasingly challenge the continuation of culturally important land use practices. Yet, these factors are not sufficient in explaining the decline in bumai and NTFP collection. The following section investigates other drivers of change, and how they materialise.

4.2. Knowledge transmission

As highlighted by the SRN framework, knowledge is a fundamental part of relations to land. Thus, when examining how practices like bumai and NTFP collection change, it is crucial to determine how knowledge about these practices are acquired, and whether transmission patterns are subject to change. Therefore, this section inquiries into ways of learning in Rumah Emmanuel.

Based on the transcribed quotes revolving around knowledge transmission, it is remarkable how many ways of learning are present in the longhouse. Throughout the transcriptions, the topic of on knowledge transmission appears 24 times. Amongst them, 13 quotes refer to learning from either parents, grandparents, or ancestors. A word cloud generated from the quotes about ways of learning also depicts the word ‘mother’ as one of the most frequently occurring ones.

However, other less anticipated ways of learning are also significant. Nine quotes revolved around learning through community – a broad category, referring to practices which have been passed on from other people in the longhouse, or other nearby communities. One example is how cooking, gardening, and handcrafting is taught in the local Women’s Union. The leader of the Women’s Union is Maria, TR’s wife. She is a major source of knowledge for other women and explains how she has taught the women of the longhouse how to cook and weave. Weaving has become an important activity for several women in the longhouse, who now generate an income from the woven baskets.

Through the interviews, more discreet ways of learning from other people were also revealed. One of the younger inhabitants of the longhouse – Marcus at 29 – has watched Jacob

make fish traps and copied the technique to manufacture similar traps out of plastic. This example illustrates that learning ‘traditional’ skills is a more dynamic process than just passing knowledge from one generation to the next. Out of 24 mentions of knowledge transmission, five of them cover stories of self-taught knowledge. Theresa, an elderly woman, taught herself how to play the gongs, an instrument frequently played at festive occasions. Maria, who is now actively passing on knowledge, taught herself a lot of her skills. When asked how she learned about the NTFPs she collects, she says: *“by myself, there is no one who wanted to teach me... If there is something that I can grow, then I will grow it by myself...”*.

Grace, a woman who moved to the longhouse for marriage, is another example of how people teach themselves to engage with the land. Through YouTube, Grace has learned to make her own compost, which she now uses in her bountiful garden behind the longhouse.

Box VI – Grace cooks up a storm

One evening, as we sit and celebrate our safe return from a long walk with our informants, Grace begins to cook up a storm. She gracefully walks down the stairs to her garden, picking a few things here and there. She returns and turns on the stove inside her bilik unnoticed. Soon, she returns to the table with a potful of a fresh stew of leaves from her garden. She asks one of the men to serve the people at the table, and then humbly proceeds to the kitchen to make another dish – this time with the cucumbers just picked from her little home-garden. Yet, apart from being humble, Grace is also proud. The pride shows when she pulls out her handcrafts during an interview.

Weaving with plastic instead of buluh is another skill Grace has obtained through YouTube. While her mother-in-law, Theresa, did teach her the traditional weaving techniques, Grace prefers to use plastic. Theresa seems impressed with how many patterns Grace masters: *“Grace knows more how to weave than me, she knows how to make patterns”*.

Thus, modern technology – and particularly the internet – contributes to new ways of self-learning for the younger generation, although this learning path is also used by the older generation.

4.3. The younger generation

Across our interviews, the 'younger generation' is repeatedly described as not being interested in the practices of the older generations such as bumai or the land of NTFP collection. This narrative was predominantly forwarded by the older generations. For instance, Adam (86) reflects on the interests of the young generation, when asked how life in the longhouse has changed over the years: *"Way before, we usually loved to go to the other side. But nowadays the younger generation are not interested in going over there. It is like they are not adapted with the situation over there."*

Interestingly, it is not just the oldest members of the longhouse who have this view on the young people. Simon and Peter, whom are both in their early 30's, are also concerned about the youngest generation not learning about the land: *"The old generation knew about this land. Maybe the new generation does not know about the forest. The old generation came from that land. The new generation are not interested."*

However, Simon and Peter would define the youngest generation as born after the 2000s. According to them, this generation *"is not interested in the forest products. For the generation after 2000s, they are not interested in the jungle"*.

However, being in his 30's, Simon arguably represents the younger generation, and his use of the local engkabang tree is another example of young people transforming traditional practices and knowledge. Originally, engkabang was used for construction and cooking oil. Today, Simon markets the oils for their medicinal and cosmetic properties, and the seeds for their anti-erosion capacities. The golden-framed newspaper article about Simon's engkabang oils (Figure 16) illustrates how new knowledge on the use of local species does not go unnoticed.



Figure 17 Engkabang Oil: Slow down aging

Thus, there are several examples of 'traditional' knowledge and practices applied in new, contemporary contexts by the younger generations. Knowledge is both transmitted through traditional and contemporary chains. Platforms like Facebooks and WhatsApp facilitate the continuation of crafting and NTFP collection, as they serve as marketplaces, in which both Grace's woven mats, Marcus's plastic fish-traps, and Simon's engkabang oils are sold. Although the transmission of knowledge across generations is changing form, all knowledge is not lost. While bumai and foraging is not commonly passed on to the younger generations, they might revitalize and transform some of the traditional knowledge.

5. How are these changes impacting local relations to land?

As mentioned above, a recurring narrative amongst elderly interviewees indicate that the younger generations do not have strong relations to the land. The subjective opinions on this trend were often expressed in an ambiguous manner. This ambiguity is exemplified by Theresa's mixed feelings about the young generation: "*I feel that it's a waste not to teach them*" followed by "*if they don't want to learn it's okay.*".

However, findings from PO, interviews and the photovoice show that although the younger generation is not continuing the 'traditional' practices of the elders, they still show and express strong connections to their natural environments. To understand this further, this section focuses on how notions of identity play a significant role in local relations the land in Rumah Emmanuel.

In the SRN-framework, the concept of *identity* refers to "*people's self-definition in relation to nature*" (Berghöfer, et al., 2022, p. 541). In this regard, identity is shaped both by interactions with nature but also by ways of thinking and talking about it through "*individual and societal narratives*" (Berghöfer, et al., 2022, p. 541). How ways of thinking and talking about nature shape notions of identity in Rumah Emmanuel will inform the last part of the following section.

5.1. Ambiguous opinions on change

As section 3 depicts, bumai still plays a significant role in Rumah Emmanuel. Yet, as described in section 4, its role is changing due to a variety of reasons. As explained by TR, the state of bumai is now on the edge, briefly followed by a description of the young men of the longhouse being "*all city life*". In this regard, the relations to land, if explained through bumai, seems to be greatly impacted.

When asked about his view on the decreasing practices, Paul, a retired bumai cultivator, gives a similar explanation as Theresa in the above section: "*No comment. I feel that – it is a waste of knowledge, that they don't know how to bumai. But, since the younger generation has a lot of work to do [...] – they don't know to do it anymore.*"

Starting an answer with “no comment” recurred across interviews as an indicator of inquiring into a sensitive topic. While these narratives were mostly given by elders and addressed at the younger generations, some of the younger residents forward similar narratives about the youngest generation. But examples of opposite also appeared. One such perspective is given by Grace (49), when asked whether she has passed on her weaving skills: “No, they don’t want to do it, they’re not interested.” Following up, we ask whether this also applies to collecting NTFPs, to which she replies: “Yes it’s the same, they don’t want to go to the forest because it’s tiring [...]”. However, Grace also explains how she herself was not interested in crafts as a young woman. She first picked it up after she married as an adult.

Within the opinions and narratives of the young generation, there are various outliers – as in the cases of Cornelia, Grace, Simon, and Peter. Moving forward, these outliers will be explained as connected to elements of identity.

5.2. Elements of identity

During our fieldwork, bumai was repeatedly mentioned in contexts other than cultivation. Namely in relation to customs, traditions, or descriptions of identity. For example, during the photovoice, in the dialogue around Figure 17, Cornelia explains:

“If I want to present to someone (..), what it means to be Iban, I will choose this one [Figure 17] because bumai is the most important to us. Because this type of activities can go extinct and people do not know how to do it anymore, and the black rice, that can also go extinct, so I want people to know that this is our originality.”



Figure 18 Bumai (Photovoice)

To Cornelia, bumai is a defining characteristic of what it means to be Iban. Cornelia describes how practices and knowledge related to bumai are decreasing, but that this does not imply a declining importance of the crop. Rather, the very fact that it is decreasing makes it even more important for what she refers to as Iban originality.

Bumai also plays a role in relations to land and identity through the traditional customs of *Mali* and *Puni*. Formulated as taboos – Mali and Puni consist of dietary, behavioral, and moral prescriptions, many of which are related to the environment and land around the longhouse. Mali is a word for something customarily prescribed or ritually forbidden. A common example of Mali is the act of longing for or wanting to eat something – especially related to padi – and not fulfilling it. According to the custom, this can put a person in a Puni-situation – which can cause accidents like attacks by snakes or crocodiles, car accidents, bad harvests, and ghost possessions. To prevent puni-situations, protection is provided by eating padi or drinking tuak before any risky activity. The importance of these traditions and taboos are strongly underlined by Cornelia:

“... we still believe in the old traditions. It is customary law because it is our originality as an Iban. It is like there is a lot of taboo, so we believe in the old traditions, even if we have converted to Christianity, we will and always will believe in the old traditions, we cannot leave it. I will never be ashamed to claim myself as an Iban.”

Along with its protecting property, bumai is also mentioned to have positive impacts on well-being and health, despite not playing a significant role in subsistence or income. As TR explains, when asked why he continues to do bumai despite poor harvests: *“...so that I can use my energy [...] if you do something outside, you get the sunshine, you exercise, your body becomes very fit”*. The same was the case for Jacob – the last person to cultivate across the sungai. They both intend to continue for as long as physically possible.

Finally, as mentioned, bumai is the cornerstone of Gawai, the celebration of the padi harvest, which is perhaps the most important tradition in Rumah Emmanuel. The event was mentioned in four out of 11 interviews, although the interview guide didn't include questions

on it. Gawai gathers the families in and around the longhouse and is in many cases the only time of the year when the out-migrated family members come home.

Across generations, there is a decrease in practices and knowledge related to bumai. However, bumai remains important in other aspects of life in the longhouse, such as elements of identity, Gawai and Puni. This illustrates that a decreasing practice does not necessarily imply a decreasing importance.

5.3. Wild and cultivated

As for bumai, the decreasing knowledge and collection of NTFPs does not necessarily imply a diminishing role in the younger generation's identity.

During the photovoice exercise, various NTFPs were mentioned – for example kemiding, which was also the most available and frequently used according to the ranking. All photovoice participants (Cornelia, Sarah and Grace) agreed that it is common knowledge and practice to forage: *"it is like a routine for us, like when I want to collect kemiding, then I'm like let's go, let's go, we all go together."*



Figure 19 Bunga Kechala (photovoice)

Another plant highlighted through photovoice is Bunga kechala (Figure 18), which was once widely accessible in the wild, and is now cultivated to conserve the plant and share amongst themselves: *"We keep on growing it because we do not want that type of ginger to go extinct."* (Sarah). The women expressed pride about their environmental knowledge, and when asked to pick two pictures each, Cornelia enthusiastically replied: *"More! because I want to show you about our nature."*

A valuable discovery across all participants regardless of age, was that relations to land are equally connected to wild and domesticated environments. This suggests that the natural environment is perceived as a dynamic process of life, and that distinctions between wild and cultivated are excluded from this relation. The interconnection between wild and cultivated environments also hints at another important element of nature's role in identity – namely perceptions of nature. When asked about what comes to mind, when thinking about nature Paul answers: *“The most important thing? So, for me, it (nature) is the way of life. If there's no nature, then we cannot live.”*

Similarly to Paul, Adam explains how nature is connected to a relationship of giving and taking: *“The first thing I think about nature is about what I'm going to do with it and how I'm going to grow it”*. This relationship is described further by Maria as an even transaction: *“I'm taking care of the nature and they give us food and everything”*. These findings will be discussed in more details during the discussion section.

On the transect walk to Andrew's garden (Figure 27), he planted *wi lalis*, a rattan species which is originally wild. Thus, these findings suggest an adaptability of agricultural practices and hybridization of categories, which is also visible in modern crafts, as will be elaborated upon in the following section.

5.4. Hybrid Handcrafts

Another example of the interwoven elements that make up relations to land, is materialized in the newest forms of handcrafts in Rumah Emmanuel. These crafts materialize the hybridity of traditions and “modernity” - as seen in the merging of traditional patterns and skills with new materials and markets. As emphasized in the ranking exercise and interviews, *wi* and *bemban* are forest products of significant value, although more so in the past. Today, these materials are cross-stitched with plastic bands as seen in the *uyuts* of Figure 22. This picture simultaneously tells a story of mixing access to new markets and materials with ‘traditional’ knowledge tied to the local landscape.

Introducing plastic as a material for baskets and mats overturns the entire process of having to journey across the river to collect wild *wi* – not to mention the process of harvesting, drying and cutting it. Simultaneously, as Theresa mentions, plastic enables weaving

traditional patterns in ways that exceed the skills of the old weavers. These new forms materials and markets each illustrate the emerging knowledges in the longhouse – as contradictory to the narratives of declining practices.



Figure 20 Marik necklaces



Figure 21 Sintung



Figure 22 Uyt



Figure 23 Handcrafts

5.5. Resilience & Adaptability

From the above examples, it could seem that changes in access to and use of new materials, which do not require the same laborious extraction as the originals, would impact the relations to land negatively. But through further inspection, as in the case of the decreasing of bumai, it is clear that this conclusion would be one-sided. Through narratives on identity, old products on new markets, traditional patterns in new materials and agricultural innovations – the relations to land seems rather to have taken on new forms. In other words, the impacts of recent changes on local relations to land is better understood through the emergence of new practices than the decline of old ones.

As a concluding remark, this section has shown how the impacts of changing environments and practices on relations to land depend on the choice of indicators. What is included – and what is not, when trying to understand ‘relations to land’. In other words, how concepts such as identity, tradition, change and nature are used. What is included, what is not – and how is it translated to assure a common understanding? The challenges and teachings of working with such concepts in practice will be addressed in the following discussion.

6. DISCUSSION

Throughout the above chapters, we have outlined the findings which serve as the answers to our research questions. The following sections presents a critical discussion of the methods these findings are based on. With the shortcomings of our methods and approaches in mind, we move on to a discussion of our findings, which will be discussed in relation to the broader academic context.

6.1. Methodological discussion

6.1.1. Disciplines and translations

Being a predominantly qualitative study, this report does not include quantified estimates of changes in bumai and NTFP collection. With more time available, biodiversity assessments of pests and NTFPs would have contributed with useful data on the topic of change. While the survey did provide quantitative data on land use and demographics, the low number of surveys limited the possible statistical uses of the data. With a larger sample size, relationships between variables such as NTFP collection and migration levels of the bilik, could have been investigated further. Although not directly related to our overall research question, such statistics might have added nuance and scale to our findings.

While the qualitative orientation of the study is not in itself a limitation, a challenge in inter-cultural qualitative research is the dependency on interpreters. Although translation is essential when qualitatively enquiring into ambiguous topics, working with interpreters has its shortcomings. Being Iban, our interpreters could utilise their familiarity with the culture. Yet, sometimes it was unclear whether their explanations were based on the interpreter's own knowledge or directly translated. Inevitably, information got lost or filtered out during live translations.

Box VII - Nuel on the challenges of being a translator

"For me. I think it's translating the specialized term or expressions in iban language. It's because I'm lack of experience and I need to translate between english and iban in a short time period into a targeted speech or language correctly. Sometimes makin me losing my self-confidence."

During interviews, questions were modified to fit the Iban context and language, and in turn elaborate answers were simplified. While this process is natural, it is regrettable in a study relying heavily on oral transmission of information. To accommodate these challenges, we invited the translators into the various processes of our fieldwork, as to align understandings and objectives. Furthermore, our interpreters translated our interview-guides and survey and transcribed parts of certain interviews, which often revealed new nuances that would otherwise not have been noticed. However, especially during the focus groups, the shortcomings of live translation were evident. Yet, while the data lost due to the language barrier is unfortunate, the focus groups conducted in Iban provided a more engaged discussion and familiar environments for the participants.

6.1.2. The researcher and the Ruai

Throughout the fieldwork, various inhabitants visibly experienced moments of confusion and insecurity about our methods. Unfamiliar questions and concepts posed during interviews, focus groups, and transect walks were intimidating for some and exciting for others. These different reactions are important to keep in mind when processing data and highlights some of the ambiguities of participant observation – which some researchers refer to as ‘direct observation’ to acknowledge the power dynamic created by the presence of a researcher (Mikkelsen, 2012).



Figure 24 Ruai

In a similar line of thought, Eriksen explains how cultural environments are affected by outside influences in differing ways (2014, p. 123). Some of these influences, people are acutely aware of whilst others go unnoticed despite their profound influence on cultural environments. This point is further emphasised by how the researcher's positionality limits their access to certain information. Here, PO provides access to the forms of knowledge residing in the more tacit aspects of cultures, as explained by DeWalt & DeWalt (2010). During our fieldwork, topics like local customs and beliefs were often not expressed explicitly during interviews. Rather, they became apparent through combinations of narratives and observed behaviors.

During our stay in Rumah Emmanuel, sharing the space of the inner veranda, or *ruai*, proved to be a fruitful challenge. Being the space for both group meetings, interviews, meals and festivities, the boundaries between being researchers in and guest of the longhouse were blurred. We studied both with, alongside and in front of the longhouse inhabitants. Our presence in the longhouse was also influenced by being students, gendered bodies, and individuals with each our interests, boundaries, and behaviors. These aspects are relevant in terms of positioning, which according to Donna Haraway is one of the key practices of grounding one's knowledge (1988, p. 587). In turn, these factors have inevitably influenced our access to certain spaces and information. As opposed to a scientific, neutral, and objective position, Haraway argues that knowledge must be situated and that perspectives are always partial (1988). In our case, our perspectives are not only partial – but also strongly influenced by our academic disciplines, the brief time span of the fieldwork, and limited by our navigation of positions as visitors, students, and individuals.

6.1.3. (Visual) representation

The photovoice exercise produced valuable insights for our study. Through providing triangulation across methods and data, photovoice illustrated themes visually supplementing the otherwise mainly verbal perspectives. However, the exercise was not carried out exactly as planned. Here, the issue revolves around representation, as only three women showed up for the focus group - one of whom wasn't initially instructed on the activity. Other challenges of representation related to this method was that some

participants were less eager to discuss meanings of their photos. Similarly, only Cornelia actively found titles for her photos, whereas the other participants were more hesitant. Thus, the results from photovoice exercise have been voiced by a just few individuals and are therefore not representative of all the younger women in the longhouse.

Challenges of representation was also apparent in processing the data from the survey. While conducting the surveys, it would often be just one person speaking on behalf of an entire bilik. Here, the information relied on the premise that each representative was able to correctly recall specific information on their relatives. Most likely, this assumption does not reflect reality, and results will therefore be biased by the respondent. Luckily, the participants were of both the younger and older generations, and thus the generational representation was balanced. Furthermore, with 11 different students conducting the surveys, various confusions and differences in phrasings potentially made some data less comparable across respondents. On the other hand, the survey was a great initial activity for establishing contact to both people and relevant topics.

6.1.4. Assessing change

As mentioned earlier in this chapter, a recurrent methodological challenge has been assessing change through primarily qualitative methods. To answer sub-question 2, changing environments, practices and social structures are investigated through participatory methods and interviews. For example, interview questions were structured around past uses of the land and NTFPs – but also perceptions of changes in the environment, such as the availability of specific NTFPs. Thus, results should be viewed as *perceived changes* by the inhabitants of the longhouse. Therefore, one might view the results as *our* perceptions of *their* perceptions of change. Here, the approaches of the researchers are critical, as the chosen concepts and indicators of change will also define the limits to our findings. This was illustrated, in part, when applying abstract concepts such as ‘identity’ and ‘tradition’, which were challenging to operationalise. These concepts were revisited throughout the fieldwork to avoid imposing pre-conceptions on the participants. Another way of accommodating these challenges were to include participatory methods. Photovoice, participatory mapping and the ranking exercise allowed for an orientation of the fieldwork that gave a bigger voice to

the participants. This choice of approach also manifested in continuous changes in research questions and reflecting on our preconceived ideas.

Thus, the fieldwork was designed to avoid strong biases during data collection. Nonetheless, in such an intercultural setting, biases are inevitable. The strengths and shortcomings of these chosen approaches, and how they themselves became part of our findings, will be discussed in the following sections.

6.2. Discussion of findings

6.2.1. At the edge..

There are strong narratives of the decline of indigenous cultures and knowledge throughout the academic world. Literature about indigenous populations often depicts modern development as a major threat to 'traditional' indigenous knowledge (O. Oroma & Ali, 2018; Mdhluli et al., 2021). Jawol et al. (2018) argue that development linked to is a threat to sustaining indigenous knowledge, specifically due to the knowledge gap between generations. This includes indigenous ways of relating to their environment. For Sarawak, reports on rapid rural-urban migration of young native individuals tend to paint a similar picture (Hidayat, et al., 2018; Jehom, 2022).

While some of the above-mentioned literature predicts a negative future for Iban livelihoods, our results point to a more nuanced view of this dynamic. Through the employment of the SRN framework, it has been possible to highlight underrepresented and unconventional views of nature (Berghöfer, et al., 2022, p. 543). By using the categories of practices, knowledge, and identity, this study has strived for a holistic approach to understanding the intricate facets of how the inhabitants relate to their surrounding land and resources. The strength of this approach lies in the demonstration of the complexities and varying influences that make up relations to land in Rumah Emmanuel. Furthermore, it exposes the variety of interconnected changes that have occurred throughout the longhouse in recent years. A crucial aspect of this theoretical approach is to critically assess the chosen indicators of relations to land, as these will greatly impact the findings. As in the case of bumai, practices and knowledge are widely declining, but the importance of bumai in terms of identity and

customs remain stable - or are even increasing. This illustrates that a decreasing practice does not necessarily imply a decreasing importance.

Regarding NTFPs, there has been a change in species collected, as well as in the ways in which NTFP practices unfold. Specifically, in addition to collecting wild species in the forest across the river, some wild species are increasingly being cultivated in vegetable gardens close to the longhouse. So, while knowledge related to NTFP collection has decreased when looking at the forest environment, knowledge related to NTFPs is not completely disappearing. Rather, as with bumai, although some aspects might be on the edge, others are changing forms and evolving into new practices and traditions.

6.2.2. ... or taking new forms?

One clear illustration of the complex relations to land uncovered during our research, is the emerging and hybrid forms of traditional handcrafts. From the gathering of the material to the crafting, marketing, and selling the product, we witnessed a process of adaptability rather than decline, which will be elaborated below.

Our findings on handcrafts are supported by Eriksen's descriptions of *hybridity* – as referring to any kind of mixed cultural forms that obviously borrows elements from a variety of sources (Eriksen, 2014). In the case of new handcrafts in Rumah Emmanuel, this hybridity is seen in a very material form. While handcrafts are seen as a traditional aspect of Iban culture, the ways in which it has been tailored to contemporary contexts demonstrate the adaptability of the inhabitants.

Additionally, the diverse ways of learning in the longhouse, and in particular the importance of self-teaching, challenges the dominant narrative of degrading indigenous knowledge. While passing on knowledge to younger generations might have been more prevalent in the past, self-teaching is, and has been, another important way to acquire skills and knowledge related to local resources. Through growing, harvesting and crafting, some young people in the longhouse both independently and collectively continue to use traditional knowledge related to the land – and combines these with new platforms and ways of sharing knowledge such as Youtube, Facebook, Whatsapp and TikTok.

While one would expect emotional reactions to the changes or declines of certain practices, we were met with ambiguous opinions of these trends – ranging from it being a shame and waste to inevitable and continuous. Literature has outlined the idea of ‘nostalgic laments’, which occur in reaction to the supposed disappearance of unique cultural forms (Eriksen, 2014, p. 56). However, Callen et al. (2013, p. 220) argues that *“Truly global processes affect the conditions of people living in particular localities, creating new opportunities and new forms of vulnerability”*. Rather than the disappearance of entire cultures or traditions, new forms of these traditional practices are created. Our research demonstrates how the process of learning, producing, and selling new handcrafts materialize the hybrid and dynamic characteristics of ‘tradition’ in Rumah Emmanuel - as seen in the merging of traditional patterns and skills with new materials and markets.

6.2.3. Relations to land - revisited

While practices and knowledge specific to the land are noticeably changing, the ambiguous responses to these changes might help unpack the more complex aspect of relations to land – especially notions of identity. Here, identities of both older and younger inhabitants seemed closely connected to the land, suggesting that relations to land in the longhouse are not merely made up of knowledge and practices.

Our results suggest that an omission of identity can hide complex human-nature relationships and undermine different ways of relating to and valuing landscapes. In Berghöfer et al.’s work, identity is defined as *“People’s self-definition in relation to nature, that is, the extent to which a person or a social group incorporates (or excludes) aspects of the natural environment into their definition of self”* (2022, p. 541). In Rumah Emmanuel, these definitions and relations were brought up in a variety of ways – both as specific definitions of the world environment (*rampa menua*), but also through smaller elements such as the importance of bumai, customs, stories and so on. Across these narratives, different elements of identity revealed themselves to be dynamic, fluctuating and tied to a variety of sources.

These findings are supported by literature describing the idea of reciprocal relationships with nature. In their work titled ‘Social relationships with nature: elements of a framework for socio-ecological structure analysis’, Eversberg et al. (2022) develop multiple possible

categories of people's relationships with nature. One category, *Partnership*, is defined as follows:

"A variety of forms of reciprocal relationships with concrete nature. Practices are such that people do not experience themselves as autonomous, sovereign individual agents, but as a party to a relationship of mutual dependency. Perceiving such reciprocity requires a conception of a greater whole that the parties to the relationship are lastingly part of, and as parts of which they depend on each other" (Eversberg, et al., 2022, p. 402).

In Rumah Emmanuel, our results suggest that relations to land are seen as a relation of mutual dependency. Maria even describes the relationship as an transaction, where nature provides nourishment, and they in turn take care of nature. A similar interconnectedness is illustrated by the loose or absent distinctions between wild and cultivated plants.

Furthermore, our findings on the lacking distinctions between wild and cultivated nature show the importance of recognizing and legitimizing varying definitions and relations with nature. While the common Western definition of nature is often defined as something separate from society, the way nature is perceived in Rumah Emmanuel is more akin to "*an integrated entity*" (Ingold, 2000, p. 47). As Figure 24 shows, there is a clear distinction between a nature-society divide or the lack thereof. The upper image depicts the Western view, with a separation between society and nature, with humans as superior, while the lower image depicts nature and society as one connected whole. Here, questions of power come into play as the Western definition is generally favored in both academia and politics despite not resonating with a great variety of local perceptions of nature.

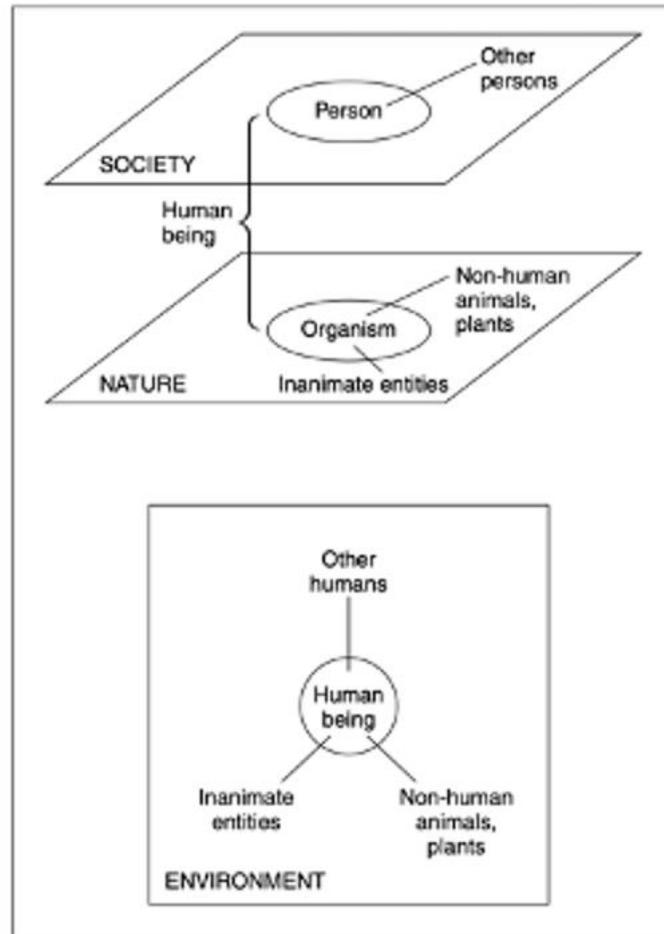


Figure 25 – Two opposing perceptions of nature – table from (Ingold, 2000, p. 46)

However, some scholars have come to argue that Western notions are not the only way to define this relationship. Emerging discussions of nature reflect how some societies view humans as part of the environment, which also includes inanimate entities, plants, and non-human animals. Political ecologists, including Blaikie and Brookfield, have argued that *“One person’s degradation is another’s accumulation”* (Karlsson, 2015, p. 352). While one actor may perceive changes to the forest as detrimental based on measurements of soil, hydrology, and microclimate, from the perspective of local people who tend to the land, this change may signal improvement. A similar perspective was given by TR, as we discussed the future of life in the longhouse. Here, TR expressed that he expects life in the longhouse to improve in the future, as more people will receive money from renting out land to oil palm companies. Discussing these futures, as well as the emerging changes in longhouse immediately taps into multiple contemporary debates, highly relevant for work in the field of indigenous

livelihoods. Impacts of globalization, perceptions of nature, and political ecology are just a few of the academic fields, which are necessary to address when discussing relations to land.

In Rumah Emmanuel, personal identifications with the land were expressed individually, but also collectively – seen through the perceptions of nature, annual celebration of Gawai, and traditional customs. As stated without hesitation by TR, the environment is always changing – and in his perception, the environment is not something separate from the people, the longhouses, or even the nearest cities. In turn, as highlighted in our findings, these dynamic understandings and relations with the environment are manifested in a general adaptability towards change amongst the inhabitants of Rumah Emmanuel. Both expressed directly in stories and conversations, but also depicted in the handcrafts where the past, present, and future are skillfully interweaved in traditional Iban patterns.

7. CONCLUSION

Bumai and NTFP collection are the two central practices that characterize relations to land in Rumah Emmanuel. Nonetheless, these two practices have changed in multiple ways across generations. While reductions in the practices of bumai and NTFP collection were identified, the hybridization of handcrafts and emerging ways of learning both suggest a dynamic, rather than declining, transformation of traditions. Thus, the above-outlined changes have impacted local relations to land in both complex and varying ways. This is especially seen in the recognized pattern of adaptability to an ever-changing environment, evident in the emerging forms, meanings, markets, and materials. Yet, while knowledge and practices are adapting to what TR calls an aging world, notions of identity still seem closely connected to the land across generations.

Consequently, this study concludes that relations to land are nuanced and complex and illustrates how multiple indicators are needed to accurately understand the status of relations to land. In this regard, we argue for the inclusion of identity as a scope of nuancing and discovering important relations between people and their environments. Furthermore, the report finds that perceptions of nature and of change must be approached with both methodological and analytical sensitivity. This is crucial, as the choice of indicators of change and concepts of nature greatly impact the possible conclusions. As explored in our findings, some aspects might be declining, but simultaneously, others are undergoing adaptive processes of hybridization – as a dynamic response to environmental and socio-economic changes. Here, only focusing on practices and knowledge related to land, without including identity, would have suggested a community on the edge of losing traditions.

While the above discussion touches on multiple salient topics that may be interesting for future research, this report will not draw conclusions beyond its scope. Naturally, findings are limited to representing relations to land in the context of Rumah Emmanuel, and this conclusion should be viewed as such. Nonetheless, our findings indicate the importance of generally approaching relations to land as context specific to reduce the risk of appropriating preconceived ideas of degradation and development that obscure local realities.

Although this report may have answered the stated research objective, it insufficiently answers further questions such as how identity can be included in decisions regarding land use, or what different understandings of nature mean for conservation. Such questions might inform future research within the field of environment and development.

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APPENDICES

1. Matrix of methods

Methods	Amount
Survey	18 bilik
Semi- structured Interview	7
Oral history	3
Focus group	1
Ranking	1
Photovoice	1
Participatory mapping	1
Transect walk	5
Participatory observation	5

2. Inventory list of NTFPs

Local name	Scientific name	Use
Engkabang	<i>Shorea macrophylla</i>	Food
Pun Kepayang	<i>Pangium edule</i> (Reinw)	Food
Paku Pakis (Kelindang)	<i>Blechnum orientale</i> L.	Food
Paku Pakis (Ikan)	<i>Athyrium esculentum</i>	Food
Buluh Lemang	<i>Gigantochloa</i> sp.	Food
Pantu Imun	<i>Eugeissona insignis</i>	Food
Pantu Kejatau	<i>Eugeissona utilis</i>	Food
Pun Kemiding	<i>Stenochlaena palustris</i>	Food
Rumbia (Sago)	<i>Metroxylon sagu</i>	Food
Periuk Kera	<i>Nepenthes gracilis</i>	Food
Pun Pinang	<i>Areca catechu</i> L.	Food
Pun Salak	<i>Salacca edulis</i>	Food
Pun Jampang	<i>Evodia lunur-ankenda</i>	Food
Daun Sabong	<i>Gnetum gnemon</i>	Food
Daun Tepus	<i>Achlasma megalocheilos</i>	Food
Pun Kemunting	<i>Melastoma malabathricum</i> L.	Food
Pun Indai (Buah Mak)	<i>Nephelium maingayii</i>	Food
Pun Cempedak	<i>Artocarpus integer</i>	Food
Pun Kakus	<i>Dimocarpus longan</i> ssp. <i>Malesianos</i> var.	Food
Pun Dabai	<i>Canarium odontophyllum</i>	Food
Pun Engkala	<i>Litsea garciae</i>	Food
Lengkuas	<i>Alpinia galanga</i>	Food
Lemba babi	<i>Curcoligo orchioides</i>	Food
Pun Rian	<i>Durio zibethinus</i>	Food
Pun Maram	<i>Eleiodoxa</i> sp.	Food
Kecalak (Buah Kantan)	<i>Etlingera elatior</i>	Food
Lumok	<i>Artocarpus odoratissimus</i>	Food
Upa Lalis	<i>Plectocomiopsis geminiflora</i>	Food
Pun Mudu	<i>Pinanga crassipes</i>	Food
Pun Aping	<i>Arenga</i> sp.	Food, Handicraft
Pun Tekalong	<i>Artocarpus elastiaes</i>	Food, Handicraft
Wi Tunggal	<i>Calamus nematospadix</i>	Handicraft
Wi Batu	<i>Calamus revis</i>	Handicraft
Wi Marau	<i>Calamus manan</i>	Handicraft
Wi Segak	<i>Calamus raesius</i>	Handicraft
Buluh Prin	<i>Dendrocalamus gigantea</i>	Handicraft
Buluh Aur	<i>Bambusa vulgaris</i>	Handicraft
Buluh Engkalad	<i>Schizostachyum latifolium</i>	Handicraft
Pun Senggang	<i>Hornstedia reticulata</i>	Handicraft
Bemban Amat	<i>Donax canniformis</i>	Handicraft
Bemban Batu	<i>Donax grandis</i>	Handicraft
Resam Badak	<i>Pteridium caudatum</i>	Handicraft
Pun Buan	<i>Dillenia suffruticosa</i>	Handicraft
Sabang Bubu	<i>Europhyllum</i> sp.	Handicraft
Semambu	<i>Calamus scipionum</i>	Handicraft
Resam Padi	<i>Dicranopteris</i>	Handicraft
Pun Mambong	<i>Blumea balsamifera</i> (L.) Pc.	Medicine
Rumput Belanda	<i>Paspalum conjugatum</i>	Medicine

Daun Empapa	<i>Vitex pubescens</i>	Medicine
Kayu Engkubung	<i>Macaranga gigantea</i>	Music
Kayu Entebulan	<i>Endospermum diadenum</i>	Music

3. GPS tracking maps

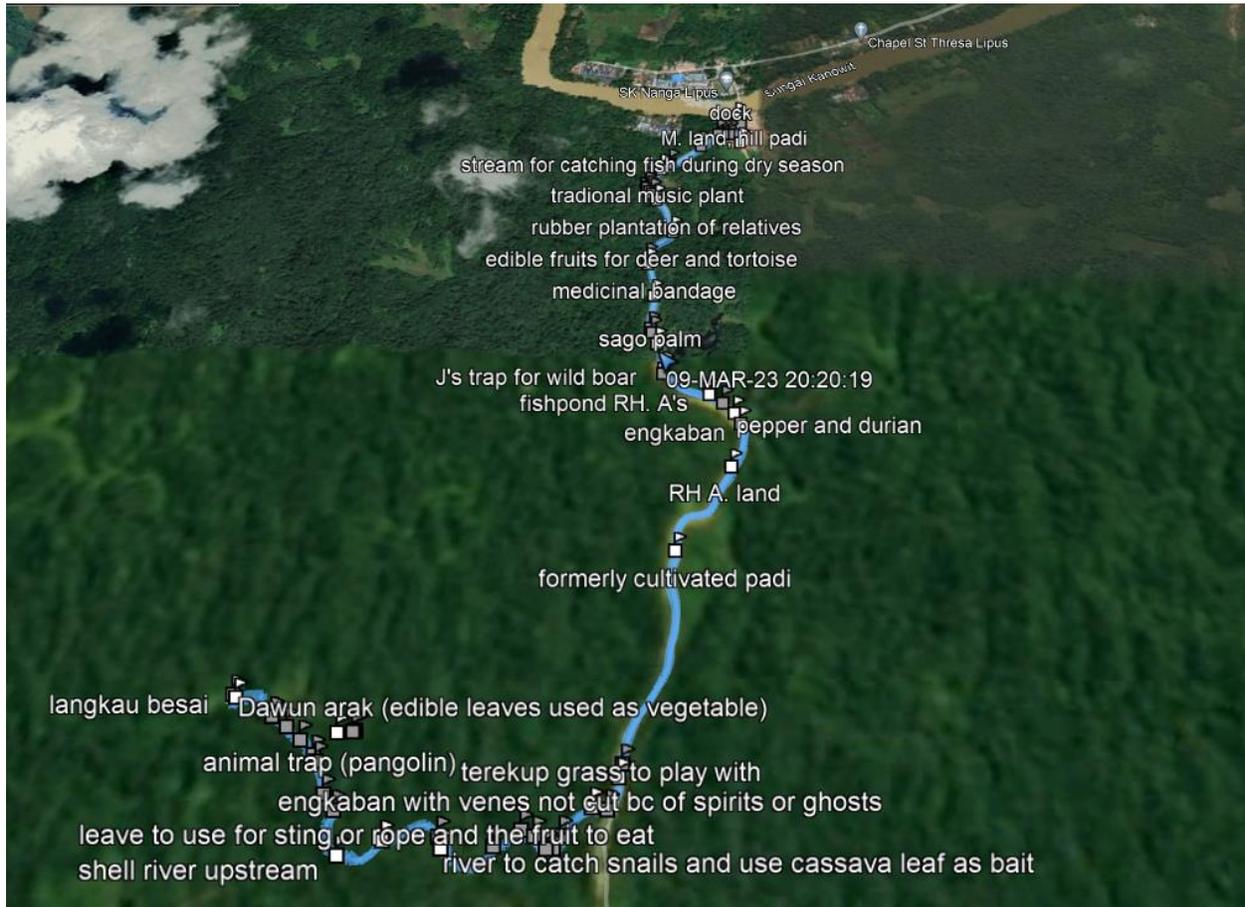


Figure 26 GPS tracking of transect walk to the dampa

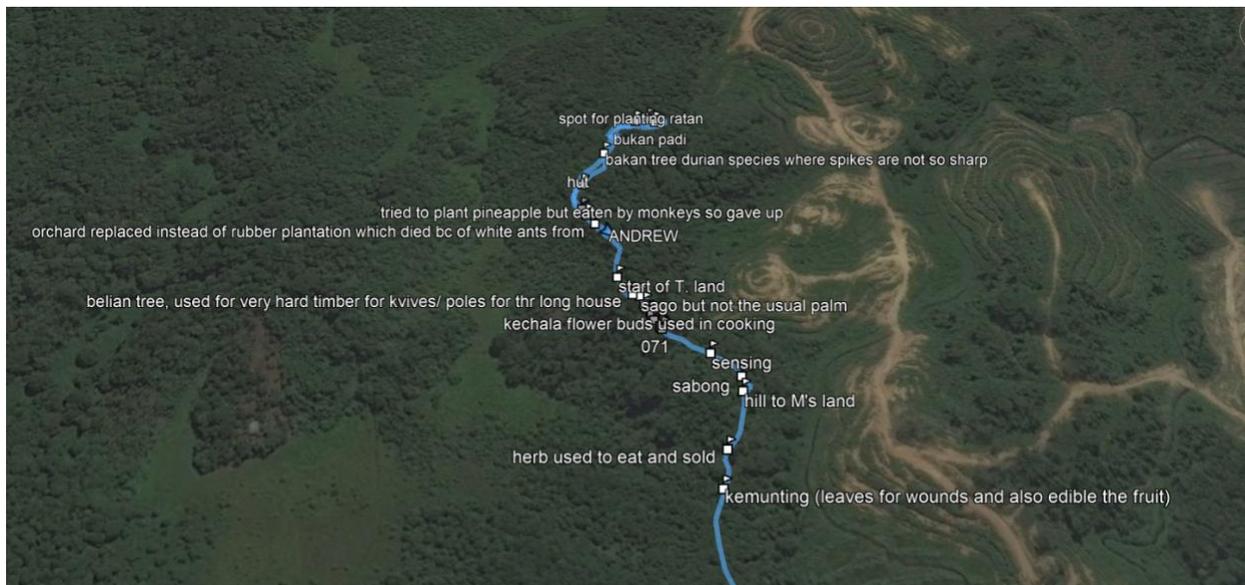


Figure 27 Andrew's garden

4. Survey

DRAFT OF DEMOGRAPHIC SURVEY OF BILIK OF THE NANGA LIPUS LONGHOUSE

The following survey will be used in the International Land Use and Nature Management course at University of Copenhagen to gather data on the demographic conditions of the Bilik of the Nanga Lipus longhouse. The purpose of the survey is to get a better understanding of the social structures of the Nanga Lipus longhouse. The data collected will be stored pseudonymously after use and will not be shared with anyone outside the research team, unless otherwise agreed with participants. Participants should engage on a voluntary basis, and consent to participate can be withdrawn at any time. We very much appreciate you taking your time to participate and contribute to our project.

Terima Kasih Banyak Banyak

Descriptive/Basic Information

Name>Nama:	
Gender/Jantina:	
Age/Umur:	
Family members (mother, father, others)/Sapa kita diri sebilik (Indai, Apai tauka kebukai):	
Highest level of education/Tikas pelajar ti tinggi (dalam diri sebilik)	Mark responses with an x
No-formal education/Nadai belajar	
Primary school (7-12) /Sekula rendah	
Secondary school (13-17) /Sekula menengah	
Tertiary school (bachelors & more) /Sekula tinggi (diploma,degree tauka kebukai)	
Trait or skilled education (carpenter etc.)/Sekula kemahiran	
Others (craft) / bukai	

Migration

1. How many members does your Bilik have? (Including yourself)/Berapa iku kita diri sebilik? (ngaum nuan empu)					
2. How many of these members are currently living in the longhouse? / Berapa iku diri sebilik ke agi diau ba rumah panjai tu?					
3. How many of your Bilik members live in other places? / Berapa mayuh kita sebilik ke bisi diau ba menua bukai?					
4. How old are these members that are in other places? / Berapa umur sida tu ke diau ba menua bukai?					
5. If anyone has left / migrated, for what reasons did they leave? / Nyadi nyema sida tu ba menua bukai, nama kebuah sida ka diau ba menua nya?	obs. mark individual age				
a. Work / Kereja					
b. Education / Belajar					
c. Other: / Bukai:					
6. How often do they return? / Berapa kali sida suah pulai ke menua kitu?					
a. Weekly / Minggu					
b. Monthly / Bulan					
c. Yearly / Taun					
d. Other: / Bukai:					

7. For what reasons do they return? / Nama kebuah sida suah pulai kitu?	Mark responses with an x				
a. Special occasions (ie. Birthdays, holidays, Gawai (harvest)) / Hari besai (Hari jadi, cuti, Hari Gawai):					
b. Family obligations (ie. Childcare, emergencies, etc.) / Tanggung pengawa ba ruang bilik (nyaga anemiak, penusah ngenyit, tauka bukai)					
c. Household chores (projects, maintenance etc.) / Pengawa rumah (prujik, pengawa nyeruri tauka bukai)					
d. Farming / bekebun					
e. Other: / bukai					
8. Is anyone in your Bilik planning to move? / Bisi tauka enda kita diri sebilik deka diau ba menua bukai?					
a. If yes, why? / Enti bisi, nama kebuah?	Mark responses with an x				
i. Work / kereja					
ii. Family / bilik (keluarga)					
iii. Education / belajar					
iv. Other: / bukai:					

Income

<p>9. What are the TWO main sources of income for your Bilik? / Nama dua iti cara penatai permisi kita sebilik?</p>	<p>Mark response with an x and specify</p>
<p>a. Agriculture: /betanam betupi</p>	
<p>i.Crops / utai tanam</p>	
<p>ii.Livestock / utai tupi</p>	
<p>iii.Fishing / nginti</p>	
<p>iv.Other: / bukai:</p>	
<p>b. Wage Labor / Kereja kasar begaji</p>	
<p>i.Manufacturing / pengawa betukang</p>	
<p>ii.Service / servis</p>	
<p>iii.Other: / bukai:</p>	
<p>iv.Remittances: / duit bantu</p>	
<p>v.Other: /bukai:</p>	
<p>9. How many people in your Bilik are involved in supporting the Bilik (financially)? / Berapa iku kita sebilik betulungka pangan diri ari segi kewangan?</p>	
<p>10. Are any of the people living outside the longhouse? (refer to former question) / Bisi</p>	

ke enda sida tu tadi enda diau ba rumah panjai ditu?	
---	--

Relations to Land

11. Do you rely on the environment for subsistence purposes? (hunting, farming, gardening, collecting, fishing, etc.) / Kita sebilik endang bearapka rampa menua nyadika cara kita ngulihka penatai permisi?		
a. If yes, in what ways? / Nyema ya, nama cara ti digunaka kitanya?	Mark response with an x	
i.Cultivation of crops for own consumption / Utai tanam diempa diri empu		
ii.Gathering plants for own consumption / sayur ti ditanam diempa diri empu		
iii.Hunting wildlife for own consumption / asil ngasu diempa diri empu		
iv.Other: / bukai;		
b. If yes , what are the most important species? / Nyema ya, nama utai ti paling beguna? Utai tanam tauka jelu?	Plants / Utai tanam	Animals / jelu

12. Do you gather other environmental products for personal use? / Bisi ke enda kita ngumpul asil rampa menua ke bukai ke ulih digunaka kita?	
b. If yes, how are they used? / Nyema ya, bakani kita begunaka asil nya?	Mark responses with an x
i. Building materials / perengka betukang	
ii. (Traditional)Medicine / (pengarap lama) ubat	
iii. Dye for clothing / cat baju	
iv. Ceremonial purposes (ritual purposes) / Pengawa besai (miring)	
v. Other: / bukai:	
13. Do you sell any raw materials (forest products to support your monetary income)? / Kita sebilik bisi ke enda nyual asil kampung ke digiga kita (asil utan kena nyukung penatai permisi)?	
a. If yes which products do you sell/manufacture? / Nyema ya, nama asil ti dijual tauka digaga kita?	Mark responses with an x
i. Rubber / getah	
ii. Rice / berau	
iii. Pepper / lada	
iv. Firewood / kayu api	
v. Fruits / buah	

vi.Hunting / asil ngasu	
vii.Fishing / asil nginti	
viii.Other: / bukai:	
14. Have any of these (land use) practices changed over the years? / Bisi tauka enda cara kita begunaka tanah ditu berubah sepekerjaan taun ke udah?	
15. If yes, how? / Nyema ya, bakani?	

Potential closing questions

Is there anyone you would recommend us to go and talk to? / Bisi tauka enda orang bukai ke deka dibai nuan berandau enggau kami?	
Any kind of issues, conflicts, areas that would you find important for us to look further into? Or Something we are missing in our questions? / Bisi enda utai bukai tauka utai penting ke patut ditemu tauka dipelajarka kami pasal utai ditu? Tauka Bisi enda utai bukai ke enda ditanya kami enggau silik?	
If you have time for It - would you be willing to talk to us again later on? / Nyema kita agi bisi maya tauka awak, nyanggup tauka enda kita ditanya kami agi pasal utai ke dirandau kitai tu tadi?	
Do you have any questions for us? / Bisi utai ka ditanya kita agai kami?	

5. Interview guide

Introduction

- 1) Can you please tell us a little bit about yourself? / Ulih nuan nusi ngagai kami pasal nuan?

Relations to land

Knowledge

- 1) Which forest products do you know in the area? / Nama asil utan ti ditemu nuan ba ndur ditu?
- 2) Plants / utai tanam
- 3) Animals / jelu
- 4) Which of these products are most Important to you? / Ni bagi asil utan ti beguna amat kena nuan?
- 5) Do you know how these species are used? / Nuan nemu bakani utai tu diguna?
- 6) If yes: can you please give some examples? / Enti nemu, ulih merik chunto iya?
- 7) How did you learn about these products? / Bakani nuan belajar ngena asil utan tu?
 - a) From whom did you learn about forest products? / Ari sapa nuan belajar asil kampung tu?
 - b) What activities do (or did) you engage in to learn about forest products? / Nama utai ti diadu nuan kena begunaka asil kampung utan?
 - c) Is that a common way to learn about forest products in the longhouse?
 - d) Nama cara awakka bisi penemu enggau asil kampung ba rumah panjai ditu?
 - e) Have you taught anyone else about these forest products? / Bisi tauka enda nuan ngajar urang bukai kena begunaka asil kampung tu?
- 8) What is your impression of the condition of / availability of the forest products around Nanga Lipus? (E.g. thriving, endangered, increasing/decreasing) / Nama asai nuan ngau pemisi asil kampung tu?

- 9) Has either of them changed over time? / Bisi nda asil utan nyak berubah dalam tempoh tu?

Practices

- 1) For what purposes do you most often interact with nature? (E.g. for play, recreation, subsistence, medicinal, spiritual, etc.) / Nama kebuah nuan suah begunaka rampa menua?
 - a) Based on the reasons they choose, follow up: For example, if subsistence, ask what types of forest products they use
 - b) Do you also interact with nature for personal enjoyment, spiritual purposes? / Nuan begunaka rampa menua kenaka dirik mpu tauka berubat mega?
- 2) Does your household collect products from the forest? Which ones? / Bisi tauka nda kitak diri sebilik ngambik asil kampung tu? Nama utai nyak?
 - a) Of the species mentioned above, which species do you personally collect? / Ari utai asil kampung ti disebut tadi, nama utai ti diambik nuan empu?
 - b) How are these species used in your home? / Bakani cara kitak begunaka asil kampung tu?
- 3) Are there forest products, you know your ancestors (used to) collect, that you don't? / Bisi tauka nda asil kampung ti ditemu nuan, kala dikumpul aki inik keliak?
 - a) If so, why do you think that is? / Enti bisi, nama kebuah sida ngambik utai nyak?
- 4) Are there other forest products you personally used to collect in the past, that you no longer do? / Bisi tauka nda asil kampung kala diambik keliak suba tang diatu nadai agi?
 - a) If so, why do you think it changed? / Enti bisi, nama kebuah enda agi?
- 5) Does anyone in the longhouse take care of/manage the forest? (not farm) / Bisi tauka enda urg ba rumah panjai tu nyaga(meresi)ka tanah kampung din?
 - a) If yes, who? / Enti bisi, sapa?
 - b) How do they manage the forest? E.g. / Bakani sida nyaga tanah kampung nyak?
 - c) Who do you think has the responsibility for protecting/taking care of the forest? / Sapa asai kitak, ti sepatutnya nyaga tanah kampung din?

- 6) Can you recall any products that you know have been collected by other people, but you do not personally collect? / Ulih nuan madah nama utai ti digigak urang bukai tang nda digigak nuan?
- a) If yes, what? / Enti bisi, nama utai nya?
- b) Why are they collecting the products? / Nama kebuah sida begigaka asil kampung tu?

Identity

- 1) What are the first things that comes to mind If you think about "nature"? / Nama utai ti dipikir nuan enti ninga rampa menua?
- a. Do you see yourself as a part of nature? / Nuan bisi ngasai dirik ba rampa menua tu?
- b. If yes: In what way? / Enti bisi, bakani nyak?
- c. Does the representation of 'nature' in public debates, politics, etc. correlate with your idea of nature? Why/why not? /Bisi nda rampa menua tu sama ngau utai dipikir nuan ari segi politik ngau urang luar? Nama kebuah/ kebuah nda?
- d. Has the meaning/importance of "nature" changed over time for you? How? / Bisi berubah maksud rampa menua tu ari keliak ngau diatu? Bakani?
- 2) What do NTFPs mean to you personally? / Nama maksud asil kampung selain pun kayu tu bagi nuan?
- 3) What does "home" mean to you? / Nama maksud rumah bagi nuan?
- 4) Do you feel a connection (spiritual, emotional) to your land/environment? / Bisi tauka enda nuan ngasaika hubungan ngau rampa menua(persekitaran)?
- a. If yes, which qualities of the land make you feel connected to it? / Enti bisi, nama utai(jenis) tanah tauka ndur ngasuh nuan ngasaika diri bisi hubungan bakatu?
- 5) Do you have any important practices or ceremonies within your longhouse? / Bisi tauka enda pengawa ti berguna tauka adat ba rumah panjai tu?
- a. If yes, could you elaborate on these practices? / Enti bisi, ulih nuan nusi bakani utai tu dikereja?

- 6) Do you still engage in practices passed down by older generations? / Nuan agi ngerejaka pengawa ti diadu aki inik suba?
- 7) Do you feel a sense of belonging to this land? / Nuan bisi ngasai dirik ngempu tanah Kampung tu?
 - a. If yes, are there specific parts of the land that you feel a significant belonging to? / Enti bisi, bahagian nama tauka tanah ni ti diempu nuan nyak?
 - b. Has this sense changing over time? / Bisi kh asai ngempu tu berubah maya tu?

Potential closing questions

- 1) What is your favourite aspect/part of the NN environment? / Nama utai ti dikerinduka kitak ba tanah Nanga Lipus ditu?
- 2) How do you imagine the NN landscape in the future? / Bakani asai kitak tanah tauka ndur ba Nanga Lipus tu ilak?
- 3) Is there anything you would like to share with us, that we haven't asked you? / Bisi utai kak dikerandau tauka padah ngagai kami, ti nda ditanya kami?
- 4) Do you have any questions about your participation in our research project? / Bisi utai kak ditanya ngagai kami nama kebuah kitai berandau bakatu?

6. One interview transcription + coding

Bumai	<ul style="list-style-type: none"> o Gawai o Cultivation o Padi
Change	<ul style="list-style-type: none"> o Past o Future o Environment
Ways of learning	<ul style="list-style-type: none"> o Young generation o Knowledge transmission o Handcrafts o Ancestry o Modern techniques
Access	<ul style="list-style-type: none"> o Land rights o Age o Availability (monkeys, floods, CC) o Technology
Resilience	<ul style="list-style-type: none"> o Income diversification o Food security / subsistence o Crafts o Adaptability
Perceptions	<ul style="list-style-type: none"> o Migration o Interests of youth o Development o Environment o Definitions of “nature”
Elements of identity	<ul style="list-style-type: none"> o Community o Favorite places o (Iban)

Interview with Grace 11/03

Jp: Jeppe, A: Anna, M: Mango

G: Grace

00:00-00:58 introduction

01:07

Jp: can you tell us a little bit about yourself?

G: Grace, 49 years old, she's been living here for 30 years. I'm Vidajo from Kuching.

(Interruption by dr Wong)

03:29

jp: examples of forest products you use or collect?

G: food: bamboo shoots, dawong sabong, fern leaves, river fish, snails...

04:40

jp: are these all things that Grace collects herself?

G: yes from the forest, for own consumptions. This one (the mat) is bought from the store.

05:17

jp: is there any other products from the forest she uses that is not to eat? Handcrafts or other uses than food?

G: the bamboo for hanging the clothes, rattan for handcraft.

jp: Do you also collect rattan?

G: no her mother in law collects them on the other side of the river.

07:09

jp: for the products that Grace collects from the forest, who taught her about that?

G: she is following relatives where to go and what to do

jp: did you learn it a long time ago?

G: before she moved to the longhouse for marriage she didn't know anything about handcraft but then she learned from her mother in law and self-thought from youtube.

08:24

jp: okay so mainly joining the others and also self-thought? And in terms of collecting have you experienced the amounts or availability of the products change of the years you've been here?

G: yes there has been a drastic change. Especially the rattan is getting extinct, maybe also eaten by the monkey so now drastic change in the amounts and where to find it, before you could find it everywhere and now it can only in one specific place where Grome also collects it.

09:58

jp: why does she think that this has changed?

G: it's because of the environment change, timber logging, the monkeys their habitat has been disturbed by us humans so they find food in these areas. There is an ecosystem imbalance.

11:17

jp: do you go to the forest for recreational purposes?

G: taking a bath in the small stream, not only to collect. At the same time collecting some snails. Going for picknick

12:02

jp: does she know of any products that are not collected anymore?

G: no not really, she doesnt know

12:54

jp: the places where she collects ntfps is there anyone who is managing these to protect them?

G: no one protecting the place, they let it be wild. Depends on the place, if we pass the place from other villages we can collect it

14:07 - 19:15

jp: im also curious about the last time we talked you showed me all the handcrafts and i told everyone about it and i was thinking if maybe we can see some of them again?

(Takes out all the handcrafts)

Handcrafts for: chapam, for harvesting rice, catching fish, car decoration, Gwellery for traditional clothes, handbags...

19:32

A: where does she sell these?

G: she gets orders via via and sells it to them. Not on the market or online, only by order. From friends, people who know she can do it contact her.

20:24

jp: did you make this one?

G: yes i learned it from my siblings in kuching. k

(Shows orange handbag)

21:36

A: maybe you could sell in the big cities?

22:28

G: she sells some to the handicraft store if she has a lot, it's in Sibuluan. (Close to the airport.) my mother in law taught me or self-taught from youtube with specific pattern.

23:53

A: they have different purpose the baskets?

G: fish, paddy...

24:53

G: that is for marriage, sinong. For proposal, like a dauwry. There's money in there, rice wine, clothes, sarong, a box of rings that is decorated. You give it as the proposal. This is iban tradition. Small basket is to plant the paddy.

28:18

jp: is she teaching this to the younger generation?

G: no, they don't want to do it, there not interested?

jp: is this the same for collecting?

G: yes its the same, they don't want to go to the forest because it's tiering...

A: does she teach it to other people?

G: no the others already know how to do it

29:50

M: how does she feel about that?

G: no comment since she also wasn't interested when she was young but when she was married she got influenced by her mother in law she found the new hobby. When we get

older we will want to do it. It's only been 7 years. She has some difficulty with seeing so it's getting more difficult to do it. Also, the beads are getting more expensive so she only does it when she gets the order.

She also recycles water bottle to shape the basket for the car.

33:21

jp: if in the area around here, if she has a favourite area that is important to her?

G: the place we went yesterday but it's so far. There's a lot of resources, like vegetables... dampa! But it's far so she doesn't go that much. Years before she slept there overnight, a decade ago. Now she's afraid of the monkey. Now she went there last year for the parameter survey.

36:09

jp: how do you imagine the dampa will be in the future?

G: the government surveyed the land for palm oil plantation, so it's going to change the land and environment and they will maybe cut down enkabang...

A: is that a concern?

G: yes, for everyone... the government is paying so then they won't have the right to plant their own trees anymore.

38:40

A: she grows some vegetables here aswell?

G: yes in soil pots

M: are there other areas she uses from other people to plant or collect?

G: no, it's hard to plant veggies here because it's risky because there's always flooding. So she uses the soil pots.

7. Synopsis



KØBENHAVNS UNIVERSITET

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RELATIONS TO LAND

A CASE STUDY OF NANGA LIPUS, KANOWIT.

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INTRODUCTION

The Lovecharm Spell of Kings (Puchau Rajah):

**The honey trees call to each other
across the well-loved earth of the valley.**

**The mengkuang fruit tree weeps,
the bamboo tree is lovesick.**

**May eating the yam make the organs and the body of Abang to itch,
compel the feelings of Abang to go mad.**

Carol Rubenstein

Over the past 60 years, Malaysia has undergone rapid urban development, which has simultaneously paved the way for economic and social transformations (Hasan & Nair, 2014). This accelerated urbanisation, led by development plans and economic growth, varies by state and region, but on a national scale, the proportion of urban population is estimated to be 70.9% in 2010. Just forty years earlier, this number was estimated to be 26.8% (Hasan & Nair, 2014, p. 90). A primary driver of urbanisation has been the emergent economic opportunities in urban centres, which have created large flows of rural to urban migration (Hasan & Nair, 2014). Consequently, Malaysia's rural areas, and their landscapes, are changing. Traditional swidden agriculture has largely been replaced by conventional cropping, yet even modern land use practices are being abandoned in favour of urban labour work (Hansen & Mertz, 2006).

One Malaysian region, which is currently undergoing the above-mentioned development, is the state of Sarawak on Borneo. Here, urban migration started in the 1960's, as predominantly Iban men journeyed to the cities for *bekuli* – or physical, unskilled labour work (Sim, 2007; Soda, 2001). The Iban constitutes the largest ethnic group in Sarawak, with a population of over 2,868,00 in 2019 accounting for 28.6% of the total regional population (Economic Planning Unit Sarawak, 2019, as cited in Abdullah, 2021). The traditional Iban society is centred around a *longhouse* where a cluster of families / *bilik* live in the same building (Cramb, 2007, p. 47). In traditional Iban customs, journeys outside the longhouse,

also described as *bejalai*, were originally tied to notions of temporary expeditions and headhunting (Soda, 2001). However, industrial diversification has, in recent decades, created more stable employment in urban centres, leading to increasing out-migrations from the longhouses (Soda, 2001). In 2010, Sarawak's urban population was estimated at 53.2%, compared to just 15.5% in 1970 (Hasan & Nair, 2014). Nonetheless, these numbers might be misleading for the Iban of Sarawak, as many of the "urban" Iban are still registered members of their longhouse in the rural villages (Abdullah, 2021).

Historically, the Iban have been depicted as peoples with close connection to their land, evident in practices of swidden and subsistence agriculture, riverine dwelling, and animistic belief systems (Abdullah, 2017; Soda, 2001). According to Jawol et al. (2018), the Iban were traditionally exclusively dependent on natural resources available within their immediate environment. Furthermore, the authors found that Iban customs promotes caring for local ecosystems, through governing the relationship between people and nature.

However, as Iban livelihood strategies change, so do their land use practices. For example, rice cultivation (*bumai*) has supported Iban livelihoods for millennia. Yet, to most longhouses, the practices is no longer profitable, and many now rely on markets to sustain their rice consumption (Cramb, 2007, p. 304).(Cramb, 2007, p. 304). As less and less Iban engage in land use practices, like *bumai*, the boundaries between the urban-rural belonging are increasingly blurred. These new forms of household structures and belonging are described by Abdullah as practices of *multi-local living* (Abdullah, Multi-local Living and New Rural Household Structures. An Insight from Sarawak, Malaysia., 2021).(2021). This is seen in increasing amounts of household members being spatially separated across rural-urban areas, yet still included in respective *bilik*-families (Abdullah, 2021) (Abdullah, Multi-local Living and New Rural Household Structures. An Insight from Sarawak, Malaysia., 2021).). Additionally, this development changes the role of ecological knowledge in Iban livelihoods, whilst a knowledge gap between generations is becoming apparent (Silitoe, 2002, as cited in Jawol et al., 2018).

Problem statement & Case description:

This paper explores the myriad of changes that recent development has had on the household (*bilik*) structures and land use practices in the Iban village of Nanga Lipus in the Kanowit region of Sarawak. In turn, we intend to investigate how these trends affect local relations to land, based on how it may differ between generations.

In practice, relations to land will be assessed through three concepts, as presented in the “Societal Relationships with Nature” framework by Berghöfer et. al (2022): (1) *knowledgescapes* – describing people's knowledge of their natural environment, and the inheritance of this knowledge, (2) *interactions* – focusing on people’s common interactions with the natural environment, and finally (3) *identity* – addressing how nature and land is incorporated into local notions of identity and community.

The paper will be guided by the overall research objective:

How has recent development influenced local relations to land, and how does this constitute in changing land use practices?

METHODOLOGY

FRAMEWORK

In our project, we set out to explore the relationships with nature across different generations and how this constitutes in change in land use practices in Nanga Lipus. To adequately assess peoples’ relationships with something as large, abstract, and ecologically complex as “nature” is a considerable task. Therefore, we take our point of departure in *The Societal Relationships with Nature framework* (Berghöfer et. al., 2022), from here on mentioned as SRN. The framework is applied by researchers with the aim of informing policy, decision-making and conflict resolution in practical contexts. Its three key premises are that:

(a) ‘nature’ is not something given but is rather a result of the relations that exist among individuals, society, and the physical world (b) the making of nature is a political and historical

process and (c) multiple relationships exist simultaneously (Berghöfer, et al., 2022, p. 537)(Berghöfer et. al., 2022, p. 537)

The SRN framework provides a theoretically grounded and empirically context-specific approach to the exploration of human-natural entanglements. Here, one of the aims of the SRN is exactly to untangle what people and groups are referring to when they, in their own ways, talk about “nature” (p. 537). The authors further state that this aim is based on the idea that people relate to, perceive, interact, and give meaning to nature in different ways. To operationalize this in practice, they divided it into three dimensions: *Knowledgescapes*, *Interactions Identity*, as seen in **Table 1**. Here, the individual definitions and guiding questions are also described. Furthermore, Berghöfer et al. (2022) state that these concepts are for analytical purpose held separate and are understood to be mutually interdependent and connected. In this regard the term “nature” is applied as a placeholder for what is specific in each context – e.g. a specific natural environment, ecosystem, land type, plant species etc.

TABLE 1 Overview of guiding questions for analysing SRN

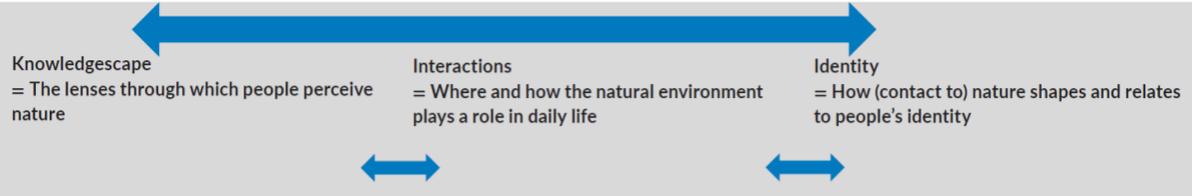
 Knowledgescape = The lenses through which people perceive nature	Interactions = Where and how the natural environment plays a role in daily life	Identity = How (contact to) nature shapes and relates to people's identity
What are the critical differences among groups of people in with respect to the three dimensions?		
1. <i>What is known:</i> What do different groups of people think and know about the natural environment in question? Which issues are focused on? What is neglected? 2. <i>How it is known:</i> What are people's modes of knowledge acquisition, the sources of information where they draw knowledge from, and the (cultural) background which forms and embeds knowledge? 3. What are the critical lines of reference in terms of geographical scale, time scale, social scale?	1. What are people's interactions with nature in terms of direct material interactions, indirect material interactions, and non-material interactions? 2. Which interactions are perceived as 'normal' or taken for granted? 3. To what extent do people rely and depend on their interactions with the natural environment in question?	1. Where and how are different groups of people related to nature in terms of belonging, sense of place, and emotional attachment? 2. How do different groups of people express their identity and their own role in relation to nature?
How do these differences play out in institutions and corresponding power relations?		
What are the (formal/informal) institutions that regulate knowledge transfer? Whose knowledge counts? Whose 'language' is used?	What are the (formal/informal) institutions that regulate material interactions? Whose interactions are favoured or hindered by these institutions?	How is nature represented in culture and institutions? Whose 'nature' dominates the public debates?

Table 1: Guiding Questions from the Framework (2022)

Each concept will be further operationalized through indicators identified in the local setting of Rumah Emmanuel in Nanga Lipus. As an example, (1) the knowledge (and transmission hereof) about local flora and fauna, (2) children's interactions with the environment through play, and (3) narratives from village elders on belonging and changing landscapes. Here, we intend to go into a dialogue on *change* in relations to land through comparison across the different generations of the local households.

OVERVIEW OF THE APPLIED METHODS

The methods chosen to reach the research objective are based on an interdisciplinary approach relying on different strands of social science, including geography, ethnobotany, sociology, and anthropology. The intended fieldwork includes both qualitative and quantitative methods. A literature review has been conducted to gain background knowledge and insights regarding current and past patterns of migration and relations to land amongst Iban populations in Sarawak, Malaysia.

At the beginning of the fieldwork, a meeting will be initiated with a key informant: the headman of the longhouse. During this meeting, we aim to get a deeper insight into the Nanga Lipus longhouse and their cultural and social activities. Furthermore, the headman will provide the registration lists, which will be used to gain an overview of the demographic composition of the longhouse.

Following initial familiarisation with the longhouse, an array of different methods will be used to collect data. We aim to use surveys, participatory mapping and observations, transect walks, semi structured and life-story interviews, focus group discussions, photovoice and GPS tracking. Refer to the appendix for a detailed overview of each method we will use during the fieldwork.

An essential element of the ILURNM course is to collaborate with students from UNIMAS and local interpreters. This collaboration will inevitably lead to changes in the intended methods. For example, by conducting pilot test on selected methods, surveys and interview guides will be adjusted in accordance with local costumes. In that way, the collaboration with local

partners presents the opportunity of developing intercultural communication, which will, hopefully, improve future inter-cultural academic inquiries.

Video

Aside from the proposed methods above, we are also going to produce an ethnographic video to visualize our data, experiences, and perceptions of the field. Since we are researching topics like knowledge, practices, and identity in relation to nature, a video will give us the opportunity to highlight a unique insight into everyday life at Nanga Lipus.

Triangulation

Our project is focusing on a combination of investigator and discipline triangulations as our group members all stem from a different disciplinary and together have participated in the development of the main objective and influenced the design of the chosen methods. During the fieldwork we will work in teams to collect the data and together with the Malaysian students to optimize these methods through group check-in, discussions and sharing our findings.

Reflections on Positionality

As a group of 5 European students conducting research in a country classified as a developing one, it is important to reflect on the implications this brings.

Our access and inquiry into various aspects of the daily lives, activities, and knowledges of the inhabitants of Nanga Lipus will be governed by individual positions as students, researchers, gendered bodies etc. As for any community, group or country, various customs and social norms will influence our intended approaches and perspectives. We intend to accommodate these matters through continuously revising and reflecting upon our positions and movements in the field. Furthermore, by inviting our Malaysian collaborators and local participants into the very process of our research.

Biases, representation, generalization

A part of our project will be informed by methods linked to participant observation. The knowledge produced from this approach will often be based on interpretations of tacit,

embodied knowledges. This approach deals with the aspects of everyday life that is not necessarily put into words, but rather practiced in activities and subtle interactions. Such an approach requires a crucial attention to representation and generalization, as these forms of knowledge will be very context-specific and subjective – and therefore vulnerable to personal biases, misunderstandings etc.