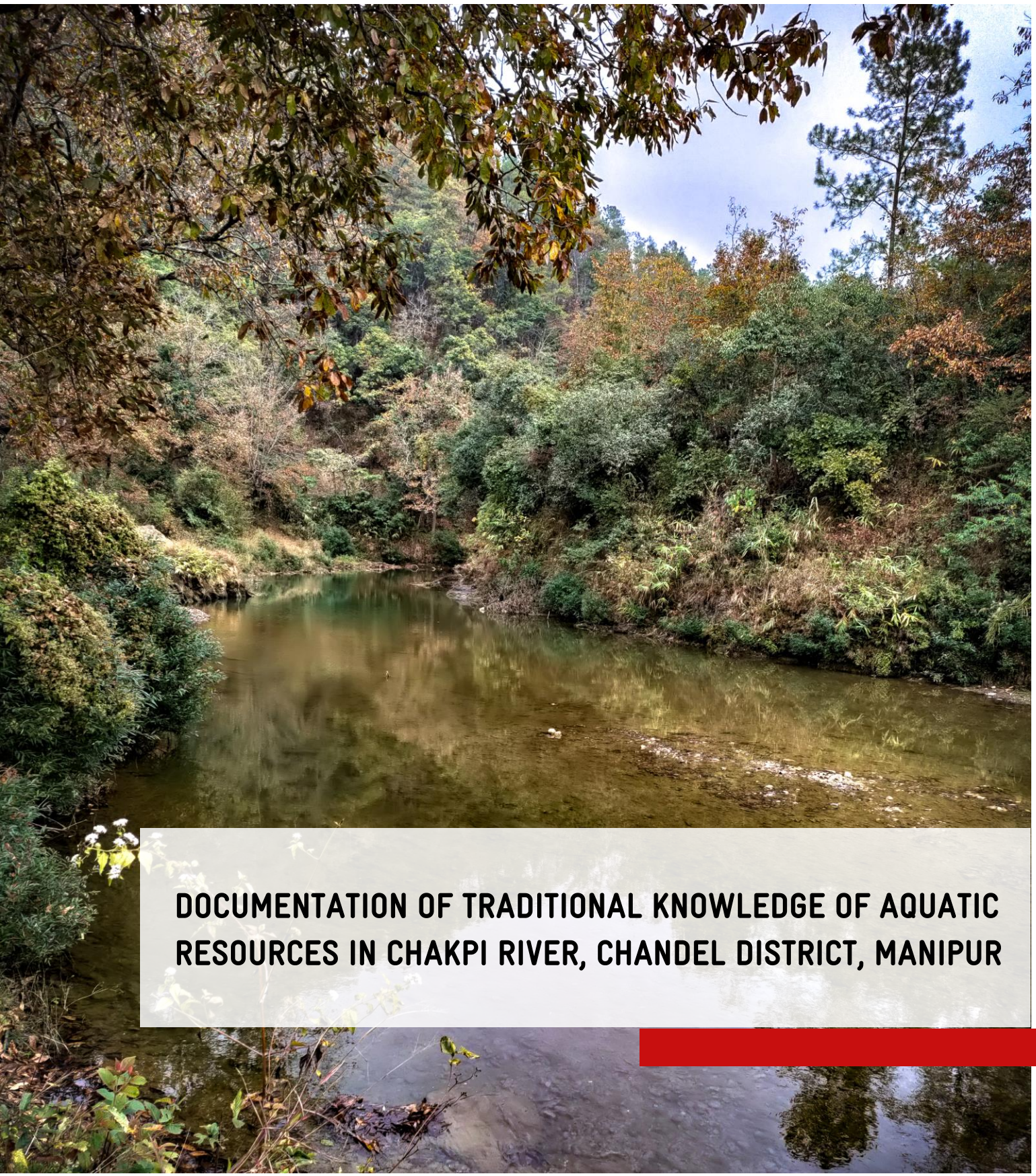

DOCUMENTATION OF TRADITIONAL KNOWLEDGE OF AQUATIC RESOURCES IN CHAKPI RIVER, CHANDEL DISTRICT, MANIPUR

Ministry of Environment, Forest and Climate Change

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CHAPTER 1: INTRODUCTION

Documentation of Traditional Knowledge of Aquatic Resources in Chakpi is perhaps the first of its kind in this part of the country. The district of Chandel has three major rivers viz, the Maha, the Chakpi, and the Lokchao. The Chakpi is formed by two brooks – Rambul ahlu near Larong village bordering the Indo-Myanmar region and Tengnoupal stream. The river with its tranquil flow boasts of diverse flora and fauna with minimal interference from the habitants.

Chakpi is the lifeline of Chandel. The river is bestowed with one of the most fertile agricultural tracts of the Chandel district. Around 32 villages inhabited by Anal, Lamkang, Monsang, Moyon,Maring and Kuki tribes are situated along the Chakpi. The river is the source of livelihood for these villages and it has been playing a crucial role over the course of history in taking care of its people.

The role of Chakpi in the geomorphic formation of the Manipur Valley is scientifically a significant one. The Chakpi as a tributary joins the Manipur River and results in the formation of the present Manipur Valley.

Traditional Knowledge is cultural (a part of human culture) because its shared knowledge, transmitted between generations through values, beliefs, practices, norms, and rules. Each Community, each village, and each family has their own heritage when it comes to Chakpi. They inherit the stories, myths, legends, factual accounts from their ancestors in oral format. It is very rare to come across any written record passed down the generation. This posed one important challenge during the interactions with the villagers. Attempts to check the veracity of the stories are pointless as the details vary with each person we came across. However, the practices and activities with respect to fishing, farming, lifestyle has a common theme.

This project report is a documentation of over 80 interviews conducted, Traditional Knowledge collected, and list of Aquatic Resources compiled. Dedicated and concerted efforts were made to make the documentation as inclusive and expansive as possible. The current study on traditional knowledge of Chakpi River in four villages viz, Monsangpantha, Lambung, Japhou and Mantri pantha encompasses the insights, practices, and understanding developed by Anal, Monsang and Lamkangindigenous tribes and communities through generations of interaction with their aquatic environments.Traditional knowledge of aquatic resources in this river can contribute to robust and sustainable resource management strategies, biodiversity conservation, cultural preservation, and informed policymaking, leading to more effective and inclusive conservation efforts.

CHAPTER 2: METHODOLOGY

The project's methodology was based on the Methods Manual "Documenting Traditional Knowledge of Aquatic Resources in North-East India" published by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH written by Dr. Rajindra Puri of the University of Kent at Canterbury, UK.

There were two parts to the documentation methods, one involving interviews with adults from various community groups and one involving school children.

2.1 Group discussions and key informant interviews

The interviews with adults documented traditional knowledge of aquatic resources in the Chakpi by applying the 11 steps mentioned in the GIZ Methods Manual.

1. Planning meeting
2. Freelisting
3. Local classification
4. Interview - 1
5. Specimen identification
6. Spatial resource mapping
7. Temporal resource mapping
8. Practices
9. Interview – 2
10. Feedback
11. Archiving.

Permissions were taken from the village authorities of Monsang Pantha, Japhou, Lambung and Mantri Pantha while following the FPIC (Free, Prior, and Informed Consent) process to visit their respective villages and conduct interviews.

We used local languages, with help from translators, to gather freelists and other information from a wide sample of knowledge holders on aquatic resources related to the Chakpi River known by the Monsang, Anal, and Lamkang speakers of the study villages in Chandel District.

The interviews were conducted as per the techniques/guidelines mentioned and videotaped.

The list of participants, interviewees, interview questions posed, and schedule of visits are listed in Annexes 1-3.

2.2 Documentation through school students

We formed a team comprised of members from the local organization (Wisecrabs) and planned with school principals of St Peters Higher Secondary School, Monsang Pantha; Anallon Christian Institute, Lambung; Koinonia Training School, Chandel Christian; and Oak Hill Christian Academy, Panchai, for School visiting activities.

Students were assigned to collect stories and other knowledge about aquatic resources of the Chakpi River and their uses in the past from their elders. This was done through interviews with elders, documenting the names of various resources such as fish and crustacean species, stones, insects, reptiles, amphibians, minerals, and aquatic plants, as well as recording stories and folklore related to the Chakpi River. Students utilized notepads and mobile phones to capture the narratives of these traditional stories and folklore.

A special competition was organised with an objective to spread awareness and sensitise students belonging to the 4 riverine villages viz, Monsang pantha, Lambung, Japhou and Mantri pantha. The competition entailed students of selected schools of the region preparing assignments on Traditional Knowledge of Chakpi, Aquatic Resources, and folklores associated. Another idea behind the competition was to get the students interact, interview and spend quality times with their grandparents, elders, and experts of their respective villages. A total of four private schools St Peters Higher Secondary School, Monsang Pantha; Anallon Christian Institute, Lambung; Koinonia Training School, Chandel Christian; and Oak Hill Christian Academy, Panchai, were identified and necessary permission were obtained from the principals and school authorities.

Phase I: The first visit of the schedule was conducted at the Catholic school St Peters Higher Secondary School, Monsang Pantha, situated in the upper stream village of Monsang Pantha with participation of 92 students participated in the presentation, wherein a thorough explanation on Traditional Knowledge of Aquatic Resources in Chakpi was given by the Wisecrabs team. A power-point presentation on the state of Chakpi, flora and fauna associated with the river, and preservation/conservation steps was included.

Figure 1. Students at St Peters Higher Secondary School with Wisecrabs team

Figure 2. Students of Anallon Christian Institute with Wisecrabs team

Phase II: The second school visit was to Anallon Christian Institute in Lambung village with total participation of 74 students in attendance to witness the presentation on Traditional Knowledge and the Special competition. The students displayed keen interest in learning more about ancient practices regarding fishing in Chakpi, furthermore, some narrated stories passed down by their grandparents.

Phase III: The third school in the list was at Koinonia Training School, Chandel Christian with total of 78 students were in attendance to witness the presentation made by the team. An interactive session was held where inquisitive students asked numerous questions regarding the history associated with Chakpi. Students were assigned to interact with their grandparents and elders to gather and document their traditional knowledge and experiences related to the Chakpi River, including identifying aquatic species; sharing stories of collection and harvesting; folklore and legends associated with the river; traditional fishing practices, techniques, collection methods and management systems. By doing so, students aimed to preserve and record the valuable traditional knowledge and cultural heritage of their community. A good number of assignments were submitted by the students. The assignments submitted displayed acute attention to detail, meticulous research work, and presentations in brilliant format. The expansive and diverse list compiled by the students greatly helped in documenting the Traditional Knowledge of Aquatic Resources of Chakpi.

Figure 3. Students of Oak Hill Academy with Wisecrabs team.

Figure 4. Students of Koinonia Training School with Wisecrabs team

Phase IV: The fourth and final school was visited at Oak Hill Christian Academy, Panchai with a total of 69 students participating in the presentation. A power-point presentation followed by explanation on the importance of Traditional Knowledge greatly encouraged the students. An interactive session was educational for the students, and

the announcement of special competition was met by huge excitement. The opportunity to prepare assignment with the help of parents, grandparents, and elders excited the students.

During all the phases of the school visits, a questionnaire for students was prepared to assess the traditional knowledge of resources related to Chakpi river from the village elders. An example of questionnaire prepared by the students, in consultation with teachers, to use when interviewing elders in their village is below.

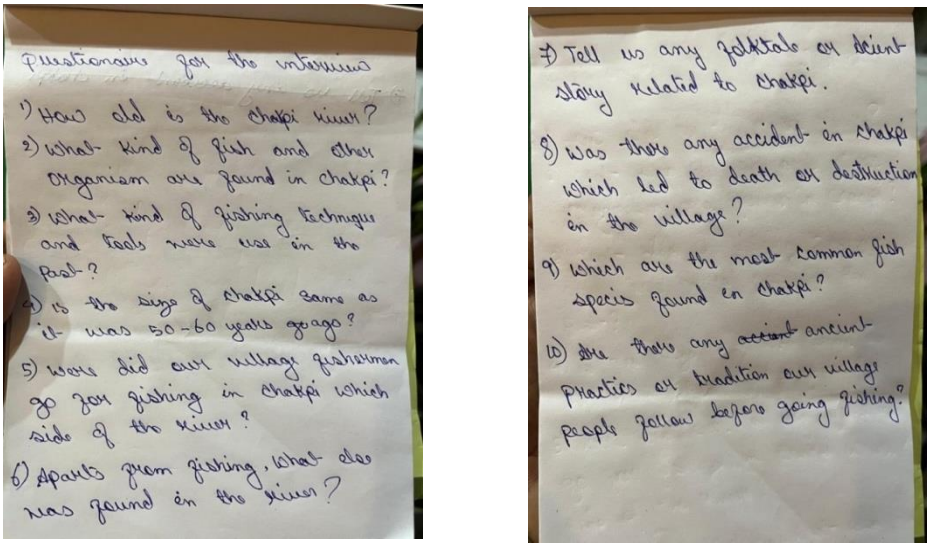


Figure 5. Sample Questionnaire prepared by Miss Partthari Monsang and Miss Sh Borningtin (Winners of the competition)

CHAPTER 3: RESULTS

3.1 Outcome & Learning from students' assignments

The team received around 34 assignments from the students of four schools, and 29 were considered for the winning entries. An analysis has been made by the team and it was found the following results from the assignments. Some of the answers submitted by students (Miss Partthari Monsang and Miss Sh Borningtin) on the traditional knowledge of the Chakpi river are listed below:

- Answer 1: The Chakpi River originates from the western flank slope having the Laimaton Cliff of Tengnoupal Khunao and Senam hills. The river is believed to be related to the geomorphic formation of the Manipur valley and is older than Chandel valley. Some even say that the origin of Chakpi is older than the legend of Wangbren (God of Manipuri mythology who guards the south-eastern part of the state).
- Answer 2: Chakpi River has been bountiful with fishes, crustaceans, and many more organisms in the past.
- Answer 3: In the past, Japhou village (Monsang) used to fish as a community. The Monsang community practices three kinds of Community fishing techniques namely, *Thingnharuvuw*, *Chii itu* and *Chiipineting*. Tools like Fine-Net: Ngachang (Monsang), Nupi-in: Intha (Monsang), Triangular Net: Liin(Monsang), Hook and line: Nakina (Monsang), and Arrow-Rod: *Thar* (Monsang) were commonly used.
- Answer 4: Chakpi River has undergone significant changes when compared to the last 50 years. In the 1970s and 80s, the river was bigger, stronger in flow, and deep. Now, its smaller, shallow, and less force in its flow. Furthermore, the flood of 2015 played a huge role in changing the landscape of the river.
- Answer 5: According to the village fishermen, the fishing hotspots were the stretch behind United College connecting with Mantri pantha village. Sometimes they used to venture to areas beyond the village to fish.
- Answer 6: Apart from fish and crustaceans, plant and herbs with medicinal, edible, and ornamental qualities are found in the river. Sand and pebbles used for construction purposes are dug out incessantly.
- Answer 7: There is a myth surrounding the village of Japhou about a mysterious stone, locally called *"dinuw,"* which is usually found on the riverbed. This stone is believed to be infused with mystical powers, capable of multiplying itself and anything else under favorable natural conditions. However, if placed in an unsuitable location, the stone is said to disappear. The *"dinuw"* is also considered a significant symbol of good luck. Villagers who come across this stone typically place it in a granary, hoping it will multiply their grain supply and solve their food storage problems. This myth not only reflects the villagers' beliefs in supernatural aid for sustenance but also serves as a catalyst, encouraging fishing activities in the river as they search for the elusive stone.
- Answer 8: Prior to the 2015 flood, eyewitnesses say that there was another flood in the early 1990s which resulted in the drowning of a woman name Sunita. Japhou has faced quite a lot of soil erosion near the banks of the Chakpi due to the floods.
- Answer 9: The most common fish and crustaceans found in Chakpi are silver fish (*Ngasephuw*), Pearl Danio (*Ngaleng*), Coarse fish (*Ngalim*), Eel (*Ngaberur*), Crab (*Ae*), Snail (*Sobir*), Snakehead (*Ngavoh*), Frog (*Osh*), and Shrimp (*Kekuwng*).
- Answer 10: Usually before the people go for community fishing, there will be common prayer by the Chief followed by singing of old songs. Food is eaten as a group while people exchange their food with others.

Analysis and learning of student's assignments

The introduction of the concept Traditional Knowledge proved to be an eye-opening exercise for the students. Most students had not come across the various kinds of knowledge and certainly not related to tradition. The school visits and presentation by the team played a big role in inculcating TK in their young and impressionable minds.

1. Many students teamed up for the assignments and this led to group discussions, activities, and delegation of responsibilities. This inclusive way of working exhibited diversities in terms of languages, understanding of species names & aquatic resources, and community.

2. The curiosity and interest from the students to know about their ancestors, traditions, cultures, ancient practices, Chakpi history was overwhelming. The team faced questions regarding fish species, fishing tools, environmental threats, sand mining, and more.
3. A common knowledge centre for Chakpi could be the best step forward to satiate the curiosity level of the students. Also, an introduction of TK in their syllabuses would be immense in keeping them abreast of the past, present, and future of Chakpi.
4. Some of the assignments were seemingly prepared with the help of elders or experts which shows the collective interest among the parents, grandparents, elders, and students for Chakpi. The presence of scientific names and terms excited students to do their own research to find their local names.
5. The collection of these assignments could be used as a repository for learning and awareness among the students.

3.2 Morphological and historical features of Chakpi River

Village visits were conducted with different groups of knowledge holders including Village elders, Members of local clubs, Fishermen, Fisherwomen, Women's groups, and Church bodies. Interviews were conducted to understand the history, morphology and other physical features of the Chakpi river. For example, Lambung village (Anal) has some interesting names for certain parts of the river based on its history, flow of water, and folklore associated:

- *Kolshu li* (considered as the deepest part of the river)
- *Tingking* (was once a breeding spot for clams)
- *Motumpa hnoko* (considered a haunted area, locally known as *arebal*)
- *Thumdon* (moderately deep part of the river also considered as a haunted area)
- *Mohne* (deep area)
- *Rampasel* (deep area)
- *Komungpa* (slow flowing water)
- *Makhepali* (slow flowing water): was considered once a haunted area because a person drowned there

These areas are known for their deep waters and occasional whirlpools, making swimming extremely difficult and dangerous. It is also named after the people who died suspiciously at these spots. There is tragic history attached to these spots, so most fishermen avoid them, leaving these areas as hotspots and breeding grounds for numerous fish.

> *In October, elders advise youngsters to avoid going near the river, a period commonly known as "chavan pang" in the Anal community. This month is also significant for harvesting crops. The advice stems from the belief that the river's flow is deceptively strong beneath its calm surface during this time. Elders assert that, while the river may appear tranquil, the underlying currents are significantly more powerful and pose a greater risk to those venturing near or into the water. Notably, there have been several drowning incidents, mostly occurring in October. It emphasizes the seasonal significance of "chavan pang" and its impact on community practices and safety measures near the river during this month.*

The mention of "*Chavan Pang*" was common during the interviews conducted by the students. Elders from Lambung strictly prohibit their children to venture out to *Kolshu li, Mohne, Rampasel,* and *Makhepali* during the rainy season.

Historical Disaster in Chakpi River

From the interview at all the knowledge holders' groups, almost all the individuals have experienced the massive flood in Chakpi river during 2015. The infamous flood brought wide scale destruction to Chandel and was responsible for altering the landscape and social mindset. Large tracks of agricultural land at Lambung, Japhou, Monsang Pantha, Rivelane, Hnaringkhu, Chandel Christian in Chandel Headquarter region and Akaphe, Peace Island, Chakpikarong Khupi, Hringphe, and Chakpi Bazar of Chakpikarong subdivision were totally destroyed. Four suspension bridges, United College Lambung, Monsang Pantha, Anal Khullen, and Lamphou Pasna, were carried away. The biggest destruction was the Chakpikarong Iron Bridge which was thought indestructible and carried significant traffic across the river. Many houses and fields were inundated, and the ferocious flood uprooted countless trees and green cover from Thangkin and Monsang Pantha to Chakpikarong.

Figure 6. United College Lambung-Monsang Pantha Suspension bridge washed away 2015 flood.

Figure 7. Lamphou Pasna Suspension bridge washed away by the 2015 flood.

Figure 8. Chakpikarong Iron Bridge destroyed by the 2015 Chakpi flood

Here are some eye-witness accounts of the flood:

- Mr James Wangshol (Lambung) – The 2015 Chakpi flood was a flash flood which took everyone by surprise. The water level reached the danger level in no time and houses on the either side of the river were suddenly in the danger of getting washed away. Few houses in Lambung bore the fury of Chakpi on the fateful day. Mr Sng Phamhring's house situated near Lambung bridge was flooded and the family had to shift to higher ground. Farms were inundated and livestock was in grave danger. Another house belonging to Mr TS Angthung was perilously hanging due to the caving of embankments. The Mohne side of the village saw the caving of embankments along with the washing away of several huts and structures. The lone Lambung bailey bridge was dangerously swinging, and people were afraid to use it.

- Mr Augustine (Monsang Pantha) - The 2015 Chakpi flood was the scariest thing I've seen in my life. I remember I was playing football with friends when I heard screaming. My friends and I rushed towards the river and saw the water level rising with great speed. I could see lots of timber, trees, objects, and household items getting washed away in the river. My friends told me that the suspension bridge connecting my village with United College was totally swept away. The farmlands on the riverbank were inundated and no signs of crops or domestic livestock could be seen. An emergency meeting was convened in the Community Hall where I could see many people were panicking. The non-stop rain was making life difficult for people.

- Mrs Annarose (Japhou) – I witnessed my friend's house getting destroyed by the flood. The riverbank became frighteningly loud at night with the water flowing in great size and speed. In the morning, we could see splinters of house timbers, logs, branches, and even pillars used for house constructions getting washed

away in the river. It was raining throughout the day and people were announcing not to allow kids to go near the river.

- According to the eyewitnesses, a person identified as SP Kono (age 62 years) of Khubung Khullen under Chakpikarong Police Station was pulled out from the river on August 01, 2015. The man was returning from his village to Hringkhudu when he attempted to cross the river at a point very close to the collapsed bridge and lost his footing. His dead body was fished out a short distance from the spot.
- Another drowning was reported in Chakpikarong-Sugnu region where in a heroic attempt to save his younger brother, the elder brother lost his life. Thangminjoy Baite (16 years) and his brother along with few friends went to Chakpi to wash their clothes at noon. Thangminjoy saw his younger brother Thangjalen struggling in the water and without wasting any minute, jumped into the river and pulled out his brother to safety but lost his life in process. His lifeless body was found later by the search party from the village.

The Chakpi river flood of 2015 is considered to be the worst flood in 200 years. The scale of destruction it brought was unprecedented in Chandel's history. According to the locals, the flood in 1990s was mild when compared to the flood in 2015.

3.3 Freelisting of aquatic resources

Collected specimens of fish, snails, crabs, insect, etc. were identified by informants, who provided local names and the criteria used to identify them. Furthermore, we engaged local experts such as researchers, teachers, and technical persons for verification of identified species for its scientific and local name.

In both interviews and group discussions, the participants listed the names of species in conversations, and upon being shown pictures by the visiting team. The participants resorted to identifying the species in their local dialect (Anal, Lamkang, Monsang, Manipuri) and sometimes measuring their sizes and shapes with their fingers or measuring tapes. Furthermore, they provided the details of the species like colours, skin, fins, feeding habits, breeding spots, and special features.

Fish species are identified and named based on local languages, dialects, and traditional/cultural influences. These names reflect their physical characteristics, natural behaviours, local ecological roles, and endemic culture. For instance, in Monsang *Ngatha* means 'good fish', in Anal *Ngapahnu* means 'fish found attached to the rock'. We compiled all the fish species in three separate tribal dialects as below.

Table 1. Fish species from Chakpi River

SL.NO.	SCIENTIFIC NAME	MONSANG	ANAL	LAMKANG
1	*Notopterus notopterus*	Ngaleng	Ngaphe	Nkleng
2	*Anguilla bengalensis*	Nga-pelung	Pa-ngul	Nungoor
3	*Neolissochilus stracheyi*	*Ngahra*	*Ngatara*	Natra
4	*Neolissochilus hexagonolepis*	*Ngahra*	*Ngatara*	*Nashang*
5	*Tor tor*	*Ngahra*	Ngashun	
6	*Pethia manipurensis*	Ngashepu	Napem	Nakhanu
7	*Pethia ornata*	Ngashepu	Napem	Nakhanu
8	*Puntius chola*	Ngashati	Ngampemeson	Nepher
9	*Puntius sophore*	Ngashawar	Ngampemesin	Nepher
10	*Poropuntius burtoni*	Ngashangwar/ Shangsii	Ngashangevum	Nashang
11	*Schizothorax richardsonii*	Ngashapu	Nagting-pasuh	Khaphengnu
12	*Garra abhoyai*	Ngatha	Ngapahnu	Nashun
13	*Garra chakpiensis*	Ngatha	Ngapahnu	Natinu
14	*Garra nambulica*	Ngatha	Ngapahnu	Nashun
15	*Garra paralissorhynchus*	Ngatha	Ngapahnu	Ngaptre
16	*Psilorhynchus microphthalmos*	Ngalim	Ngathanu	Ngaptre
17	*Psilorhynchus chakpiensis*	Ngalim	Ngathanu	Nlunglong

SL.NO.	SCIENTIFIC NAME	MONSANG	ANAL	LAMKANG
18	*Psilorhynchus konemi*	Ngalim	Ngathanu	Nlunglong
19	*Psilorhynchusngathanu*	Ngalim	Ngathanu	Nlunglong
20	*Lepidocephalichthys guntea*	Ngachichuru	Ngakicharoh	Ngachichro
21	*Lepidocephalichthys berdmorei*	Ngachichuru	Ngakicharoh	Ngachichro
22	*Balitora burmanica*	Ngasharba	Hlung-ngha	Ngapangal
23	*Physoschistura chindwinensis*	Ngavobedur	Ngadinhadin	Ngadongnu
24	*Schistura kangjupkhulensis*	Ngathimphu	Ngashepahral	Ngadongnu
25	*Schistura manipurensis*	Ngathimphu	Ngashepahral	Ngadongnu
26	*Schistura sikmaiensis*	Ngathimphu	Ngashepahral	
27	*Bagarius yarrelli*	Ngasharbaeshin	Ngatang	
28	*Glyptothorax igniculus*	Ngasharba	Ngachalbah	
29	*Glyptothorax burmanicus*	Ngasharba	Ngachalbah	Ngasharbak
30	*Glyptothorax granulus*	Ngasharba	Ngachalbah	Ngasharbak
31	*Glyptothorax dorsalis*	Ngasharba	Ngachalbah	Ngasharbak
32	*Glyptothorax ngapang*	Ngasharba	Ngachalbah	Ngasharbak
33	*Glyptothorax trilineatus*	Ngasharba	Ngachalbah	Ngasharbak
34	*Channa gachua*	Ngawo	Ngawo	
35	*Channa marulius*	Ngawo	Ngawo	
36	*Channa punctata*	Ngawo	Ngawo	
37	*Channa striata*	Ngawo	Ngawo	
38	*Mastacembelus armatus*	Ngaberuwr	Ngasey	
39	*Mystus falcarius*	Ngasep	Ngasey	
40	*Mystus ngasep*	Ngasep	Ngasey	
41	*Mystus pulcher*	Ngasep	Ngasey	
42	*Mystus rufescens*	Ngasep	Ngasey	
43	*Clarius magur*	Ngakra	Ngakra	
44	*Barilius lairokensis*	Ngaphar	Ngaphal	
45	*Synchrossus berdmorei*	Tarungki		

Aquatic herbs:

1. *Melastoma affine*: *Tongte* (Monsang); *Kelam* (Lamkang)
2. *Phlogacanthus jenkinsii*: *Chiipar* (Monsang); Chapar(Anal); *Chukpakkha* (Lamkang)
3. Fungi sp.: *Seer Mehnii* (Monsang); *Psakarpa* (Lamkang)
4. *Rhus chinensis*: *Khommah* (Monsang); *Khomha* (Anal); *Tarma* (Lamkang)
5. *Cycas* sp.: *Enntang* (Monsang); *Aenchang* (Anal); Anntlang (Lamkang)
6. *Arbutus menziesii*: Aetang (Monsang); *Hekhupal*(Anal); Haitlang (Lamkang)
7. Pacific mandrone: Bettim *(Monsang); Sapatre*(Anal); *Ding parsit, Ding songpar (Lamkang)*

Aquatic plants:

Monsang: *Kekungsam, Inpum, Chii intham, Shaje aethur, Inthii*Rongin, *Insathii, Thapo, Minmhung din*
Anal: *Kolituwl, Salpo*

Mushroom:

Monsang: *Pamhesaar, Palaang, Pauttro, Pachonol, Pantung, Paarvum, Paphe, Panenthu, Pakin, Pajuur, Parvu, Pashangthii*
Anal: *Phalunpi*, *Paapar, Patrung, Pahli, Chachu, Chopanal*

Snails:
Monsang: *Sobeer, Sosor, Minkhabi, Loubuksobeer, Nehnuwti*
Anal: *Solke, Sosol, Ningkhabi, Hlung-solke, Mungkang-sosol*
Lamkang: *Soksolkpem, Soksol*

Crabs:
Monsang: *Aevum, Aejar, Aesin, Achir ae, Aepen, Vokhothiir*
Anal: *Eevum, Eeyal, Eedo, Eeso, Eekang*
Lamkang: *Ai vom, Ai jar, Ai pan, ai cee/ai see*
[Captured by hand. Usually prepared as a fermented crab paste. Smashed and fermented. *Ai vom* (HIV patient usually take this as blood enhancers)]

Prawn:
Anal: *Kekung, Salkenu*
Lamkang: *Kaikung*

Tadpoles:
Monsang: *Blo*
Lamkang: *Bullok, doidin*

Frog:
Monsang: *Usoo, Ukeng, Utrul, Utro, Dang-dang utro*
Anal: *Uto, Uso, Uking, Usal, Konghranu, Nadiin, Naphalpho, Navopham*
Lamkang: *Uisit, Pkeng, Pchup, Pchut, Silplung, Sil-arkam, Khsngkhsk, Dangdek, Psha*

Leech:
Monsang: *Mimveh*
Anal: *Paveh*
Lamkang: *Diichompop*

Earthworm:
Monsang: *Raarttih*
Anal: *Tingnaal*
Lamkang: *Artal*

Centipede:
Monsang: *Ruwngminthiih* [works as a remedy for cancer especially the bubbles, the bites are poisonous]
Lamkang: *Rulparthi*

Gammite:
Monsang: *Khampa, Luwngttim, Anasiki, Chiphuw*
Anal: *Khampa, Kutam, Hlungcho, Tetenu, Duphonu, Tomtom*
Lamkang*: Hampa, Dipho, Tlingtril, harbukongkoi, Dii-kotam, Charang,* Dangdek [the operation wounds heals faster. It works as a nutritional food]

Snake:
Monsang: *Chi-beruwr, Tumprum, Ruwrpuw, Ruwsoh*
Anal: *Paruwl, Du-parul, Rultong*
Lamkang: *Dii-prul*

Tortoise:
Monsang: *Soungruw-kuwng*
Anal: *Shamakhu*
Lamkang*: Tret, Sungkhum, Toku*

Lizard:
Monsang: *Kekiing*
Lamkang: *Kaiking*

MINERALS:
Rock- *Lhungsuwng/Beseer* (Monsang);*Hlungshuwng* (Anal);*Salung* (Lamkang)
Stone- *Lhung* (Monsang& Anal);*Lung, Lungtrill* (Lamkang)
Pebbles- *Lhung-adii* (Monsang);*Lungpii*(Lamkang);
Sand- *Siidii* (Monsang);*Soo* (Anal);*Sitphui*(Lamkang)
Limestone- *Lhungmhuw* (Monsang)
Gravels- *Lhungriir* (Monsang)
Iron-*Thiir* (Monsang);*Thol* (Anal)

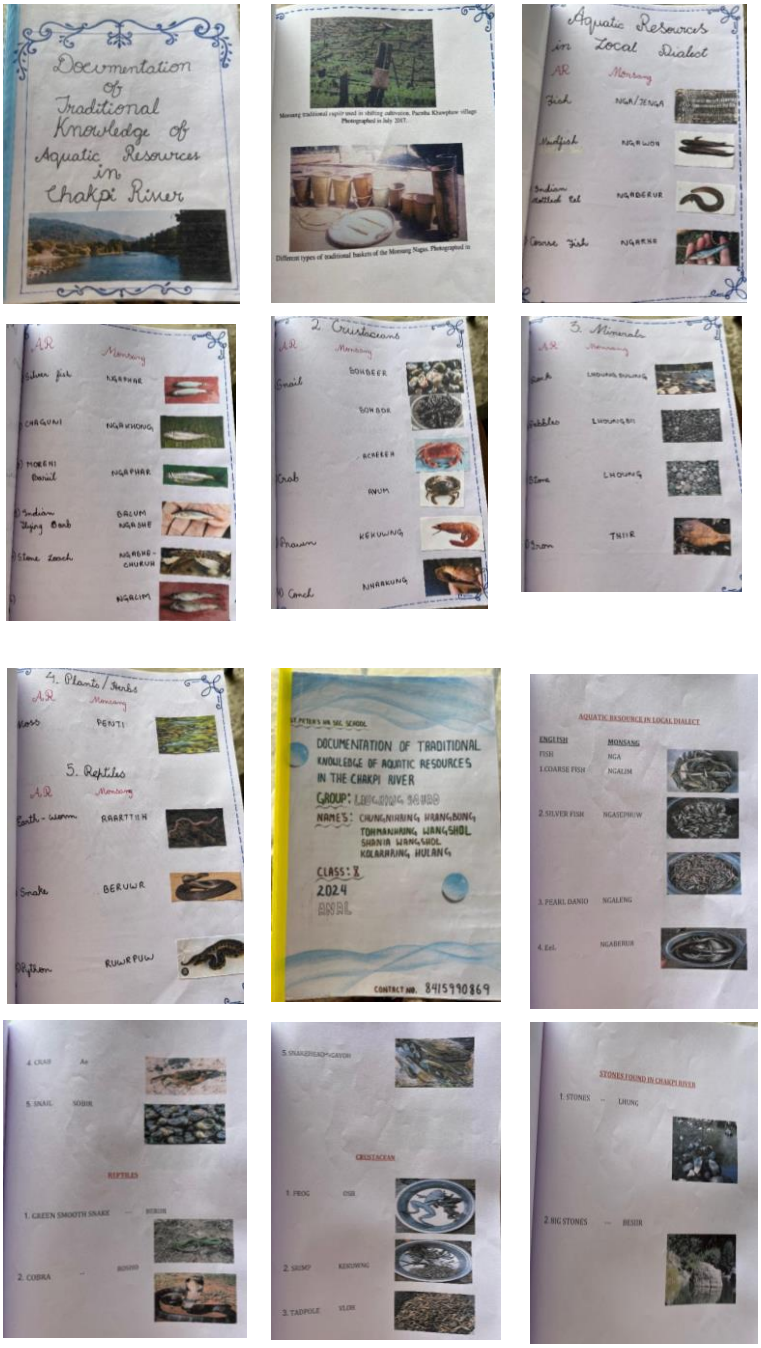


Figure 9. Assignments submitted by the students on aquatic resource

3.4 Local classification

Local classifications, discovered through Pilesorting exercises, of the free-listed items were conducted among the identified participants for discussion and interview such as village elders, local clubs, fishermen, fisherwomen, women's groups, and church bodies. The activity was conducted within the group knowledge-holders by asking participants to sort items into groups based on their perceived similarities and differences from each other, and to note the criteria used to group them.

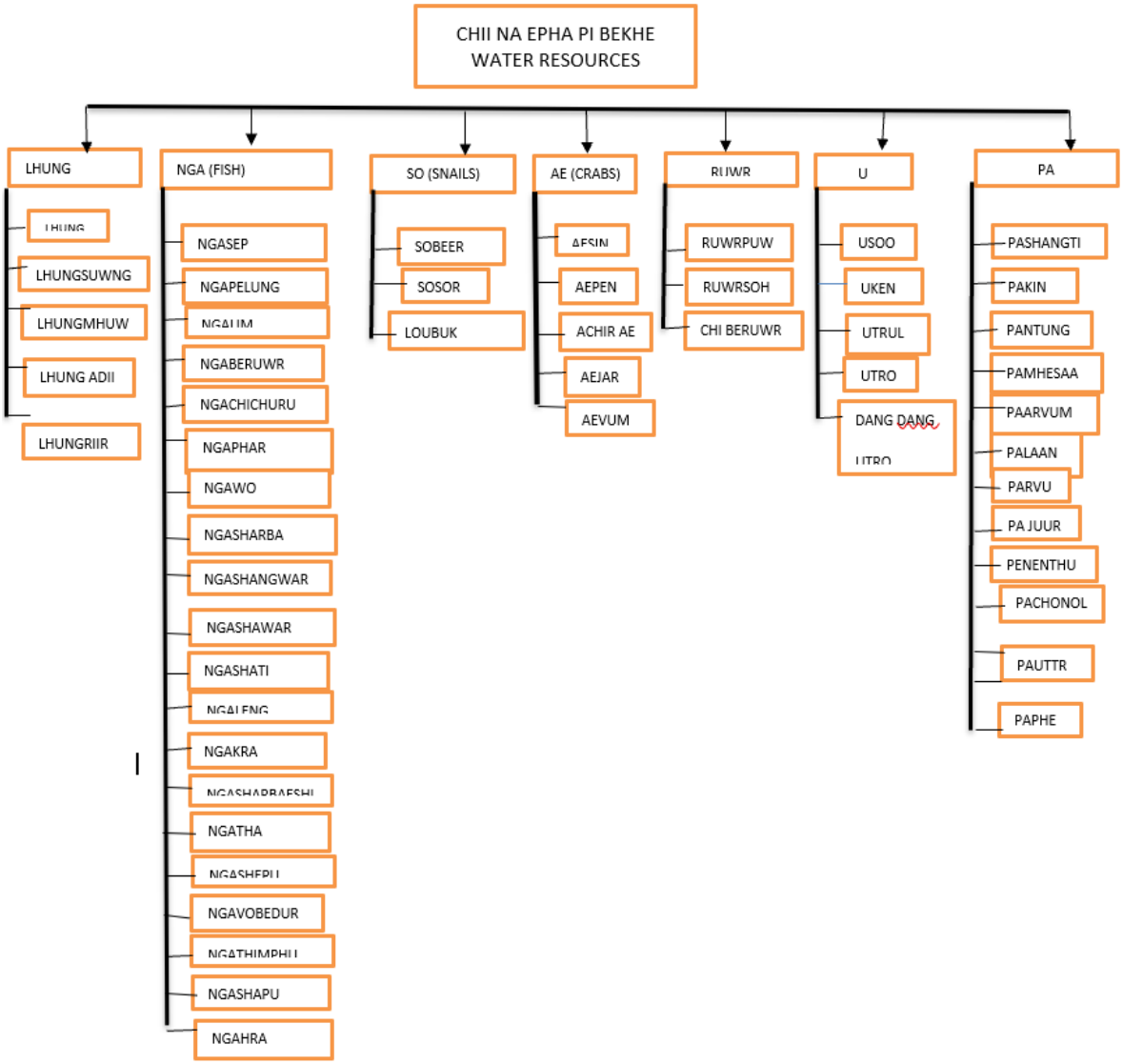


Figure 10. Folk classification of aquatic animals

Such arrangement of species/aquatic organisms based on indigenous knowledge, not just physical characteristics like shape, colour, fin structure, scale pattern, length but also behaviour, habitat, seasonality, and cultural significance. These features are mostly used by Anal, Monsang, and Lamkang tribes to distinguish between different groups of species.

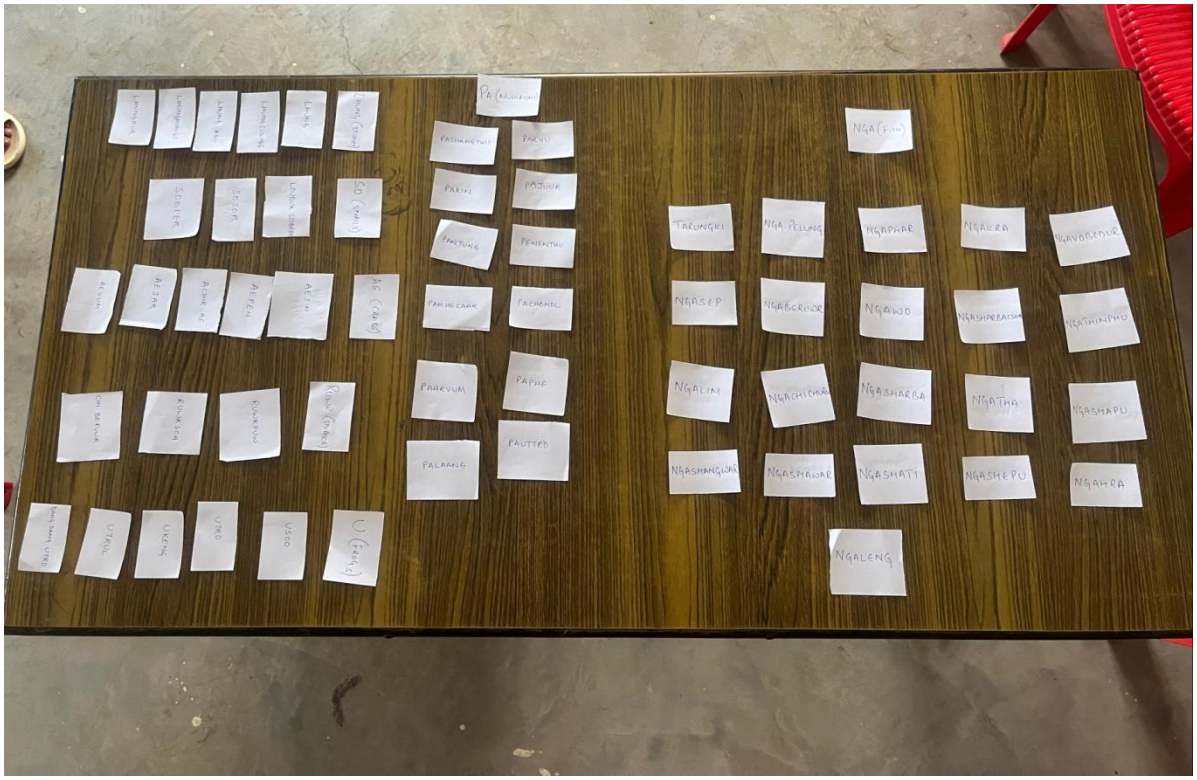


Figure 11. Pilesorting exercise held in Japhou village (Tree diagram of pilesort)

3.5 Resource mapping and seasonal calendar

In the subsequent visits, our team interacted with the knowledge-holder groups and jointly mapped the Chakpi River on drawing paper, starting from Monsang Pantha to Lambung which comprises four villages. The spatial distribution of resources and activities was documented by naming landmarks and features of land use and land cover (with local names), indicating where and when the aquatic resources can be found and collected.

3.5.1 Resource Mapping by Monsang Pantha village

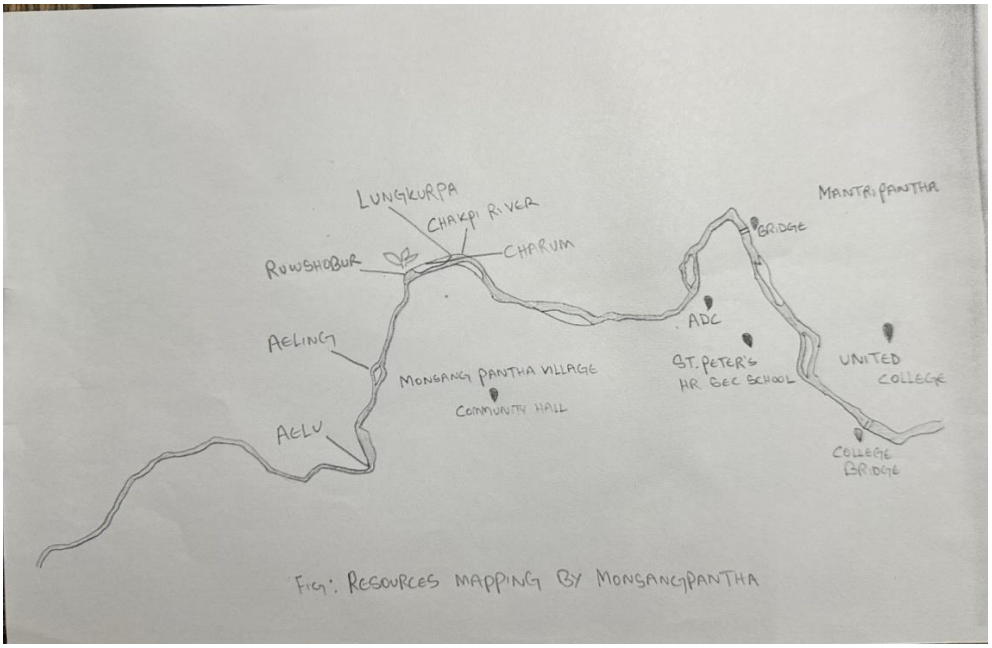


Figure 12. Resource map from Monsang Pantha

Notable locations in the map are as follows:

- The suspension bridge connecting Monsang Pantha and United College Lambung was washed away during the Chakpi flood of 2015
- The *Charum* spot is densely covered by herbs and trees
- *Aelu* is situated near *Thangkin* which is the popular picnic spot

3.5.2 Resource Mapping by Lambung village

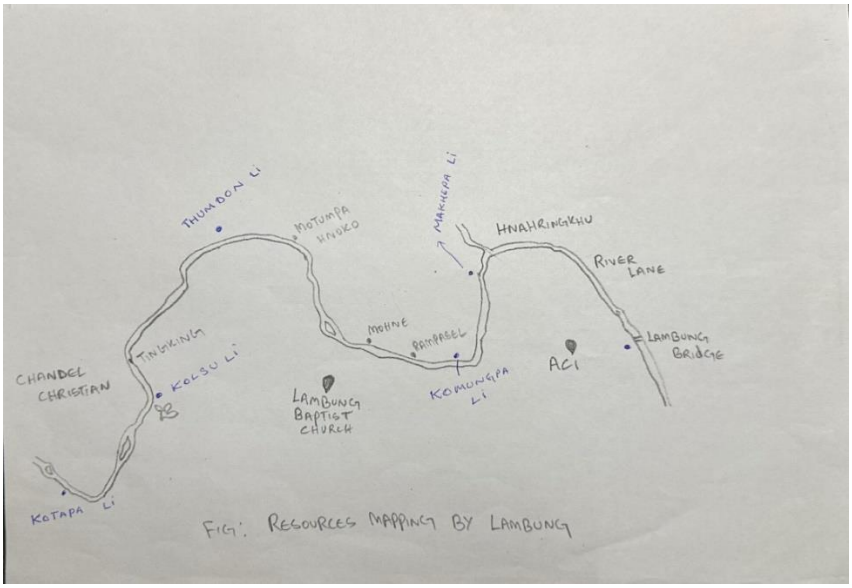


Figure 13. Resource map of village of Lampung

Notable locations on this map include:

- Next to *Kolsuli* is the spot where medicinal herbs are found.
- Lambung village and Chandel Christian village share a brook near *Kotapa Li*
- *Mohne* is the spot where a villager was drowned some years ago.
- *Mohne* and *Rampasel* are known to be the fishing spots

3.5.3 Resource Mapping by Mantri Pantha village

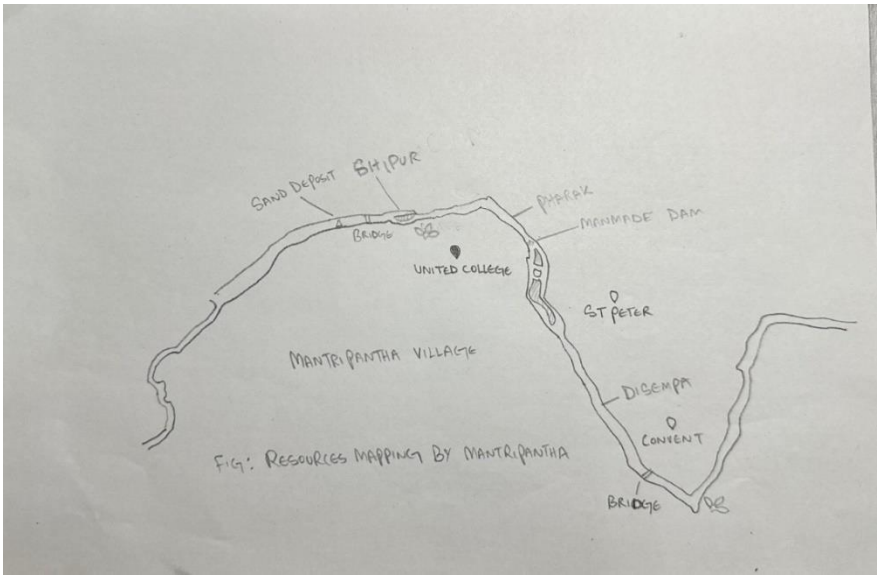


Figure 14. Resource map from village of Mantri Pantha

Notable locations on this map include:

- The area behind United College Lambung has depleted level of sand due to excessive sand mining.
- A man made dam has been erected between St. Peters Higher Secondary School and United College Lambung.
- A new iron bridge has been constructed near *Disempa* which connects Mantri Pantha with Monsang Pantha.
- There are tiny islands behind the St Peters Higher Secondary school hostels.

3.5.4 Resource Mapping by Japhou village

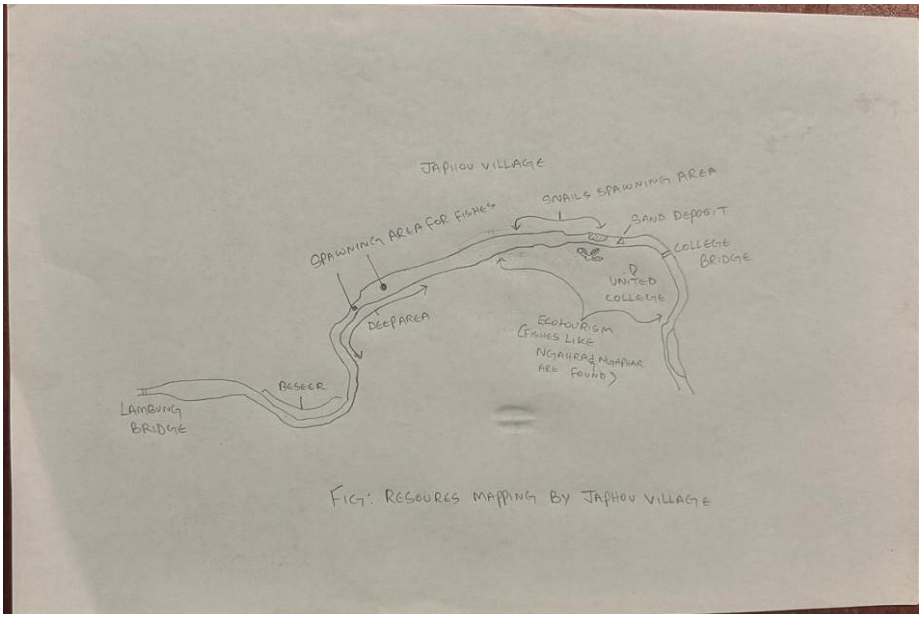


Figure 15. Resource map from village of Japhou

3.5.5 Resource Mapping for 4 villages

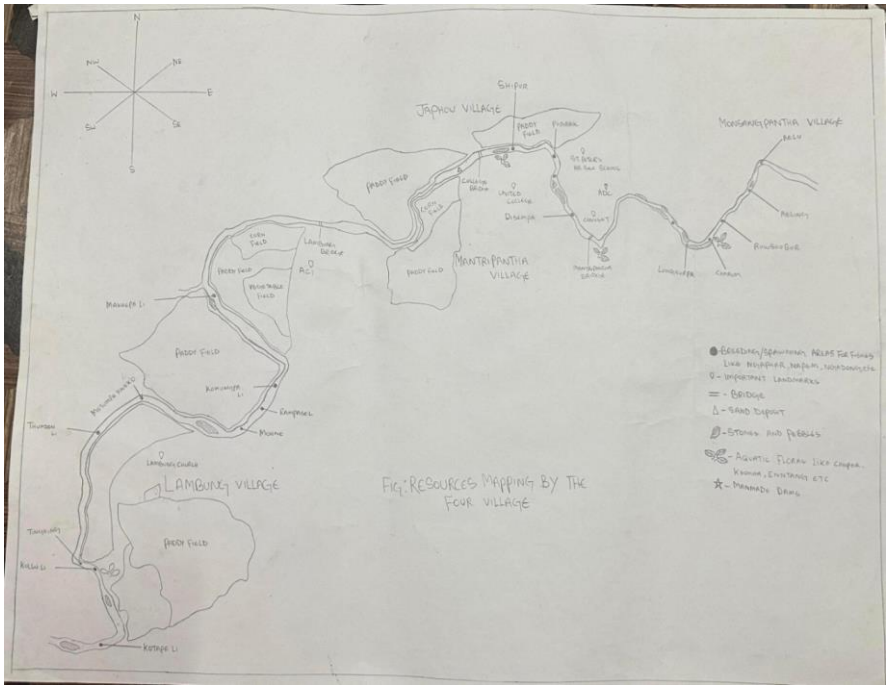


Figure 16. Consolidated map of all four villages – Monsang Pantha, Japhou, Lambung, & Mantri Pantha

Notable locations on this map include:

- Breeding /spawning areas for fishes like *Ngaphar, Napem, Ngadong* etc are found in *Aelu, Aeling, Ruwshobur, Charum, Lungkhurpa* of Monsang Pantha, *Disempa, Pharak,* Shipur of Japhou, *Makhepa li, Komungpa li, Rampasel, Mohne, Matumpa Hnoko, Thumdon li, Tingking, Kolsu li, and Kotapa li* of Lambung.
- Sand deposits are found behind United College.
- Stones and pebbles are found between *Lungkurpa* and *Charum*, *Disempa* and *Pharak*, *Shipur* and United College bridge, *Mohne* and *Motumpa Hnoko*, and *Kolsu li* and *Kotapa li.*
- Aquatic floras like *Chipar, Khomba, and Enntang* are found between *Ruwshobur* and *Charum*, near Mantri Pantha bridge, near *Shipur*, and near *Kolsuli.*
- Some man-made damns are made near *Lungkurpa* in Monsang Pantha and near *Pharak* in Mantri Pantha.

3.5.6 Seasonal Calendar

Apart from traditional map of river, we also inquired among the groups to develop seasonal calendars and historical timelines for the aquatic organisms, their habitats, and the morphology of the river. This included documenting variations in size, abundance, behaviour, and patterns of human use over time.

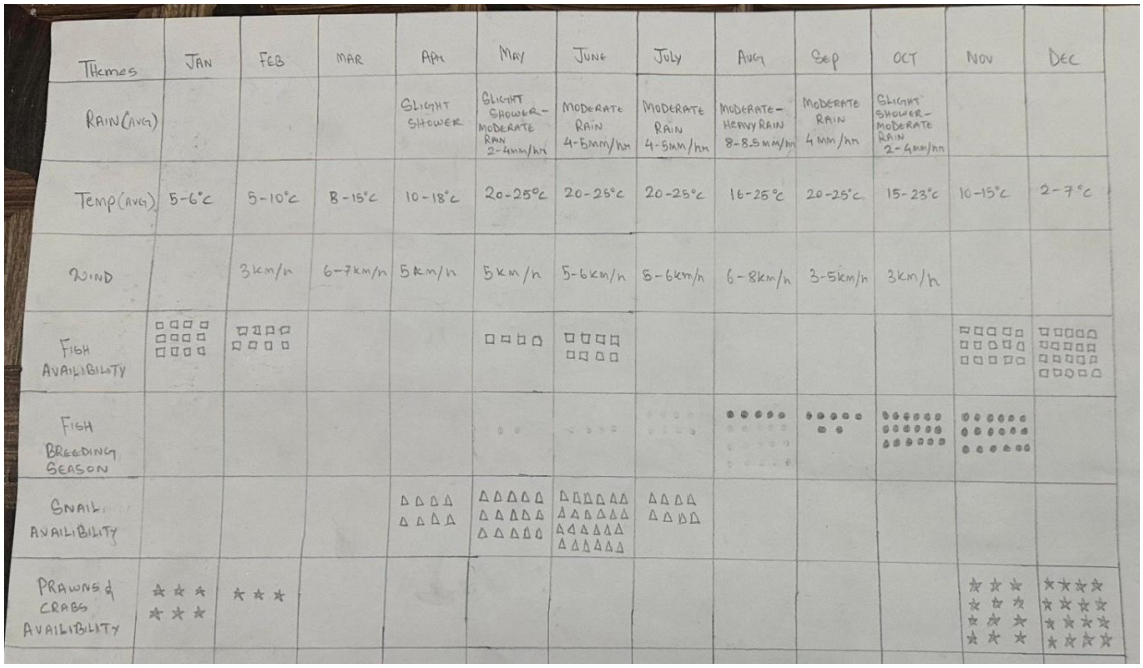


Figure 17. Seasonal Calendar of Chakpi River

The Chakpi River is home to a diverse range of aquatic resources, including fish, herbs, fungi, aquatic plants, crustaceans, and minerals. The abundance of the flora and fauna of the past is different from the current situation. Over the course of the interviews and interactions with local fishermen, a good number of fish species are extinct, while the quantity of crustaceans is dangerously low. Local communities have been dependant on the river since time immemorial, employing age old practices but the newer crop of fishermen lack sensitivity and long-term understanding of their actions. The village visits threw up interesting nuggets of information regarding the lifespan, breeding, migration and food habits of some fish. The language diversity (Anal, Lamkang, Monsang, and Moyon) among the four villages was not a problem when it came to identifying and naming the aquatic resources. Furthermore, the discovery of some spots along the river made for an interesting documentation for the benefit of the future readers.

Table 2. AQUATIC RESOURCES OF CHAKPI RIVER

	SCIENTIFIC NAME	Population status	Ecology/Habitat	Medicinal Uses	Gears/Tools	Breeding season	Preparation
1	*Notopterus notopterus*	Rarely available	Shallow waters		Fishing rod/ luchao	March &April	
2	*Anguilla bengalensis*	Rarely available	Muddy part of the water	It enhances blood circulation/	Dug the mud and capture it using luchao/ lengsuk	June & July	
3	*Neolissochilus stracheyi*	Decreasing	Fast water flow		Aerurhuw	October &November	
4	*Neolissochilus hexagonolepis*	Abundant	Rocky area		Aerurhuw	October &November	
5	*Tor tor*						
6	*Pethia manipurensis*	Abundant	Moderate flow		Net/ intha	September &October	Ngathuw(fermented fish paste)
7	*Pethia ornata*	Abundant	Moderate flow		Net/ intha	September &October	Ngathuw(fermented fish paste)
8	*Puntius chola*	Abundant	Moderate flow		Net/ intha	September &October	Ngathuw(fermented fish paste)
9	*Puntius sophore*	Abundant	Moderate flow		Net/ intha	September &October	
10	*Poropuntiusburtoni*	Abundant	Moderate flow		Net/ intha	September &October	
11	*Schizothorax richardsonii*	Abundant	Rocky area		Net/ intha	September &October	
12	*Garra abhoyai*	Abundant	Rocky area		Net/ intha	September &October	
13	*Garra chakpiensis*	Abundant	Rocky area		Net/ intha	September &October	
14	*Garra nambulica*	Abundant	Rocky area		Net/ intha	September &October	
15	*Garra paralissorhynchus*	Abundant	Rocky area		Net/ intha/ aecha/ bekhang	September &October	

	SCIENTIFIC NAME	Population status	Ecology/Habitat	Medicinal Uses	Gears/Tools	Breeding season	Preparation
16	*Psilorhynchus microphthalmos*	Abundant	Moderate flow		Net/ intha/ aecha/ bekhang	September &October	
17	*Psilorhynchus chakpiensis*	Abundant	Moderate flow		Net/ intha/ aecha/ bekhang	September &October	
18	*Psilorhynchus konemi*	Abundant	Moderate flow		Net/ intha/ aecha/ bekhang	September &October	
19	*Psilorhynchusngathanu*	Abundant	Moderate flow		Net/ intha/ aecha/ bekhang	September &October	
20	*Lepidocephalichthys guntea*	Abundant	Sandy area		Net/ inn/ aecha/ bekhang	May & June	
21	*Lepidocephalichthys berdmorei*	Abundant	Sandy area		Net/ inn/ aecha/ bekhang	May & June	
22	*Balitora burmanica*	Abundant	Sandy area		Net/ inn/ aecha/ bekhang	September &October	
23	*Physoschistura chindwinensis*	Abundant	Slow flowing/ muddy area		Aecha	September &October	
24	*Schistura kangjupkhulensis*	Abundant	Slow flowing/ muddy area		Aecha	September &October	
25	*Schistura manipurensis*	Abundant	Slow flowing/ muddy area		Aecha/ Kaprur	September &October	
26	*Schistura sikmaiensis*	Rarely available	Slow flowing/ muddy area		Aecha	September &October	
27	*Bagarius yarrelli*	Rarely available	Fast flowing/ rocky area		Aecha/ Kaprur	September &October	
28	*Glyptothorax igniculus*	Rarely available	Fast flowing/ rocky area		Aecha	September &October	
29	*Glyptothorax burmanicus*	Abundant/ rarely available	Fast flowing/ rocky area		Aecha/Kapru	September &October	
30	*Glyptothorax granulus*	Abundant/ rarely available	Fast flowing/ rocky area		Aecha/Kapru	September &October	

	SCIENTIFIC NAME	Population status	Ecology/Habitat	Medicinal Uses	Gears/Tools	Breeding season	Preparation
31	*Glyptothorax dorsalis*	Abundant/ rarely available	Fast flowing/ rocky area		Aecha/Kapru	September &October	
32	*Glyptothorax ngapang*	Abundant/ rarely available	Fast flowing/ rocky area		Aecha/Kapru	September &October	
33	*Glyptothorax trilineatus*	Abundant/ rarely available	Fast flowing/ rocky area		Aecha/Kapru	September &October	
34	*Channa gachua*	Abundant	Moderate flow		Aecha	September &October	
35	*Channa marulius*	Abundant	Moderate flow		Aecha	September &October	
36	*Channa punctata*	Abundant	Moderate flow		Aecha	September &October	
37	*Channa striata*	Abundant	Moderate flow		Aecha	September &October	
38	*Mastacembelus armatus*	Abundant	Fast flowing/ rocky area		Aecha	September &October	
39	*Mystus falcarius*	Abundant	Fast flowing/ rocky area		Aecha	September &October	
40	*Mystus ngasep*	Abundant	Fast flowing/ rocky area		Aecha	September &October	
41	*Mystus pulcher*	Abundant	Fast flowing/ rocky area		Aecha	September &October	
42	*Mystus rufescens*	Abundant	Fast flowing/ rocky area		Aecha	September &October	
43	*Clarius magur*	Decreasing	Moderate flow		Aecha	September &October	
44	*Barilius lairokensis*	Abundant	Moderate flow		Aecha/aecha/bekhang	September &October	
45	*Synchrossus berdmorei*	Rarely available	Moderate flow		Aecha/Kapru	September &October	

3.6 Uses of Aquatic Resources

The project was undertaken keeping in mind the following targets with respect to Chakpi River – (a) Aquatic Resources (b) Harvesting tools and techniques (c) Belief systems (d) Governance. A concerted effort has been made to strictly follow the Methods manual; however, some liberties have been taken due to the unique nature of the social milieu and shortcomings of the team.

3.6.1 Consumption as food

Fishing has been widely practiced for ages, serving as both a vital source of livelihood and a means of personal consumption. Local people harvest fish, crustaceans, and herbs found in the river for food, utilizing traditional methods passed down through generations. Local fishermen catch these aquatic resources and sell them for retail purposes, supporting the community's economy and providing fresh, locally sourced aquatic food to consumers. This practice not only sustains the livelihoods of fishermen but also ensures the availability of nutritious food for the local population. Some of the common fishes used as local delicacy are as follows –

a. *Ngaphar* (Monsang)/ *Ngaphal* (Anal)
b. *Ngawo* (Monsang)
c. *Ngatha* (Monsang)/ *Ngapahnu* (Anal)/*Nashun* (Lamkang)
d. *Ngachichuru* (Monsang)/ *Ngakicharoh* (Anal)/ *Ngachichro* (Lamkang)
e. *Ngalim* (Monsang)/*Ngathanu* (Anal)/ *Ngaptre* (Lamkang)

Sosol (snails) for local consumption

Eekang (Crabs) from upstream (*Sulam*).

.

Nga (local fish) for consumption

Ngaparul (Eel) are considered to be a local delicacy.

Figure 18. Important aquatic food groups

3.6.2 Aquatic resources in rituals

Use of herbs in rituals used to be a very common practice among many communities in Chandel. They served as a connection to their hundred years old customs and their beliefs in regard to certain deities. The Monsang community

are no stranger to these kinds of practices, mostly during the pre-Christian period. These herbs are usually found along the Chakpi banks.

Some of these herbs are as follows:

**Aekha* - It is a type of leaf characterized by its greenish colour and big size. As per the elders of Japhou, these leaves were usually used in witchcraft.

**Rangthrei* - A small tree characterized by its long twigs and a height of 2-3 ft. Used in all kinds of rituals as per the elders of the community.

3.6.3 Medicinal uses

Ngalor - A type of fish that resembles an eel but bigger and longer in size. This particular fish had medicinal quality. Fats from the fish were used to treat skin burns by rubbing it on the affected area and quite a delicious fare if prepared properly.

3.6.4 Commercial benefits

Commercial activities utilizing aquatic resources play a crucial role in local economies near rivers. They provide direct employment opportunities for local fishermen supporting livelihoods and contribute to household incomes. It also enhances local food security as fish is a valuable source of protein and nutrients. Furthermore, these commercial activities help preserve cultural traditions associated with fishing practices and promote sustainable management of aquatic resources, ensuring long-term environmental conservation and community resilience. Commercial activities using aquatic resources are crucial for enhancing the local economy, supporting community development, and maintaining ecological balance in river ecosystem

3.6.5 Extinct species

There are some fishes' endemic to Chakpi known to be **locally extinct** as per the elders. Not all could be identified, but the following few were mentioned –

a. *Ngahra* - A type of fish characterized by its unique stripes and patterns with a weight of 5-6 kg (fully grown). Quite a delicacy among people and a prized catch for fishermen.

b. *Ngakhong* - A type of fish characterized by its elongated body and its ability to swim rapid.

c. *Ngatin* – A type of fish characterized by its big size yet short in length, usually has dark scales.

3.7 Harvesting & Community fishing techniques

3.7.1 Traditional techniques

The Monsang community practices three kinds of Community fishing techniques namely, *Thingnharuvuw*, *Chii itu* and *Chiipineting*

3.7.2 Thingnharuvuw fishing:

Procedure for the preparation of *Thingnharuvuw*

Selection of plant is very important in this method. Generally, plant which does not fall its leaves easily is selected because of strong attachment of leaves to their branches can tolerate strong current of water. After selection of plants a branch has to be cut having a bunch of leaf growing moderate to light dense leaf.

Insertion of straw (mostly mustard and paddy straw) is done in order to fill the void and it provides the food for fish which feed on decayed matter.

To act as a sinker some moderate to big size of stone is place in between the leaves. After this, whole system is tight by using rope in order to fix the system.

Fitting of *Thingnharhuvuw*

It is fitted by completely submerging inside the water. And the site of this system is also important we have to check such a bed of water which slightly deeper than other. Because availability of fish is more as compare to other shallow region due to rapid velocity of water body and bottom dweller shellfish is abundant. And the base of the branch or stem should be place opposite to the direction of water current following by tips. By keeping this way, the leaves will not disperse and fall easily. Then it is kept for 7to 8 days.

During this period of time *periphyton* will develop all over the surface of the system, this will attract herbivorous fish mostly having fringe lips. Basically, attraction of fish is also depended on the scent of the plant leaves use, the plant species like *sa e, ku e* (local name in Manipur). And decayed straw attracted fish and shellfish (prawns and crabs). So, the fish and shellfish will come in between the leaves in search of food. This system provided not only the basic food but also shelter for both the fish and shellfish. So, it acts as a FAD (Fish Aggregating Device).

Harvesting of *Thingnharhuvuw*

It should be harvested after 7 to 8 days. The process of harvesting is an important aspect because chances of escaping fish is more if some rules are not properly followed. During the harvesting, we must hold at the base of the stem and drag it slowly opposite to the water current. The leaves along the water current will fold to one another during dragging this will make an obstruction for escape of fish, so there is a great chance of catching maximum fish and shellfish sheltering in the system.

Figure 19. *Thingnharhuvuw* fishing

3.7.3 Chii itu fishing:

A community fishing practice usually conducted in the month of April and May, when the water flow is slow. They smash the bark of a tree named *rhfuphow* and dip them in the water, while making a blockade at the end. The sap of the bark drugs the fishes for a certain period, making it easier to capture them.

Figure 20. *Chii itu*

3.7.4 Chiipineting fishing

A technique where a river flow is blocked with stones, pebbles and branches placed horizontally leaving a small gap in between to capture fishes with *kapru*.

Figure 21. *Chiipineting* (Blocking water current)

3.7.5 The Anal community practices

There are two kinds of Community fishing techniques namely *Parahle* and *Du Etuwn*.

- ***Parahle***: It is a type of fishing practice among the Anal community, usually conducted in the months of April and May, though it can be carried out at any time of the year. During this practice, groups of fishermen smash the roots of a tree named *zellebol* and dip the pieces into the water, creating a blockade at the end of the fishing area. The sap from the roots temporarily drugs the fish, making them easier to capture. The caught fish are usually shared equally among the participants. A specific kind of fish named*nangul* is particularly difficult to drug without the use of *zelle* sap. The practice of *parahle* is typically considered appropriate when certain herbs, known as *annpe pal*, begin to grow, signaling the right time for this fishing activity.
- ***Du Etuwn***: This is a community fishing practice of the Anal Community, usually conducted in the months of April and May. This practice involves the participation of all village members, who move towards the river at night to prepare the necessary equipment. By 2:00 AM, they gather to prepare an herbal drug locally known as *tapow,* derived from the bark of a tree of the same name. The villagers collect and bundle the bark until 8:00 AM.

  They then block the river with two large logs to hinder the flow of fish. Once the river is blocked, everyone steps into the water. At the leader's *"halha hingchaka"* call, the bundles are hammered with a cane known as *aruwchung*. The hammering continues until the fish are drugged by the sap for a certain period. The villagers then collect the fish. In *Du Etuwn*, unlike other communal fishing practices where the catch is shared equally, the number of fish each person picks up is theirs to keep.

3.7.6 Societal aspects of community fishing practices

The Community fishing technique is considered a festival like gathering. It is an annual occasion where elderly men and women, young boys and girls mingle and participate in the fishing. It is mostly limited within the village but there have been examples of people from other villages albeit from same community joining in. The enormity of the river size and fishing procedure requires good strength of men and women. Community fishing encourages unity, brotherhood, and mutual relationships. Most of the time, common feasts are prepared for the participants, but some prefer to bring their own meals. People partake from each other's Tiffin and engage in storytelling during the fishing. The Village Authority entrusts the senior most fishermen to coordinate the entire process. Often the participants engage in singing folksongs while fishing. It is rare to come across few people succeeding in Community fishing.

3.8 Tools/gears uses in Aquatic resources collection/harvesting

1. **Fine-Net**: *Ngachang* (Monsang)
2. **Female net:** *Lengcha* (Anal)
3. **Nupi-in**: *Intha* (Monsang); *Adin* (Anal)
4. **Triangular Net**: *Liin* (Monsang); *Lengsuk* (Lamkang)
5. **Hook and line**: *Nakina* (Monsang); *Khucho* (Anal)
6. **Arrow-Rod**: *Thar* (Monsang); *Hashal/Ngariche* (Anal)
7. [Anal-*Para ekham or ehle, Soraru, Chakuwngpital,Thikhuwngpital, Hnabunpital*]

Figure 22. *Aecha* (Monsang); *Acha/Chaval* (Anal) and *Kchaak* (Lamkang)

Figure 23. *Bekhang/Buwkang* (Monsang); *Bol* (Anal) and *Bor* (Lamkang)

Figure 24. *Kaprur/Erhuw* (Monsang)*; Aruh* (Anal)

Figure 25. *Aerhuw* (Monsang); *Ngoi, Pra-pkang, Kru-huk* (Lamkang)/ Aruhephuwn (Anal)

A certain tree branches called *aerhuw* (Monsang)/*Ngoi, Pra-pkang, Kru-huk* (Lamkang)/ *Aruhe dun or phuwn* (Anal) with fresh leaves are set up horizontally along the river path blocking the flow of the fishes that traps them in between the leaves and then are later collected.

In Chandel, the Monsang and Anal communities employ distinctive traditional fishing techniques and tools that hold profound cultural importance. These collective practices not only foster social cohesion and unity but also promote eco-friendly fishing methods, thereby preserving valuable traditional knowledge and cultural heritage for future generations. Local communities employ traditional techniques to harvest these aquatic resources, utilizing time-honoured community fishing methods and tools. These resources serve multiple purposes, including food, rituals, medicinal applications, and economic livelihoods. Moreover, these resources are deeply rooted in the cultural heritage of the local communities, with many species holding symbolic value and being deeply ingrained in traditional customs and practices.

3.9 Belief systems related to aquatic resources

The term folklore encompasses the traditional beliefs, stories, customs, and legends, transmitted orally, from generation to generation. It holds significant importance as it preserves a community's heritage, including historical narratives, values, and traditions, ensuring they are not forgotten. This helps maintain cultural identity and continuity, especially in aquatic contexts where traditional knowledge about water bodies and fishing practices is vital.

Folklore in the aquatic sector contains ecological knowledge about fish migrations, breeding cycles, and sustainable fishing, crucial for managing and conserving aquatic resources. Traditional methods, like the Anal community's "Parahle" using herbal drugs, are also rooted in folklore and support sustainable fishing by efficiently targeting specific species. Communal activities like the "Du Etuwn" fishing practice of the Anal community foster social cohesion by bringing community members together and ensuring fair resource distribution.

Aquatic folklore often holds spiritual significance, attributing sacred qualities to water bodies and aquatic life. This reverence encourages conservation and respect for natural resources. It also helps communities adapt to environmental changes by embedding knowledge about past events like floods or droughts and strategies for coping.

In conclusion, aquatic folklore is a diverse and essential part of cultural heritage, contributing to ecological knowledge, social unity, spiritual beliefs, and economic activities. It plays a crucial role in the sustainable management and appreciation of aquatic environments, ensuring these resources continue to support communities for future generations.

3.9.1 Taboo associated with aquatic resources

- In the village of Monsang Pantha, there exists a predominant belief regarding the *Chakpi* River and the dangers it poses to couples crossing it together. According to the villagers, many couples have met their

deaths while holding hands and attempting to cross the river, only to be overcome by a sudden rise in water levels and strong currents. The villagers attribute these tragic drownings to a deity known as *'Wangbarel.'* This belief has been preserved and orally passed down through generations as a cautionary tale to prevent future accidents. Even today, the villagers heed this warning and avoid crossing the river hand-in-hand with their loved ones.

- Nurturing mothers are usually advised to avoid visiting the river if there was a recent death of an infant aged two years or younger. It is believed that the spirit of the infant might wander around the river searching for its mother's breast-milk, causing the nurturing mother to fall ill or be haunted.

- During pregnancy, there is a traditional restriction against women consuming crabs(aevum) due to the belief that it poses risks to the growth of the fetus. This belief is prevalent in Anal communities, particularly in Lambung Village suggesting that eating crabs during pregnancy could lead to complications or abnormalities in fetal development. The exposition for this restriction is rooted in cultural practices, emphasizing caution and preventive measures to ensure the health and well-being of both the mother and the unborn child.

3.9.2 Folktales & folklore associated with the Chakpi River & its resources

The mysterious stone of Japhou

- There is a myth surrounding the village of Japhou about a mysterious stone, locally called *"dinuw,"* which is usually found on the riverbed. This stone is believed to be infused with mystical powers, capable of multiplying itself and anything else under favorable natural conditions. However, if placed in an unsuitable location, the stone is said to disappear. The *"dinuw"* is also considered a significant symbol of good luck. Villagers who come across this stone typically place it in a granary, hoping it will multiply their grain supply and solve their food storage problems. This myth not only reflects the villagers' beliefs in supernatural aid for sustenance but also serves as a catalyst, encouraging fishing activities in the river as they search for the elusive stone.

Haunted spot

- There is a particular spot along the river stretch between Japhou village and Monsang Pantha village, behind the United College, Lambung, where as per the eye witness accounts people have experienced haunting when they spent nights or go fishing in the dark.

Legend of Wangbren

- The Chakpi is rife with myths and legends pertaining to a particular deity called Wangbren, who is believed to be the ruling deity of these parts and is be able to shape-shift into several forms including a human and a serpent. There is a popular tale about him where he marries two women, one belonging to the Tarao community and the other from the Anãl community. The local still believes that his wives are still alive and Wangbren would visit them both once a year. It is said that when it is windy, Wangbren would ride the strong winds which would take him to his Tarao wife and would stay with her till the rainy season arrives. During the rainy season (September - October) when the water current is really strong and the water level higher than usual, Wangbren would use these currents to swim downward to his Anãl wife. Over the years there have been many drowning accident in Chakpi during the rainy season and it is believed that Wangbren would take these souls as a gift for his wife, most of the victims usually tend to belong to the Anãl community.

Stone structure

- There is a village called Anãl khullen where people have preserved a stone like structure believed to be the representation of Wangbren and his Anãl wife WL Shangnu.

The cultural heritage of communities is preserved and passed down through folklore and belief systems, which also promote sustainable practices. Taboos and folktales serve as cautionary tales, emphasizing the importance of respecting natural resources, exercising caution, and taking preventive measures. Additionally, folklore enables communities to adapt to environmental changes and cope with natural disasters. The spiritual significance attributed

to water bodies and aquatic life fosters a deep reverence, encouraging communities to conserve and protect these vital resources.

3.10 Governance& Management& its current trends

3.10.1 Current and past institutions and their roles & functions

Each village situated along the Chakpi have been responsible for the health, preservation and conservation of the river since time immemorial. Monsang Pantha village had had a proactive and mutually beneficial relationship with Chakpi. The Village Authority have always been careful, protective and strict when it comes to the matter of fishing, use of aquatic resources, and preservation for future generation. The Village Authorities releases public notification for the welfare of Chakpi from time to time.

Japhou village boasts of a long history of its Chiefs/Kings protecting and maintaining harmonious relationship with forest and river. The Chief/King gives order for the timing of conducting Community fishing and other necessary provisions for the villagers. Japhou has taken some very serious steps and actions in the past to manage proliferation of fishing in Chakpi, maintaining cleanliness, preserving aquatic resources, and minimising accidents like drowning. The Village Authority of Japhou strictly enforces rules and regulations w.r.t Chakpi on village members and outsiders too.

Lambung village, as one of the oldest and strongest Anal village has been following a Village Authority structure which has been followed since the 19th century. In the structure, a separate post has been assigned for Forest & Environment which encompasses Chakpi too. The following are the Village Authority posts:

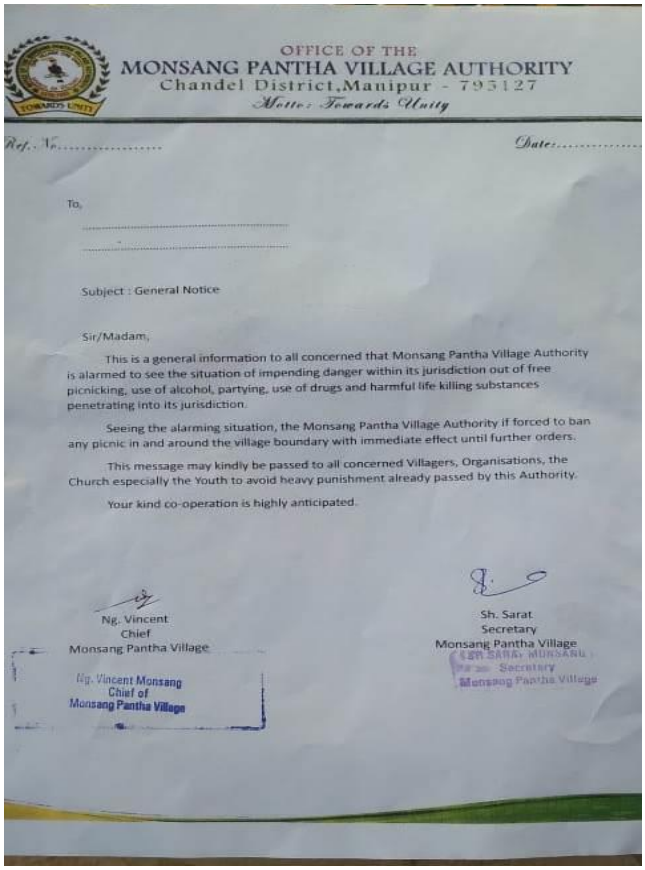
1. Khuruwng/Chief
2. Miruwng/Asst. Chief
3. Bopu/Secretary
4. Tangshel/Mantri
5. Ariipu/Pamruwng/Forest & Environment
6. Damtuwpu/Health
7. Senapati/Donruwng
8. Tholpu/Blacksmith
9. Minruwng/Reepu/Finance
10. Hranhru itnagcha/Kowlvarpu/Power
11. Jolruwng/Women Coordinator
12. Khoruwng/Info & Publicity

The Village Authority of Chakpi has been a crusader when it comes to the conservation and preservation of the river since time immemorial. Public Notifications for village members and outsiders are issued regularly for the wellbeing of the river.

Mantri Pantha has in recent years been quite active in terms of caring for the welfare of Chakpi. The Village Authority shoulders the responsibility by enforcing rules and regulations on the fishermen, village members, and outsiders.

Figure 26. Rules for use of aquatic resources

The order is issued by Anal Naga Chief Association. It reads that harmful chemicals, dynamos, and other substances/techniques unhealthy to Chakpi are severely prohibited. Anyone found guilty of engaging in mentioned activities will be fined Rs 10,000/-.



OFFICE OF THE
MONSANG PANTHA VILLAGE AUTHORITY
Chandel District,Manipur - 795127
Motto: Towards Unity

Ref. No..... Date:.....

To,

.....

.....

Subject : General Notice

Sir/Madam,

This is a general information to all concerned that Monsang Pantha Village Authority is alarmed to see the situation of impending danger within its jurisdiction out of free picnicking, use of alcohol, partying, use of drugs and harmful life killing substances penetrating into its jurisdiction.

Seeing the alarming situation, the Monsang Pantha Village Authority if forced to ban any picnic in and around the village boundary with immediate effect until further orders.

This message may kindly be passed to all concerned Villagers, Organisations, the Church especially the Youth to avoid heavy punishment already passed by this Authority.

Your kind co-operation is highly anticipated.

Ng. Vincent
Chief
Monsang Pantha Village

Ng. Vincent Monsang
Chief of
Monsang Pantha Village

Sh. Sarat
Secretary
Monsang Pantha Village

Sh. SARAT MONSANG
Secretary
Monsang Pantha Village

Figure 27. Sample of Prohibitory Order by Monsang Pantha village

3.10.2 Recent Local conservation initiatives concerning the Chakpi river

Several initiatives by local clubs and village authorities have been undertaken to conserve and protect aquatic resources in the Chakpi River. Notably, the **"Save Chakpi, Save Chandel"** Project by Wisecrabs in 2019 and 2021 aimed to unite communities for thorough cleanliness drives and raise awareness about the importance of a clean and healthy river. The Chakpi River is not only a source of clean water but also sustains food and commercial activities.

The Wisecrabs team visited several schools and villages in the district headquarters to involve students and villagers, attracting the attention of local environmental enthusiasts (see Figure 28). The 2019 community cleanliness drive was the first of its kind in the district, gathering 300 environment-conscious individuals of all ages. The second edition, organized in November 2021, was also a huge success with hundreds of participants, supported by the district's Deputy Commissioner and many well-wishers. This project has deeply impacted the people of Chandel, motivating them to contribute to environmental well-being and educating the younger generation on the importance of conserving the ecosystem.

Following the project's success, many villages have issued warnings to the public regarding sand mining, overfishing, and polluting the riverbanks, which could endanger the natural habitat of aquatic flora and fauna. These countermeasures have effectively reduced harmful activities affecting the river and its resources.

Figure 28. Participants of 'Save Chakpi, Save Chandel' River cleaning project

In April 2023, a one-day cleaning drive called **"One Day Mission of Clean Chakpi River"** in Chandel District, Manipur was conducted as a collaboration between the District Administration and the Maha Area Chief Association, and sponsored by SS. Olish Lamkang, MLA of 41-Chandel (ST) A/C. The drive covered the riverbank from Monsang Pantha to Modi village. The initiative aimed to preserve and protect the Chakpi River, which is the main lifeline of Chandel District.

The management of the Chakpi River's aquatic resources is a collaborative endeavour, involving village authorities, local conservation initiatives, and community members. Together, they work to safeguard the river's well-being, foster sustainable practices, and protect its precious aquatic resources. This collective governance approach ensures a harmonious balance between human needs and environmental stewardship, ultimately preserving the river's integrity for future generations.

CHAPTER 4. CONCLUSION

During the interviews with the fishermen of all age and villages, the common theme was **the lamentable state of fish and crustacean populations**. Fishing is primarily done for local consumption, but the past few years have seen the depletion of local species and discovery of some hybrid species. Furthermore, the fishermen share their concerns and fears of modern fishermen who resort to dangerous, unhealthy, and toxic fishing gear and paraphernalia. These fishermen visit some traditional fishing hotspots and employ chemicals, bleaching powder, and dynamos to get a quick catch, which spells disaster in the long run. The older fishermen spoke at length about the community fishing practices which are almost forgotten nowadays. The team had the good fortune to witness and appreciate some ancient fishing tools and apparatuses belonging to the fishermen. **A Chakpi Information Centre would be a perfect repository of such ancient and valuable artefacts for the awareness of the future generation.**

The idea of organising a special competition among the school students to help provide data and content for the documentation was employed and the results were overwhelming. The school visits resulted in extension and awareness of the project on a wider scale. It proved to be a success in terms of inter-personal and familial dynamics, with children spending time with their parents, grandparents, and elders to hear the stories and practices of the past. The assignments prepared and submitted by the students may not be thorough or entirely correct, however, it provided the context for the discussion and transmission of Traditional Knowledge. Such exercises reiterate the importance of documenting oral knowledge in a written format. The four villages possessed a useful number of historical anecdotes, ancient folklore, cultural practices, and factual incidents associated with Chakpi. These written documents and data will hopefully play an important role for the coming generation by providing a link to the past, and even some wisdom that may prove useful in solving future problems.

Over the course of village visits, the interviews and interactions were videotaped by the team. These videos contain the narration of individuals about their association with Chakpi and aspirations for the future too. These people have spent their entire lives depending on Chakpi and have seen its best and worst days. The interviews took some to their past when they fished freely. However, most expressed their disappointment and concern for the current state of Chakpi. Mindless fishing, use of toxic chemicals & tools, wanton soil mining, introduction of foreign species, and deforestation have endangered the health of the river and its resources. The villagers made suggestions to the team to continue awareness programs and activities for the conservation and preservation of Chakpi. It is heartening to see the local administration alongside the villages taking cognizance of the dangers posed to Chakpi and its resources is conducting meetings, laying groundwork for management, and discussing punitive measures for the wellbeing of the river.

The entire project provided an opportunity for the team to unearth and document the forgotten knowledge of the four villages situated in the upper stream. It was unfortunate to not involve the neighbouring villages who also possess stories, details, and data conducive to the documentation project. Hopefully, these villages will be included in the future projects and efforts are made to make the knowledge inclusive and comprehensive.

In the remainder of this section, we outline some of the potential uses of TK for the conservation of aquatic resources in Chakpi River, discuss the limitations of the study and suggest future directions for research and action.

4.1 Potential value of Traditional Knowledge in conservation of Chakpi River

Traditional communities are hugely dependant on natural resources and in Chandel's case – Chakpi. Traditional Knowledge plays an important role in the conservation of Chakpi and its uses.

1. The documented aquatic resources and their history play a crucial in raising awareness among the locals to appreciate and understand their importance to the survival of the villages and their cultures.
2. Fishermen and villagers have provided the tools, paraphernalia, techniques, and knowledge of ecosystem which can greatly enhance our understanding of past, present and future sustainable harvesting of aquatic resources and the river.
3. The folklore and folk stories are associated to the identity of the indigenous people. These are key to maintaining an organic relationship between the river and people. The superstitions and beliefs may seem

ludicrous, but they are entwined with the identity of local people and often tell stories that contain meaningful lessons or affect local behavior toward the river.

4. The data compiled from the submissions made by the students (pictures, anecdotes, incidents, and figures) could be used for awareness for the conservation and preservation of Chakpi.
5. The Traditional Knowledge assimilated from the locals would play an important role in appreciating the uniqueness of their history and this would inspire them to protect Chakpi from external incursion and exploitation.
6. The Traditional Knowledge could play a key role in protecting the community's ownership in terms of agriculture, livelihood, lifestyle, and habitat in relation to Chakpi.
7. The glorious and abundant past of Chakpi chequered by the ghastly floods could raise the awareness on the river in context of environmental changes, ecological imbalances stemming out of wanton deforestation, sand mining, indiscriminate & toxic fishing.

4.2 Limitations of the study

The five-month long project which was supposed to begin in January 2024, was inundated with initial hiccups due to the festivities and social engagements in Chandel. It took some time to finally arrange a plan to conduct interviews with the fishermen, elders of the villages, and ordinary villagers. It is always a difficult proposition to bring the villagers under one roof for a meeting unless it's Sunday or some special occasion. The content accumulated is the result of painstaking meetings with the individuals, groups, and village gathering. Language was another barrier for the interviews and interactions. All four villages have their respective dialect, with Manipuri being the common language. However, some elders aren't fluent in Manipuri, hence, translations were needed. Furthermore, any outsider visiting villages to conduct programs or projects are usually viewed suspiciously. The presence of females in the visiting group provided calmness and rapport between the villagers. Initial efforts were made to make the villagers understand the meaning and importance of Traditional Knowledge, followed by the details of Aquatic Resources in Chakpi. Credit to the villagers of Monsang Pantha, Lambung, Mantri Pantha, and Japhou for allowing the visiting team to the inner circle and making concerted efforts to participate and provide invaluable data and stories.

More specific imitations of the study included the following.

1. Lack of time – It is a fact universally accepted that any research study/project is never given enough time to conduct the work satisfactorily. The timing of this project was beset with the season of festivities, meetings, and unfavourable socio-political atmosphere in Manipur.
2. Language barrier – The four villages identified as per the Terms of References have four different languages. The interviews/interactions had to be conducted at times with an interpreter or someone from the visiting team fluent with the local dialect.
3. Unavailability of interviewees/experts –The irregularity of attendance during the interviews and village visits proved to be a disappointment at times. The schedule made it difficult to wait on the interested person and unfortunately, omissions had to be made.
4. Four villages – The limitation of the study with regards to Monsang Pantha, Japhou, Lambung, and Mantri Pantha villages resulted in leaving out villages situated in downstream, notably in Chakpikarong subdivision. The prospect of collecting and documenting Traditional Knowledge from these omitted villages is huge and could be included in future studies.
5. Lack of Scientific researches – There are more aspects of Chakpi which are yet to be scientifically researched or tested. The water quality, soil quality, salinity, new fish species, types of plants and herbs found etc could be the key elements to be studied in future.

4.3 Proposed future directions for research

Documenting traditional knowledge of the Chakpi River plays a crucial role sustainable management of aquatic resources by preserving valuable information that can support sustainable practices and empower communities. The following are the proposed future directions for research in Chakpi.

1. This repository of traditional knowledge will help immensely in preserving cultural heritage of the villages and the identity of indigenous and local communities. Sustained efforts could be made to continue research and documentation of traditional knowledge, especially among under-represented groups and other communities.
2. Taboos against fishing in certain parts of the river at specific times should be investigated to see if indeed these restrictions increase fish stocks.
3. The Chakpi embankment and length is not the same when compared to the condition decades ago. The resources found in and around the river have undergone drastic changes for better or worse. The future research could study in detail and also track the changing pattern of resource availability and harvesting pressures.
4. The documentation provides detailed understanding of local ecosystems, species behaviour, and ecological interactions. It would be useful to document if and how the documentation is indeed used for conservation efforts in the future.
5. The knowledge on Chakpi and aquatic resources helps in conflict resolution and resource sharing among community members. Documenting these practices can help maintain social harmony and equitable resource distribution.
6. Collaborative efforts on identification of spawning grounds of fish and crustaceans might lead to innovative solutions and improved management strategies for protection of fish habitat.
7. Further research needs on habitat study of specific species, cross verification of scientific and traditional knowledge, will greatly help too.

ANNEX 1. RESPONDENTS' DEMOGRAPHIC DATA

MONSANG PANTHA VILLAGE (21ST April 2024)

SL. NO.	NAME	AGE	SEX
1	NG. WARNITIN	57	F
2	TS. RAMESH	45	M
3	NG. ANIL	41	M
4	SH. TAMILA	51	F
5	TS. LUCY	45	F
6	W. SHELON	62	M
7	SH. KINGDOM	38	M
8	TS. ANGNO	70	M
9	TH. THANINGLA	43	F
10	W. NGAITIN	54	F
11	NG. SHALLY	45	F
12	W. BORSON	47	M
13	W. NAINU	39	F
14	K. ALICE	54	F
15	SH. MONINGTIN	47	M
16	K. LARNINGAM	46	M
17	KH. PHAMLAR	72	M
18	SH. KONINGSHING	44	M
19	W. KONINGPHAM	56	M
20	W. SHANGPHANI	64	F
21	TH. HENRY	37	M
22	TS. PEPELA	38	F
23	H. TOSHING	40	F
24	H. PHAMKHUNG	60	M
25	W. WARSHING	52	M
26	SH. JIMMYSON	48	M
27	KH. TOTONI	53	F
28	KH. TINGAMLA	37	F
29	TS. PHILLIP	39	M
30	TS. ANGLORHRING	43	M
31	TS. PETER	46	M
32	H. GEBION	38	M
33	W. ELER	36	M
34	NG. INGNINGTIN	53	F
35	W. LERTUNG	53	M
36	W. LIMPHU	66	M
37	W. REBECCA	58	F
38	KH. FIRSTSON	36	M
39	K. SOREILA	36	F
40	NG. TONEM	41	F
41	SH. DENINGPHAM	43	F
42	SH. NINGTUNG	45	F
43	W. CLERISHA	33	F
44	SH. WILSON	45	M
45	NG. RAMESON	43	M

Total attendees – 45 Males – 25 Females - 20

LAMBUNG VILLAGE (28TH April 2024)

SL.NO.	NAME	AGE	SEX
1	KL. WELLEE	54	M
2	ST. RUWNGNGAM	69	M
3	WS. LAMPHEL	66	M
4	KL. JAMUNA	59	F
5	SNG. PHAMHRING	55	M
6	LH. ROMCHING	47	M
7	LH. NOAH	43	M
8	MONOSH	32	M
9	PS. KONING	64	M
10	KL. KOLTHANG	33	M
11	SNG. CHARSHING	52	M
12	WNG. KHIHRING	43	F
13	RL. KIRAN	37	F
14	RL. MOHONSHING	41	M
15	PS. ANGSHING	65	M
16	KL. DAMTHAHRING	37	M
17	KL. ARON	48	M
18	PS. STARSON	57	M
19	WNG. PENAHRING	53	F
20	BS. SHANGMANU	49	F
21	NL. TONILIA	37	F
22	RL. BENGAM	58	M
23	SNG. KANTHUNG	63	M
24	PS. KAHRING	38	M
25	WL. ANGBOR	49	M
26	WS. MONOSHING	58	M
27	TS. BENINSHING	40	M
28	AT. KHISHUNG	43	F
29	PY. KOTIH	65	M
30	PY. KHINO	75	F
31	SNG. PEKHAM	46	F
32	KL. ANGLARNI	39	M
33	Rev. SNG. NELSON	43	M
34	TS ELIUS	38	M
35	TS KONINGWAR	43	M
36	HL TOSHANGKHI	26	F
37	RD MINY	33	F

Total attendees – 37 Males – 26 Females– 11

SL. NO.	NAME	AGE	SEX
1	KH. ANGWARSON	45	M
2	KH. ANGWARSON	45	M
3	KH. SAMSON	51	M
4	KH. MOLHUNG	32	M
5	SS. BEMONG	60	M
6	KH. SIYEN	58	M
7	KH. DEVAN	45	M
8	D. SHANGVOR	38	F
9	D. SOLOMI	30	F
10	K. ANGHMAN	36	M
11	SS. MARY	56	F
12	SK. KHINO	45	F
13	D. DINGKO	57	M
14	SS. THUMVOR	65	M
15	SK. ESTHER	39	F
16	SK. WARMI	88	F
17	KH. HORMI	47	M
18	SK. BUNGTHO	64	F
19	KH. MAMEE	58	F
20	KH. OLIVIA	37	F
21	SS. DUNGKHAM	54	M
22	SS. GINET	58	M
23	D. BOLTHA	75	M
24	SK. VICKY	49	M
25	SS. HILLARY	53	M
26	D. VILLICE	55	F
27	SS. SHANGJANG	64	F
28	SK. MICHEAL	45	M
29	SK. THOTSON	36	M
30	SK. BILLY	42	M
31	SS. ANGSHING	37	M
32	D. THLINGSHENG	38	M
33	D. WILLIAM	44	M
34	D. MICAH	43	M
35	KH. KHINI	39	F
36	KH. TOLINI	43	F
37	KH. MOTOI	64	M

MANTRI PANTHA VILLAGE (5th May 2024)

Total Attendees – 37 Male – 24 Female - 13

JAPHOU VILLAGE (19th May 2024)

SL. NO.	NAME	AGE	SEX
1	K. SAMUEL	40	M
2	K. LORDSON	40	M
3	SH. TOWNSHING	47	M
4	H. ROLLY	45	M
5	TS. WELSON	38	M
6	W. HEMASHING	68	M
7	H. CHRISTSON	42	M
8	NG. ANNAROSE	34	F
9	NG. SHAKHILA	41	F
10	K. AREILA	33	F
11	KH. HRINGKUNG	55	F
12	SH. HEININGAMSHING	60	M
13	W. ANGPONG	57	M
14	KH. NGAMNICHUNG	64	M
15	SH. MARIAH	35	F
16	W. BOBBY	43	F
17	W. RAMSHING	57	M
18	NG. SHANGHONG	54	F
19	SH. MOLUN	55	M
20	W. SAROJINI	72	F
21	KH. MANJILA	57	F
22	K. NOEL	34	F
23	SH. BETIN	74	M
24	NG. SHANGHRING	55	F
25	K. TONINGLA	43	F
26	KH. SOTHING	37	F
27	W. WARNINGPHA	54	F
28	NG. PHAMSHANI	30	F
29	SH. KHAMBI	34	F
30	SH. JOYPHA	46	M
31	KH. JOHN	68	M
32	K. TATHANGAM	76	M
33	NG. MORNINGSON	35	M
34	H. KIKIM	36	F
35	NG. MOLARHRING	57	M
36	TS. KOTHAR	68	M
37	TH. KONINGPHA	54	M
38	SH. BENING	49	M
39	W. RUWNGSIN	35	M
40	H. HARMI	46	M
41	SH. BORMANI	42	F

Total Attendees – 41 Male – 23 Female -18

ANNEX 2. QUESTIONNAIRE ON TRADITIONAL KNOWLEDGE

Species specific information on Aquatic Resources in Chakpi River

(After showing individual pictures of various specimens for identification)

1. What do you call it in your local dialect?
2. Any changes in the species in its appearances from the past? Does it change its appearance overtime like seasonal or annual?
3. Where does it live? Any specific habitat? Or does it migrate?
4. Any knowledge about its lifecycle? (Birth, growth, migration, mating, spawning, & death)
5. Is it abundant or rare in your area?
6. Do you know what it eats? When and where?
7. Does it have any other uses for people? (food, medicine, material, ornament, commerce, recreation, ritual, etc)
8. How do you collect/harvest/catch it? Could you describe or demonstrate the technique? What tools or other materials are used?
9. What rules/practices must be followed to collect and use this item?
10. Are there any religious rituals required? Were there any prior to the advance of Christianity? What happens if someone does not follow the rule?
11. Are there any sayings, proverbs, songs, prayers, or stories associated with the Chakpi?

ANNEX 3. INTERVIEW SCHEDULE

SL NO.	INTERVIEWEE	DATE
1	Mr Ng Vincent (Chief, Monsang Pantha)	15/04/24
2	Monsang Pantha villagers	21/04/24
3	Mr Ng Rameson Monsang	23/04/24
4	Mr Dy Alam (Chief, Lambung)	23/04/24
5	Lambung villagers	28/04/24
6	Mr Bemong Lamkang (Chief, Mantri Pantha)	03/05/24
7	Mantri Pantha villagers	05/05/24
8	Mr W Hemasing (Chief, Japhou)	17/05/24
9	Japhou villagers	19/05/24
10	Mr Sh Betin Monsang	20/05/24
11	Mr Sng Wurngam Anal	27/05/24
12	Mr L Wolring Anal	29/05/24
13	Dr Bd Thumdal (Principal, United College)	30/05/24
14	Mr Kiirii Ngamthin Monsang	31/05/24

*****

Deutsche Gesellschaft für
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