AGRICULTURAL PRACTICES IN NAGALAND: A HISTORICAL STUDY

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CERTIFICATE

This is to certify that the research data presented in this accompanying dissertation titled "**Agricultural Practices in Nagaland; A Historical Study**" has been carried out by Vehutalu Vero bearing Regd No. 771/2017 under my direct guidance and supervision. The present work is original in its content and has not been submitted in part or full for any degree or diploma in any other University/Institute

It is further certified that the candidate has fulfilled all the conditions necessary for the award of the Degree of Doctor of Philosophy under Nagaland University.

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DECLARATION

I, Vehutalu Vero, hereby declare that the subject matter of this dissertation titled "*Agricultural Practices in Nagaland; A Historical Study*" is the record of work done by me, that the contents of this dissertation did not form the basis of any previous degree to me or to the best of my knowledge to anybody else, and that the dissertation has not been submitted by me for any research degree in any other university/ institute.

This is being submitted to Nagaland University for the Degree of Doctor of Philosophy in History.

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Chapter-1

Introduction

1.1.Introduction:

Agriculture, in the broadest term, is used to describe the various ways in which crop plants and domestic animals provide food and other products to the world's population (Harris & Fuller, 2014, p.104). Etymologically, the word 'agriculture' is derived from the Latin word agricultura, which means 'cultivation of the land.' But it has come to mean much more than that. It comprises a wide spectrum of activities, including more than just tilling the land to grow crops for consumption and others. Harris and Fuller (2014) stresses two important fundamental processes that resulted in agriculture, i.e., cultivation and domestication, which ultimately resulted in agricultural food production. They are also considered as a cause-and-effect relationship or pull-and-push effect (Price & Yosef, 2011, p.168). A change in human behaviour that influenced genetic adaptation and increased the independence of both species. V. Gordon Childe describes it as the first revolution that gave man control over his food supply (Childe, 1936, p.74). The evolution of man from a hunter-gatherer stage to that of the neolithic settled agricultural stage is considered one of the greatest achievements of human beings. This development in human evolution to produce food and other products from domesticated plant species and animals is considered the gateway to new social and economic complexity in human cultural evolution and affects all life concerned (Barker, 2006; Childe, 1936; Diamond, 2002). Dorian Fuller defines domestication and the rise of agriculture as representing two distinct evolutionary processes, although interconnected, displaying unique characteristics. The act of cultivation is dictated by human actions and learned practices passed down through cultural means rather than genetic inheritance. This involves the preparation of land utilizing various technologies (material culture), planting seeds, and propagating plants. While cultivation encompasses these activities broadly, the concept of agriculture typically denotes a larger scale of cultivation that is more systematic, serving as a central aspect

of community life and economy, which may or may not involve the management of livestock (see Fuller 2023).

Food production is critical to human survival, and scholars have long been fascinated by agriculture, its history, and its impact on population and society. Archaeologists generally emphasise two significant revolutions in agricultural history: the Neolithic Revolution, in which man first started the process of growing plants and the domestication of animals and agriculture spread, and the Industrial Revolution, which allowed food to be produced in larger quantities for a more commercial process (Flachs & Glenn, 2013). Rindos (1984, p.100) describes agriculture as 'an environmental manipulation within the setting of human symbiosis with plants.' Substantial agricultural developments were made during the Neolithic Revolution. Hunter-gatherer groups began to domesticate various plants and animals, allowing them to settle down and practice agriculture. This helped them to produce more food than hunting and gathering. Agriculture did not emerge in a particular region but is rather said to have appeared almost synchronously all over the world. It could have happened through trial and error with various plants and animals or through extensive experience. The domestication and global spread of plants and animals have had a greater impact on the landscape than any other single change in human history. Agriculture's discovery was a significant developmental milestone because its associated sectors of the economy provided the foundation for the early stages of civilisation (Atkins *et al*.,1998, p.13).

Agriculture has a long history in India. It is several centuries old. Agriculture in India is thought to have begun around 10,000 years ago along the western tributaries of the Indus River (Allchin, 1968; Kingwell-Banham *et al*., 2015). It differs in different parts of the country due to the coming together of people from various areas, the interweaving of domestic crops as well as the adoption of various wild and domesticated crops (Fuller, 2014, p.390). The earliest literary reference to agriculture or the clearing of forests for cultivation can be found in the ancient Vedic text of the Mahabharat and the Ramayana. It mentions that with the human population increasing, the forest was cleared for cultivation. It also narrates a legend about a king named Prithu who milked the earth (Prithvi) in the form of a cow, signifying the start of agriculture. Prithu was also credited with the feat of clearing forests and establishing

organised agricultural settlements and townships (Kumar, 2008, p. 301). We also have a reference to the early agricultural practices and tools used by the Vedic people in the Taittiriya Samhita of the Yajur Veda (Allchin, 1968, p. 265).

During the colonial period, the first initial task of documenting the agricultural practices of the people in India was initiated with the establishment of the agricultural department by Lord Mayo. Despite the rural agrarian economy of India, there has been a lack of work of this nature. The study of agriculture as a subject began to gain importance in the growing light of the changing historical perspective on development. In "The Agrarian System of Moslem India," William Moreland is said to have written the first writing on agrarian Indian history (cited in Ludden 2005, p.13). He made the first-ever attempt to portray agricultural growth in the light of the state-power relation (Ludden, 2005, p.8). Ludden (2005) historically defined agriculture as the social organisation of physical powers to produce organic material for human use. In simple terms, agriculture is also defined as the practice of cultivating the soil for the growing of crops and rearing animals. Some of the early nationalist historians like Irfan Habib's (1963) work on the Agrarian System of Mughal India and Bipan Chandra's (1966) work on the Rise and Growth of Economic Nationalism in India are some examples of studies which have been done on the agrarian nature of the state in early India. However, it is also restricted by its area concentrated mainly on land revenue relations and state power dominance. MS Randhawa's (1980) A History of Agriculture in India, which is divided into four volumes, also gives us a detailed study of the agricultural scenario in India from the earliest times to the green revolution. Agrarian history can be seen to be not just a history of local affairs but an institution that has conditioned the state and other social institutions.

Studies on the agrarian system of India have long been confined to the mainland for a very long time. It is time to scrutinise the study and shift the focus to the Northeastern region. In the realm of human resources and environmental aspects, Northeast India offers an intriguing subject for examination. Given the region's geographical location where South Asia, East Asia and Southeast Asia encounter, various cultures and people have merged and interacted, influencing each other. The region is rich with natural flora and fauna resources, providing the ideal environment for any culture to flourish. D.K. Medhi (2003) has classified this region as "The Great

Indian Corridor" (cited in Manjil Hazarika, 2006a, p.26). This region is also classified as an important region in world archaeology. It has played a crucial role in the domestication and human evolution of the cultivation of food crops. India is considered the centre for the widest variety of rice domestication, and the Northeast India region offers the most favourable area for this study. It was at the site of Lahuradewa (Eleanor Kingwell-Banham *et al*., 2015, p.273; Fuller, 2011; Murphy & Fuller, 2016, p. 350; Tewari *et al*., 2006; Thakur et al., 2018) that the first evidence of rice cultivation in South Asia was found in the country. K.C. Agarwal (1996) has also described the Northeastern region as one of the main regions of the Vavilovian centre of biodiversity and the centre of many species of plants and animals (cited in Manjil Hazarika 2017, p.45). Even in the current period, though Northeast region produces rice mainly for self-consumption, it offers the widest variety of rice, both domesticates and wild. Northeast India also offers rich floral and faunal resources. Recognising the importance of this, it was in the International Indo-Pacific Prehistoric Congress (20-23 December 1978, Pune, India) that, for the first time, North-East India was seen as a potential area for the domestication of several domesticated plants and that the region may be a cultural bridge between India and Southeast Asia was recognized (cited in Hazarika, 2006b).

Similarities between the Neolithic tradition of Northeast India with those of Southeast and East Asia are evident not only from archaeology such as the ground stone tool making tradition, cord-impressed pottery but also in its rice agriculture. The Neolithic culture of Northeast India shows more affinities with its neighbouring areas of South and East Asia than the Indian mainland Neolithic tradition. Northeast India also seems to have linguistic affinities with its South and East Asian counterparts. Fűrer-Haimendorf (1971), in one of his early writings, draw to attention some kind of cultural parallels between the Northeastern tribes of India and the people of the Philippines. He elaborates on the broad similarity between the two groups of people despite their great distance. There are also similarities in the ecology and agriculture practices, especially in the construction of the elaborate terraced fields by the Angami tribe of Nagaland, the Apa Tanis of Arunachal Pradesh, and the Ifugao's of the Philippines (Fürer-Haimendorf, 1971, pp. 340-341, Bareh,1970, p.19).

In recent times, few historical linguists, and archaeologists like George van Driem (2008), Roger Blench (2008), and Peter Bellwood (2003) have attempted to study the prehistory as well as the dispersal of the Neolithic tradition in North-East India with a comparative and historical linguistics approach. Fuller (2011a, 2011b, 2014) and Hazarika (2006a, 2006b, 2017) have also extensively worked in recent years trying to find the origins of agriculture in the Indian subcontinent. Manjil Hazarika has particularly focussed his research on the archaeology of the Northeastern region with particular reference to the cultivation of rice and other cereals crops. Fuller puts forward that the introduction of rice, especially the Japonica rice variety, could have been from the Northeastern region of India. He introduces the notion that the diffusion of agriculture into the Indian plains could have been through the Assam plains (Fuller, 2011b, pp. 81-82).

George van Driem (2008) also suggests that the linguistic palaeontology and the native lore both indicate that the ancient Tibeto-Burman to which the Northeast India majority population belongs, were cultivators of broomcorn millet *Panicum miliaceum* and foxtail millet *Setaria italica*. In contrast, the ancient Austro-Asiatic, which formed the other group in North-East India, was the most likely candidate for the cultivators of rice (van Driem, 2008, p.319). The Tibeto-Burman-speaking population was probably assumed as the first farming communities of the northeast that introduced rice cultivation system, which originated from East Asia (Hazarika, 2006a, p.34). Van Driem (2017) and Kingwell-Banham *et al*. (2015) have described the northeast region and surrounding regions nearby as a region that introduced a third variety of rice different from *Oryza sativa*, which is considered one of the earliest varieties of rice cultivated by the neolithic communities of the region.

While the growth rate of Indian agriculture has been slackening, the pace of agricultural growth in the Northeastern regions has been slower than in the rest of the country. Tirthankar Roy (2007) views the Green Revolution to have occurred very unevenly in South Asia. The Green Revolution was primarily limited to the North-Western parts of the country and has not found expression in the Northeastern States for a variety of reasons. In terms of development indices, Northeastern States are among the most backward in the country. The green revolution in the rest of the

country has revolutionised the agricultural scenario by adopting new technology, introducing hybrid seeds, extensive irrigation, etc. It made India a self-sufficient producer of food grains within a short period. However, this improvement was not witnessed much in the Northeastern states. This can be so because the Northeastern region agricultural scenario is very different from the mainland region in reality. What the nation's planners had envisioned for the rest of the country could not have been feasible for the Northeastern region.

Agriculture is an integral part of the economy of the Northeast, and more than half of its population is engaged in it. The development of its region depends on it. One of the principal factors which is considered for the region's poor performance is the imbalance in agricultural development levels among the region's states. The contribution of Northeast India to the nation's agricultural production accounts for only 2.8 % in comparison to its agricultural land percentage of 3.4 % (Gogoi & Hazarika, 2014, p.2). The region is characterised by a high reliance on agriculture, low levels of modern inputs, reliance on traditional farming methods, subsistence farming, low productivity, and so on. Shifting Cultivation is the common agricultural production practice in the hills of Northeast India, while Terrace farming and settled cultivation are practised in some areas. The predominance of a wide variety of topography with mountainous terrain and unique socio-cultural systems inhabited by a mix of different ethnicities with diverse cultural principles and cultivation practices are considered the reasons for the existing disparities. Agricultural development is inextricably linked to the region's economic, social, and political development. Agriculture and human development is a two-way relationship. Though the region has been blessed with natural agricultural resources, for a variety of reasons, the development in the Northeastern region of India has been constrained, which has hampered the economic development of the region.

Some of the earliest colonial ethnographers like J.P. Mills in *The Lotha Nagas* (1922), *The Ao Nagas* (1926) and *The Rengma Nagas* (1937); J.H.Hutton in *The Angami Nagas*(1921a) and *The Sema Nagas* (1921b), Verrier Elwin *The Nagas in the Nineteenth Century* (1969) and Furer-Haimendorfs' *The Naked Nagas* (1993) reports of their foray into the lands of the Nagas which they recorded through individual and first-hand accounts, have discussed on the Naga traditional cultural life of the people,

customs and way of life including agricultural practices. Over the years, anthropologists, economists, and others have tried to analyse and study the agricultural system of the people. The present study attempts to explore how agriculture forms an integral part of the life of the people in Nagaland economically, socially, culturally, and historically. It also examines how agriculture in Nagaland as a traditional system has managed to survive throughout this time, the various beliefs and customs attached to it, the history of the agricultural institutions, the various developments made, and issues faced in agriculture. The study also attempts to assess the region's historical linguistic pattern and syntax and try to compare the various agricultural terms used locally and analyse the historical linguistic phyla of the agricultural terms. This would further allow us to analyse whether the agricultural practice in the region was concurrent with the linguistic dispersal in the region.

As a result, this thesis aims to investigate the practice of agriculture in Nagaland, the associated traditions, the advancements made in this field, and the vernacular terms used in agricultural practices from a historical standpoint.

1.2 Literature review:

Eleanor Kingwell-Banham, Cameron A. Petrie and Dorian Q. Fuller (2015), in their article '*Early Agriculture in South Asia'* in *The Cambridge World History* (eds), examines the beginning of agriculture and various crops planted in South Asia during the transitional Neolithic period. They provide a very comprehensive archaeological description of how agriculture in South Asia is diverse and affected by the influx of elements from within as well as outside. The agricultural scenario is believed to be the outcome of the interaction of numerous agricultural and demographic currents. Various climatic conditions and monsoon activity are also said to have influenced the region's crop cultivation transition. One of the earliest evidence of the burning of vegetation for cultivation in South Asia is also said to possibly have been a result of the early farmer's effort to control the vegetation to provide an ideal location to grow weed-free location to grow rice (Kingwell-Banham, *et al*., 2015, p.274).

They also observed that the agricultural neolithic traditions in the South Asian region demonstrate varied approaches across different locations, each following unique paths that ultimately supported the significant population of the Indian

subcontinent. On the contrary, despite the presence of extensive archaeological evidence of ancient farming practices in mainland South Asia, the lack of archaeological findings and research in the eastern region has hindered the investigation of the early origins of agriculture in that area. Nevertheless, this particular region warrants further scrutiny, potentially altering the nation's examination of early agricultural practices. The agricultural neolithic customs in the South Asian region exhibit diversity across different areas, each following distinctive trajectories that ultimately sustained the substantial population of the Indian subcontinent.

David Ludden (Ed, 2005), in "*Agricultural Production and South Asian History*", describes how the study of agricultural production has shifted. The analysis of the agricultural output is no longer guided by the central aspect of capitalism and profit loss, but it has now come to include much more. The study of agrarian history has now found its place in other spheres as well. The studies reflected in the book connects agriculture with the studies of changing development, where historical methods can be applied to study the uneven development across South Asia. Ludden describes how spatial disparities are seen to create uneven economic growth across different areas. This disparity can result from various social, political, or cultural trends. He also explains how this difference has spread across time, space, and regions, where it has created inequality not only economically but socially as well. Today, agrarian history includes much more than just documentation of government policies and land reform. This uneven development can also be attributed to gender disparity, as Ludden explains how the uneven distribution of property can aggravate gender inequity even in Kerala, the State most famous for equal economic development. Historical research can thus be used to understand these various changes and growth.

Ludden describes how in the pre-colonial period, the texts on agricultural production dealt more with the collection and assessment of revenues and how colonialism created agriculture as a subject of observation. This study was manipulated by the higher social classes whose written legacy dominates the historical records. It was only with the emergence of the new intelligentsia that they started to use data on agrarian conditions against colonial rule. With the growth of the new intelligentsia, they now began to view at agrarian history from an all-new perspective.

Universities and other development agencies now began to view from a different standpoint, a scientific view that gave a more scientific viewpoint outside politics. The studies of agrarian history began to gain a new force with the rising need to analyse agricultural trends and focus on regional studies. Each region has its agrarian movement with its distinctive tradition, and a survey of this adds its own to the agricultural history of India.

David Ludden (1999), in another book of his, *The New Cambridge History of India Vol.IV, An Agrarian History of South Asia*, also discusses how agrarian discourse has changed over time. With time, the discourse on agrarian history began to be institutionalised and studied on an educational level where research was conducted and analysis was done. He discusses the evolving nature of the study of agrarian Indian history from the pre-colonial days until the modern era. In general, the historical profession turned away from politics and economics toward society and culture. He also explains how agrarian history unfolds in the seasons of everyday life in agricultural societies and how traditions and local knowledge have always influenced the agricultural practices of that area or space. The agrarian space is not simply an affair of farming but also involves space, geography, labour, and the local mythologies engaged in agriculture that have always defined and shaped it.

H.C Taylor (1936), in his volume *The Historical Approach to the Economic Problems of Agriculture*, notes the importance of a historical approach to the problems of agriculture. He comments on how the agricultural student has, over the years, confined themselves to the study of agriculture from a theoretical view and that there is a need to approach it from a different viewpoint. He stresses the importance of studying the historicity of the origin of agriculture beginning from the colonial period.

M.L Wilson (1937), in *Cultural Pattern in Agricultural History*, narrates the changing phases of historical study. In the past, when political history dominated the changing times, he finds that the historical journals today include so much more variety. There is a growing accumulation of separate studies within the field of history. There is also a need to connect these various growing studies of men and society with cultural patterns, and this appears more feasible or of greater value than in agricultural history. Within a rural cultural unit, there is a need for generalised consideration of all the various phases of social life, methods of cultivation, economic processes, tenure

systems, political preferences and developments, and the shared attitudes toward all these matters. In his opinion, each of these must be considered in the light of all the others, and all must be considered together.

J.H Hutton (1965), in his paper *The Mixed Culture of the Naga Tribes*, narrates the different cultural patterns of the Naga tribes. The Nagas seems to have been a wandering tribe with their cultural affiliation spread over a significant part of Southeast Asia. Hutton observed that there are many close parallels between the cultures of the Naga Hill tribesman and those of the areas of Southeast Asia. These similarities are evident not only in their physical features but also in their agricultural traits. There are many cultural and linguistic affiliations between these two areas, which seem so far in space yet so near in culture.

John Thomas (2008), in his article *Missionaries, Colonialism and the writing of History among the Nagas*, writes of the colonial impact on the concept of history among the Nagas. He narrates how the American missionaries, with their concept of civilising the savaged tribes, began to change the understanding of the Naga's concept of their history. The colonial writers dispelled the Naga's rich historical tradition of narrating their past and passing on history as being that of a static society stuck in the past. However, on the contrary, he says that "these points more towards a society which had a tremendous sense of history, a society that was conscious of its past and was able to live the present in constant interaction with that past". The American missionaries' concepts of evangelisation among the Nagas were mainly guided by their idea that they needed to draw them out of darkness into light and civilisation.

He further explains how because of their early contacts and works with the American Baptist missionaries, the Nagas began to change. They began to view their history as being stuck in the past and 'entrenched in barbarism and bondage'. This deep-rooted and hegemonic presence of this concept of history, he further says, is evident from the fact that various sections of the Naga society, from the pastors, teachers, agriculturists, students, etc., are all structured by this concept of colonial missionary history. He explains the presence of a 'double consciousness' which has shaped the Nagas because of their contact with the American missionaries and in the company of a growing consciousness which has gripped the Naga society to reclaim their past as their own.

Peter Pels (1997), in *The Anthropology of Colonialism; Culture, History, and the emergence of western Governmentality*, comments on the nature of colonial writings and how it has shaped anthropologist writings and study since the first coloniser. He further comments on how there needs to be a change in the study of history itself. "History itself needs to be deconstructed." He explains how the analyses of colonialism increasingly stress the nonverbal, tactile dimensions of social practice: the exchange of objects, the arrangement and disposition of bodies, clothes, buildings, and tools in agricultural practices, medical and religious performances, regimes of domesticity and kinship, physical discipline, and the construction of landscape. There needs to be a change in the study of anthropology itself, which was influenced by the colonial, which would help to study anthropology in a new light, a study of the present as a continuation of the past development, good governance, and all.

Roger Blench (2005), in *From the Mountains to the Valleys: Understanding ethnolinguistic geography in Southeast Asia*, discusses the role played by the study of language phyla to know and study the spread of rice cultivation in South East Asia and how the different ethnolinguistic spaces over South East Asia are connected by this. He further explains how much of the archaeological debate on rice systems focuses on the genesis of states or otherwise, but the evidence suggests otherwise. He argues that since most of this expansion took place when there was no historical documentation, this can be studied through archaeology and historical linguistics. He also further explains how a comparative study of the various terminologies associated with rice in the different linguistic phyla can help us reconstruct and study the ethnic-demographic spread of the culture. He also further brings to attention how the debates on the prehistory of rice in Southeast Asia have focussed on two main issues, i.e., the link with language expansion and its role in the rise of the state system.

In another of his article, *The Contribution of Linguistics to Understanding the Foraging/farming Transition of North East India*, Roger Blench (2012) examines how the archaeology and prehistory in North East India remain poorly developed and the lack of any definite evidence of archaeo-botanical and archaeo-zoological materials have consequently hampered our understanding of the transition of the people of his area from a hunter-gatherer stage to farming. He further opines how a corridor of the Northeastern region connects the area of mainland India and Yunnan and how a study

of this region would considerably help to know about the oral and material culture which has spread along this line. According to him, one of the methods through which we can achieve in the reconstruction of the prehistory of North East India is the use of comparative and historical linguistics. This involves the compilation of a list of vernacular names for crops and animals or other subsistence items for as many languages as data are available and using similarities between lexical items to track borrowings and reconstructions. Based on the linguistic diversity, he interestingly observes that the Naga probably migrated westwards into the region as forager/vegeculturalists before 6000 BP, and it was only with the incursion of the Indo-Aryan into the Brahmaputra valley and the evolution of the Assamese that this population may have introduced wet field rice cultivation, a technique which was previously unknown. He further argues how vegetative crops and a pseudo-grain such as Job's tears were the basis of subsistence in the region before rice and millets became the dominant staple.

G.S Bhalla (1988), in his work *Agricultural Development in India*, comments on the agricultural scenario in India and how, in the post-independence era, a broad development was observed with the adoption of the Five-year Plan and its focus on agriculture. He notes how for a proper understanding of the changing agrarian structure, the various strategies adopted for augmenting growth should be evaluated, bearing in mind the highly distorted distribution of land ownership and landholdings. He also comments on the regional disparities in India and how rural poverty continues to exist despite the various attractive programs. This uneven distribution has created an unequal society where marginalised farmers are the victims.

Anwesha Borthakur and Pardeep Singh (2013), in their article on the *History of agricultural research in India,* comment on the growing need for agricultural research in India and its growth in India. As a predominantly agricultural country, India attributes a significant share of its overall development to the agriculture sector. The paper outlines the historicity of agricultural research in India from the colonial period and how various factors contribute to it. Their study observes that not much emphasis were given to the evolution of agricultural research in India, which has an incredible history of development and recommends that it is therefore necessary to

track the historical development of agricultural research in India, which will help forecast the future of Indian agriculture in general.

B.C Barah (2006), in his article on *Agricultural development in North East India: Challenges and Opportunities*, comments about the agricultural scenario in North East India and the various challenges faced in the agricultural sector. North East being a tribal-dominated region, and most of its population is engaged in agriculture; there is a need to document the traditional practices of the people as well as study the various factors hampering the development in this region. Barah also recommends studying the multiple policies engaged in this sector and how such policies will help suggest measures for improvement.

Abani. K. Burmon (1977), in *Tribal Agriculture in the North Eastern Hill Region*, talks about the dominant form of traditional agriculture in the Northeast region. He mostly draws upon on the agricultural state of farming practices of the people. Burmon notes that despite the changing times, the people of this region continue to rely on the age-old tradition of farming using traditional farming methods. He also draws to focus how farming practices also affect the land tenure system in the region. Under agricultural commodity production, a gradual change in the land use pattern has occurred. He also comments on the growing rise in the region's agrarian commodity products besides rice. He thus concludes that the region still practices a traditional form of agriculture, which is still primitive and, in comparison with the rest of the region, lagging, and hence, production is low.

B.C. Barah (2010), in *Hill Agriculture: Problem and Prospects for Mountain Agriculture*, explains the ecosystem as well as the geopolitical settings of the mountain regions and how, because of this, demands a specific treatment that is different from the rest of the region. He describes the distinctive nature of each mountain region and how the people in the hill mountain region of the Northeastern part of India still depend on the age-old traditional system. Despite the various development programs introduced, they remain economically and socially behind the mainland. He also draws on the need for enhancing the efficiency of mountain agriculture, preserving the ecosystem, and mainstreaming the hill agricultural economy and how adopting traditional systems with modern methods of agriculture can help in the development and preservation of mountain agriculture.

Anil K. Pokharia, Tiatoshi Jamir, David Tetso and Zokho Venuh (2013) in *Late first millennium BC to second millennium AD agriculture in Nagaland: a reconstruction based on archaeobotanical evidence and radiocarbon dates*, makes the first-ever archaeobotanical study on Nagaland. Through their various excavation and findings, they reconstructed the food habits of the prehistoric Naga people in the excavated areas. This can be said to be one of the only archaeological pieces of evidence giving us information on the early diet of the people. From their excavation, the finding of wild and domesticated rice, millets, Job's tears, and *Zanthoxylum* have helped to reconstruct the early subsistence pattern of the people.

Thefusalie Theunuo and Rabin Deka (2020), in their work *Colonial rule and Agrarian Transformation in Naga Hills: A Socio-economic View of Angami Society*, describe the colonial implication on the agrarian economy of the Naga society, in particular reference to the Angami tribe. The arrival of British rule is said to have disrupted the traditional economic structure of the Naga society. Traditional Naga society, which had been able to sustain itself through its self-reliant socio-economic structure, was disrupted by the new system of European concepts of a life model. The British introduced a new cash system which transformed the village economy's traditional structure. The monetising of the trade relation between the Naga villages and their neighbouring plain people took away the old trade relations system, which had existed since time immemorial. The coming of colonial rule in Angami villages also changed the traditional socio-political institutions in the village. Another outcome of this was also highlighted by the conversion of the villagers to Christianity, which Theunuo and Deka describe as 'creating a social upheaval among the villagers' (Theunuo & Deka, 2020, p. 31). This resulted in the creation of new agricultural groups and also an increase in the Angami rice crops, which meant more revenue for the British. Christianity was seen as a process through which the British introduced and brought radical changes in the village's agrarian structure.

Debojyoti Das (2020), in his article *From Millet to Rice*, challenges the view that the changes in the agrarian sector, particularly in the eastern frontier regions of Nagaland, were a result of the modernisation process initiated by the government to improve the condition of the agrarian sector in the region. Rather it was the result of the indigenous missionaries' process and the coming together of various religious

syncretism. With particular reference to the Yimchungrű from the Tuensang district, he argues how the early christian missionaries changed the whole agrarian relation in the villages. The introduction of rice in the region was seen to be a result of the English education introduced by the Baptist local missionaries and rice as the staple crop of civilised society. The introduction of the 'Baptist sense of time' changed the whole land labour relation in the villages. New arrangements of labour changed the agricultural pattern in the region. The whole social institution of redistribution of the excess crop after a bountiful harvest through feast given to the whole village was assimilated into the new syncretic religious system.

The introduction of new varieties of crops that were not planted earlier was all seen as a result of the church's control over the village's resources and a 'new arrangement of disciplining labour'. The transformation of the economy of the village, which grew millet and Job's tears to rice cultivation as well as *kholar* (kidney beans), was a result of all this. Rice is now considered the new source that could contribute to the church. Das further argues by saying 'that the inter-household bonds were weakening as more and more people were taking up rice paddy plantation' (Das, 2020, p. 389). He discusses how the introduction of new crops in the region was shaped by factors much more complicated than mere modernisation and development activities undertaken by the government.

In another article of his, *Jhum Cultivation among the Eastern Nagas: Changing Land, Labour, and Social Relations in Nagaland*, Das (2022), continuing on his earlier article on millet cultivation among the eastern Nagas, again touches on the concept of how the church has introduced new work ethics in the Jhum cultivating region of the eastern Nagas. The village's agrarian landscape underwent a transformative change with the introduction of the new age set labour force. He tries to expand on the notion of how the introduction of Terrace rice cultivation in the Jhum-cultivating region of the eastern Nagas was a result of the government policy to bring about rural development in the Jhum-cultivating eastern region. There were also changes in the land-holding policy of the villages with the growing influence of the church.

Building on Traditional Agriculture in Nagaland is a research journal published in Nagaland (1999) that has shown a strong interest in researching various

aspects of Shifting Cultivation in Nagaland. *The Alder Managers: The Cultural Ecology of a Village in Nagaland, N.E. India* by Malcon Cairns, a doctoral thesis, is also a well-documented work highlighting the alder system of cultivation practised by the Angami tribe of Khonoma village. He gives us a detailed study of the traditional practices of the Khonoma village from the beginning of the plantation season to the labour division within the complex agrarian system as well. Other doctoral works which have been done on some aspect of agricultural practices and knowledge of the Nagas are *Local Knowledge and Natural Resource Management: A Case Study of the Ao Naga of Longmisa village Mokokchung* Nagaland by Rongsenzulu Jamir, which is an anthropological work done on the local knowledge and relation of the people with their land. Some other works on this aspect are also Kekhrieseno Christina, *Changing Land Relations in an Angami Village* which deals with the changing land relations among the Angami Naga, particularly dealing with the Jakhama village. Alomi Cynthia Shikhu's doctorial work on *Women and Resources Management: A Study of shifting cultivation in Nagaland* covers the role played by women in the shifting cultivation and their resources management skill in the backdrop of their socio-cultural role in society, and the most recent one '*Rice Culture among the Angami Naga*' by Vilhousienuo Neli gives us a very descriptive picture of the Terrace rice cultivation system of the Angami Naga of Kigwema village.

1.3. Significance of study:

The primary purpose of the present research is to study the agricultural practices of the people of Nagaland, which are mainly traditionally based agriculture. In general, the research also examines the various developments made in the agricultural sector in Nagaland from the pre-colonial times to the present day and how various linguistic vernacular names in agriculture will contribute to understanding the crop histories in the area of study. In light of the introduction of various new methods and new crops, the research will also contribute to an understanding of the traditional agricultural practices of the region and their associated beliefs. A proper study and understanding of this would thus assist us in analysing the agricultural pattern of the people as well. Analysing the dynamics of changes and continuity seen in the agricultural practices of

the Nagas would help and contribute to the future formulation of agricultural policies that would adhere to the needs and demands of the agricultural sector.

1.4. Objectives of study:

In light of the above background, the present study will focus on the agricultural history of the Naga society and the changing scenario from the pre- to post-colonial period. The following objectives are set for the study with this issue in mind.

1. Investigate and explore the history of agriculture in Nagaland and the significance of various vernacular names in agriculture derived from ethnohistory
2. Examine the application of indigenous knowledge in the agricultural system.
3. Role played by the age system and the nature of gender relations in an agricultural society.
4. Examine and evaluate the history of the implementation of the various programs in agricultural sectors and their impacts.

1.5. Hypothesis:

The following hypothesis will be tested in the present research:

1. Use of lexicon of various crops cultivated by Naga communities helps trace their origin and spread since prehistoric times.
2. Introduction of new crops (e.g. rice) to non-rice agricultural societies changed the traditional agrarian system, economy, and the village institution.
3. It is also postulated that despite various government programs to improve the agricultural sectors in Nagaland, the growth and development of agriculture continues to be low due to the people's reliance on the traditional methods of agriculture

1.6. Methodology:

Methods can be defined as procedures and techniques that characterise a particular discipline or field of knowledge. It implies a way of doing something systematically

or logically. Research methods or techniques thus refer to the methods the researcher uses in performing his research operation. The first step in the methodology is the collection of data. Data are nothing but organised information. The data is collected from primary and secondary sources, and the information that we get from these two is merged into the research process.

1.6. 1. *Source of Data Collection*:

The primary source that was collected for this data was the Questionnaire and unstructured in-depth interviews with the local people involved in agricultural activities. The Nagas, in general, are deeply rooted in their culture and tradition. They have been able to adhere to their age-old ways of life and culture along with the modern age through their traditional practice of folklore and oral history, which have been passed on from generation to generation. Stuart Blackburn (2008) rightly describes Oral history as containing local concepts, like kinship, social relations, and rituals, and also reinforcing cultural values. Sonja Ross (2000) describes how oral history can help a student of history or any study draw qualitative information. She attributes that the use of oral history can help identify three main factors of change in a society:

i. Chronology of change.
ii. Quality of change.
iii. Results of change.

Aier (2018) describes oral narratives as part of the people's folk tradition, including the material culture, indigenous knowledge, and traditional practices of the people, which reflects the cultural ethos of the society. Therefore, oral narratives on the traditional practices and customs are collected. Contemporary rituals in the form of local celebrations associated with agricultural activity were also collected, and general scenarios of traditional agricultural practices and crops cultivated were analysed. The fieldwork was done around selected villages of Nagaland. In this research whereby, to get the required information from the informant, group discussion, observation method, etc. are used. Audio and visual facilities are utilised for the observation method and narrative inquiry. The data collected thereby were cross-checked with other source materials.

Secondary data are obtained from different sources, such as administrative reports, handbook of statistics, and records from the Directorate of Agriculture, supplemented by journals, articles, newspapers, etc.

1.6.2. *Selection of study area:*

In keeping with the nature of the study, a selective sampling method was used for the study. The first step was the selection of the district. Nagaland consists of 16 districts after the bifurcation of the earlier districts. It consists of Chümoukedima, Dimapur, Kiphire, Kohima, Longleng, Mokokchung, Mon, Niuland, Noklak, Peren, Phek, Shamator, Tuensang, Tseminyü, Wokha and Zünhebhoto. Since it is practically impossible to cover all the districts, a selective study was conducted. As far as possible, all the earlier district before the bifurcation took place was covered. Out of the 16 districts, the main Jhum cultivating districts of Kiphere, Longleng, Mokokchung, Mon, Tuensang, Wokha and Zűnhebhoto is covered. Terrace rice cultivating districts is represented by Kohima, Phek and Peren.

The second stage was the selection of villages in each selected district. As such, two to three villages at minimum were selected from each district and some more also (Table 1.4). Selection of the villages was made keeping in mind factors like the size of the village, cultivation method, and its continuity in the village, history of the village and accessibility to the village by the researcher. The villages selected were still practising the age-old traditional method of cultivation. Along with it, the use of new cultivation methods was found to be practised by the people in the village.

Keeping in mind an equal representation, care was taken to select respondents from both genders. Considering predominantly that the study is on the agricultural practices of the people, individuals who are engaged in cultivation as their main occupation are also selected for the study. Taking into account the Village Council's role in the village activities, members from the Council are also chosen as respondents for the study.

Although observation was used to some extent, intensive interviews covering a wide range of topics were the primary data collection method. However, the emphasis was on the nature of agricultural production relations, the factors influencing and the effects on other aspects of life. Data collection from the selected village was a

long and tedious process. Keeping in mind to have a more in-depth understanding of a Naga village agricultural system and its continuity, a sample study of Zapami village, located in the Pfutsero sub-division of the Phek district, is also undertaken. Considering that the village is primarily an agricultural village which has a long tradition of cultivation with terrace cultivation as its primary cultivation method and jhum as a secondary method, the village was selected for the sample study. The village terrace cultivation system is also well-known, and furthermore, examining the local knowledge and different strategies pertaining to their natural resource management and subsistence practices, in addition to their progression over an extended period, presents an enticing research opportunity.

Considering the number of villages which had to be covered, a considerable amount of time was taken to cover all the selected study areas. In some villages also, some reluctance was faced by the researcher when touched on certain subjects which were deemed to be sensitive in nature by the villagers, particularly dealing with the inheritance of land by women. Nagas being a patriarchal society, there were some reluctances on the part of the villagers to touch on this aspect. However, in some cases, when told of the purpose and aim of the study, the respondent opened to the query put before them.

Care has been taken to present the data collected as accurately as possible with cross-references from available written records and sources. Efforts have been made to fulfil the study's objectives, and the collected data were examined for the accuracy and completeness of the information. While conducting the interviews with the respondents in selected villages, prior consent of the village authorities is taken as well and, in some cases, wherever needed, signed approval is obtained.

Table 1.1: List of Study sites

District	Village
Kohima	1. Kigwema 2. Jakhama, 3. Visewema
Phek	4. Kikruma

	5. Phusachodu 6. Zapami, 7. Meluri 8. Hutsu 9. Shatüza 10. Laluri 11. Weziho
Tseminyu	12. Tseminyu 13. Tesophenyu 14. Phenshenyü 15. Terogvunyu,
Peren	16. Benrue, 17. Old Poilwa 18. Old Peren
Wokha	19. Wokha village 20. Longsa
Zűnhebhoto	21. Mishilimi 22. Lazami 23. Ghokimi 24. Ighanumi 25. Nunomi
Mokokchung	26. Longsa 27. Longkhunm
Kiphere	28. Yingphire 29. Phelungre
Longleng	30. Yongnyah 31. Pongo
Tuensang	32. Tuensang village 33. Kuthur

1.7. Statement of the problem:

The literature shows that many scholars have tried to understand and also describe the agricultural nature of the Nagas. However, these works are also limited by their drawbacks on their own. The absence of comprehensive economic histories for all regions continues to hold back a comparative study of agrarian change. In this effort, historians have tended to focus on questions dealing with the effects of colonialism and nationality, which has tilted agrarian history toward studies of administration, development, and political issues. Agrarian social and cultural history are less developed. Although some scholars have done a comprehensive general study, a more detailed study is needed. There is a lack of established work and data on the overall agricultural practice of the Naga people as a whole. Most of the work which has been done so far has been limited in that its tribe-specific study limits it. Archaeological data and literary sources that would help us to have a clear-cut idea of the agricultural pattern of the people are also limited. As a result, the current study sought to do a more detailed study and fill in the gaps where little has been studied.

Agriculture is an integral part of the life of the people in Nagaland, where more than 75% of the population is engaged in it. The agricultural practices of the people are cohesively linked with the social, cultural, and economic life of people. A fresh perspective on the agricultural sector in the region is increasingly imperative to comprehend the Agri sector's evolution and transformations. The reliance of the population on conventional farming practices is identified as a key obstacle to the advancement of agriculture. Agriculture has been and continues to be a fundamental aspect of Naga life dating back to ancient times, as evidenced by recent archaeological research works. Prior research on the agricultural history of the Nagas overlooked valuable sources from oral traditions and folklore, prompting the current study to delve into these resources for insights into Nagaland's precolonial agricultural past, aiming to inform policies that would benefit both cultivators and Naga society. Regional disparities have also been felt in many parts of the Northeastern region, and Nagaland is no exception to this syndrome. Undoubtedly, the general practice of agriculture is very different from the rest of mainland India, be it in the form of a landholding system, farming methods, etc. Exploring these variations is essential to discern the

underlying causes, thereby facilitating the formulation of policies conducive to the agricultural community and the Naga society.

1.8. Physiography of Nagaland:

Nagaland lies in the Northeastern part of the country and is the 16th state of India. Nagaland became a part of the Union of India on December 1, 1963, thanks to the 13th Amendment to the Indian Constitution. It is bounded by Assam in the West, erstwhile Burma, now known as Myanmar, in the East, Arunachal Pradesh and part of Assam in the North and Manipur in the South. It lies at 25˚60' North latitude and 93˚20' and 95˚15' East longitude, covering an area of nearly 16,579 sq. km (Nagaland State Disaster Management Plan, p.1). It is primarily an agricultural-based economy, with more than seventy per cent of the population engaged in agriculture for their livelihood. The physiographic frame of the state is primarily mountainous, with dense forest vegetation in most parts of the state.

The people of Nagaland belong to the mongoloid race speaking the languages belonging to the Tibeto-Burman linguistic family (Van Driem, 2008, p.311). It is inhabited by 16 major tribes and some other sub-tribes with their distinctive cultural patterns and languages. The state has a population of 19,78,502 according to the 2011 census, out of which 71.14 % live in rural areas compared to 28.86% in urban areas (Nagaland et al., 2020, p.1). The state has a population density of 119 per sq. km from the early 1971 census, which was at 31 per sq. km (Singh,1977, p.14), highlighting an almost 80 % increase in population density in five decades. The state had 11 districts: Dimapur, Kohima, Kiphire, Longleng, Mokokchung, Mon, Peren, Phek, Tuensang, Wokha and Zünhebhoto. After the bifurcation and creation of new districts, namely Chümoukedima, Niuland, Noklak, Shamator and Tseminyü were added to the state district profile. Each tribe in Nagaland is distinct, with its own identity and culture. The Nagas is described as a hardy and warlike race by nature and environment and are known for their honesty, maturity, courage, and sociability (Nuh,2002, p.2).

1.8.1. *Physical feature*:

The physiographic frame of the state is primarily mountainous, with dense forest vegetation in most parts of the state covering an area of nearly 16,579 km. Most of the

rural population lives in villages generally situated on high hilltops and slopes overlooking valleys. Because of security concerns, Naga villages are typically located on hilltops at higher elevations. As Neinu (2015) has described, the Naga's inhabited land results from the people shaping their own fate within the physical constraints imposed. Two massive mountain ranges form the major physical boundary of the state, the Barail and the Patkai ranges. The state is mountainous on the surface, with elevations ranging from 194 to 3048 metres above sea level. Many villages are 1000 to 2000 metres above sea level. The landscape has sharp relief, with hills cultivated over 2000 metres above sea level intermixed with valleys and foothills plain zones. Nagaland is a hilly state with young mountainous terrain, high hills, sharp contours, and deep narrow gorges.

Rivers cut through the region, with the Doyang and Dikhu in the north, the Barak in the southwest, and tributaries of the Chindwin River (in Myanmar) in the southeast. Geologically, the Naga hills can be divided along the length into a few belts based on geo-tectonic and morpho-tectonic features. From east to West, they are organised as follows: Naga Metamorphic, Ophiolite Belt, Inner Fold Belt, Kohima Synclinorium, and Schuppen Belt (Rajkumar *et al*., 2019, p.471). Nagaland is a high-altitude mountainous region with stretches of ridges or folds of all shapes and sizes without extensive floodplains characterised by different types of forests and vegetation covering the regions (Neinu, 2015, pp. 2-3). In general, it has been described that 94% of the state is hilly with rugged terrain and only 6% plain land, mainly along the state's western border with the Assam plains (NSDMA, n.d, p.6-7).

The vegetation tends to be extremely thick and multi-layered with floral and faunal assemblage. Because of its rich and unique biodiversity, Nagaland falls under the Indo-Burma Biodiversity hotspot. Nagaland is in the geographical subregion bordering the species-rich Indian and Indo-Chinese Zoo geographic sub-region (Martemjen, 2017, p. 38). The state is also known for its abundance of medicinal plants and faunal elements. North-East India demonstrates its floristic ties to Myanmar, South West China, and the Malaya Peninsula. It has the richest reservoir of plant diversity in India and is part of one of the world's "biodiversity hotspots" (Malik, 2019, p.693). As part of the Eastern Himalayas, Nagaland is regarded as a primary source of rice and cucurbits and a secondary source of citrus, chilly, and maize (Ao, 2021, p.

33). Several plant groups are found in the state, including orchids, rhododendrons, ferns, bamboos, zingibers, and lichens. The state is also well-known for its medicinal plants, orchids, bamboo, canes, bryophytes, and animal diversity. A variety of wild animals are also found in the Naga hills, like the monkey (Rhesus Macaque), hoolock, slow loris, fox, bear, wild pig, Mithun (*Bos Frontalis*), Blyth's tragopan etc. (Neinu,2015, pp.27-28), Elephants, Leopards and even Tigers. P.D. Stracy (1967) remarks on an incident involving the presence of tigers in the vicinity of the Mokokchung district, which were hunted by the villagers for straying into human areas. The Nagaland State Biodiversity Board mentions the presence of approximately 71 bamboo species, 12 cane species, 41 allied species, 346 lichens, and 103 Red Data Plants. There are approximately 67 common wild animals, 519 bird species, 149 fish species, and several reptiles and amphibians. This presence of a unique and rich terrestrial diversity of floral and fauna along the different gradients has also helped the people to have a diverse range of agricultural practices.

1.8.2. *Climatic condition*:

The climatic condition of the state is primarily tropical, with heavy rainfall for most of the year. Temperatures usually range from 4°C in winter to 34°C in summer. The state has a unique agro-climatic ecosystem which gives home to numerous flora and fauna that are endemic to the region. Nagaland has wet-dry climatic monsoonal weather. Annual rainfall ranges between 70 and 100 inches (1,800 and 2,500 mm) and is most intense during the southwest monsoon season (May to September). The region experiences high rainfall combined with strong sunlight through good weather, foggy suspension, and high humidity, making it an ideal representative of a rich biodiversity location, including wild and domesticated varieties of plants, fruits, and medicinal plants. The climate is the most significant factor in the vegetation type, and Nagaland's rainfall contributes to the climax vegetation of the monsoon rainfall temperate regime (Neinu, 2015, p.14). It is part of the remote boundaries between South Asia and Southeast Asia and thus has been described as a region of transition and distinctiveness (Cairns,2007, p.14). The Agro-climatic zone of Nagaland has been classified into the following zones, as given in Table 1.2:

Table 1.2: Agro-climatic zone of Nagaland

	Zones	Characteristic features	Areas
1.	Sub-temperate high hill zone	This Zone lies at an altitude above 1500msl. It is characterised by a maximum temperature of 30° C and a minimum of 4° C, with an average annual rainfall of 2000 mm varying from place to place. The soil of this Zone is generally loamy silt containing low to moderate organic matter, minimum levels of phosphorus and low potassium. The pH of the soil ranges from 4.5 to 6.5.	Kohima, Zunheboto, Phek, Kiphire and Peren
2.	Sub-Montane Mid Hill Zone	This Zone is located within altitude ranges of 800 to 1500 msl and has a typical sub-tropical climate of warm summers and cool winters. The average maximum temperature remains around 27° C during summer. The soil of this valley is primarily alluvial and highly retentive.	Mid-hill zone areas of all districts of the state.
3.	Sub-Tropical Foot Hill Zone	The altitude varies from 150msl to 800msl with an annual rainfall of around 1800mm and the temperature varying from a minimum of	Dimapur, Wokha, Mon, Peren and Mokokchung.

		17° C to a maximum of 35° C. The soils are primarily lateritic and alluvial, with high organic matter, low phosphate, and moderate potash contents. The soils are acidic, sharing iron toxicity.	

(*Source*: State Agriculture Plan 2012-17)

1.8.3. *Agro-climatic soil*:

The soils of Nagaland have been classified based on the sample collected by the state government into four orders, seven subgroups, ten great groups and fourteen subgroups (Vision 2020, p.2). The studies identified the soil as belonging to 72 families mapped into 36 units dominated by four dominant soils. Table 1.3. gives us a highlight of the type of agro-climatic soil condition in the state as prepared under the Nagaland integrated watershed management programme. The agro-climatic soil condition of the state has been classified into four types (Vision 2025, 2012, p. 22).

(i) *Inceptisols*: This covers about 66 per cent of the land area of Nagaland. The soil consists of fine clay, clay loamy and fine loamy clay. These soil types are most predominantly found near the river beds.

(ii) *Entisols*: These types of soil cover 7.3 per cent of the land area and are found mainly in the north and the Northeastern parts of the State of Nagaland. This new developing soil category comprises fine loamy and fine categories of soil textures.

(iii) *Alfisols*: These are light-coloured and mineral-rich soils. They cover only 2.9 per cent of the land area of the State of Nagaland. The fine loamy and fine drained class of soil texture is found in the western extremity of the State near its border with Assam. Soils of Nagaland are derived from shale and sandstone of the Uni Ocean age. Due to the disparity in topography and climate, different varieties of soil types are found in Nagaland. The soil is primarily acidic, with a pH of 4.5 to 6.5. The soil is rich in organic carbon but poor in phosphate and potash content.

(iv) *Ultisols*: About 23.8 per cent of the land area of Nagaland is covered by this type of soil condition. The soil is characterised by its low base saturation feature. This soil type is prevalent mainly in the state's forested regions, which receive a high amount of rainfall. The consistency of the soil is mostly clay.

Table 1.3: Types of agro-climatic soil in Nagaland

Sl.no	Name of Agro-climatic Zone	Area in Ha.	Major soil types		
			Name of District	Type	Area in ha.
1.	Hot per humid climate	199500	Dimapur, Peren, Wokha, Mokokchung, Mon	Alfisols	47800
2.	Hot, moist, sub-humid climate	196400			
3.	Warm, humid climate	370200	Wokha, Dimapur, Peren, Phek, Kiphire, Mokokchung, Mon, Longleng, Tuensang, Kohima	Entisols	121300
4.	Warm Per-humid climate	891800	Dimapur, Peren, Kohima, Phek, Wokha, Mon, Mokokchung, Kiphire, Tuensang, Longleng, Zunheboto	Inceptsols	1094700

			Dimapur, Peren, Kohima, Phek, Zunheboto, Wokha, Tuensang, Mokokchung, Longleng, Mon	Utisols	394100

(*Source*: Nagaland SPSP)

The soil in Nagaland has been blessed with an organic carbon content of 0 to 3.75, thereby ensuring that the farmers can produce most of their agricultural products in an organic manner without using fertilisers (Annual *et al*. 2018-19, p.3). Mixed cropping patterns are followed where crops such as rice, cereals, pulses, tuber, and spices are all grown organically.

The Annual Administrative Report of the Department of Agriculture reports that the area under Wet Terrace Rice cultivation (TRC) covers an area of around 834 sq. Km, while Jhum area cultivation covers an area of around 934 sq. km annually (Annual *et al*., 2018-19, p.3). Table 2.4 gives us an estimate of the areas under different land uses in Nagaland. Out of the total area of 16.579 sq. km, the land used for agricultural land in Nagaland comprises only 278.62 sq. km. The topographical map prepared by the Department of Science and Technology (Plate.2.2) gives us a visual description of the different land use under cultivation cover in Nagaland, showing how most of the land under cultivation is under Jhum cultivation and Terrace cultivation is mainly confined to the southwestern part of the state.

Table 1.4: Areas under different land use in Nagaland

Classification	Area (in sq./Km)
Forest	8629.30
Land under Agricultural use	278.62
Land under miscellaneous tree crops and grooves	1242.52
Cultivable wasteland	725.34

Cultivable Non-Forest Area (CNFA)	3214.00
Net area sown	1867.00

(*Source*: Annual Administrative Report 2017-18)

Chapter-2

Agricultural practices in Nagaland

2.1. Introduction:

Agriculture, a component of the comprehensive activity of cultivation, involves the cultivation of various crops to sustain and meet the needs of human life. Harris and Fuller (2014) have made extensive efforts to define and conceptualise this notion as a combination of land use and economy resulting from the amalgamation of cultivation (a series of human actions focused on soil preparation, planting, tending, and harvesting) and domestication (a collection of genetic and morphological changes that enhance plants' adaptability to cultivation). The progression of mankind from a stage of hunting and gathering to a stage of settled agriculture during the Neolithic era is widely regarded as one of the most significant accomplishments of humanity. This advancement in the evolutionary trajectory of humans, which involved the cultivation of crops and the domestication of plants and animals, is seen as a pivotal moment that opened the door to novel complexities in social and economic spheres of human cultural development (Barker, 2006; Diamond, 2002).

When we speak of cultural development, it can be understood as a comprehensive entity encompassing various facets such as knowledge, beliefs, art, morality, law, custom, and the array of abilities and tendencies that humans acquire through their participation in society (Taylor,1871, p.1). Following this definition, it can be proposed that the cultural aspects of the Nagas embrace every facet of their existence, encompassing their lifestyle, their religious and societal beliefs, traditional legal systems, communal arrangements within villages, dietary preferences, and the norms and values acquired through daily social interactions and routine activities. The societal and cultural heritage of the people is passed down through generations from their oral traditions and way of life. This custom can also be found in the daily routine of the Naga's traditional way of life, i.e., their agricultural system. For a Naga villager, it is in their way of life, which they have learned and inherited from their ancestors, that has remained with little changes. Christopher von Fürer-

Haimendorf, an Austrian anthropologist who dedicated a significant portion of his life studying the Nagas, remarked:

> The Nagas is, first and foremost, an agriculturist. Nine-tenth of his thoughts and his life are devoted to his fields, and the things that mean the most to him are the state of the crops, the weather at harvest time, and the number of rice baskets in his granaries (Fürer-Haimendrof,1933, p.18).

The agricultural system of the Nagas encompasses many aspects of their culture, more than one can comprehend. It reveals the spirit of community engagement, their social structure, their oral traditions, etc. Agriculture is commonly known as the indispensable element of the conventional rural economy, and individuals depend on it as their main means of financial support. Agriculture serves as the main source of economic sustenance for the Nagas, who employ basic and rudimentary techniques to utilise the ecosystem (Nshoga,2009, p.226). While considered a primitive form of cultivation and considering the limitations, the Nagas were, however, self-sufficient in their own specific social units. Their productions were mainly for the self-sustenance of their households and some rudimentary form of trading for necessities. A Naga is a born cultivator who sees everything from that perspective. The early British anthropologist such as Mills (1922,1926,1937), who wrote extensively on the Lotha Naga, Rengma Naga, and Ao Naga, describes them as being above everything else, an agriculturist whose ambition would rarely extend beyond his field and whose very life depended on his cultivation. Hutton (1921a, 1921b) also, in his description of the Angami and Sema Nagas, comments how, for the two tribes, their cultivation was the most important activity where all others were considered subordinate. In a nutshell, such early accounts depicted the typical life of a Naga in the pre-colonial period and has remained consistent for the people in the rural areas, which comprise much for the population also in the post-colonial period.

After the formation of the State of Nagaland in 1963, agriculture as a State concern got due importance and consideration, and a separate Department dealing with the State's agricultural development was established. The origins of the State Department of Agriculture can be traced back to 1910 to early 1920 when the British Raj Agriculture began as part of developmental activities and administration with a

small group of staff known as Agriculture Demonstrators and '*Kheti Babus'* (Department of Agriculture, Government of Nagaland,2021).

2.2. Naga village: Socio-cultural profile

A village is described as a 'rural settlement that has grown in close relation with the environment and geography, being constantly shaped by the social and cultural development' (Ding, 2021, p.117). Jonathan Riggs characterises a village as a rural settlement that is frequently considered an integral element of society, playing a crucial role in economic activities, social unity, cultural identity, and governance (Rigg,1994). As a result, they often act as the primary focus for examining and comprehending rural livelihoods. The village is a significant establishment among the Nagas. Among the entire populace of 19, 78,502, nearly 71.14 % of the Naga population reside in villages and 28.86% in urban areas (Statistical Handbook, 2022). Based on the Nagaland Census 2011, an approximation reveals that the workforce engaged in cultivation activities in Nagaland stands at 4,20,379 individuals. Within these demographics, the ratio of male to female cultivators is 49.53% and 50.46%, respectively. Every Naga has some connection to their respective village, irrespective of whether they live in the urban space. With the evolution of time and space, the Nagas are also slowly evolving out of their traditional life and moving out to towns and cities for better education and livelihoods. However, the connection to their village and culture still maintains and retains its stronghold.

Traditionally, a Naga village is composed of dwelling houses, usually built in clusters with cultivable and forest land around it. One important criterion, besides defence, in selecting new village sites is the availability of cultivable land and natural resources to supplement the population. Among the Yimkhiung (previously Yimchunger), the village agricultural priestess, *Yangthanpü,* participates and helps in the final decision to select a new site for a village by sowing various seeds in a pit of the proposed site (Nshoga, 2009, p. 59). Dreams and omens also greatly influenced the selection of new sites for village establishments. Most villages are located on hills-tops where they could defend and overlook any incoming enemies. Among certain cultural groups like the Angami and Chakhesangs Nagas, the village's

location is chosen based on the presence of a perennial water source and the practicality of terrace farming (Plate 2.1). Thus, we find that there are various criteria for establishing a village. However, the most important factor is the availability of land for cultivation.

Each traditional Naga village is characterised by houses built on each side of the path, the village gate at the village entrance, a defensive structure, the youth dormitory buildings and the *Khel* division. The youth dormitory serves as an important social institution in the Naga society, where the youths, after attaining a certain age, are imparted knowledge of the social and cultural practices of the village. These dormitories are known by different names among the communities, like *Ariju* in Ao, *Chumpo* in Lotha, *Kichuki* in Angami, *Ban* in Konyak, *Rehangki* in Zeliang, etc (Plates 2.2 and 2.3). In traditional Naga villages, these *morung* also serve as centres for social and public discourse by the elders, where important decisions of the *khel* are taken, deciding disputes, performing rituals, and deciding which fields to cultivate for the year (Jacobs 2012; Neinu 2015).

In a traditional Naga village system, the labour needed for work in any activity is usually supplemented by these dormitories where the members would assist each member of their respective *Khels*. Among the Angami, the *Peli Khroto* is an agrarian labour exchange system where members of the *Peli* or age group come together and help in each other's field on a rotation basis. Neinu (2015) describes these groups as the foundation of Naga society, which is rooted in the principle of collective endeavour, wherein enhanced efficacy is attained through the collaboration of individuals working collectively towards a shared objective. They are seen as a socio-economic group rather than merely a working unit. A Naga village, irrespective of the specific community it belongs to, thus functions as a self-contained and self-sufficient entity.

2.3. Subsistence economy:

The village economy is based mainly on the principle of self-sufficiency, which has sustained itself through the ages. During pre-colonial times, the main economic activity of the Nagas was exclusively two types of cultivation- Jhum cultivation and Terrace rice cultivation. Jhum cultivation is mainly practised by the people of the

Trans-Dikhu-Doyang group, and terrace rice cultivation is mainly by the Angamis, Chakhesangs and the Konyaks of the far north, who also seem to use it mainly for taro cultivation (Jacobs 2012; Neinu 2015). Besides these Alder Alder-based jhum cultivation is also significantly popular among the Angami, Chakhesangs, Chang, Yimkhiung and upper Konyak. The traditional agroforestry system utilizing alder (*Alnus nepalensis*) represents a time-honoured ecological agricultural practice among certain Indigenous communities within the state of Nagaland in India. Within this agricultural framework, various crops are cultivated in conjunction with alder trees as intercrops. The integration of crops alongside alder contributes to the establishment of a highly profitable agroforestry system. The enhancement of jhum land through the incorporation of alder trees exemplifies a conventional cultivation approach that relies on self-sufficient and locally sourced resources, avoiding any external inputs (Rathore, *et.al*.,2010, Kehie, *et.al*.,2017, Das, *et.al*.,2012).

The ethnoarchaeological evidence points to the fact that the subsistence patterns of the Nagas have remained more or less the same since time immemorial (Pokharia, *et.al*. 2013; Jamir, 2014)) Traditionally, the Nagas produced for self-consumption, and it was only in certain cases that they would engage in barter systems with neighbouring communities while some with the valley people for salt and metal (Jacob, 2012, p.38). Walling (2016) highlights the significance of the barter system within the early Ao Naga community, emphasizing its prevalence among individual farmers. This system primarily stemmed from the necessity for engaging in economic endeavours and did not serve as a replacement for their predominant occupation in agriculture.

Grains and other produce were exchanged with neighbouring villages and the valley people in neighbouring Assam. William Robinson (1841), in one of the earliest writings of the Nagas, elaborates on the trading relation between the Nagas on the hill and the people living in the valley. The Assam government, having always made money from the imported salt from the hills, and the Nagas' reliance on Assam markets for the exchange of salt for grain and other goods, contributed to a mutually beneficial relationship between the two people. Julian Jacobs (2012) noted that this exchange system between the valley people and the hills, besides bartering for salt and metal, also traded with wild cotton, chilies, ginger, etc. Traditionally, all

trading activities were undertaken by the men of the village. However, Haimendorf notes in his diary entry from 1936 that he found women from the Konyak village (Wakching village) travelling down to the Assam valley with big bamboo mats for trade in exchange for salt and chilli peppers (Jacob, 2012, p. 40).

For both the jhum and terrace-cultivating Naga groups, the cultivation of crops was considered not only essential for the subsistence of the people but, as Julian Jacobs puts it, 'the ladder of social prestige can be climbed by individuals accumulating sufficient surplus to afford the lavish sacrifices and feast involved' (Jacobs, 2012, p. 33). The success of an individual farmer was not only his own, but it was to be shared with his fellow villagers. Traditional Naga's agrarian social structure is based on 'reciprocity or relationship of mutual aid' (Neinu,2015, p.110). Each family in the village had its share of cultivable land from where they could till the land for sustenance. The village forest also provides ample resources to the people with not only materials for building their dwellings and tools but also food like wild vegetables, animals, and birds, which are part of their diet. Another cultivating method found in Nagaland is the 'kitchen or home gardens.' Each household in the village has some form of kitchen garden in their backyard for daily sustenance, which the mother of the family usually maintains.

2.3.1. *Jhum cultivation*

Jhum, or swidden cultivation, is the indigenous farming practice of the people of Nagaland. This agricultural practice, also known as the slash-and-burn method, is widely employed in Nagaland, where approximately 70% of the arable land is dedicated to jhum cultivation (Department of Agriculture, Annual Administrative Report, 2018-19, p.3). Globally archaeological evidence also points to Jhum cultivation predating terrace rice cultivation (Neinu, 2015, p.79). This type of cultivation is deeply rooted in the traditional agroforestry practice of the people. The Nagaland Jhumland Act of 1970 also gives due recognition to this ancestral practice of the people. This Act can be seen as a notable legislation that acknowledges the customary privileges of the people in relation to the forest and 'Jhumland' as outlined in the Act.

Archaeobotanical data and radiocarbon dates from Nagaland also confirms that wild/domesticated rice (*Oryza* sp.), millets (*Setaria* sp.*)* and Job's tear (*Coix* sp.) were cultivated as early as 30 BC, as reported from few of the potential archaeological sites in Nagaland (Pokharia *et al*., 2013, p.1351). These types of crops are mostly cultivated in the jhum fields. Traditionally, rice is the principal crop cultivated in the villages, besides other crops like millet and Job's tears, where rice cultivation was limited. Mixed cropping with various crops like corn, *Colocasia* (taro), chilli, cucumber, pumpkin, etc, are also cultivated.

Jhum cultivation, also known as shifting cultivation, is known by different names among the Naga tribes (Plate 2.4). To the Angamis, they are known as *Nhalie/Meluyie*, while they are known as *Kesin Lo* among the Rengma, *Lamlwalo* in the case of the Zeliang and *Onglu/Azong* for the Sangtams. The traditional jhum cycle usually lasts 10-20 years, with two to three years of maximum cultivation. This cycle is, however, not constant in all the areas. Depending on the availability of land and land conditions, the rotation cycle varies from region to region. Table 2.1. highlights the traditional and new rotation cycle of the villages under study.

Table 2.1: Jhum cycle of selected Naga villages.

District	Village	Fallow period		Years of cultivation	Principal type of cultivation
		Old	New		
Kohima	Nerhema	20	-	2	Terrace/ Jhum
	Chichema	25	7	2	Terrace/Jhum
	Jakhama	8-10	-	2-3	Terrace
	Viswema	-	-	-	Terrace
	Kigwema	7	5	2-3	Terrace
Tsymenyu	Tsymenyu	14	12	2-3	Terrace /Jhum
	Tesophenyu	10-15	8-10	2-3	Terrace/Jhum
	Phenshnyu	14	12	2-3	Jhum
	Terogvunyu	10	8	2-3	Jhum
	Kikruma	-	-	-	Terrace

Phek	Phusachodu	8	-	2	Terrace/Jhum
	Zapami	-	-	-	Terrace
	Meluri	12	8	2-3	Jhum
	Shatuza/Hutsu	12	-	2	Jhum
	Weziho	15	-	1-2	Jhum/terrace
	Laluri	10	-	2	Jhum
Peren	Peren	15-20	10-12	2-3	Jhum
	Benrue	-	Jhum cultivation restricted		Jhum(old)/Terrace (new)
	Old Poilwa	10	-	2-3	Jhum(old)/Terrace (new)
Zunebhoto	Nunomi	10	15	2	Jhum
	Mishilimi	5	7	2-3	Jhum
	Gokhimi	8-10	5-6	2-3	Jhum/Terrace
	Ighanumi	20	-	2	Jhum/Terrace
	Lazami	10-9	9-8	2-3	Jhum
Wokha	Longsa	20	6-7	2-3	Jhum
	Wokha	8-9	-	2-3	Jhum
Longleng	Yongnyah	10	8-9	3	Jhum
	Pongo	9-10	-	2	Jhum
Kiphire	Yingphire	13-14	-	3	Jhum
	Phelungre	10	-	2	Jhum
Mon	Hongpoi	9	-	1-2	jhum
	Tangnyu	10	-	2	Jhum

Mokokchung	Longsa(Ao)	18	-	2	Jhum
	Longkhum	13	-	2	Jhum
Tuensang	Tuensang	9-10	-	2-3	Jhum
	Kuthur	8-9	-	2-3	Jhum

Vast expanses of fields are cultivated for two to three years, depending on the traditional practice of the villages concerned. The extent of cultivation on a particular field is also determined by the land available for cultivation. In some villages, the years of cultivation on a jhum field would be one to two years, like Hongpoi in Mon district and Weziho village (Meluri area) in Phek district (Table 2.1), where jhum is the main cultivation method. However, in all the areas, the years of cultivation do not exceed more than three years at a time. This is mainly to ensure that the field has sufficient time for land rejuvenation after cultivation.

In the Northern Angami region villages of Nerhema and Chichama, it is observed that the jhum cycle traditionally spanned over a period exceeding 20 years. These villages possessed numerous jhum fields, thereby facilitating extended rotation cycles. Nevertheless, it was informed by the village elders [1] that due to the younger generation pursuing education and seeking better employment prospects outside the villages, coupled with other factors, although there were available lands for cultivation, a scarcity of labour resources ensued, impeding their ability to cultivate all the jhum fields. They were compelled to abandon certain fields and solely focus on cultivating areas that were easily accessible, thereby reducing the fallow period.

No two villages have the same type of system of cultivation. Although there are some similarities in the methods, the time frame of the cultivation period depends on the village and the region's topographical and climatic conditions, even at the micro-scale level. The yearly jhum cycle commences before the practice of terrace cultivation and concludes with the harvest in September. The following table highlights the timeline of the working months in jhum cultivation:

Table 2.2: Annual jhum cycle

Month	Activity
Dec-Jan	Cutting and clearing of new and old jhum fields
February-March	Drying, clearing, and burning of vegetation
April-May	Sowing of seeds
June-July	Weeding
August	Final weeding, taking care of paddy plants and binding.
September-October	Harvest of Jhum fields
November	Last harvest and transporting of paddy

The annual jhum cycle begins before terrace cultivation after its harvest in September. The process of cultivating jhum is briefly summarized:

(i) *Selection of sites*:

Ownership of Naga village land mostly consists of individual lands, *khel* lands and village lands. Most jhum fields are located on individual lands and *khel* lands. The decisions for cultivating on *khel* lands were traditionally decided by the village elders/ Council after collective discussion. The jhum cultivation carried out on *Khel* lands was undertaken on the basis that the *Khel* members receive priority in the selection of a site for cultivation. To elucidate, an example is observed from Mishilimi, a Sumi village where the Village Council usually decides which land to cultivate for a season. In the past, these decisions were taken by the village elders known as *Kukami*[2]. These elders' role was not only limited to the political and administrative affairs of the village but also the economic and cultural matters of the village. The clan/*khel* belonging to the first settlers of the village received the best choice of lands to cultivate. Among the Chang Naga, the selection of a particular area for cultivation is done by the village governing body known as *Khungkungwasayu*[3]. They would obtain permission from the owner of that particular area and then declare to the village which area to be cultivated that same year.

In certain instances, when a specific member of the community lacked land for agricultural purposes, the option to lease it was available. This practice was observed in the village of Yongnyah as well as in Peren village. At Yongnyah, villagers were granted to rent land for cultivation. The village's forest land is divided according to *khel*, with eleven forest lands. If an individual lacks possession of land for agricultural purposes, a method of compensation is provided after obtaining formal authorization from the landowner. Referred to as *Kahlat* in the local vernacular, this arrangement historically involved the tenant providing labour in the landowner's fields for a specified period as required by the landowner. Some people would also give grain after harvest as payment. These were measured with the grain-carrying basket (*Ko*) (Plate 2.5) and were known as *Aiokko*. A farmer paid one *Aiokko* to the land owner for using his land for jhum cultivation[4]

In Peren village, the land was also rented out to the landless farmers for cultivation. As rent (*Rampoa*), during harvest, whatever was sown was given as rent to the owners of the land. Rent was paid in kind with chilli, Job's tears, or millet in exchange[5]. Rent was also paid as well by labour. Sometimes a day's labour in the owner's field was considered as rent to pay for leasing the land. There was no specific rate fixed, and it was also considered disrespectful of the owner to demand.

Villages possess a communal cooperative behaviour in which they collaboratively engage in cultivation at a proposed location. This practice was not executed based on personal inclination but to promote cooperation among villagers in agricultural activities. Anyone who moved against the village's decision was penalised. The fine would be in the form of a pig or money, as practised in Kuthur village[6] or depending on the village customary law, penalties in other forms were imposed.

The chosen jhum fields are furthermore situated at a certain distance from the village settlement. This practice is undertaken to guarantee that when the felled vegetation is burned, the fire does not cause any damage to the village. The area surrounding the village settlement is typically

designated for the conservation of forests for firewood and vegetable gardens. This tradition can also be observed at Nunomi village[7], in Zunebhoto district. Most of the agricultural lands are situated at a considerable distance from the village, whereas forest covers are typically found near the village. A reason for this traditional practice is that the forest offers easy access to valuable source of firewood to the village, in addition to providing wild vegetables and animals for sustenance. Another rationale behind is the protective role of the forest, as it shields the village from potential fires originating from the predominantly jhum lands used for agriculture. In essence, the forest acts as a barrier, safeguarding the village from any harm. While new jhum fields are chosen to be cut down and prepared for cultivation, the old jhum fields are also simultaneously cultivated. These fields are known by different names in each village to identify and demarcate them. The following Table illustrates some of the names which are given to the old and new jhum fields:

Table 2.3: Traditional names of jhum fields

Village	Old Jhum field	New jhum field
Kuthur	*Tütaklu*	*Phanlu*
Yingphire	*Tshingngashitseh*	*Kiting*
Longkhum	*Aphunlü*	*Lüti*
Yongnyah	*Shap/Shapya*	*Kahnyü*
Tuensang	*Küplang*	*Soulang*

After the selection of a new jhum site, depending on the customs of each Naga tribe, certain customs and rituals were performed. These were done to appease the spirits of the land and to ensure that no misfortune befall on the villagers as they commence work in the fields.

(ii) Cutting, burning, and clearing of forest:

After the selection of the site for new jhum fields, the Village Council fixes a day to start the process of cutting and clearing the felled vegetation. Depending on the area and tribe's customs, the new jhum field is cleared. Clearing of the new fields is usually done from December to January. In some villages such as Kuthur (Tuensang) and Yongyah (Longleng) etc, clearing of the new fields starts as early as September and continues till December-January. Cutting of trees in new fields is considered the work of men. However, an important feature seen in Naga society is genders that do not usually define work divisions. There are no such rules or clear lines of division between what men and women do. Sometimes, women also participate actively in the work which men do. These tasks are known by different names among the tribes. For instance, among the Phom, the task of cutting is known as *Hahchingba,* while gathering of the felled trees is called *Chim* and the burning process is called *Yimyokpa.*

Cutting the vegetation is also not done randomly. As evident among the Ao tribe of Longsa village, the community have a step-by-step process of cutting down the trees. The vegetation and trees are severed at their root systems in the case of smaller trees. For bigger trees, the upper branches are cut first, and accordingly, the main tree trunk is felled down[8]. J.P. Mills (1922, 1926) also describes this practice in his account on the Lotha and Ao Naga tribes. The big tree trunks and branches are then cleared to be used to make contour bunds along the side and between the fields to prevent the soil from running off (Plate 2.6). These tree trunks and branches are also often used to make some sort of ground ladders. Such ladders allow the farmers to climb from one field to the other, as seen among the Konyaks, known as *Hongleang*.

All the felled trees and vegetation are left to dry for weeks, depending on each village's customs. Burning boosts soil fertility and prevents weeds from growing, which can hinder crop growth. The burning of the vegetation is also not done randomly. On a day fixed by the village, the

dried trees and branches are collected in a pile and burnt down. This is done to prevent any random burning and loss of vegetation and property. A day break in between cleaning the fields is observed. January to March are the driest months of the year, and so most of the burning of vegetation takes place during this time of the month in all the villages. For the Sangtam of Phelungre and Yingphire, this is usually fixed on the first two weeks of March every year. The Ao's also initiate the process of burning the vegetation in their jhum fields in the month of March.

It is also during this season that the construction of the field hut is done in the jhum fields. These field huts are called *Wün* by the Yimhkuing, *Künshan* in Chang, *Thap ni* in Phom, *Vü* in Sangtam, *Alu chin/Aluthi* in Ao and *Daab* by the Konyak (Plate 2.7). Such huts are used not only to store grains during harvest but also as shelters. These are made to make the farmer's task of managing the field easier, as well as to lighten the farmer's burden of carrying the grain to the field hut during harvest season.

Among the Phom tribe (Yongnyah village), another small hut with a bamboo basket inside is built near the *thap* (field hut) known as *Nüklaitoh* (*Nük* means 'food,' and *lai* means 'leaves') to collect waste and keep their field clean. These huts serve as a dustbin for collecting waste, such as packed food that they bring to the fields to partake during work recess. This is done with the belief that any waste or leftover food from the pitch during breaks should be kept in that location to prevent it from being taken by anyone. They believe that if birds or animals feed on their leftover food, they will lose their blessings[9].

(iii) Preparing and sowing the land:

After the whole area is cleaned of the debris and burned vegetation, the topsoil is tilled over, and the soil clot is broken to properly mix with the nutrients from the burnt ash. These are done mainly with the help of a spade and mattock for clearing and dibbling of seeds. In some villages, the seeds are also sowed by scattering method, whereby one group of

farmers dispense the seeds in the field while another group turn the soil with a spade.

Farmers scatter the paddy seeds in the jhum fields, kept in a miniature basket tied around their waist. Occasionally, the seeds are stored in cotton fabrics during the sowing process. This basket is known as *Tophe* among the Phoms. Among the Sangtams, the seeds are carried in a cotton bag called *Hajingthüring.* Sowing of seeds are completed in almost all the areas by the month of May each year. Men and women of the village collectively engage in the sowing. The Phom Nagas have specific names for each task, according to the type of fields planted. Planting in new fields is called *Kahthapu,* and in old fields, they are known as *Shapshei pü.*

While the new jhum fields are prepared and cleaned for sowing, the old jhum fields are also simultaneously planted. Planting in the old jhum field is completed by the time the new jhum fields are prepared for planting. The old fields are planted early to harvest much earlier than the new fields. This is done so that the villagers are able to harvest both fields without any difficulties. In the traditional agrarian culture of the Nagas, the task of seed sowing is not done randomly. There are specific roles attached to it. In some villages, this role is taken by the oldest woman or male member of the village, in some cases, this role is assumed by the village priest. The Sangtams assign this role to the priest known as *Athong*, who is specifically chosen from a particular clan known as *Thongro*.[10]

(iv) Weeding and Harvesting:

Once the paddy seeds undergo germination and start to grow, the simultaneous growth of weeds requires elimination. The process of removal involves using the same spades that are used for sowing in the jhum plot. Through manual extraction of the weeds from the soil and gentle cultivation of the soil, the roots of the weeds are excavated. Sometimes, specific tools are also used to weed the unwanted plants.

These are called *Rhukhih* in Sangtam, *Ehe* by the Lotha, *Aya* by the Aos, and *Hun* by the Konyaks (Plate 2.8).

The task of weeding the unwanted plants growing around the crops is also a strenuous task. Weeds are cleaned and plucked to ensure that they do not hinder the growth of the crops. This task is performed two to three times till the harvest. By August, the jhum fields are ready for harvest, and the paddy plants are tied together to be harvested. Among the Phom in Yongnyah village, harvesting of the crops must be completed by the month of September. If it stretches onto the following month, the paddy grain is bound to be infested with diseases and insects, making it unsuitable for consumption and storage for the year. The harvesting period is also determined by the physiographic settings of the land. As observed at Pongo village, the harvesting of crops begins earlier than in the other villages. The Village elders' points this out as a condition owing to the warmer climate compared to the neighbouring villages.

In the instance of the jhum field situated far from the village, the harvested crops are cleaned and stored in the field huts and brought to the village in the next few days. Harvested rice and other agricultural produce are stored in the granary (Plate 2.9), where specific containers are designated for each type or occasionally stored together (Plates 2.10 and 2.11). Within numerous Jhum farming communities, it is noted that the granary is typically situated separately from the residential areas. The positioning of the granary is dictated by the traditional practice of the community. The granary is located within the community based on *khel* or sometimes collectively in a location on the periphery of the settlement (Plate 2.12).

2.3.2. *Terrace cultivation*

According to Hutton (1921a), the most notable distinction between the Angamis and their neighbours is their wet rice cultivation. This is a mode of cultivation which involves rigorous labour and proper irrigation facilities throughout the year. The success and failure of the crops depend on irrigation maintenance. Though the exact period marking the inception of this cultivation remains uncertain, it is commonly regarded to be as ancient as the villages it accompanies. Terrace cultivation is mainly

cultivated for wet rice cultivation. This form of cultivation is traditionally practised by the Angamis and also the Chakhesangs, who were earlier known as the eastern Angamis. This method of farming is characterized by a higher level of sophistication in comparison to the traditional practice of slash-and-burn farming, which has long been considered primitive (Hutton, 1921a, p.72).

It encompasses a complex system of terracing and irrigation, transforming even the most steep and hilly terrain into productive rice fields that are flooded with water. John Butler (1875), Godwin-Austen (1872), and Haimendorf (1939), along with other ethnographers and early administrators, have provided accounts of the Angami Nagas showcasing their expertise in terrace field cultivation and irrigation systems. These channels serve to transport water from the streams located above the fields, covering significant distances of several kilometres. The colonial administrators were so impressed by the advanced terrace cultivation method of the Angamis Nagas (Plate 2.13) that they even proposed that the Angamis Nagas would be imported and settled in the Khasi Hills to try and experiment on terrace rice cultivation in the jhum cultivating Khasi Hills (Nag, 2016, p.152).

Terrace cultivation is known by different names among the terraced rice-cultivating villages. The Angamis call the system *Tekhulie*, while to the Chakhesangs, they are known as *Tükhu/Lakhulo* and to the Rengmas as *Perhün Loshi*. The initial construction of the terrace field requires tremendous manpower, which the *khel* and village usually supplement. Naga village social structures work on the principle of reciprocity, where they help each other in any task which the family cannot carry out on its own. Each terrace field is as old as the village itself. New terrace fields in present times are rarely constructed and have mostly been passed down from generations. Rather, it is documented in some rural communities that people are abandoning their traditional agricultural plots at Jakhama and the neighbouring Angami villages[11]. Heijumbuing Lungalang, a 68-year-old retired teacher and a farmer from Benreu village, maintains that instead of constructing new terrace fields, there have been around six to seven terrace field sites recently abandoned by his family due to the reason that there are none to cultivate these fields.

Such terrace cultivations are usually of two types:

(i) Dry *(Khuso* in Angami) terrace cultivation and

(ii) Wet (*Dzucie khu* in Angami) terrace cultivation

A more detailed description of a rice terrace cultivating system is discussed in the subsequent chapter. Table 2.4 provides an illustration of the annual terrace cultivation period of Kigwema, a Southern Angami village in Kohima District of Nagaland.

Table 2.4: Annual activity in Terrace cultivation

Month	Terrace Activity
April	Planting of seedlings (*Thesule*) in nursery fields. The second batch of potatoes are harvested
May	Beginning of agricultural activities. In the early part, the last batch of potatoes are also harvested. By mid-May, with the arrival of rainfall, agricultural activities commences.
June	Digging and pounding of soil with water/ transplantation
July-August	Weeding process
September	Binding of paddy
October	Harvest of the first paddy
November	Last harvest of paddy (Glutinous rice)
December	Dry/*Khuso* terrace fields are dug. First plantation of potatoes
January-February	Late potatoes plantation
March	First harvest of potatoes sown

The annual cultivation system of rice terrace cultivation begins again after the completion of harvesting for the previous cycle. Dry terrace fields are usually drained of water when the rice plants are ready for harvest while wet terrace fields are inundated with water whole year round. After the water is drained from the dry terrace fields, various vegetables are grown in the fields, which are then harvested

before the next cycle of cultivation begins. Each terrace-cultivating village has more or less the same system of cultivation except for some slight variations in the time taken for the duration of work.

The process of terrace cultivation is briefly summarized as follows:

(i) *Field preparation and planting:* Terrace fields are of two types – Dry and Wet. The dry terrace fields are usually dug by the month of December and January, while the wet terrace are dug by the month of April to May, after which the next task is breaking the soil clods, called *Nekro vu* in Angami. In the Angami village of Viswema, March is traditionally considered a *mena* (genna) month for the village. It is known as *Mena Khru*[12]. In this month, one day of *mena* day's work is observed. In the past, there was a belief that completion of the digging and turning of soil in terrace fields must be done by the initial month of the year. Failure to do so was viewed as laziness. According to Mosa Yokha (76 years old), a retired teacher and farmer of Kigwema village, 'Any person unable to finish the task of digging and turning the soil was considered a lazy person (*Kemietsu mie*) in the village.' Therefore, the assignment encompassed not just their routine tasks but also mirrored their societal status.

By the month of April, the nursery fields are prepared for the saplings. These nursery fields are ideally located above the terrace fields or in nearby forestlands (Plate 2.14). Wet terrace fields are dug two times before transplantation in the months of April and May to ensure that the soil is churned and overturned properly. The following process includes saturating the terrace with water, draining it, and excavating it again to ensure comprehensive mixing with the uprooted weeds and plants found near the field. These weeds and uprooted plants act as manures for the terrace fields. In traditional terrace cultivation, the manures and fertilizers are also supplemented by weeds and leftover paddy husks and plants. Almost all the major terrace-cultivating villages in Kohima district, like Jakhama,

Viswema and Kigwema, reported the use of animal manure to fertilize the terrace fields.

In Poilwa village (Peren district), which is also a terrace cultivating village, the leaves of a tree found in the forest called *Rampa* (Alder/*Alnus nepalensis*) and *Mmo* (oak tree leaves/*Quercus serrata*) leaves is used to fertilize the field (Plate 2.15). Another organic fertilizer that the villagers have devised to increase the fertility of the field is betel nut husks[13]. Women of the village have devised this method through their observation and trial methods. Initially, it was used in those fields where they would rear snails as it was considered good for the molluscs. It was observed that the presence of betel nutshell, which is generally a fibrous outer shell in the soil in a particular year, did not result in a successful harvest; however, the effects became evident in the subsequent year when a plentiful harvest was produced. This could also be the result of the husk acting as an absorbent in decreasing the hazardous organic compounds like phenol, which are usually found in wastewater and terraced fields that have been inundated with water and bio-manures (Arigo *et al*., 2021, p.57)

It is also during this period that the terrace benches and dikes are also cleaned and repaired properly with the help of a traditional spade called *Dzutho* in Angami (Plate 2.16 and Plate 2.17), *Khonlow/Kakevüdye* in Rengma and *Hepeu* in Zeliang. This is done to ensure that the dikes are sealed properly so that when the fields are inundated with water, it helps prevent spillage. An opening at the corner of the embankment is established to aid in the controlled flow of water towards the next level, thus guaranteeing consistent distribution of water throughout the entire field.

By the first week of June, transplantation of the paddy is initiated, which must be completed by the end of June. Any delay after this period results in the rice plant not bearing any grain in its panicle. All saplings are planted according to conditions like water

and soil. The saplings are uprooted by hands, tied together with straw or rope, and carried in baskets to the fields to be transplanted. This is usually done on the day of the transplantation or, in some cases, a day ahead of it.

(ii) *Cleaning irrigation channels:* Water serves as the main factor in terrace cultivation. Dry terrace fields and wet terrace fields both depend on water availability for the paddy to bear grains. After transplantation and the rice plants have nicely rooted into the soil, water is drained from the wet terrace field. This procedure is conducted to ensure that a specific type of worm (*Meza/pusa* in Kigwema), resembling a larva that thrives in aquatic environments, does not consume the roots of the rice plant, leading to its destruction. At Kigwema, the villagers utilize fertilizers to eliminate these worms during a particular period, resulting in their diminished presence. These worms primarily impact the newly introduced strains of paddy that are cultivated while showing no significant effect on the traditional varieties.

Irrigation channels (*Dzule* in Angami, *Dzulücho* in Chakhesang and *Helau* in Zeliang) are usually cleaned during April-May, before the onset of the rainy season. The main water channel for this usually comes from the forest above the villages or is drawn from the village's main river or streams. These channels, which are properly maintained by the farmers, are believed to have been excavated during the time of their ancestors using traditional implements crafted from rigid wooden sticks (*soche*/Angami) and cattle horns as the main tools for the task. Afterwards, the individual farmers channel the water to their respective fields.

In the Angami community of Viswema village, during a specific period spanning three months from June to July, referred to as *Khuse*, three smart and capable individuals are tasked with overseeing the maintenance of the water channel. Selection of these individuals is

based on their diligence and smartness, ensuring their ability to promptly address any issues that may arise by venturing into the forest to ascertain the unobstructed flow of water. This practice guarantees an adequate water supply to nourish the paddy fields during the crucial growth phase. Traditionally, these individuals are remunerated with a portion of the harvested paddy; however, in contemporary times, monetary compensation is provided. The quantity of paddy allocated as payment is determined by the yield of the harvest. The primary water conduits that supply water to the fields of the *khel* are influenced by the water source's orientation and ownership. Placement of the village's terrace fields is determined by the layout of the *khel* settlements within the village. According to the community, two persons chosen from Z *khel* and R *khel* were to undertake this assignment. The remaining members of the *khel* rely on alternative water sources and rainwater for their agricultural plots. The traditional *khel* arrangement in the village comprise of four subdivisions referred to as *Ohe*. Historically, two subdivisions have been tasked to maintain the water channel. Compensation is provided by these two subdivisions through a contribution of twelve and a half baskets of harvested paddy.

In certain tribes, the maintenance of water channels is a communal effort carried out by villagers who jointly access the channels. For instance, the Zeliang community of Benreu village undertakes the task of cleaning the irrigation channel annually, provided it remains unobstructed. If natural elements disrupt the water flow to the fields, they ensure that the channels are cleaned as necessary. During the designated cleaning day, known as *Helauteimci Tingba*, all individuals utilizing the water channel participate in its maintenance collectively. Equitable distribution of water from the channel is practiced, with surplus water available for those in need. Both men and women partake in the cleaning activities on this day. Failure to participate results in one's water channel being blocked,

reflecting their belief in equal contributions for equal benefits. A ceremonial pig slaughter takes place, with the meat shared among the villagers, followed by a feast to honour those involved in the water channel cleaning. Additionally, the individual among the channel users with the highest harvest in previous seasons is expected to make the largest contribution towards the feast.

(iii) *Weeding and harvest:* The first week of March is the season of sowing the early harvest seeds and cleaning of weeds in the nursery, and by June, transplantation begins. After the completion of the first transplantation, usually after ten days, the first cleaning of the fields commences. Simultaneously, with the development of rice plants in August, the weeds among the plants also multiply. Before the maturation of paddy plants for harvest, a consistent schedule of weed and bunds cleaning in the fields is maintained, occurring two to three times. The task of weeding and cleaning the terrace fields is usually done by women folk in each terrace-cultivating village. Among the Zeliangs, of Benreu village, it was customary for male inhabitants of the community to engage in trade outside the village during this period, to generate income for the payment of household taxes and the procurement of salt, which was not locally obtainable. Male residents would journey to nearby towns to vend their merchandise and partake in infrastructure projects on the British highways during the colonial era. Commodities such as rice, a type of local cane known as *Heriang* and various other goods were transported by them to be sold in the local market.

By September, the rice crops will be tied in preparation for the imminent harvest in October, accompanied by necessary weeding and cleaning procedures. The harvesting process is a communal endeavour involving the entire village. Come October, the initial harvesting of the early planted rice will commence. In the fields, late-harvest rice plants start to display their grains, while premature-harvest rice plants are full of grains and are beginning to incline their

panicles. By the second week of November, all harvest in the fields will be completed. Among the different varieties of paddy planted, the glutinous rice is usually the one that is harvested the last as it takes time to mature than the rest. In the past, they would usually harvest the paddy and keep it in the field and, the next day at dawn, carry it back to the village, after which they would have their food and then go again to harvest the remaining paddy. It is a collective effort by the communities. With the arrival of modern vehicles, they are brought to the village on the day itself.

The harvested paddy stalks are thrashed on bamboo mats, and the winnowing of the empty husk to separate the grain is carried out near the field huts, after which they are cleaned and stored in bamboo carrying baskets to be brought back to the village. The cleaned grains are brought to the village and stored in the granary baskets. It is also during this time that the women will carefully select the seeds that are to be used for the next plantations.

After harvesting, the paddy stalks are left in the fields to be used as fertilizers for the soil. Some of the fields are left dry, while others are also inundated with water year-round. On the dried fields, vegetables are also grown after harvest. Unlike in most terrace-cultivating villages in Nagaland, the terrace fields at Old Poilwa village (Peren district), are found to be inundated with water all year round. The fields that are kept inundated with water are used to rear fish and snails for the season, which serves to provide food for the farmers. Kokigwambe Diswang, a 59-year-old farmer from Old Poilwa village, articulates his utilization of this approach to enhance the fertility of his field. He asserts that a field saturated with water and intermingled with remnants of weeds and paddy stalks from the previous year's harvest is considered highly fertile, leading to maximum yield.

2.4. Agricultural Labour:

The social structure of the Naga indigenous community has a strong connection with their agricultural practices. Agriculture plays a significant role in shaping the social organisational frameworks within the village. Familial contributions complement the workforce in the conventional Naga agricultural sector. All jhum and terrace-cultivating villages work on the principle of mutual cooperative behaviour helping one another in the fields. While the family serves as the basic unit of the workforce in the agrarian structure, in cases where the fields are too vast for the family to complete on its own, there exists a workforce age-group system that comes to their assistance. These are known by many names among the various tribes. The following illustrates a variety of age groups that are in vogue within different villages: -

(i) The Angami call it as *Peli Khrotho*. The *peli* system of rendering one's service to one another is prevalent in the village. They are not confined to any gender. These *peli* groups are most active during the harvest and transplantation season.

(ii) Among the Sumi Naga, it is known as *Aloji* and is composed of friendship groups that help each other in the fields during the agricultural seasons. The number of people in the group may vary from ten to twenty houses or depending on the population of the village.

(iii) The Konyaks call it *Ai/Aei*. It traditionally comprises the different age groups and genders who would assist in the field. In the past, there were separate *Ai* for men and women, but with time, it is now jointly undertaken.

(iv) Among the Sangtams of Yingphire, unlike the other agrarian societies, there are two types of labour groups. From the three *khel*, each have their own groups, which are composed of households and not age-based or gender-based groups. Each *khel*, with their own group, would help one another in their fields when needed on rotation. This is known as *Asahrü* and is composed of members of all ages. Another group called *Atirü* exists outside the *khel*, which is

composed of all ages and is also a part of the village's agrarian structure.

(v) In Kuthur (Shamator district), which is a Yimkhiung Naga village, the different age group system is known as *Yingrü*. There exist two distinct variations of this system. One involves a mutual assistance approach in agricultural activities, while the other entails receiving paid wages known as *Amülorü*. Earnings acquired from the latter method are set aside for utilization during various occasions, particularly the *Tsüngkamnio* (thanksgiving) festival, where the members of *Yingrü* gather to commemorate and partake in communal feasting and meat consumption.

(vi) At Pongo village (Longleng district), a system of labour exchange based on reciprocity can be observed. Peer groups, known as *Eecho*, are formed by individuals belonging to different age groups. These groups collaborate by assisting each other in their respective fields. Moreover, they extend their support to individuals lacking assistance from others. In addition to this reciprocal system, there is a presence of hired labour referred to as *elak* in the vernacular of the region. At Yongnyah, the community of Phom individuals in the village is characterized by the presence of a social structure referred to as *Aeiha*. This system entails the formation of groups consisting of individuals of similar age, gender, or a combination of both. A mutual arrangement for labour distribution within the village had been established, where community members would assist each other in agricultural tasks on a rotational basis. These *Aeiha* groups are involved in various agricultural activities throughout the year. It is only during the harvesting season that the *Aeiha* do not partake. During harvest, all the different age groups partake in the task collectively.

2.4.1. *Wages*:

The reciprocal system of labour is based on the principle of rotation, whereby the group would work in each other's field in turns. In this group, there are no distinctions between men and women. Both genders would equally contribute to the work in the fields. Warütshii, a 74-year-old woman from Meluri village, remarks that there is no difference between men and women in their community. She further estimates that women, in comparison, are more hard-working than men. In certain group structures, compensation was provided through mutual assistance in the form of monetary payment, depending on the specific customary practice and traditions of the relevant communities.

The following are of the different types of payment that are observed within rural settlements among communities.

(i) In Yongnyah village (Phom Naga, Longleng), historically, payment was distributed using a small basket known as the *Nang sham*, resembling the size of a human skull. Nevertheless, as the concept of monetary worth for labour emerged within the agricultural domain, compensation was set at fifty paise for a day's labour, applicable to individuals of both sexes. At present, the remuneration for a day's labour in the agricultural sector of the village stands at ₹150-200 for individuals of both genders. These remuneration rates are established by the Village Council to ensure a standardized payment system.

Payment in the form of wages are administered using a measuring basket known as *Nangkam* in paddy fields at Pongo (Longleng). The remuneration vary depending on the nature of the task performed in the field. Tasks involving the use of a *dao*, such as cutting and burning jhum fields, received the lowest compensation. On the other hand, higher wages are allocated for activities like digging and hoeing, with the highest wages reserved for tasks utilizing a sickle, such as harvesting (Table 2.5). Notably, payment is distributed equally among individuals regardless of gender. Discrepancies in payment emerge between experienced elders and

less seasoned adults, with the latter receiving lower wages. The basis behind the increased wages for harvesting lie in the strenuous and labour-intensive nature of the task, particularly in transporting the harvested crops to the village on the same day, setting it apart from other duties.

Table 2.5: Wage paid for work

Work	Tool used	Old wages	New wage
Cutting and burning	Dao	One Nangkham	₹50
Digging and cleaning	Spade	Two Nangkhan	₹100
Harvest	Sickle	Three Nangkham	₹200

(ii) Among the Chang Naga (Tuensang District), a basket called *Takyang* is utilized for measuring harvested paddy and remunerating labour, typically amounting to one to two tins. In terms of compensating for the lease of arable land, the lessee allocates a portion of the procured grain to the landlord, reserving the remainder for personal use.

(iii) At Kuthur village (Yimkhiung Naga, Shamator District), besides using a measuring basket called *Mekha Mulok*, wages to the hired workers are paid in three forms traditionally:

(a) An owner distributes meat to the various households whose help he wants in his field. He would appoint a date and ask them to come and help him in his field.

(b) Another form of payment was by salt.

(c) Sometimes, the owner would also give scraps of old metal spade (*Thu Cham*) or *dao* (*Nok*) as wages.

With the introduction of monetary exchange, wages for a day of work in the fields were at 25 paise for both genders. Wages are paid equally to both genders irrespective of the type of work done.

(iv) At Phelungre village (Kiphire District), wages are paid by using a measuring basket called *Mülah* and a carrying basket called *Khitu.* It depended on each *morung* and their customs. There are no fixed collective wages. Depending on the owner of the field sometimes, wages are paid in kind like dogs and chicken at times.

(v) For the Konyaks, wages are paid through the paddy system. A basket measuring five to six baskets called *Gongkam* are used for this purpose. Five to six *Gongkam* would fill up one *Nung* (carrying basket). The *Nung* is filled up with paddy with the *gongkam* according to how much the person could carry. Wages for both men and women are equal for all tasks. In Tangyu village, wages are paid for harvested crops using a measuring basket known as *Nuo*. One *Nuo* equals two tins. Women and men are paid equally for hired labour. They are paid with the *Nuo* and how much they could carry in one *Nuo*. It depended on the generosity of the owner of the field.

(vi) At Longsa village (Mokokchung District), wages for hired labour in the jhum fields for men and women are ₹500 and ₹400, irrespective of the kind of work done. In the past, wages were paid in terms of grain harvested using a measuring basket. For men, it was one tin, and for women, half a tin. They are of two types- *Purama* (1 tin) (Plate 2.18) and *Yimtsu* (1/2 tin). A tin is equal to three *purama*. These *purama* cannot be made by anyone. These are fixed and made by the Village Council members only. This *purama* are also used as part of the payment for pigs purchased by a *khel* during the sowing of seeds in the jhum fields. Sometimes, the owner of the pig would prefer money or else in kind, i.e., grain. They would ask for one tin and one *purama* of paddy for the pig. Hence, during this occasion, the *purama* is used for this purpose.

(vii) Among the Zeliangs, wages are paid by measuring with a small basket known as *Mpwa Mtui* (Peren village) and *Hezientui* (Benreu village, old Poilwa village). One *Hezientui* is an equal measure to a quarter of a tin of rice in present terms. Wages are paid according to

the days a person worked in the owner's field. Wages paid to men are more than those of women. Sometimes, wages are paid in kind by helping one another, while for payments, wages in the form of paddy are given. For children, depending on the work, one to four *Hezientui* is paid.

Wages paid in kind are known as *Ningkung*. These are usually performed by wealthy people in the village only. This individual would call the villagers to assist him out in the harvest or any agricultural activity. He would, in turn, give them a feast of meat and rice beer or, in some cases, pay them in wages like one *Heabu* (granary). Heijumbuing Lungalamng, 68 Years, retired teacher, and farmer from Benreu village, recollects one such instance where his uncle gave one *Heabu*, which contained fifty tins of paddy, as wages to the villagers for helping out in extending his paddy field.

(viii) Among the Sumi (e.g. Mishilimi and Lazami villages), payment for hired labour in the fields in the past was done through baskets of paddy. Both men and women are paid equally for the work in the field. Presently, the hired labourers are paid monetary value. Men are paid ₹400 for a day's work, while women are paid ₹300. While at Gokhimi village, wages for terrace fields are two baskets and for jhum fields, one basket of paddy. The basket used for this is known as *Akukhovu*.

2.4.2. *Division of labour*:

The nature of the work involved mostly determines the work distribution in cultivation. In traditional Naga society, men were tasked with heavy work as dictated by societal norms, while women were tasked with the work considered easy. During the precolonial period, the men of the village would participate in warfare whenever it occurred, while the women were left in the village to take care of the domestic affairs. Due to the enmities between villages, the men were tasked with the responsibility of protecting the village. As a result, men had to accept the responsibility of protecting women and would stand guard and alert while women

worked. This role has undergone changes in the years since then. We see how, even today, while the families would collectively go to the field to work, it is the woman who carry the child fastened on her front, while at the same time carrying baskets on her back with the tools and implements and afternoon meal and sometimes even fuelwood in her basket. Meanwhile, the men would usually be seen leading the way with a *dao* (machete).

Nevertheless, the allocation of tasks based on gender within the cultivation process displays a certain level of flexibility, devoid of any specific restrictions on why individuals of a certain gender should engage in or avoid certain activities. Instead, the determining factor lies in the physical capabilities required for the tasks, which vary depending on the specific nature of the work. In jhum cultivation, the tasks of burning and cutting of fields and constructing field huts are usually performed by men. However, in some villages, women would also partake in the task. In terrace cultivation, it is also a collective task, with both genders equally contributing to the workforce in the field, apart from the maintenance of irrigation channels, which are usually looked after by men. The following highlights an illustration of work distribution in a jhum-cultivating and terrace-cultivating village (Table 2.6 and 2.7):

Table 2.6: Work distribution in jhum field, Mishilimi village

Task	Gender
Selection of site	Men
Clearing of site	Men
Burning of site	Men
Preparing the Field	Women
Sowing	Both gender
Weeding	Both gender
Harvest	Both gender
Cleaning and sorting	Both gender
Marketing decision	Women

Table 2.7: Work distribution in the terrace field, Kigwema village

Task	Gender
Field preparation	Both gender
Nursery preparation	Women
Breaking lump Soil	Women
Cleaning irrigation channel	Men
Transplantation	Both gender
Weeding	Women
Harvest	Both gender
Post-harvest cleaning and sorting	Both gender
Marketing decision	Both gender

In recent times, with the changing roles of men and women, these changes have also been witnessed in agricultural roles. Traditionally, it was men who would proceed and slash the vegetation first. Men of the village would go and cut the new jhum fields, while women would stay at home in the village and weave clothes. S. Chukhim, a farmer and the Village Council Secretary of Kuthur village points out:

> "The roles of men and women have changed. Now, women are the ones who go to the jungle to cut trees while men stay at home in the village."

2.5. Tools and implements:

The implements utilized for agricultural purposes by various Naga tribes are intricately crafted to cater to the requirements of cultivators while possessing a simplistic essence. Utilization of these implements is predominantly governed by the tasks performed in the field, with each implement serving a distinct purpose aligned with the cultivation procedures. A systematic sequence is followed in employing these implements, commencing with land preparation, progressing to sowing, weeding, pre-harvest activities, tasks during harvest, and culminating in post-harvest operations. While the names by which the tools are called may differ according to the different tribes and their vernaculars, their purpose remains the same.

The following list the tools that are used in the different cultivation processes in Nagaland:

Table 2.8: Types of tools

Type of implement	Usage	Field
Naga *Dao*	Cutting vegetation/harvest	Mostly in jhum fields
Spade	Digging, ploughing soil and dibbling to sow seeds	Jhum/Terrace
Mattock	Breaking soil clods	Jhum/Terrace
Hand weeder	Cleaning of weeds	Jhum
Sickle	Harvest	Jhum/Terrace
Bamboo mat	Drying of grains (post-harvest)	Jhum/Terrace
Carrying basket	Carrying grains to the barn (post-harvest)	Jhum/Terrace
Winnowing mat	Cleaning and winnowing grains (post-harvest)	Jhum/Terrace
Baskets	Measuring grains after harvest and storing pounded grain	Jhum/Terrace
Pounding table	Pounding the grain (post-harvest)	Jhum/Terrace
Big baskets	Storing harvested grains in the barn	Jhum/Terrace

Apart from the above-listed different types of tools used in cultivation, there are some tools that are specifically used in terrace cultivation. Traditionally, a special spade is used for the initial ploughing and digging of the terrace fields (Plate 2.19), known as *Dzütho* in Angami, *Küdi* in Chakhesang, and *Hepeu* in Zeliang. These are specifically used to plough and dig the wet terrace fields and to make and repair the terrace dikes. Traditionally, the bones from the scapula of a cow (*Bos taurus*) or Mithun (*Bos frontalis*) were used to make these spades. Wood from the *sumac* (*Rhus coriaria*) variant was also used to make tools for agricultural uses.[14] Cow horns were

also used to dig the soil and repair the irrigation channels by the farmers from Viswema[15].

After the initial process of digging and pounding the soil in the dry terrace fields, the dug soil clods are beaten with wooden mattocks to break the soil, which is called *Nirusü/Nitro mavusü/nedovo* in Chakhesang and *Medu* in Angami. The tool has a relatively large handle with an iron digging blade. Traditional mattocks were all made of wood or bamboo. Weeding and cleaning the dikes of terrace benches is done with the help of the spade, Naga *dao* (*zhie/zhe*) and sometimes manually. Transplantation is also done manually by hand. The paddy saplings are uprooted from the nursery field and taken to the field in bamboo baskets called *Mukho* (Chakhesang); *Khodi* (Angami); *Kelwa* (Zeliang). All the weeding that takes place before harvesting in the terrace fields is done by hand, as using the spade in between the plants might harm them. Clearing the weeds on the terrace benches is done using the *Zhie* or *dao* and a small spade. Harvesting is done with the help of the *Zhie* (*dao*) and carried on bamboo baskets (*Khodi*). Among the Sumi, traditionally, harvesting was done manually by hand by stripping the grain from the stalk into baskets. This process is known as *Müzhu*. Hutton (1921) also gives an account of such practices of the Sumi Naga. In recent times, with the availability of new tools and metals, harvesting sickle (*Awukiti*) (Plate 2.20) is used to cut down the ripened paddy. In the harvesting process, in both types of cultivation, the Naga *dao* or sickle is commonly used.

Jhum cultivation implements mainly consist of the Naga *dao* for cutting down vegetation and trees. Big tree trunks and branches are cut down with the help of the axe. The felled trees and vegetation left to be dried are burned after a few days. The burned vegetation is then collected with the help of a wooden mattock implement made of bamboo and wood (Plate 2.21). The varieties of wood/bamboo used to make the implements depend on the type available in the region. At Phelungre, Kiphire District, the villagers use a particular variety of local bamboo, called *Afahju* and *Süh*, to make tools and houses[16]. In Peren village, the bamboo that is used for making agricultural tools is called *Beirang* and *Beikieng* in the local vernacular. Wood from the *Rhus semialata*, or *Heme*, called in the local dialect, is also used for making tools. After the burned vegetation has been racked and mixed

properly with the soil using a mattock and spade, the soil is then dug, and the seeds dabbled with the help of a small spade. Among the Naga tribes, there are various ways by which farmers sow the seed in the jhum fields. Some dibble the seeds into the soil with the help of a small spade, while some scatter the paddy seeds in the jhum fields, which would be kept in a small basket tied around their waist. The Phom of Yongnyah village follows the system of dispensing the seeds by keeping the seeds in a small basket known as *Tophe*. With the germination of the seeds, the weeds that grow between the crops are cleaned manually using a weeding tool (Plate 2.22) known as *Kün* (Chang)/*Hun* (Konyak).

After the crops mature for harvest, they are harvested accordingly. While maize and millet heads are harvested by breaking them from the stem, paddy stalks are first tied with the straw leaves and then harvested with the local *dao*/ sickle. These are then stored in the barn in their respective granary. Thrashing of the harvested crops is usually done manually by using their feet (Plate 2.23). After the paddy is separated from the panicle by the thrashing method, it is then cleaned and winnowed with the help of a winnowing fan (*Wan*/Chang) (Plate 2.24), which are of different shapes and sizes according to the tribes. The threshed rice grains are then carried back to the village in baskets (*Yang*/Chang) to be stored in the granary. The baskets used for carrying the grains are different from the ones used for carrying other items like tools and wood (Plate 2.25, Plate 2.26). Baskets used to carry the grains are closely knitted together so as not to let the grains fall out. In some tribes, these baskets are also used as a measuring tool to estimate the number of baskets of harvest they have harvested for the season (Plate 2.27).

The harvested and cleaned paddy are then stored in their respective granary, which has separate storage for each type of paddy (Plate 2.28). These storage containers are woven with locally available bamboo. In a granary, depending on the size, there can be two or three storage baskets of different sizes. A separate granary basket to store seeds for the next season is also made (Plate 2.29). Among some tribes, like in Laruri of Pochury, Phek district, not only bamboo baskets but also earthen pots are used to store their harvested crops (Plate 2.30).

Among the jhum-cultivating tribes like the Konyaks and Phoms, a separate bamboo sieve called *Gongni/Onghen* is used to filter millet and other small grains

(Plate 2.31, Plate 2.32). At post-harvest, the crops are dried on flat bamboo mats, which are of different sizes depending on their use. Big mats are usually used to dry cleaned paddy grains before pounding them on the pounding table (Plate 2.33, Plate 2.34). The wooden tables used for pounding are typically crafted from individual tree trunks, featuring several openings where the rice undergoes husking and pounding facilitated by a large, sturdy wooden pestle. Variations in the design of these tables exist among different tribal groups, with certain tables possessing a solitary opening. For the Angami and the Chakhesang Nagas, multiple openings on a single table designated for pounding are used.

Traditional tools and implements are predominantly crafted from bamboo and indigenously sourced wood. Presence of metals are scarce within rural communities, thus limiting ownership to the affluent individuals in former times. This phenomenon is exemplified in Laruri village (Pochury, Phek district), where a pair of *dao* tools is utilized to cultivate jhum fields. One has an iron handle called a *Merpang*, while the other has no handle (Plate 2.35). Only the wealthy can afford to use the iron handle *dao*. It was seen as a symbol of status for those who used this iron handle *dao*. The Konyaks, who are well known for their metal works, traditional conventional implements are crafted from bamboo and wood. However, through the practice of bartering, the inhabitants journey to the neighbouring region of Assam (Sonari)[17], where they participate in trade by exchanging their bamboo mats and gingers for metals and other goods that are scarce in their locality. Jacobs (2012) writes about this trading activity of the hill people with the plains and within the group itself. Various agricultural products and handicrafts were exchanged for salt, metal sheets, etc., with the plain people. Furthermore, the community housed skilled blacksmiths who would transform the acquired metal materials from their bartering activities into weaponry and tools essential for agricultural purposes (Jacobs, 2012, p. 38). Among the Ao tribe, in Longsa village, there are locally available blacksmiths who makes the tools and implements. R.Lanusungkum Jamir (85 years), a retired teacher and farmer, recollects his forefathers narrating to him that initially metals were brought from Burma, and it was only later that metals were brought from Manipur (Imphal), as well as from Assam by traders who came to the village. Metal brought from Burma were considered the best, while the metals from Assam were

considered the lowest quality. Every house had a *dao* (*nok*). The old *dao* metals were then recycled by the blacksmith and made into spades and other tools.

Rituals and customs were not confined solely to agricultural practices but they extended to other aspects as well. In the crafting of tools and implements, specific customs were adhered to. An illustration of this can be observed within the Chang of Tuensang village, where the spade and *dao* utilized for cutting and digging the jhum fields are meticulously crafted by the village blacksmith in accordance with prescribed rituals. After the initial cutting and burning of the jhum fields, the fields were cleaned and dug with a spade known as *Shap*. The spade and *dao* used were made by the blacksmith known as *Injangpü*[18]. While making the tools, the blacksmith observed certain rituals. While he was making the tools, the blacksmith would not eat any other food except chicken or a small pig. Metals for the tools were exchanged with salt (*Chamshan*) and *Naga Dal* (Mung bean) with their neighbouring tribes, who were in possession of the metal. Tools and equipment were also utilized for trade transactions with adjacent villages, as evidenced from the Sangtams residing in Phelungre village. The village housed two distinct varieties of Naga *dao*. One particular type of *dao*, known as *Nohtsamüri*, was employed to acquire animals such as Mithun from neighbouring villages. To acquire a Mithun, it was necessary to exchange one *Nohtsamüri* (Plate 2.36) in addition to three or four different types of cloth[19].

2.6. Types of crops:

Intercropping (Plate 2.37 & 2.38) and mixed cropping systems (Plate 2.39) are the main types of cropping patterns among the Nagas. Traditionally, millets (*Setaria, Panicum*), Job's tears (*Coix* sp), etc were the main types of crops planted among the jhum cultivating villages with mixed cropping of various other vegetables and pulses. Archaeobotanical evidence also suggests the cultivation of this type of crop in the Naga Hills dating back to as early as the late first millennium BC to the second millennium AD (Pokharia *et al*., 2013). Rice constitutes the main type of crop planted in the terrace cultivating villages, with other vegetables and crops planted along the terrace bunds. One technique for sowing paddy seeds involves distributing them evenly across the field and concealing them beneath a layer of carefully

removed topsoil. An additional technique involves forming small hollows in the soil and inserting a small number of seeds into each dent. Similarly, the vegetables and various legumes are planted using similar methods.

In the context of terrace agriculture, after the completion of paddy cultivation, various vegetables, such as tomatoes, pumpkin, chilli, potatoes, peas, and cabbage, are cultivated in dry terrace fields. Conversely, in the case of wet terrace fields that are consistently submerged in water, aquatic organisms like frogs, fish, and snails are bred, while fruits, chilli, *Colocasia*, bitter gourd, and other vegetables are grown on the terrace embankments. The cultivation of millet, Job's tears, and maize is also undertaken in jhum fields to serve as substitutes for rice during times of scarcity. Pukoho Rolnu (93 years) and Thinuzeho Kirha (86 years) from Jakhama Angami village expound on the village's ability to sustain itself by relying on jhum field crops such as Job's tears and maize for a period of one year in case of a poor harvest from terrace rice cultivation.

In such areas where jhum cultivation is the main cultivating practice, various cereal crops like soyabeans, Naga Dal (Mung beans), maize, *Sesamum indicum*, *Perilla ocimoides*, cucumbers, gourds, chilli, brinjal, millets, ginger, maize, yam, pumpkin, cabbages, garlic, Naga chives, potatoes, Jobs tears, *Colocasia*, peas etc, are grown depending on the area. In recent years, new horticultural crops like cardamon, persimmon, kiwi, pineapples, etc, have been introduced in the villages with the initiatives of the local farmers and the government.

2.6.1. *Millets* (*Setaria*):

While rice constitutes the main crop which is consumed by the people in terrace-cultivating tribes, the role of rice among the jhum-practicing tribes was secondary in nature. This disparity could be attributed to the self-sufficiency provided by the extensive terrace fields, ensuring a year-long supply of rice for the inhabitants. Millets were additionally grown in terrace-based settlements, primarily to complement the main crop of rice.

In the jhum fields, millets are usually planted in the second year after paddy plantation in the first year. While among the major jhum practising villages, millets were planted in new jhum fields in the first year, after which other crops were

planted. Traditionally, millets and Job's tears were the staple food crops, and among certain tribes like the Konyaks and Phom, *Colocasia* (taro) constituted their primary food. Millets and Job's tears were used not only utilised as food but also for making local brews which are consumed by them during times of festivities and as part of their daily diet. Table 2.9 highlights some of the different types of millet which were cultivated by the people:

Table 2.9: Types of millet cultivated.

Area	Name of millet		Type	Uses
Kohima	*Mehwutsu, Pfulori, Khusieri*		Glutinous	Local brew (*Zu*), local bread (*Nekhreda*)
Phek	*Phowdsang*		Glutinous/non-glutinous	Mixed with rice, local brew
Longleng	*Shiha/Shitha*		Glutinous/non-glutinous	Local brew, main food
Tuensang	Great millet (*Alüto*)	*Saklangpu* (red)	Glutinous/ non-glutinous	Local brew
		Thupüpü (white)		
	Fox tail millet	*Chaisak*		
		Asomajhit		
		Onli		
	Tanji	*Lokong*	Non-glutinous/ Glutinous	Local brew, main food
		Longthrong		
		Azo Müjih		
		Kechamrü		
		Athru Titse, Longthrung Titse, Tolusü Titse, Nohrah Titse,		

Kiphire	*Titse/Ketsu* (fox tail millet) and *Lidi/Litü* (Great millet)	*Kotsa Titse, Ketsu Azu, Rutsu, Alitsu, Litütsa (red), Litüsing (white)*	Non-glutinous	Local brew and for consumption
		Ashu Titse, Ketsu Ashu	Glutinous	
Mon	*Shi/Kü*	*Shenei*	Glutinous/non-glutinous	Local brew and for consumption
		Kanyu		
		Lemsha		
		Künyak		
		Shenyan		
Peren	*Hetui*	*Hetui baklwa*	Non-glutinous	Local brew, for consumption mixed with rice and to feed the animals
		Hetui Mira	Glutinous	
		Hetui Gumle		
Zunebhoto	*Ashu-ü/ Atsünakhi*	*Ajikishipu, Aghavshu, Ashu, Kholamishu*	Glutinous	Local brew and for consumption
		Anakishipu	Non-glutinous	

Among the Sangtams residing in Kiphire district, millets are assigned specific names that indicate the origin either based on the location or the community from which the particular variety was obtained. *Longthrung Titse*, for instance, is derived from a village situated in the vicinity of the Saramati region. Similarly, *Kotsa Titse* is linked to a village near the Zingki River on the Burmese side. Within the Sangtam community, the term "*Kotsa*" is utilized to refer to the Kuki ethnic group. The cultivation of millets held significant importance in their traditional agricultural activities. For instance, in Yingphere, a Sangtam village, there exists an ancient proverb emphasizing the historical significance of millet, which recounts as follows:' *Even if famine comes, millet can help us survive*.' *Rutsu,* a type of millet, was not solely consumed but also utilized as a narcotic substance to bewitch the

residence of the adversary. Historically, the chieftain of the invading faction, *Arithünyupa*, employed *rutsu* to inebriate and render the enemy insensible. Engaging the *rutsu*, the chieftain would encircle the enemy domicile while reciting incantations: *'Isa hi sing le race to ariju isa khüching razhehsino*,' which translates to *'We have come to seek them, may they fall into our grasp*.'

Nevertheless, juxtaposed with this practice, there has been a decline in millet farming within the communities. The advent of jhum rice cultivation in the vicinity around the 1960s prompted the local populace to prioritize rice cultivation, consequently leading to a reduction in millet production in the region.[20] This scenario was seen not only among the Sangtams but also among the other tribes as well. On the other hand, Das (2020) examines the juxtaposition between the inception and endorsement of rice and the decline in the staple crops within the eastern Naga tribes, specifically within the Tuensang regions, to the endeavours of Christian missionaries to regulate the economic dimension of agriculture. This effort was not driven by a desire for modernization but instead postulated to aim at integrating the conventional societal norms with the emerging belief system.

2.6.2. *Job's tears* (*Coix* sp.)

Another traditional crop that has been historically cultivated by the population is Job's tears (*Coix* sp). In conjunction with millet, Jobs tears are also cultivated in shifting cultivation fields referred to as jhum. Traditionally planted in aged jhum fields post-millet harvest, or sometimes on the contour bunds within jhum fields, Job's tears have been a significant component of the daily diet in earlier times. They are utilized in the form of local beverages, and within the Rengma Naga community, Job's tears are utilized as ornamental pieces in their traditional clothing. The Job's tear cultivated by the Rengma come in two variations: small and elongated one, referred as *Kongtyü* utilized for adornment in loin garments, while the other, known as *Nsha,* meant for consumption. Within the Lotha Naga community, Jobs tears (*Umum*) were also consumed as a substitute for nourishment alongside maize during periods of poor harvests and famines. Table 2.10 illustrates some of the different varieties of Job's tears which are cultivated by the people:

Table 2.10: Varieties of Job's tears (*Coix* sp.) cultivated:

Name		Type	Uses	Area
Ashütha, Apokrie, Vüsi, Mzümtsang		Glutinous/non-glutinous	Local brew and food	Meluri
Khrütozho.			Decorative	
Kongtyü		Glutinous/non-glutinous	Decorative	Tseminyu
Nsha			Local brew and food	
Ngi		Glutinous/non-glutinous	Local brew and food	Longleng
Shenyü	*Nyakmietpa*	Glutinous	Local brew	
	Kangshpa	Non-glutinous	Food	
Nyi,		Glutinous	Local brew	Tuensang
Phaphkiungpü		Non-glutinous		
Mumtse		Glutinous	Local brew	Kiphire
Nyee		Glutinous/non-glutinous	Local brew	Mon
Menchang		Glutinous/non-glutinous	Local brew	Mokokchung
Hechi, Hechingnie		Glutinous	Local brew and consumed as tea	Peren
Akiti, Achonaqhi		Glutinous/non-glutinous	Local brew	Zunheboto

2.6.3. *Taro* (*Colocasia*):

In addition to millet and Job's tears, which were extensively cultivated as traditional agricultural crops, *Colocasia* represents another traditional variety of crops grown in the villages practicing both types of cultivation, particularly among the jhum cultivating tribes. *Colocasia,* known as *Dzunuo* by the Angami people, is a culinary

favourite among the community predominantly engaged in terrace farming. It is believed to thrive best in soils enriched with ash derived from burnt vegetation. Within the Rengma Naga community, historical accounts reveal that during poor rice harvests or times of calamity, the villagers turned to consuming various types of *Colocasia* such as *Jwitsin* (large tuber), *Jwithon* (elongated tuber), *Jwishwen* (small tuber), and *Shaman* (red tuber) instead of rice. Various cultivars of this tuber are cultivated by different tribes based on their respective customs and traditions. *Colocasia* is considered one of the first crops to have been cultivated by man. Since the 1940s, botanists and geographers have suggested that in Southeast Asia, rice seed-culture replaced an older vegeculture system. On the other hand, rice and taro were postulated to be domesticated concurrently from wild predecessors in swampy habitats in mainland Southeast Asia (Mathew, 2014, p.95).

This practice is exemplified by the Phom tribe of Pongo village, where the cultivation of this particular crop holds significant historical and economic importance. Following the harvest of paddy, the subsequent crop to be sown in the fields is *Colocasia*, which serves as the primary source of income for the village and contributes to its economic sustenance. The residual paddy stalks are incinerated, and the land is then excavated and prepared for the next planting season. *Colocasia*, locally known as *Doung/Dhoung*, is planted in rows similar to potatoes starting in February. The timing of planting is crucial for the success of the crop, with April being the deadline for planting to ensure a bountiful harvest that can be reaped from September until the end of the season. Additionally, the leaves of the plant are gathered and consumed either fresh or dried, particularly during periods of low agricultural activity. These planting practices precede the subsequent paddy cultivation season. There are about twelve varieties of *Colocasia*/taro which are planted in the village:

(i) *Kha Doung*
(ii) *Hong Doung*
(iii) *Pang Doung*
(iv) *You-a Doung*
(v) *Longpang Doung*
(vi) *Chühpaü Doung*
(viii) *Shoktra Doung*
(ix) *Oukhu Doung*
(x) *Hen Doung*
(xi) *Shung Doung*
(xii) *Doungmih Doung*

(vii) *Phüm Doung*

The various types of *doungs* are strategically cultivated based on the most suitable environment. Local residents have acquired this expertise through extensive years of practical experience and knowledge. Certain tubers are also cultivated in proximity to the rice fields. These variations are highly esteemed and well-known throughout the region, often referred to as *Pongo Doungs*. Another type of *Colocasia* is planted along pathways, known for its towering growth resembling a tree. Some types of *doungs* are consumed not only for their tuberous roots but also their leaves. Multiple varieties of the crop are cultivated in specific patch areas within a single field. The harvested produce is stored in field huts, ensuring prolonged preservation.

Both genders participate in the cultivation of these tubers, with women typically responsible for cleaning, sorting, and selecting healthy saplings for the subsequent season. The harvested *Colocasia*, gathered from September onwards, remains viable until July. Historically, this crop was primarily grown for personal consumption and utilized as livestock feed. It is commonly consumed for breakfast alongside black tea and as part of the mid-day meal. In the past, prior to the introduction of rice in the region, these *doungs* served as the primary staple crop. However, over the past two decades, villagers have begun commercializing its production.

The cultivation of *Colocasia* tuber is also historically found among the Konyaks, who consume it as their staple crop. Among the Konyaks of *Tangyu* village, the tuber crop consumed by them is called *Tuo* (Plate 2.40) in the local dialect. These are planted in the new jhum fields as well as old fields between the paddy and along the boundary of the fields. Table 2.11 highlights some of the different varieties of taro cultivated in the village:

Table 2.11: Types of taros (*Colocasia*), Tangyu village

Local Name	Description
Mishe	The most common variety grown. It has a red outer skin layer
Nalon	Similar to *Mishe* variety

Thanphe	Named after its characteristic feature of sprouting many smaller corms on its side.
Along tuo	Considered the queen among the tubers. It is also named after the person who brought it to the village. It is the first to be harvested.
Tuo mih	Common variety grown.
Shahab Tuo	Special variety grown around the field hut. Largest among the *Tuo* grown in the village. It is considered the king among the varieties grown in the village
Jankü tuo	Commonly grown by all.

Most of these tuber crops are harvested by August-September. However, its storage life is comparatively short, and, therefore, cannot sustain them for long. Most of these taros are planted in the months of April and are harvested by December, depending on their maturity. In addition to the edible tuber corm, all components of the plant are ingested by the population. The stem and foliage are gathered, dried, and ingested during periods of decreased agricultural productivity. Taro serves as a significant dietary component of the people and is also utilized as animal fodder.

2.6.4. *Rice* (*Oryza sativa*):

The next important crop which is cultivated by the Nagas is paddy cultivation. Rice forms an important component of the daily diet, particularly among the terrace-cultivating populace, and it has also become an essential part of the dietary supplement among the jhum-cultivating community. Rice is consumed as food and also as a drink in the form of local brews. Different varieties of rice are planted on jhum and terrace fields by the Nagas. Differentiation among paddy varieties in agriculture is made possible by the observable differences in grain colour and texture following the cooking stage. Grain colour is usually evident as red or various tones of white. Furthermore, certain classifications of paddy or rice are delineated by the

vertical stature of the plant. Thus, the nomenclature of these varieties is influenced by the height of the paddy plant.

There are mainly two types of rice cultivated by the Nagas- glutinous and non-glutinous. The glutinous variety is called *Kemenya* in the Angami local language and is usually used for making local bread (*nekhreda*/ Angami) and for brewing local brews. Rice categorization is further delineated based on its method of cultivation. Terrace rice, when compared to jhum rice, exhibits a longer lifespan and greater diversity. This preference for terrace-grown rice within terrace rice cultivating communities that also practice jhum cultivation can be attributed to this specific factor. Additionally, the cultivation of terrace rice is also impacted by society's reliance on rice grown in terrace fields as a primary staple crop, relegating the cultivation of rice in jhum fields to a secondary role. Terrace rice cultivation encompasses a greater diversity of rice varieties compared to Jhum rice cultivation. Adhering to the conventional approach of rice farming, farmers sow numerous types of rice in a single plot, drawing upon their accumulated years of practical knowledge. Each tribe possesses distinct rice varieties and cultivation techniques that are uniquely tailored to their traditions. Around 350 (Appendix-1 to Appendix-11) varieties of paddy have been identified from the study areas comprising both terrace and jhum. It comprises both traditional varieties and new variants which were introduced into the areas. Certain rice varieties were however also found to be no longer cultivated by the farmers.

2.6.4.1. *Origin myths of rice*:

There are various folklore on how Nagas came to cultivate rice as their staple crop. The myth surrounding the emergence of rice cultivation among the Nagas is comparable to narratives shared by various tribes in Nagaland. While there may be slight variations in the storytelling, the fundamental premise remains consistent. The following are some of the various folklores on its origins that are found among the different communities:

(i) *Thevürü*, which is considered the oldest and a traditional rice cultivated by the Angami and Chakhesang communities, has a common narrative on

its origin. *Thevürü*, considered the earliest variety grown in the village, is believed to have been introduced from *Sopfüma* village by an individual who transported it in a chicken's craw or crop, thus giving it its name. In this context, '*thevü*' symbolizes 'chicken' and *'rü*' represents 'rice'. It is recounted that the individual journeyed to *Sopfüma*, where he lodged with a couple who graciously accommodated him. During his stay, his hosts served him rice, which he savoured, yet refrained from inquiring about the seeds. Prior to departing, the host presented him with a rooster as a gift. Seizing the opportunity, the individual made a plea, stating, "The return journey is quite long, would you consider providing food for the rooster to prevent it from perishing halfway?" Upon making this request, the host's wife proceeded to feed the bird with paddy. After his departure and shortly afterwards passing through the village entrance, the individual strangled the rooster, opened its craw, retrieved the paddy, and initiated its cultivation (Neli,2021, p.107). This narrative is also similar to the narration of the Zeliang about the *Nrui Reu* variety of rice and how they came to cultivate it.

(ii) Among the Yimkhiung of Kuthur village, there exists a narrative surrounding a specific type of rice referred to as *Shikari Müjih*. The account details the cultivation process, attributing the discovery of the rice seed to a hunter who came across it while engaged in a hunting expedition.

(iii) Among the Zeliang tribe of Old Peren village, a narrative exists on how the people began to cultivate rice as a staple crop. The narrations outline the source of *mei* (rice) to the *Dizkou/Zukou* valley, specifically to a body of water recognized as *Tingkongrezai mei*. The narrative commences by illustrating how a rodent (rat) transported the *mei* across the lake in a tiny vessel constructed from the *Mpak* tree. In ancient times, when humans lacked the knowledge of cultivating or consuming rice kernels, a reservoir of food grain resided at the heart of the *Tingkong* Lake. Despite this, no individuals dared to navigate the lake to acquire it. A courageous mouse then offered to retrieve the grain, utilizing the *Mpak* tree boat to

traverse the lake and deliver the rice kernels to humans. This was how man began to first cultivate and consume rice as a fundamental staple. Consequently, this narrative elucidates why ‘grain rats’ are revered in the community, being perceived as noble creatures permitted to feed on the grains stored in the village granary.

(iv) Another story describes how a man's spirit known as *Heutung* gave the people the *Heutungmelu meu* variety of rice cultivated by the Zeliang of Benrue village. This man's spirit is said to have descended from the mountain *Langdilwa* (Mt. Pauna).

(v) Among the Sumi of Lazami village, there exists a narrative about how the village came to cultivate the different varieties of rice. According to them, in the past, there lived two orphan girls in the village. One day, two seers arrived in the village and inquired about the girls' cultivation practices. The girls were embarrassed since they had no field to cultivate. The girls lied, claiming they cultivated a small plot of land on which they grow pumpkins. The seers instructed them to grow pumpkins again on that land later. When the girls went to the field to harvest the pumpkins that the prophets had given them, different varieties of paddy jumped out, saying, 'I am *Atükü*, I am *Aghicho*.' This was how different varieties of paddy came to be cultivated by the village.

3.6.4.2. *Rice and associated lexicons*:

Different varieties of rice cultivated by the Nagas’ have their own specific local names, which can help ascertain their probable provenance as well as, in some cases, their origin and spread. The following is a list of how the different varieties of rice cultivated by the Nagas are named:

(i) *Rice lexicons based on morphological traits*:

In the Naga case, rice is also characterised by various names based on specific attributes. For instance, among the Chichema people, *Kheza nya* is referred to as the protector of *Nyadi*, a smaller type of rice grain, with *Kheza* translating to ‘large’ in the local Angami dialect. In Yongnyah village, the Phom community identifies a distinct rice variety, *Kungtüh*,

distinguished by its black husk marked with vertical lines resembling tattoos of the neighbouring Konyak tribes. The *Trushu* ancestral rice type grown by the Sangtam community in *Yingphire* village is recognized for its white grain, with '*thru*' denoting ‘white’ in the Sangtam language. The Konyaks community labels *Zaklo* based on the reddish-black colour of its grains. Rice cultivated in terrace fields is collectively known as *Chi shah*, where '*Chi*' symbolizes ‘water’ and '*Shah*' signifies ‘rice’, indicating that such rice varieties thrive in water. *Petchiam*, known among the Zeliang people, is named due to its compact plant structure producing slender long grains. Descriptive characteristics of paddy also contribute to naming conventions, such as *Meigie*, characterized by round shape and red husk, corresponding to the local dialect meaning of ‘red’ meaning '*Gei'*. Similarly, *Petdi* assigned its name based on its considerable size, with '*Di*' connoting large.

(ii) *Probable Provenance*:

Rice also derives its name from the place of origin, such as the *Touphe Meu* cultivated by the Zeliang of Old Poilwa village, where *Touphe* represents an Angami village named *Touphema*. Another example is the *Longchin Ta* grown by the Phom community in Pongo village, believed to have originated from the *Longchin* village of the neighbouring Konyak people. Similarly, the *Singtangma* variety from the Sangtam tribe is named after the village of *Singtang*, where it was first introduced. This village is situated in the Aughanato (Satami) region and was introduced by a respected elder of the community.

(iii) *Rice lexicon derived from first cultivator*:

The Naga agricultural crop system also exhibits a distinctive practice of naming the crop after the individual who first cultivated or introduced it to the community. This custom is predominantly observed within terrace farming communities rather than among those practising shifting cultivation. For instance, *Boidinglu meu* and *Chipoimei* (Zeliang), *L.O.Z Tsük* and *Chiden* (Ao), *Menyak, Yamthao* (Konyak), *Epou youlü* (Chang) and *Azeto Kenyü* (Rengma), among others. The practice of naming rice

after the original cultivator became prominent only after the introduction of the terrace rice cultivation system in jhum farming villages, as observed from the study sites.

(iv) *Rice lexicon and community affiliation*:

Rice varieties are often named in reference to the tribe or community from which the seeds were obtained. This exchange may have occurred through trade or as gifts. For instance, within the Lotha tribe residing in Longsa village, *Kukimoro* was reportedly introduced by a villager who concealed it in his shawl upon observing the abundant harvest of rice by the Kuki community. Similarly, *Ao Shah*, cultivated by the Konyaks of Tangnyu village, is denoted by the name of the tribe from which it was acquired. *Kuyu chak,* grown by the Ao community in Longkhum village, is believed to have originated from the Lotha tribe. Another example includes *Kwangcai Nei* and *Ngarei Nei,* cultivated by the Zeliang people of Poilwa village. The term *Kwangcai* is utilized in the local language to refer to the Kuki group, the source of the rice, whereas the Zeliang community identifies the Angami tribe as *Nga*. Consequently, *Ngarei Nei* is recognized as originating from the Angami people.

(v) *Rice vocabularies, edaphic factors, and environment*:

Rice vocabularies are also assigned based on the type of place and soil where it grows. Among the Sumi (Mishilimi), the *Asukhaghi* variety of paddy is said to have been grown first in the forest, which was used for firewood purposes. Hence, it was named so. The literal translation of the name *Asukha* means ‘forest’ and *Aghe* which means ‘grain.’ Hence, its translation as ‘forest grain.’ This practice is also observed among the Zeliang, where rice varieties *like Duikung Meu* and *Regwa Meu* are named after the terrain where they grow. *Duikung* in the local dialect means ‘coldest place,’ and *Regwa* means ‘cold hilly place;’ hence, this variety of rice grows in cold upland areas.

Among the different variants of rice planted by the Konyaks, we also see that there was a particular variety which could be planted only by the *Angh* who were

the hereditary chief of the village. Among the Konyak community, the institution of *Angh* plays a pivotal role, being perceived as the sovereign/caretaker/leader of the village. The position is traditionally passed down from father to son. *Shahtoi*, a type of paddy, is typically cultivated in the nearest field to the residence, with this particular variety holding significance as the *Angh* among the cultivated paddies. There exist two variations of *Shahtoi* - red and white. The cultivation of red *Shahtoi* is exclusive to the *Angh* lineage and is carried out in close proximity to the field huts within the shifting cultivation area. The planting process usually involves a circular pattern around the field hut. Consumption of this paddy is restricted to the *Angh* and is done so within the vicinity of his dwelling. It is strictly prohibited to remove it from the premises, even in the form of packed food. Post-harvest, the *Shahtoi* stalks are promptly incinerated to deter any unauthorized harvesting of leftover grains or plants. Such practices were rooted in the belief that looting these remnants would result in the loss of blessings from the *Angh*, who hold the utmost significance as the leading clan in the village.

End Notes

[1] Interview with Zakieneisa Keiwhuo, 59 years, ex. Vice chairman, Nerhema village and Neitsho Sogotsu, 73 years, Village chairman, Chichema village, on 6/10/18.

[2] Interview with Akhalu Sheqi, 85 years, farmer and Zaniu Sheqi, 86 years, farmer, Mishilimi village on 12/02/21.

[3] Interview with Nasetyemtong. N., 55 years, Head GB, Tuensang village on 20/11/19.

[4] Interview with Yemnyei Ngonyen, 86 years, GB, Yongnyah village on 22/09/19.

[5] Interview with Namhungle Ndang, 69 years, farmer, Peren Village, on 16/01/21.

[6] Interview with S. Chukhim, 52 years, Council Secretary, J. Shokum Yim, 86 years, farmer Kuthur village on 21/11/19.

[7] Interview with Khuvito Jimo, 87 years, farmer and Kihovi Jimo, 97 years, farmer: Shenivi Jimo, 79 years, farmer, Nunomi village, on 07/03/20.

[8] Interview with Yashikaba Jamir, 65 years, farmer at Longsa village on 4/06/22.

[9] Interview with M. Lipen, 40 years, Chumyang Phom, 46 years, farmer, Yemnyei Ngonyen, 86 years, GB, Yongnyah village on 22/09/19.

[10] Interview with Aseba Anar,70 years, Retired teacher and farmer, Yingphire village on 15/10/21.

[11] Interview with Pukoho Rolnu, 93 years, retired teacher, Jakhama village on 13/09/19.

[12] Interview with Kerileno Pucho,50 years and Pusovilie Kraho,63 years at Viswema village on 14/09/19.

[13] Interview with Heutwacholie Rau, 56 years, farmer; Dwayisilie Rau, 61 years, farmer at Old Poilwa Village on 19/02/21.

[14] Interview with Sangjiung Rau, 72 years farmer, Head GB at Old Poilwa Village on 19/02/21.

[15] Interview with Pusovilie Kraho, 63 years farmer at Viswema village on 14/09/19.

[16] Interview with Thuricho,98 years, Phelungre village on 17/10/21.

[17] Interview with Tahyem Wangnao, 98 years, farmer at Hongpoi village on 16/04/21.

[18] Interview with Nasetyemtong.n. 55 years, Head GB, Tuensang village on 20/11/19.

[19] Interview with Murilo, 69 years, Thuricho, 98 years, Phelungre village on 17/10/21.

[20] Interview with Kurakiu, 58 years, VDB secretary, Phelungre village on 17/10/21.

Chapter -3

Naga Festivals and Rituals in Agriculture

In agrarian societies, the interconnection between religion and agriculture is consistently observed, a phenomenon that is evident in the Naga community, thus warranting a more specific examination. Throughout the process of cultivating crops, various rituals are enacted, and festivities are held to appease the divine entity, aiming to guarantee successful crop growth and harvest. Before the advent of Christianity, the Nagas engaged in a multitude of agricultural rites spanning from the initial phase of cultivation to the culminating harvest, alongside the commemoration of festivals in conjunction with these activities. Apart from these agricultural ceremonies, the diverse tribal groups also partake in numerous other festivities and gatherings across the calendar year. Sometimes, within a specific tribe, there are different festivals and rituals that might bear commonalities as well as differences. Each Naga tribe and village has its own specific rites and rituals, which are sometimes unique to the village itself. Goody (1961) defines rituals as the concept in which we denote a classification of regulated conduct (tradition) wherein the correlation between the methods employed and the objectives achieved is not deemed 'intrinsic'; that is to say, it may be characterized as either irrational or non-rational. Consequently, any form of conduct may be classified as a 'ritual' when it is stylized or institutionalized and rendered repetitive within that framework. Rituals ‘articulate essential truths or significances, elicit spiritual and numinous emotional reactions from participants, and/or mobilize a collective group towards cohesive actions aimed at reinforcing their communal affiliations’ (Goody 1961, p. 159).

Ritualistic celebrations serve as an effective mechanism for fostering social cohesion and cultivating reverence for authority figures within the community's membership. Frequently, the entire community engages in celebratory activities, thereby embodying a collective repository of meaning and shared aspirations. Such

activities bear the significance of symbolic actions and are differentiated from quotidian behaviours; these rituals, characterized by their formalized nature, emerge from specific cultural contexts and transpire in alignment with the cyclical changes of the seasons (Samaddar,2006, p.112). Hazarika (2017) classifies the agricultural festivals and rituals in the northeastern region into three categories, which can also be observed in the Naga way of living and agricultural practices. They include:

(i) The beginning of a new agricultural cycle, preparation of the land, sowing and transplantation

(ii) Protecting the crops

(iii) Harvesting.

3.1. Rituals and Festivals in Terrace Cultivation:

Among the terrace-cultivating villages, the most important rituals that is practised are those related to the sowing of seeds and harvesting. This ritual can be observed in the Angami villages that are performed by designated people known as *Tsakra* and *Liedepfu*, who are responsible for the beginning of agro activity. *Tsakra* is a male from the Tepa moiety who performed the first task of sowing the seeds in the field. *Liedepfu*, who is usually a female, is selected from *Tevo* moiety and would be the First Harvester. Selection of these was done based on their age and those who are self-sufficient. Before the beginning of any agricultural rituals or tasks, the initial task, which is the selection of the site, is done by an elder of the village, who was known as '*Pethi*.' The villagers prayed to the god called '*Ukepenopfu*' to give them the desired land which is given to them. Neli (2021) describes *Ukepenuopfü* as an entity that embodies both benevolent and malevolent aspects; consequently, all rites and genna ceremonies are conducted and honoured to appease it. The village's eldest member, known as '*pethi*,' decides where each member would cultivate on community lands. This person may be a man or a woman. They enjoyed great respect from each member of the village. Obeying the advice of the *Pethi* is seen as a form of blessing for the community. There are also various rituals and customs which are observed with each step of the agricultural process.

An illustration of this phenomenon can be witnessed in Kigwema village, where a variety of rituals are performed for each agricultural activity carried out during

every season. Following the completion of soil cultivation in January, a period of rest ensues, marked by the observance of a festival known as *Tskranyie.* This festival signifies the culmination of labour for that specific timeframe by all community members. Subsequently, the process of breaking the ploughed soil, or *Nekrovu*, commences, followed by an anticipation of the upcoming rainfall. The arrival of rain in May is commemorated through the *Kerünyi* festival, symbolizing the readiness of villagers to engage in fieldwork. In August, the post-harvest festival of *Tsünyie* for jhum cultivation is celebrated, while the observance of *Tekenyi* in September, dedicated to terrace cultivation and rice plant binding, serves as a purification period for the entire village. Unmarried boys retreat to the village boys' dormitory during this time, emphasizing the necessity for all individuals to maintain purity for a successful harvest. *Terhünyi*, the village's post-harvest festival, includes a feast hosted by the wealthiest man in the village for all residents[1].

Among the Pochury, a customary practice exists aimed at ensuring a bountiful harvest and optimal growth of the paddy plants practised for both terrace and jhum cultivation. Within this ritualistic tradition, individuals fasten a handful of rice grains sourced from the previous harvest alongside small fish onto a leaf, subsequently affixing it onto the granary as a form of supplication for a successful harvest in the upcoming season (Plate 3.2). Moreover, it is strictly prohibited to engage in conversation with others on the return journey from this ceremonial rite. This observance typically takes place at daybreak to minimize social interactions.

In addition, in the Zeliang community of Peren village, a contrast can be observed in comparison to the Angami tradition, which involves the *Liediefu* ritual. In this context, it is men who are responsible for tasks such as being the First Sower and Harvester. Specifically, during the period of sowing, male members of the village engage in field activities, refraining from the consumption of salt, chilli, or meat, opting instead for plain cooked rice. Some individuals may exclusively indulge in rice beer during this time. The process of sowing commences once they reach the field.

For the harvest season, the entire village collectively decides on the initiation date. Participants gather paddy from the field, regardless of ripeness, cook them alongside rice at their residences, and conclude the day by partaking in a communal chicken feast. Furthermore, parents in the community bring their children to the field

on this occasion, where they harvest paddy to cook and share within their households. Such ceremonial practices are observed across all households in the village.

At Benreu, a Zeliang village, the task of the First Harvester, called '*Ludeupui*,' is usually the mother of the family in comparison to Peren village, which assigns this role to the male members. Each family will have their own First Harvester as well as for the village who will start the harvesting for the village. Though the assigned roles and gender may differ in both villages, the rituals practised are similar. Here too, the First Harvester of the village must follow certain rituals and customs before cutting the paddy. She is forbidden to eat salt till the harvest as eating salt would spoil the harvest. This observance of taboos might also stem from the natural reason that salt also affects the growth and development of crops, reducing their crop yield and soil productivity (Rekta *et al*., 2024, p.20). On the day before the harvest, she mostly drinks local beer made of rice and prepares herself for the harvest the next day.

To gain a more comprehensive insight into the diverse rituals and festivals practised within a terrace cultivation framework, a case study from Poilwa village, well-known for its longstanding adherence to traditional terrace cultivation methods since its establishment is taken into consideration. Poilwa village practices both types of cultivation, but terrace cultivation serves as its primary cultivation. The various rituals followed in the traditional agricultural operation are discussed below:

(i) *Cingwa gwa* (cutting of forest/ pounding of terrace fields): After the season is over, a *genna* (taboo day) is observed called *Cingwa gwa*. This is observed after harvest in the new year. This is done by the owner of the land where the village will be cultivating that particular year. The rest of the village would stay at home without working, waiting for the omen from him. He goes to the field, cuts a small piece of wood, and returns home. He does not eat any food except local rice beer and makes a prediction based on his dreams. If he dreams a good dream, he would inform the villagers that it is a good omen to start the agricultural activity, whether it was cutting off new vegetation or pounding soil in the terrace fields. This is usually observed during the month of January. In the present context, with the conversion of the people to Christianity, after the New Year, all the villages

gather in the Church and pray together in the Church for the season to begin.

(ii) *Loikiu*: After burning and cleaning the fields, a *genna* called *Loikiu* is observed before planting crops. This is perfomed by the *Hoi* group[2]. On this day, that person would not entertain any guests or strangers in his house. He would kill and eat a rooster which must be of a particular variety. The chicken should not have spots or injuries and must be a red-feathered one. He can share the meat with his family, and it must be eaten that day itself. Any leftover is wrapped in a banana leaf and hung on the wall of the kitchen till it rots on its own and falls off. After this ritual is over, crops like millet and Job's tears are planted in the field.

(iii) In the month of March, the *Milengyi* festival is observed. It has five days of celebration. On these days, they engage in festivities and feasting. They go to the jungle and collect the firewood, and this is also the time when the millet planted is ready to be harvested.

(iv) *Ningsum rai*: This ritual is observed in the months of June and July by a person from the *Hoi* group. It is only after this ritual that the planting of the crops can be done. He takes a sapling from his nursery field and plants it in his terrace field. On this day, he will drink only local rice beer. Based on his dream and omen, he announces to the villagers the right time for them to start their transplantation in the terrace field.

(v) *Rasam*: This is a *genna* observed after the transplantation of the paddy plants for good harvest. During this genna, they slaughter and distribute cattle meat to each *khel* in the village. The cattle has to be killed with a bamboo by an appointed person. During this ritual killing of the cow, no metal should be used as it is considered a bad omen. The religious head of the village, called *Tingnapei*, performs this ritual. The cows for each *khel* to be used in the ritual killing must be brought to the *morung* called *Diswang*, and the *Tingnapei* will perform the ritual. After the cow is killed, the skin should not be burned. Burning of the skin meant that the paddy would not be good for that year. All the meat must be eaten before sunrise

the next day. The *Tingnapei* were given special parts of the cow, like the brain, tongue, and pelvic area.

(vi) *Lampuiteu:* It is a path-clearing day. This is observed during the last week of September and the first week of October. It is observed as a day to clean the path leading to the fields (Plate 3.3). A day of *genna* must be observed, and local brew, called *Zauis* prepared. The next day, a chicken is killed and partaken at every household. Pots for the rituals, called *Lisang*, are made of clay and are kept separately. After *Lampuiteu,* the *Chingwa gwa* ritual is observed again.

(vii) *Tsingkwakai*: On this day, all married daughters of the family cook pork and offer it to their parents. The rituals, however, observed for this day last for three days. The priest stands on his house top and proclaims to the village that it was a day of *Tsingyisa*. On this day, all the village would only go for catching fish, crabs and fish and not for fieldwork. The second day is called *Hatpeu* and is the same as the first day. On the third day called *Tsingkwakai*, food is prepared again and given to the parents. The fourth day of the festival is called *Tingid*. On this day, no living animals or objects are brought to the village. If it so happens, the animals or objects are burned outside the village gate. Except for cooking food, no other activities are carried out.

(viii) *Insetzausa*: This is observed before the harvest season i.e., in the last week of October and the first week of November. The priest announced the time for this celebration. This is celebrated as a time for merry-making, feast and fostering the relationship between the young ones and the adults. It is a nine-day-long festival with ritual and meaning behind it.

On the first day, a declaration was given by the priest. The second day marked the day when every family with a second-born child could be eligible for their first-born son to enter the boy's dormitory. On this day, the fireplace, pots, and wood to be used were all new and free from any taints. The boy and his father would kill and cook a chicken without any ginger. All the meat must be eaten the day itself. Any leftovers are brought and hung in the boys' *morung* called *Rehangki*. The plates to be used are

made of a special bamboo called *Riesa*. The third day, called *Nlauhet*, marks the day when the parents catch and cook various delicacies like crabs, fish, or birds for their children.

The fourth day, called *Nlau*, is the day of feasting for the mother and child. Any leftover from the day is given to the old women of the village. This day is also a day for the brothers giving a feast to their married sisters. To commemorate this day, cow or Mithun (*Bos frontalis*) meat is given to the sisters by their brothers. The fifth day is called *Kwakpwa*. On this day, the meat cut on the fourth day is given to the parents by the married daughter, and the elder brothers also give to their married sisters. On the sixth day, *Langsim*, the Hoi and Hau[3] would clean a place called *Langsimki.* The Hoi would take the south part, and the Hau would take the east. In this ritual, only the male will partake. After the cleaning is done, all the male members would gather at the *Diswang*, singing '*Ho Ho Ho*' in unison along the way. They would play various sports like the long jump on the *Hazwa* (Plate 3.4) to compete among themselves.

On the seventh day, *Langsim Namlime* is observed. On this day, the villagers can go to the field and carry out any agricultural activity. On the eight-day called *Nsang Lwet*, the villagers observe a day of rest or *genna*. If anyone breaks this *genna* and sheds blood on this day, the day will be repeated. The last and ninth day is called *Lwet Di.* It is after the last day that the people start harvesting their crops. The harvesting in this area would sometimes extend till December.

3.2. Rituals and festivals in Jhum cultivation:

Rituals and customary practices of jhum cultivation are similar to the terrace cultivation systems. Like the terrace cultivation, rituals that are governed by the forces of nature, jhum cultivation, rituals, and festivals are all concerned with the agricultural steps and forces of nature to appease the deity for a bountiful harvest and protection from the unseen natural calamities. In terrace cultivation systems, specific roles were designated for the execution of rituals and ceremonies; similarly, roles were allocated in the jhum cultivation system. In the selection of individuals for ritual, clan

membership sometimes served as a determining factor. For the Chang tribe of Tuensang village, an elder from the *Oungh* clan, recognised as one of the founders of the village, was selected to perform the ritual for the new jhum fields. Cutting of new jhum fields is also assigned to the *Kangshou* clan and the construction of jhum field huts to the *Haonang* clan. The First Harvester role, a male member was assigned to the *Lomou Phang* clan. In contrast to other rituals largely abandoned due to modernization, the tradition of the First Harvester, known as *Amimpungpou*, is still practiced by the villagers.

Among the Sangtams, the role of the First Sower and Harvester was assigned to a specific clan/*khel* (*Thongro*), who was known as *Athong*. Similarly, for the Sumi community, the individual fulfilling the role of *Awo* (the eldest male/priest) in the village is responsible for initiating all agricultural activities. The *Awo* is chosen from the initial inhabitants of the village. In Lazami village, the Awo individuals are chosen from the *Assumi* clan, who are recognized as the village's original settlers.[4]

Following the announcement by the *Awo*, the villagers proceed, with the men taking the lead in the agricultural processes. Here, the most affluent individual in the village will also be the one to first initiate the procedure. This phenomenon could be attributed to the prevailing notion that when the wealthiest member of the community undertakes the initial task, the prosperity or divine favour bestowed upon them may extend to the entire village, resulting in a prosperous agricultural season.

In relation to the task of selecting new jhum fields within the Pochury tribe, Shatuza village designated a specific *khel* member for this purpose. A representative from the *Yitsuthü* clan would conduct the ritual, bringing along items like the *dao* (*Tsü*), local wine, chicken, spade, and grain to be left in the chosen area for that year's jhum cultivation. This offering is made to the forest spirit known as *Thüpüyiche*. Upon arrival at the selected place, the individual scatters the grain, interpreting the direction it fell as an auspicious sign for a fruitful harvest. The prepared rice, chicken, local beverage, and metal spade are left as offerings to the spirit.

After the ritual, the performer takes a piece of cloth and, as he crosses the area, throws it, asking the spirit of the forest not to harm them but instead take the offerings. This is done to ensure that the evil spirit's bad luck and omens would not follow them

back to their village. Other members of the clan also contribute pieces of cloth and metal kept in a basket to be placed at a specific location called *Ghümüshükwi* as offerings to the spirit before commencing their cultivation activities. They offer a prayer to the *Trapa*/spirit, pleading, '*Ma Jü Yiehü Jütepa he jü khiya ghalowe*,' meaning, 'This is your share. Keep our family safe from sickness and death.' Upon returning to the village after the first day in the fields, the villagers would make small fires along the way to ward off any evil spirits attempting to follow them home. Adherence to these rituals was deemed essential to safeguard the village from misfortune, particularly before clearing the jungle for cultivation. It was believed that failure to perform this ritual prior to beginning work would result in the individual's house catching fire, accompanied by sickness and demise. Despite the church now assuming the role previously held by the *Yitsuthü* clan, the community continues to place faith in this traditional practice, which continues to this day.

In traditional Naga culture during pre-colonial times, special rituals were performed to ward off the resentment of the spirit of those enemies whose heads were taken. This was done to ensure the spirit would not bring bad luck to them and their crops. Among the Phom, during the *Monyu* festival, the warrior would bring out the skull of the enemy and smear it with the fat of an animal that was killed for the purpose[5]. The fat used has to be the fats that are found in the stomach (visceral fat) of the animal killed.

In most villages, elaborate rituals, and ceremonies with sacrificial offerings to appease the spirits of the forest and land are performed. Each village has its own specific customs and rituals, which are unique to them, but a common underlying feature of all these is that they are all observed to appease the spirits for a bountiful harvest and protection. To illustrate better, the rituals followed in traditional Naga culture before the beginning of any agricultural activity can be taken from the case of a non-Christian Naga farmer from Meluri village, who still practices the traditional rituals and customs (Plate.3.1).

(i) *Rituals performed before the felling of trees*:

On the first day of the year (*Khuthekeshu*), a ceremony known as *Mavikarthe* is conducted by the non-Christians in the village. After this ceremonial observance in January, the next month, the 27th day of

February, the festivity of *Nazhü* is commemorated until the 3rd day of March. In the inaugural ceremonial activity on February 27th, the newly wedded couple partakes in celebration, where the groom, accompanied by his male companions, engages in a ceremonial rite and dance. The subsequent day, the newly married wife is escorted to their residence. On this occasion, children and visitors of the couple are requested to depart. It is additionally regarded as a *genna* for the non-Christian faith to entertain Christian visitors in their houses during this period. On the third day of *Nazhü*, an elevated platform is erected enroute to the jhum fields. Commencing from the first day of March until the 3rd of March, another ceremonial practice is conducted at the site where the water is located. They uphold the belief that the location is guarded by a particular spirit, and to pacify the spirit, a ceremonial rite is carried out involving certain metallic tributes. A small number of iron artefacts are presented to the spirit. In certain regions, implements like *dao* or spade are offered to the spirit before embarking on any endeavour. It is forbidden to engage in trade or capture of poultry on this day. Consumption of meat is prohibited, permitting solely the intake of fish seasoned with ginger. The consumption of chilli is likewise prohibited. Only after this event can they begin the process of clearing the fields for agriculture.

(ii) *Rituals performed before sowing*:

After this, the cutting and burning of the fields is done and on the 13th day of April, all mothers of the village go to the jhum field to sow the seeds. The seeds intended for planting that specific year are carefully selected and sown in a designated area within the field as the initial step in the cultivation process. A chosen mother first does this task. Subsequently, she would be the first to sow the seeds, followed by the rest. Upon return, the customary meal of fish and rice, devoid of chilli, would be prepared and consumed first.

(iii) *Rituals performed for good harvests*:

Hereafter, the next important ritual they perform is for the growth of paddy plants and a good harvest. They would bind some rice grain from the last harvest along with small fish on a leaf and tie it on the granary as an offertory prayer for a good harvest. The return journey from the ritual would be observed in silence to avoid encounters, typically conducted at daybreak. Depending on the paddy, harvesting is done accordingly, and harvest must be completed by November. Ceremonies are conducted for every household member, including the animals, to safeguard them against ill fortune. By facing skyward and with a bow in hand, individuals symbolically cast away misfortune by launching an arrow, thus expelling their bad luck for the year. Additionally, they utilize a *dao* (machete) to strike the stinging nettle (*Urtica dioiaca*) leaves while chanting to dispel bad luck and malevolent spirits from their family. Subsequently, these leaves are displayed outside their residence. Consumption of meat and chilli is prohibited on this occasion, with only fish and ginger accompanying cooked rice.

(iv) *Rituals performed post-harvest*:

The ultimate ritual of the year occurs during the concluding month. Solely boys engage in hunting and water retrieval activities on this day, as girls are restricted from participation. Separately, boys and girls prepare their meals, as it is considered taboo for them to consume food cooked by the opposite gender. All weaponry and metallic implements are cleansed with water fetched by the boys on that day and placed outdoors. The following morning, these tools are brought inside, signifying the fulfilment of the year's rituals. Carrying out all customs and rituals meticulously is crucial to ensure a favourable upcoming year.

The Phom community also participates in various rituals and customs as part of their traditional agricultural practices. Prior to the slash and burning required for cultivation, as well as before the actual planting, the owner of the selected jhum land for that particular season performs a ritual where he sacrifices a chicken, dispersing its

blood at each corner of the designated field. This act serves to beseech the spirits for the successful growth of their paddy, while simultaneously pleading protection against any unforeseen calamities during the growing season. Upon receiving the announcement that the villagers may commence seed planting in the fields, the villagers first proceed to the village gate that grants access to the fields. They carry a banana plant and leaves from the stinging plant known as *Ngyaya* (*Urtica dioica*), and a dog. The blood of the sacrificed dog is applied to the gateway alongside the aforementioned items. The dog, being a sacrificial offering, is regarded as sacred, as it is believed that its blood possesses the power to repel any malevolent spirits that could obstruct their endeavours. On this particular day, a form of *genna* is observed. It is forbidden for anyone to go to the field. Should any person break this *genna* observance, a penalty consisting of a *dao* will be exacted from the offender. If the offender desires the return of their *dao*, they are required to present salt wrapped in a leaf as a form of exchange. In the event that they are incapable of fulfilling this requirement, the *dao* shall become the communal property of the morung. Following the application of the dog's blood on the entrance in conjunction with the leaves and banana plant, all villagers intending to proceed to the fields the subsequent day must first step upon the blood at the gate. It is only after the completion of this ritual that the *genna* is lifted, permitting the villagers to commence their planting activities. This ritual is specifically conducted by the eldest member of the *Ngonyen* clan. The entire process of this ritual is completed within the span of a single day.

The next ritual is performed after the sowing of seeds is completed. On that day, a ritual is performed, asking for a blessing for a good harvest. It is specifically done at the place, located between the jhum fields and the house called *Yongchong*. A basket will also be hung in that place. In *Yongchong*, the three distinct social strata of the community engage in the practice of placing bamboo rings on the ground. The affluent members of the community are observed to position twelve rings, whereas the individuals belonging to the middle socioeconomic class place eight rings, and those categorized as impoverished put four rings in the soil. Subsequently, prior to their return to the village, the inhabitants prepare two distinct packages. One package comprises a fragment of a broken clay pot accompanied by an egg, while the other

contains rice enveloped in ginger. These items function as offerings to the spiritual entities in pursuit of divine favour. The egg and fragmentary clay pot offerings are directed towards the celestial spirit, while the rice and ginger offerings are intended for the spirit. The following day is designated as a day of rest for the villagers.

The next rituals are performed before harvest and after harvest. On the first day of harvest, an unripe paddy would be cut and tied on the highest bamboo stick in the field. At the end of the day of harvest, the last person to leave the field would take it down from the bamboo. Another ritual is also performed at home where an unripe paddy stalk is hung on the door frame of the house, signifying that harvesting for that house has begun. Before the paddy stalk is taken down, it is also considered a *genna* for that house to share their fire and coal with their neighbours. This is done because they believe that sharing the fire and coal before harvesting is completed and the plant hung on the doorframe taken down would result in them losing their blessings and good fortune.

In the event of a delay in rainfall or drought, some Naga villages also have a ritual which they would perform. Among the Sangtam community of Yingphere village (Kiphire district), they each have their specific rituals which they followed in the past. At Yingphere village, the men of the village would go to the jungle and collect the wild walnuts. They would then cut and take the cover of the nut and fire soot from the kitchen fireplace and a rope made from a jungle vine called *Vümphoh* and take it to the river. An elevated platform would be constructed above the river, and taking the nut cover and fire soot with the vine, a wooden stick of arm's length would be used to beat it all. The men of the village would collectively sing along together in a rhythm chanting, '*Tsing ro le*' which means 'rain is coming' continuously until it rains. After this ritual is performed, rain is predicted. The last time the village performed this ritual was during 1978-79[6]. During these rituals, because of the beating of the ingredients, the fish also become intoxicated and come up to the surface and the rest of the village collects the fish for a feast. The day for the ritual is fixed by the village authority. This ritual is known as *Kizyü.*

Among the Konyaks, in instances of delayed monsoon onset or drought conditions, the village engages in a specialized ritual aimed at imploring the spirits for rainfall. Designated individuals from two families belonging to the *Wangnao* clan within the village are selected to proceed to the river *Tapi*. They descend to the deepest section of the river, known as *Pijeyee*, where they catch fish and carry out the ritual. Upon conclusion of these ceremonial practices, they return to the village, and before their arrival, ominous dark clouds indicative of impending rain typically materializes. In all Naga societies, the festivities are interconnected with their agricultural cycle. Bourque (1995) also observes how in the indigenous community of the Sucre (Andes), there exists a profound interconnection between religious practices and agricultural activities, warranting their examination in combination. Several of the annual festivities celebrated signify essential phases in the growth of vegetation and facilitate the advancement of crops through these critical intervals from the planting season till the maturation of the crops.

For the Nagas, the annual agricultural festivals exhibit considerable variation from one village to another and are not universally observed. Despite the fact that the rituals themselves are consistent and serve a common purpose, the execution of certain rituals may diverge significantly. These variations in ritual performance can be attributed to the predominantly individualistic nature of these practices, which are transmitted through familial lines via oral traditions. Furthermore, the agricultural calendar is subject to differences between the different groups, thereby causing discrepancies in the months during which the various annual festivals are commemorated. Traditional agricultural cycles are done based on the lunar cycle likewise all their major festivals are also centered around such moon cycle.

The following are some of the festivals that are celebrated among the major jhum-cultivating communities:

(i) *Phom* (*Yongnyah village*):

Monyu represents the inaugural significant festival that occur after the conclusion of the planting season. This celebration serves as an expression of gratitude for a prosperous planting season while simultaneously invoking the favour of the spirits for an abundant harvest. The festival

traditionally lasts for three days. Historically, during the *Monyu* festival, specific rituals are conducted to lessen the hostility of the spirits of enemies whose heads had been taken. This practice was implemented to ensure that these spirits would not inflict misfortune upon the community and its agricultural yield. The subsequent major festival, celebrated in July at Yongnyah village, is referred to as *Moha*. This festival extends for six days. It constitutes a ritual specifically enacted by different age-groups of the village to prepare themselves for the impending harvest. During this time, the age groups engage in rituals and partake in communal feasts. The third festival of notable significance celebrated by the Yongnyah village is *Pangmo*, which occurs in October. This event serves as a thanksgiving festival. It is commemorated over six days within the village.

(ii) *Chang* (*Tuensang village*):

For the Changs, the most important festival is the *Naknyulem* festival, which is observed in the final month of July, coinciding with the conclusion of the lunar cycle. This festival serves as a post-harvest celebration, specifically dedicated to millet. Members of the *Oungh* clan are particularly responsible for its observance. The festival is commemorated as a supplication to the spirit to illuminate the village as the lunar cycle culminates, during which time the village is enveloped in darkness. On the third day of this festival, the *Oungh* clan formally announces the cessation of this period of darkness. Subsequently, the youngest family member is tasked with presenting a tiffin containing packed food composed of pounded millet, three pieces of meat, and a pickle to their elders as an expression of gratitude. The elder subsequently opens the tiffin and bestows an additional piece of meat upon the individual. The recipient then returns home to partake in a feast with their family, celebrating the conclusion of darkness and the advent of light heralded by the new moon. On this particular day, agricultural work in the fields is entirely suspended. *Puangleün* is commemorated on the second day of January. This festival is a post-harvest celebration associated with jhum cultivation. Following the harvest of the jhum fields and the storage of produce in the granary, various

age groups within the village (*Etoü*) convene to engage in festivities characterized by feasting and dancing. Additionally, it is during this time that multiple treaty alliances (*Lamshok*) are established and celebrated. *Jeinyulem* is observed in March, after the completion of millet seed sowing and the emergence of saplings. During this period, various age groups venture into the forest for fishing and crabbing, as well as engaging in hunting activities.

(iii) *Yimkhiung*:

Like all Naga societies, the Yimkhiung also celebrate various festivities centred around their agricultural activity. They are the thanksgiving festival (*thenio*) of *Tsüngkamnio*, which is celebrated on the 15th and 16th of January after harvest. *Wüntsünio* festival is celebrated during the construction of field huts for two days on March 15th and 16th. During this time, rituals and prayers are conducted with a sacrificial chicken which is later consumed. *Medamnio* is a millet festival celebrated on 7th and 8th August. This is celebrated after the harvest of millet in July as a celebration of new food. During this festival, rituals are also performed to see the life span of children for the following year. This was done by observing the lung organ from cut meat, and depending on the omen shown, it predicted the life span of the children for the following year.

(iv) *Sangtam*:

For the Sangtam community, the first festival to be observed is *Tsungxahsho* during the beginning of the jhum season for protection and luck. During this time, the villagers host and provide food to any guest, but they cannot take a single grain from the host house. The next major festival is *Tpangkamüsho/Jekhatang*. This is celebrated to mark the conclusion of cutting of the new jhum fields. Subsequent to the performance of this ritual, it is strictly prohibited for any individual to engage in the felling of even a single tree within the designated area. Another ritual performed during this time is that after every three years, the old *machan* (sitting platform of the house) is dismantled, and new ones are constructed with new wood from the jhum field or any other forest. The wood used for this is cut and brought

to the village two or three days ahead and kept inside the village gate. On the day of the reconstruction of the sitting platform of the house, the wood are carried by the youths to the place, and the elders of the village make the new platform.

Mimüyoh is celebrated on the third day after the burning of the jungle. This is done to seek protection from any disaster that might arise from the burning. On this day, the field huts are also constructed in the jhum field. *Chika müsho* is celebrated to signify the end of sowing and to seek the protection of the new seedlings planted in the field from insects and animals. *Hanapongpe* is celebrated in August on the 18th day as a blessing ritual during which time a rooster is sacrificed. On the night before the festival, the rooster is killed by the eldest son of the family to seek blessings for the family. *Mong Mong* is a pre-harvest festival celebrated over six days. This is done to offer prayer to ask for a good harvest. After the last day of the festival, called *Akatisingkithsa*, harvesting begins. *Pongtisho* is the last major festival of the village, which is celebrated to signify the end of the harvesting season.

(v) *Konyak*:

For the Konyaks, *Aoleng* is the most important festival celebrated during the beginning of the agricultural season for blessings. During this festival, the eldest member of a clan, i.e*., Gangwanrakpg*, would take all the names of the jhum fields and start the cutting of the trees as a ritual. He also plays the role of a judge and in the event of any issues arising out of land division and ownership, he would be the one to decide the case. The next festival *Pongjak* is celebrated in the month of June as a thanksgiving festival for a good harvest of vegetables and fruits. *Laoren* is a pre-harvest festival celebrated in September for a good harvest of the jhum fields. Naga villages are unique with each village sometimes even within the same community displaying different festivals and rituals though the underlying principle remains the same, i.e. centred around the agricultural cycle. Even among the Konyak community, one can observe this. In Tangnyu village, they also had their unique festivals which are celebrated by the village. *Shahtham* is

celebrated in January after the burning of the felled trees and vegetation as a thanksgiving for the season. It is also a prayer for the new seedling sowed to be protected from insects and birds. *Aoyea* (*Aoleng*) is celebrated in April praying for a bountiful harvest for the year. *Tapyop* is celebrated in May as an offering for the inauguration of the new field hut accompanied by a feast. During these rituals, a pig was sacrificed, and its blood was used in the ceremony. The next festival is *Shahven* which is celebrated in June. This is done to have a good selection of seeds for the next season. *Kasho* is celebrated in the month of June. This is a ritual asking the spirit that the seeds planted would grow to be healthy and big. *Shalom* is a festival where prayer is offered to the spirit for a good harvest of taro and paddy. The next is *Lamyei* which is a ritual performed by the male members of the village. This is done before the harvest of the crops. During these festivals, all the male members of the village go and clear the path leading to the fields. The last festive occasion to be observed is *Lalchoung*. It is a thanksgiving festival performed after the harvest.

(vi) *Ao*:

Among the Ao community of Longa village, the first important festival observed is *Sungkuluptem* which is celebrated in October. This ritual is observed as a declaration of the beginning of new fields, after which *Sungkulumpi* is observed. This is observed when different *Khels* would be allotted different areas for jhum cultivation and the *khel* members go and make the footpath leading to their respective fields. In March, *Lünzungpi* is observed for those who owned their lands for cultivation. During this time, the footpaths leading to the fields were cleaned. The village collectively would arrange a pig, slaughter it, and distribute its meat to the different *Khel* participating in the ritual. During this meat distribution, the head of the *Putumenden* (village council) members would get the leg and shoulder portion of the meat each. The festival of *Lünzungpi* is observed twice a year; one in summer and another in winter. The two major common festivals of the Ao community are *Moatsu* and *Tsungremong*. *Moatsu* is

celebrated after the sowing of the seeds in the fields while *Tsungremong* is celebrated as a post-harvest festival.

Besides this, there is also a festival associated with the clearing of waterways for cultivation in wet rice farming. It is called *Tsupolumpi*. In the past, this festival was celebrated by the village for the clearing of the waterways to the village. However, with the adoption of wet rice cultivation, it has also come to be associated with the time when the village cleans the waterways channel to the fields. During this event, the villagers would also partake in a feast with the meat of a pig.

Most festivals have significantly diminished in their relevance, particularly within the Christian community, and with only a minimal representation of the non-Christian demographics, these events are no longer commemorated in the manner they once were held. The arrival of the Christian missionaries in the Naga Hills during the 19th century drastically changed the Naga traditional way of life and with it was impacted the customs and rituals conducted by the people. However, in place of all the rituals performed in the past, in the present times, the church observes a prayer on these specific days before the villagers proceed to the fields and begin work. These are still observed as a way of preserving the culture of their ancestors in the village. In the context of traditional religious practices, several *genna* days are commemorated in response to adverse climatic conditions, such as severe winds, thunderstorms, and hailstorms. On the contrary, the Christians do not engage in such observances but instead partake in specific prayers or fasting aimed at invoking favourable climatic conditions, safeguarding agricultural yields from devastation, and ensuring a bountiful harvest. Many of the traditional festivals are now replaced with Christmas, New Year, and Easter celebrations and thanksgiving for a bountiful harvest is now given to the Churches.

Endnote:

[1] Interview with Kavi Yokha,81 years, Farmer, Kigwema village on 08/02/20.

[2] The Hoi group are those who perform all rituals relating to agriculture among the Zeliang of Poilwa.

[3] The Hau group are the ones who perform all the major rituals of the village.

[4] Interview with P. Saluvi Swu,55 years, farmer, VCC: Naghipu Swu, 72 years, farmer, Secretary LVPO: Mixeni Tizi, 70 years, Chairman, LPO, farmer, Lazami village on 13/02/21.

[5] Interview with Yemnyei Ngonyen, 86 years, GB, Yongnyah village on 22/09/19.

[6] Interview with Aseba Anar, male,70 years, retired teacher and T.Lisetong Ayongru, 51 years, G.B, Yingphire on 15/10/21

Chapter-4

Factors of Agricultural Production and Socio-economic Changes

In the preceding chapters, we have discussed on the types of agricultural practices in Nagaland and the various cultural and societal norms in the state. We find that the state has a unique agricultural system, with each tribe having its own specific ways of cultivation and customs. The State has mainly two types of cultivation, with jhum and terrace rice cultivation as the main practising system and each household having a small kitchen garden in their backyard for daily sustenance. Rice forms the main types of crops cultivated by the people for sustenance in the villages. When we look at the workforce involved in agriculture in Nagaland, we find that almost the whole family is involved in it. However, women constitute almost more than half of the workforce. William Robinson (1841), in one of his early writings on the Nagas', observed how the nature of the early Naga villages of constantly being against their neighbours necessitated the role of men to be warriors always ready and alert for any impending assault and the customary role of the cultivator assigned to the women. This has not undergone any drastic change in the years. According to the Nagaland State Human Development Report 2004, nearly 72.8% of women workers are engaged in agriculture.

In the landholding system, ownership of the land in Nagaland can be classified into:

i) The State government
ii) The village/community
iii) The clan and
iv) The individual

State ownership in landholding is comparatively less than village and community ownership. When we investigate the landholding system of the Nagas, it varies from tribe to tribe. Within a particular village, we have different land systems that are owned by families, clans, or lineages. Among the Sema tribes of Nagaland, Julian Jacobs (1998) observes the working of an almost feudal system of agricultural networks. In

the distribution of landholding, though, women form more than half of the working force, and almost the bulk of the agricultural work is done by them. However, they rarely have any ownership rights over the land.

The agricultural operations carry cultural significance for the people and are marked by rituals varying from tribe to tribe. The people's functions, celebrations, and festivities focus on various operations under the different agricultural systems. There are, however, three stages in the traditional agricultural practice of the people that are particularly stressed with important rituals: the initial jungle clearing and the burning of the felled trees, sowing, and reaping. These rituals vary from tribe to tribe and may involve some form of offerings of a sacrificial animal, observance of the *Genna* period of abstinence from work, sex, and other everyday activities, and feasting and dancing (Jacobs,1998, p.38). Most of the festivals of the Nagas are related to agriculture, e.g., we have the *Moatsu* festival of the Ao tribe, which is celebrated when the sowing is over, the Angami festival of *Sekrenyi*, the Rengma *Ngadah* etc., which are all harvest festivals (Joshi,2001). The Nagas, like any tribal people of the world, have their social taboos and superstitions passed on from generation to generation through the oral traditions of folklore and practices.

In a traditional Naga village, a leader or guardian oversees the village's cultural activities and life traditions, emphasizing the importance of adhering to their customs. This could be the task of the village chief or priest. The Naga people's agricultural practices and close relationship with nature have been central to their cultural identity, as evidenced by the use of indigenous knowledge systems to pass down religious and cultural values. Traditional knowledge has its foundation in local history and culture, guiding communities to maintain unity, integrity, and clan identity.

From pre-colonialism to post-independence, the Naga people's agricultural practices have been inextricably linked to their social and cultural lives. Their agricultural practices, relationship with nature and preservation of cultural ethos have all had a significant impact on their identity and lifestyle. Naturally, a practice that is so much a part of people's social, economic, cultural, and religious life of the people is challenging to abandon immediately. Bray (1998), observing the rice culture of Asian society, comments on how the labour-intensive nature of rice cultivation defines their landscape and their farm sizes. The Asian villages are characterised mostly by

small farming societal structures where each family depends on one another to provide the labour for their farm work. In the context of Bray's characterisation of the Asian villages, can we also use her observation to view the Naga villages in the context?

In the context of the above observation, a case study of Zapami village, which lies in the Phek district of Nagaland, is undertaken to better understand the social-cultural aspect of a Naga village.

4.1. The agricultural system at Zapami

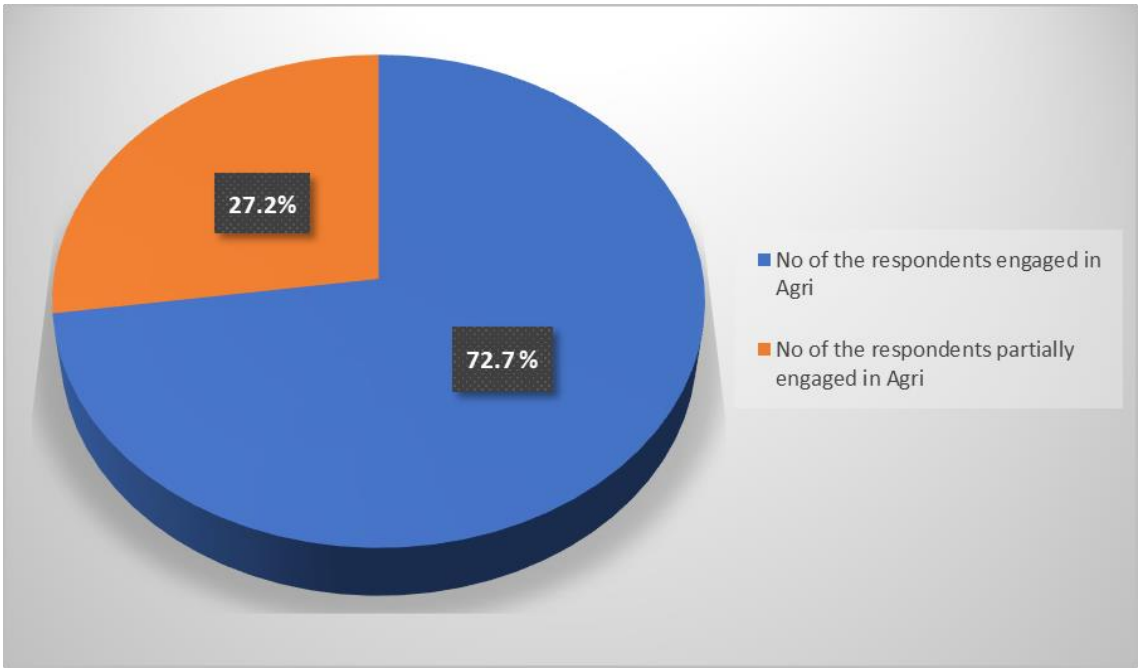
Zapami village is in Nagaland, India, in the Zuketsa circle of Phek district. It is located 3 kilometres from the sub-district headquarters in Zuketsa (tehsildar office) and 82 kilometres from the district headquarters in Phek. The village has a record of 142 households, according to the village council, with a population of 587 members, out of which there are 308 males and 279 females. For the case study, a total of 99 respondents were selected from different households and *khels* in the village. Based on the study of the responses from 99 respondents selected, around 72.7 % of the villagers are actively involved in agriculture, and 27.2 % partially (Fig 4.1). Almost all of the village is engaged in terrace rice cultivation, and 75 % in terrace and jhum cultivation. Land under terrace cultivation is more compared to jhum cultivation (map.1). Jhum fields are mostly used for growing maize, pulses, and other crops and not for paddy. Jhum fields are cultivated as an additional source for self-consumption and in case of some excess, for sale in nearby markets. Paddy cultivation is done exclusively on terrace fields only. The villagers are also involved in horticulture, growing various crops, vegetables, fruits, etc.

4.1.1. *Type of cultivation*:

Unlike the rest of the Naga tribes, the Chakhesang, particularly Zapami village, are exclusively involved in terrace rice cultivation for their sustenance. They have devised an effective way of directing water to inundate their fields built on elevated hills. The terraces in a village are considered as old as the village itself, as they formed when the village first came into existence and later expanded to include its land. Woodthrope (1882), in his account of the observation of the Angami cultivation, speaks of the mastery and skill of the Angami cultivators to draw water from long distances from

the water source to their terraced fields with such accuracy and skills. According to Cairns (2007), the Angamis and Chakhesangs have smaller jhum fields than other jhum cultivating tribes, which clear an entire mountain area for rice cultivation. Jhum fields are almost the size of a permanent garden. While other Naga subgroups still rely primarily on jhum cultivation, the Angami (and Chakhesangs) are notable for their effective system of terraced rice fields that are expertly irrigated (Cairns, 2007, p. 147).

Figure 4.1: Percentage of people engaged in agriculture at Zapami



4.1.1.1. *Jhum cultivation;*

Cultivation of paddy by jhum is presently absent in the village agricultural system. Jhum cultivation, also known as *Meluru* (Jhum rice field), is mainly used to grow crops like maize, pulses, millet, Job's tears, etc., which were substituted for rice during times of scarcity in the past. Jhum lands have a ten-year cycle; cultivation lasts three years before moving to the next land. In the first year, maize and millet are planted; in the second year, Job's tears are grown; and potatoes in the third year before moving to the new field. The village last cultivated rice on jhum fields in the 1970's[1]. The rice needs of the village are primarily met by the vast terrace fields, which provide an adequate

quantity and much more. The village also has an excellent water irrigation system, which provides ample water for the terrace fields, giving a good harvest enough for the village's sustenance. Thus, the jhum fields take a secondary role only compared to the terrace field for rice cultivation. Table 4.1 highlights the different purposes for which the jhum field was used among the respondents:

Table 4.1: Utilisations of jhum fields

Usage	No. of respondent
Growing cereals (Naga dal, soybeans, bean, corns)	66
Growing trees for firewood	15
Growing horticultural crops. (Cardamon, fruits, etc.)	39

Jhum fields are also used for growing firewood trees (Table 4.1), which form the village's primary traditional fuel source. Some farmers in the village also grow more than two crop varieties in their fields. Around 6.6 % of the respondents replied that they were both engaged in growing cereals and horticultural crops in their jhum fields. The village has four main forest ranges. The upper area is mainly reserved forest, while the lower sections are utilised for jhum fields:

(a) *Purire*
(b) *Popire*
(c) *Shelore*
(d) *Loshure*

The village last cultivated at *Loshure* seven years ago. Selection of a jhum site to grow for the year is usually done by the Village Council in the present day. In the past, the village priest, *Mewo*, performed this. The council members decide which land to cultivate first on a lottery basis for community forest lands. In comparison, the owner decides on individual lands. If the village chooses to cultivate on a particular land that year, the owner will first get to choose the plot where he desires to cultivate. This

system is known as *Trekha*. After which only the rest of the village will start on their cultivation. Male members mostly do the clearing and burning of forests (*Mietu*). The following steps, which include digging *(tri*), breaking the soil *(medode*), and cleaning the field, are done by men and women collectively. Next is the sowing of seeds (*Mechie chu*), which is mostly the task of women. The individual farmers themselves arrange seeds for cultivation. These are then passed on from one generation to the next. Weeding (*Khwe metshe*) is also mainly done by the village women. Cleaning the fields of weeds is done until the crops are ready for harvest. Harvesting crops from the Jhum fields is done collectively by the villagers. Harvesting of paddy is known as *Rübeqa,* while harvest of other crops like maize and millet is known as *Pfo*. The harvested crops are carried on the back with the help of a basket known as *Kha*.

4.1.1.2. *Terrace Cultivation:*

Terrace rice cultivation (*Lokhulo*, whereby *Lo* stands for terrace and *Khulo* mean field)) is the main form of cultivation of the Chakhesang Nagas, and Zapami is no exception (Plates 4.1 & 4.2). If terrace rice fields are properly maintained, they can be cultivated for generations. The terraced fields are tilled once a year, and manures (cow dung) are mixed in with the soil, including the stems and leaves of the plants. Paddy from the previous year and decomposed weeds are added to the soil. The field's yield improves over time. The annual production of a newly built terrace field is minimal in the first few years because it needs more essential nutrients to feed the paddy. However, with constant cultivation, the fertility of the land and harvest yield improve gradually until it reaches its maximum capacity, which is maintained almost indefinitely. This is because water flooding changes the composition of the various soil layers. This process, known as podzolization, is similar to what happens in a terrace field (Bray,1986, p.28).

Construction of terrace rice cultivation needs expertise in water control systems utilising the building of terraces and irrigation channels where water flows to the terraces from streams above the fields over a few kilometres. The landscape of Zapami offers a weary traveller a wonder to behold. The knowledge of building these has been passed on from generation since the village's inception. Its initial construction requires a large workforce, but once constructed, the fields are permanent

and passed on from one generation to the other. The terrace fields at Zapami have been a permanent feature of the village since its establishment. The path leading to the fields is paved with years of walking by the villagers, carefully constructed by the farmers and lined with stone monuments of the feast of merits of the past. The terrace fields in the village have remained the same for centuries, which has been handed down from one generation to the next. Except for a few families who expanded their fields, the terrace fields at Zapami have been cultivated from the beginning of the village establishment.

The construction or expansion of terrace rice fields is a community effort. On that assigned day, known as 'T*ekhrü*,' all the village members will help the owner on the field. Terrace rice fields at Zapami are entirely individual-owned. All healthy individuals, irrespective of gender and age, will come to the owner's call for help. The owner, in return, will provide a feast to the villagers. There is no exchange of kind or material value for such an act. It is done based on community brotherhood. This will be done in a day, and the family members will do any remaining work left in the field. After *Tekhrü,* it might take 10-15 days for the family to finish the construction of the terrace rice field, depending on the size of the field. The owner himself will construct the irrigation channel in his new field.

Terrace cultivation at Zapami is mainly of two types:

(a) Dry terrace rice cultivation or *Ketsho Lakhulo:*

For *Ketsho Khulo (*dry terrace field*)*, the field preparation starts in the month of Jan-Feb, whereby digging of the area known as *Ketshoche* starts. These are done with a local spade known as *Kapfü*. By March-April, the breaking of the soil occurs, known as *Medode,* with a wooden rake known as *Nuodebvo*. All the fields must be cleaned by the last part of May till the first week of June. While the soils are being broken, the paddy seeds are sown on a nursery bed, which is located near the terrace field or in the forest nearby. During this time, the making of the bunds around the terrace fields and final cleaning is done before water is channelled into the area. This process is known as *Ladabo/Patulo* in the local dialect. By the second week of June, the dry terrace fields are inundated with water from the channel. This process of water

retention, known as *Ketshonuo*, traditionally lasts for six to seven days, but it has become less than that in present times.

After the required number of days of water retention in the dry fields, the water is drained out, and the soil is mixed with the spade (*Kapfü).* The *Kapfü* are of different sizes and, depending on the need of the work to be carried out, are utilised accordingly. Larger spades are used to mix the soil and make bunds around the fields. After all the soil has been mixed properly, water from the irrigation channel is again drawn into the field. Transplantation (*Loshe*) of the paddy saplings from the nursery is completed after the water has been channelled into the field. By the first week of July, the last transplantation must be completed to have a good harvest on time. Before harvest, there are three cleanings: in July, after the paddy transplantation, the terrace bunds are cleaned again, known as *Loda,* and the second cleaning is done in August, known as *Lorhu*. By the last week of September, the panicle on the rice plants is heavy with grains. During this time, *Kurade*, which is the cleaning of the dead leaves on the rice stalk, is done. Harvest starts by the second week of October, and by mid-November, harvesting the crops known as *Rübeqa* is completed. The harvest is brought to the village on the same day and stored in large granary baskets called *Bou*.

(b) Wet terrace rice cultivation or Kada Lakhulo:

Kada Lakhulo, or wet terrace rice cultivation, are those fields inundated with water all year round after harvest. This process starts after harvesting is over by mid-November. These types of fields are usually those which are located near the entry of the water channel to the fields. By the month of May, the process of bund cleaning and making known as *Loda Metsa* is done. The Zapami villagers traditionally make bunds of mud walls, and the use of stone boulders is rare. The bunds' sizes depend on the fields' size and may vary from one area to another.

Water retained in the field all year round is also released, and the soil is dug and appropriately mixed. After a proper mixture of the soil, water from the irrigation channel is again drawn into the field. Transplantation of paddy

saplings from the nursery field into the wet field will be done by June. Following the end of transplantation, the same cleaning process till harvest and storing is followed as the dry terrace cultivation. In Zapami, both types of terrace rice farming can be found in the same field. The dry terrace fields are usually the ones that are located the farthest away from the water irrigation.

Harvesting is done traditionally with the help of a machete/dao (*Za*) and a bamboo mat (*Zö)* for collecting the harvested paddy in the field and later for drying the grain. Women carry a bamboo basket (*Kha*) on their backs to collect the harvested rice, while men traditionally tie their shawls around their bodies to collect the seeds. The rice husks are cleaned with the help of a bamboo rice sieve cleaner (*Merü*). The harvested paddy is then returned to the village and collected in a large granary basket called *Bou*. Granaries are of two types: one for storing the harvested paddy for consumption (*bou*) and the other for storing seedlings for the next plantation. The secondary granary for the seedlings is called *Thsücübou*. The people at Zapami continue to use the traditional form of storage for their harvested crops, i.e., *Bou*. All the cleaning processes after harvest are completed in the field itself. The cultivation process from the beginning till the grains are stored in the granary is all done manually by the villagers.

The people still depend on traditional tools for their cultivation. Use of machinery in farming is significantly low. The people still depend on manual labour for their tasks. Using other tools or equipment in their farming activity is limited. The farmers at Zapami do not use fertilisers in their cultivation. Manures in the form of animal dung, plants and ash are used to fertilise the fields.

4.2. Irrigation system:

The success of terrace rice farming in the village is mainly attributed to the well-irrigated water system of the village. A sound irrigation system ensures a good harvest for the farmer. Water is tapped to ensure that all the farmers get an adequate supply of water to cater to the needs of the crops. Bray (1986) restates the 6th-century Chinese agricultural treatise *Qimin Yaoshu,* which stresses the contribution of water to the success of the quality of rice cultivated.

The primary water source for the fields at Zapami comes from a stream, *Phrari Keri*, located in the mountain range above the village. A particular day known as *Kalu metse tsütso* is assigned for cleaning the water irrigation channel each year before the transplantation begins. It is assigned on the third day of the year's fifth month, known as *Thona/Rhana Khru*. Traditionally, on this day, volunteers from each colony of the village numbering 20-30 would gather to go and clean the main irrigation channel. Tax in the form of paddy, meat, etc., would be collected from each farmer using the water source. The volunteers would use these for a feast after the task was completed. Volunteers from the four colonies would divide themselves into two groups, starting from each end of the channel and eventually meeting in the middle at a place known as *Kewe Theza*, where they would partake in the feast. This practice still continues today. However, presently, in place of volunteers, the whole village is involved, and the feasts are arranged by the village council with the contribution of the villagers. For this task, a person from the *Pfomi* Khel would be entrusted first to clean and touch the water source in the forest. The villagers believe that people from the *Pfomi* Khel have the blessing of water, ensuring their touch would bring them a good water supply for the season. He would offer a prayer to the almighty before starting his work. After that, only the volunteers would begin cleaning the water channel. The village council has fixed this occasion on the 14$^{th\ of}$ May of each year.

Volunteers also observe a taboo on this day. They are forbidden to bring even a tiny plant branch to the village after the task. If anyone went against this, it was believed that fire would burn down all the houses in the village. After the event, all those who participated in the *kalu metse tsütso* would again have a feast at the village *tehuba* (plate 4.4). Zhiegulo Puse (Age 64 years), a farmer and member of the village council, recollects having seen this ceremony during his youth. With a melancholic voice, he narrates how he saw the traditional *Kalu metse tsütso* on one such occasion during his youth. He narrates how he envy those days. Following the completion of the task, the village volunteers gathered at the village *tehuba* (sitting platform, plate. 4.4) and feasted on the meat and drinks provided by the people while singing songs and having a good time. He concludes with a regretful tone on how the present system seems to be missing that sense of brotherhood and unity.

The water supply is controlled by constructing irrigation channels that follow the slope of the terrace benches, letting water flow freely to all fields while ensuring that water does not overflow. This is particularly pertinent during the rainy season, when the irrigation channels are susceptible to water damage, and the force of the water may damage the channels as well as the terraces or paddy. These channels run across the entirety of the terrace, from one upper terrace to the other, via small water outlets and sometimes using hollow bamboo pipes or simply an opening at the edge, usually located in the corner of the terrace bench (Plate 4.5.&4.6). The water distribution from one field to the other is done on mutual understanding, ensuring that everyone using the same irrigation channel gets the required water in time for cultivation. Each owner will make the irrigation channel to his respective field from the nearest water source. The construction of the terrace fields and irrigation channels is done using rudimentary tools like the spade (*Kapfü*), weeder machete (*Zahtha*) and machete (*Za*).

Zapami village has been bestowed with fertile land and a good water supply, though arable land is comparatively small compared to neighbouring villages. Major water disputes are rare except for occasional cases when a field owner is late opening the water channel from his field to his neighbour's field below him.[2] This also happened only when there were delays in rainfall in the area from time to time. Maintenance of the water channel is the collective responsibility of those using the water. The villagers also did not pay any tax to their neighbour whose fields were above him for the water supply to his field. The only tax they paid was to the caretakers of the main irrigation channel in the form of one *Vü* to the *Pfomi* Khel, who looked after the primary water source.

Another form of water distribution system prevalent in the village is that of the first *Khudu* (first field dug). Usually, in this case of ownership, the person who first digs a terrace field in an area near a water hole gets to claim ownership over the water. Anyone else who comes after him and constructs a terrace field below the *Khudu* is given one share of the water source. The owner of Khudu gets 2/3 share of the water. This distribution is done based on mutual understanding and in the case of any dispute, the issue is brought to the families first between the two parties involved and only in

the case of it being unresolved between the families, is brought to the elders of the clan and then the *Mawo,* which was considered as the highest court of the judiciary in traditional society.

4.3. Rice Cultivation:

Rice cultivation forms the main crop cultivated by the people, besides cultivating some fruits, vegetables, etc. Most of the rice grown is for self-consumption. Rice grain on the plant is known as '*Rube*,' and pounded husked rice is called '*Bethu.*' *Bethu* is a two-syllable word whereby '*be*' means rice (Rube) and *thu* mean to pound in the Khezha dialect. There are different varieties of paddy cultivated. White rice and red rice are the main types grown by the people. Red rice types are encouraged to cultivate due to their longevity compared to white rice in storage. Red rice is said to last till the next harvest and more. This might be due to their tolerance to unfavourable environments such as infertile soils, deep water, and mountain lands (Ahuja et al., 2007, p.4). However, due to the reason stated that red rice, when cooked, gives less quantity, white rice is preferred for cultivation by the villagers. Rice is mainly of two types: glutinous (*Mena*) and non-glutinous. Glutinous rice is mainly used for making local rice brews. Regular rice grown is mostly for self-consumption and for making local rice drinks, which are used for special occasions. Table 4.2 shows a list of the rice varieties grown in the village. However, among the traditional varieties of rice stated, not all are presently in cultivation. Some seem lost and are no longer cultivated by the villagers.

Table 4.2: Traditional Varieties of Rice grown

Local names	Cultivated	Field	Variety	Colour
Mena Be	Yes	Terrace	Glutinous	White
Mena Naha	Yes	Terrcae	Glutinous	White
Wumirü	Yes	Terrace	Glutinous	White
Mekrürü Sopfü	Yes	Terrace	Glutinous	White
Khuburü	Yes	Terrace	Glutinous	White

Pfürüzhie Kekru	Yes	Terrace	Non-Glutinous	White
Pfürüzhie Keha	Yes	Terrace	Non-Glutinous	Red
Peinyiü Rü	Yes	Terrace	Non-Glutinous	Red
Pfürü Rüso	Yes	Terrace	Non-Glutinous	Red
Dipo Rü	Yes	Terrace	Non-Glutinous	Red
Kerakhaü Rü	Yes	Terrace	Non-Glutinous	Red
Soye Rü	Yes	Terrace	Non-Glutinous	Red
Rüso Rü	Yes	Terrace	Non-Glutinous	Red
Zhiü Rü	Yes	Terrace	Non-Glutinous	White
Tenga Rü	Yes	Terrace	Non-Glutinous	White
Khuniechü Rü	Yes	Terrace	Non-Glutinous	White
Kerebe	Yes	Terrace	Non-Glutinous	White
Penguü Rü	Yes	Terrace	Non-Glutinous	White
Nyirü Rü	Yes	Terrace	Non-Glutinous	White
Puse Rü	Yes	Terrace	Non-Glutinous	White
Nyilhiü Rü	Yes	Terrace	Non-Glutinous	White
Mukho Rü	Yes	Terrace	Non-Glutinous	White
Tengube	Yes	Terrace	Non-Glutinous	White
Nyuhe	Yes	Terrace	Non-Glutinous	White

Table 4.3: Newly introduced Rice Variety

Local names	Cultivated	Field	Variety	Colour
Diülo Rü	Yes	Terrace	Non-Glutinous	White
Tokewe Rü	Yes	Terrace	Non-Glutinous	White
Bacheü Rü	Yes	Terrace	Non-Glutinous	White
Weünyi Rü	Yes	Terrace	Non-Glutinous	White
Khatsolo Rü	Yes	Terrace	Non-Glutinous	White
Pfüchemi Rü	Yes	Terrace	Non-Glutinous	Red
Ketsü Rü	Yes	Terrace	Non-Glutinous	Black

Porba Rü	Yes	Terrace	Non-Glutinous	White

The purpose of growing rice was not only for consumption. In the earlier days, rice was also used in rituals and as a barter for salt with the neighbouring villages.[3] A variety of rice known as '*Mena Naha'* (Plate 4.7) was explicitly eaten for its nutritional value. When cooked into porridge, this variety of rice was said to give strength to a person after a hard day's work. Black rice is also considered suitable for women after an illness or birth. Rice (of no variety) is also used as part of the purposes of the ritual in the past.

Given that cultivators are aware of the minor variations in temperature in different areas of the terrace field, they are aware of which varieties of rice grow well in colder areas and which types grow better in warmer areas. Depending on the temperature of the water, an array of varieties can be grown within an area of a terrace field. Cold tolerant types are usually sown near irrigation channels, where water from irrigation first joins the fields. Another variety is planted near the centre, where the water turns warmer. *Mena* (glutinous) varieties are planted on the other edge of the field, which requires significantly higher temperatures to thrive and a longer time to mature. Years of cultivation and experimentation have helped the farmers determine what variety grows best in which area.

The village no longer cultivates rice in jhum fields, and as a result, cultivators have lost all the traditional varieties initially cultivated in the jhum fields. *Khuniechü Rü* is considered one of the oldest varieties of rice grown in the village, which might indicate that this rice was probably brought in the course of its migration. *Pfürü Rüso* variety of rice can be grown in both jhum and wet terrace farms which might indicate it also as being one of the earliest varieties of rice grown in the village.

4.3.1. *Ethnohistory of Rice:*

The diverse rice varieties are known by different names, providing some understanding of their origin. Like all terrace rice cultivating societies, the village names a paddy after the person who brought it to the village. Some of the rice cultivated during the earlier days is no longer grown. The villagers have lost some of their history of how the crops they produced came about. Zhungulo Puse, an elder of

the village, could recollect only a narrative about the '*Thuveri*' variety of paddy cultivated by the village. He heard it from his grandfather, who passed away.

According to the narrative, this variety of rice came to be known to the villagers around the Second World War (though not very clear of the approximate time). The people in the village could not have a good harvest due to poor seeds, and the Mao people from the neighbouring area of present-day Manipur had very good paddy seeds, which were known to have good yields. However, due to the enmity between the Mao and Chakhesang tribes, the Mao people were unwilling to share the seed. They had also declared that whoever shared the paddy seeds with outsiders would be ostracised from the village. Seeing the plight of her people, however, a Kheza lady who was married to a Mao tribe man wanted to share the paddy seed with her people. However, she was afraid on account of the declaration which her husband's village elders gave. She then thought of sharing the paddy seed with her brothers. She invited her brothers to visit her and asked each of them to bring a chicken. She fed the birds with the rice seeds and then asked her brothers to remove the rice from the chicken's crop only after they had crossed the village gate. Once they did, they could take out the rice and use it to plant them in their village. She also asked them if anyone had enquired about how they came across this variety, and they were to reply that they came across these rice seedlings as the chicken ate them on their village outskirts.

Furthermore, if anyone else enquired how the Kheza people came to plant this variety, they were to reply similarly. That was how the '*Thüveri*' variety of rice came about to be cultivated by the people in the village. The villagers have a narrative on how, with the arrival of this variety of rice in the Chakhesang area, the people began to live well with bountiful harvests. This narrative on the *Thüveri* rice is similar to that found in the southern Angami village of Kigwema (Neli, 2021, p.107).

The rice varieties are also named based on their colour and consistency and after the person who brought them to the village. *Mena be* and *Mena Naha* are so-called because of their consistency when cooked. *Mena* (sticky) refers to those which become sticky when prepared and tender. Under this, certain varieties are used to prepare specifically for rice beer and some for eating. Some rice varieties are also named according to their taste. *Tokewe Rü* variety translates to tasty or good eating

rice. *Weünyi Rü, Khatsolo Rü, Pfürü Rüso, and Kerakhaü Rü* are all named after the people who brought the rice to the village. *Porba Rü* is another rice variety named after a village named Porba near Pftusero. Some rice names are also given after their physical description and similarity with insects like *Khuniechü Rü. Khuniechu* refers to insects in the Kheza language.

4.4. Other crop types:

Besides paddy cultivation, the villagers traditionally were also actively engaged in cultivating crop varieties like Job's tears (*Tuchebe*) and millet (*Chübe*), which they consumed. Job's tears were used for human consumption and as pig food. It is grown during the second year of the jhum plantation. However, the village has abandoned the cultivation of these crops, except for some families who cultivate it in their kitchen gardens. Table 4.4 gives us the two varieties of Job's tears that the village cultivated:

Table 4.4: Variety of Job's tear

Local Name	Characteristics	Usage	Cultivation
Tuchebe Mero	Has a hard cover, which makes it difficult to pound and non-glutinous	Primarily used to feed animals, especially pigs, as well as the local drink	No
Tuchebe Mena	Glutinous with a soft cover which can be cleaned easily. It has a sweet aroma.	Used for brewing local drinks, which was considered the best	Yes A few families grow it in their kitchen gardens

The village has abandoned Millet (*Chübe*) cultivation for almost two decades. It is grown in jhum fields during the first year of plantation. Millet is used as a supplement to rice during seasons of bad paddy harvest in the village. Table 4.5 highlights the two varieties of millet found in the village:

Table 4.5: Variety of millet

Local names	Usage	Cultivation
Chürole Mena	Glutinous and was consumed during seasons of bad paddy harvest.	No
Wuchübe Mero	Non-Glutinous and was consumed during seasons of bad paddy harvest.	No

The millet cultivation slowly started to dwindle after the 1970s with rise in the wild boar population (*Menyi*) in the village forest, which began to wreak havoc on the jhum fields where millets were mainly cultivated.[4] Another reason cited was how during that period, with the coming of development and new road construction in the area, many began to slowly abandon jhum cultivation to work as paid coolie with the government, which gave them access to easy money. Compared to working in the jhum fields, where there was much physical labour involved all year round, working as coolie with the government meant that they would have to work for only some specific few months in a year.

The cultivation of *Tuchebe (*Job's tear) has also more or less been abandoned by the people. Only few families in the village cultivate in their kitchen gardens for household consumption as local tea and snacks. Zewekha Wetsah and Zhiengulo Puse, senior citizens of the village, narrate how giving up on a large feast and drinking local beer has also contributed to the decline of the cultivation of Job's tear in the village. During the pre-christianity era, people in the village would host a large feast for all significant events and local beer from Job's tears was considered the best. With most of the villagers accepting christianity, giving up drinking local beer, and the changing lifestyle of the people have all contributed to the dwindling of the cultivation of these crops in the village economy. Below is a list of other crops cultivated in the village with their local names.

Table 4.6: List of crops grown in the village

Crops	Local name
Maize	*Metrita*
Pulses	*Potiche*
Cabbage	*Kobi*
Potato	*Alu*
Mustard Leave	*Menaya*
Garlic	*Khamara*
(Squash) Chow-Chow	*Eskus*
Tomatoes	*Danguche*
Tree tomatoes	*Tshudanguche*
Chilli	*Tshuchie*
Perilla	*Kenyi*
Ginger	*Vudo*
Colocasia	*Dzuba/Dzuba Ketha*
Cucurbits	*Pawoche*
Naga garlic	*Thünedzumeni*
Pumpkin	*Hamou*

Various vegetables are grown in the terrace rice fields after the harvest. Other vegetables, such as pumpkin, *Colocasia*, brinjal, cherry tomato, chillies, and so on, are planted wherever there is room. Around the bunds of the dry terrace fields, guava fruit (*muduram*) is specially planted, which falls in the water when not eaten and acts as manure during the plantation. Aquatic foods and delicacies, especially snails and frogs, are reared in wet terrace rice fields. Most of the crops grown in the jhum fields and dry terrace fields are used mainly for self-consumption and, in some cases, whereby the cultivator had no other source of income, would sell it. From the responses gathered from the villagers, 49.4 % responded that they did not sell their produce, while 50.5 % did. Of the farmers who sold their produce, 65.3 % sold them on their own, while 33.7 % sold them through the help of the farmer organisation in the village.

Chilli, *Colocasia* and ginger are also used in the village's traditional rituals. Ginger (*Vudo*) is used during a child's naming ceremony. The male members of the village use *Colocasia* (Dzuba) to see their fortune for the year. During the 10th day of the *Tehrunyi* festival, known as *Rünyie*, all male members of the village would take a *Dzuba* to the *Tehuba* (sitting platform). On that day, they would take a fist-size *Dzuba* and smash it with a stone on the resting platform. They would then search the stone to see the result. If the smashed *Dzuba* stuck to the stone, it is seen as a bad omen. That year, he might get sick or die. If *Colocasia* had not stuck to the stone, they take it as a sign that it would be a good year for him. After this ceremony, all the male members of the village would then go together to take a bath in the village community pond.

4.5. Unit of measurement:

At Zapami, paddy is measured using traditional methods, without contemporary weighing tools or equipment. The quantity of harvested rice is all measured because it aids in estimating the year's needs and determining whether there will be enough for the entire year or if there will be a shortage. It is also used to measure the paddy as a labour charge to hired workers in the fields and for paying any tax in the village.

The conventional traditional forms of measurement used in the village are:

(i) *Nedulhe*- the smallest unit of measurement. One *nedulhe* equals half *Zatre.*

(ii) *Zatre*- medium-sized basket which is equal to half *Zalhe*.

(iii) *Zalhe*- second biggest measuring unit. Four of these units make one *vü*

(iv) *Vü*- the largest measurement size, which amounts to one tin approx.

Harvest from an average terrace field yielding 60-70 *Vü* fills up one mid-size *Bou* (granary). During plantation season, those families who hire labour in their field would have to pay two *Zalhe* or half *Vü* as a one-day paddy wage, besides providing them lunch. Paying wages to both genders is also equal, i.e., half *Vü.* Presently, the measurement unit is calculated using the 50kg sack (*bosta*) available from the market. These are either cement sacks or market rice sacks. One *bosta* is estimated to be equivalent to two *Vü.*

5.6. Annual Rice production:

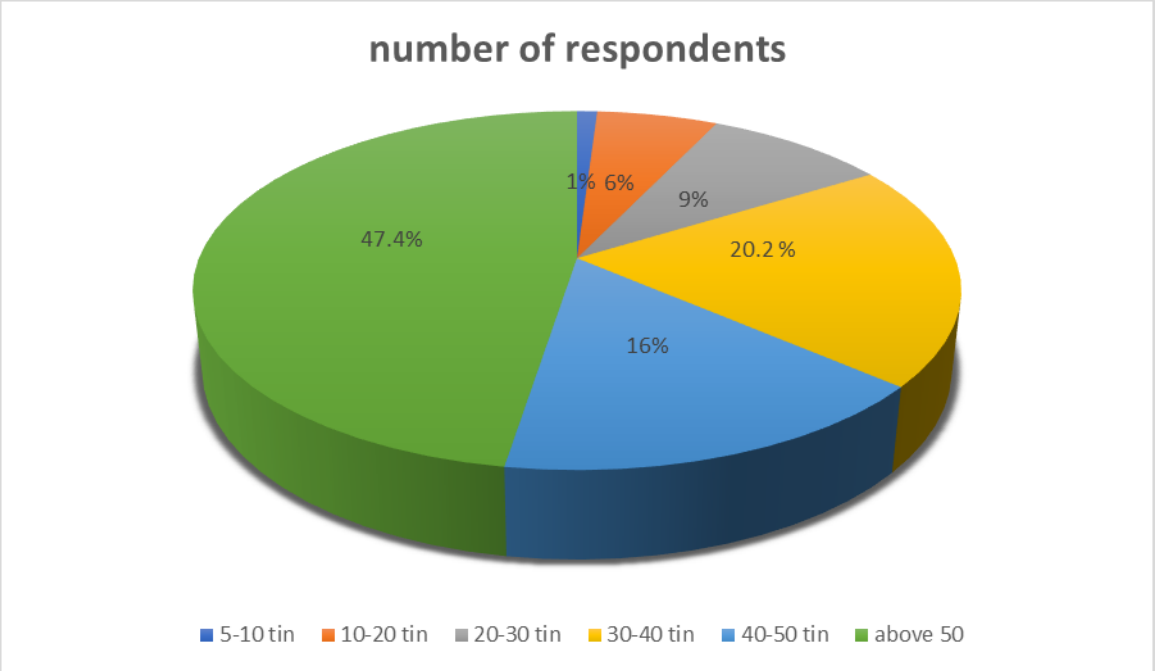
At Zapami, the annual production of paddy from 99 respondents involved in terrace cultivation who were interviewed during fieldwork are listed below:

Table 4.7: Annual production of rice in Terrace field

Total production (In terms of tin)	Number of respondents
5-10	1
10-20	6
20-30	9
30-40	20
40-50	16
Above 50	47 (Of this, four responded that they harvested above 100 tins.)
Total	99

From Table 4.7 above, we find that 20.2 % of the respondents had an annual production of 30-40 tins of harvest from a terrace field, while 47.4% had an annual production of more than 50 tins of paddy from their terrace fields (Fig.4.2). This is the highest production from the respondents. This shows that at Zapami, the villagers had a very high annual rice production. Out of the 47.4 % of respondents with high yield, 8.5% again responded that they had an annual production rate of more than 100 tins.

Figure 4.2: Annual percentage of respondents producing rice in tins

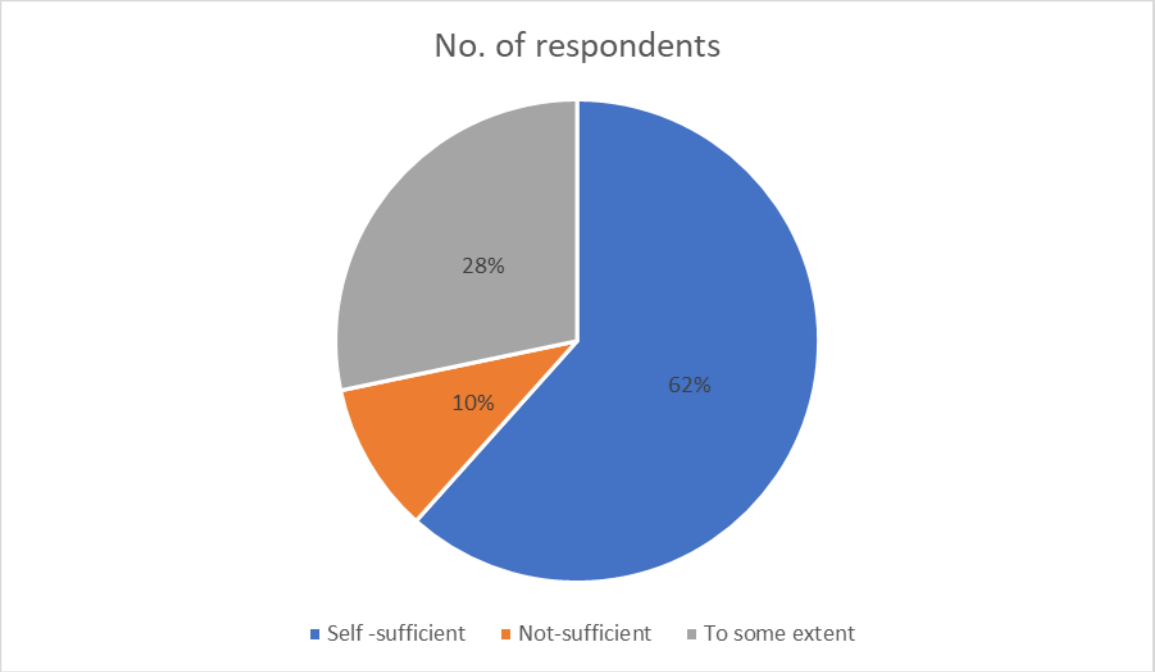


The total annual production a farmer can get depends on factors like the number of terrace fields he is cultivating and the workforce he can get for his field. Of the 99 respondents, 62 % responded positively that they could meet their family requirement of rice for a year and even had excess, which they stored in their traditional granaries. While 28 % were somewhat able to meet the family rice consumption needs from their harvest (Fig.4.3). Buying market rice is not absent among self-sufficient respondents, and they do so occasionally. For non-cultivators who rely primarily on the market, a bag of rice, which would be 50 kg, might cost them around ₹2400/- approx.

Table 4.8: Degree of self-sufficiency among cultivators

Sufficiency	No. of respondents
Self -sufficient	61
Not-sufficient	10
To some extent	28

Figure 4.3: Percentage of self-sufficiency



Life in the village starts early. By dawn, the family members are up and about, busy with their household chores. The mother of the family usually prepares the food for the family to eat before going to the field. She will also prepare the lunch to be eaten in the field for the whole family. The village usually wears a deserted look by early morning, with almost all the villagers in the field starting their work. The village has a uniform timing concerning the schedule of going to the field and returning. The daily schedule for terrace rice cultivation and jhum are almost the same. The following Table 4.9 shows the daily schedule of the farmers at Zapami:

Table 4.9: Daily work schedule

Time	Activity
4:00 a.m. (summer), 5:30 a.m. (winter)	Wake up
8:00 a.m.	Morning Lunch

8:30 a.m.-11:00 a.m.	Reach the field and prepare for the day's work with a prayer. Then work begins
11:00 a.m.	Tea break
11:00 a.m.-1:00 p.m.	Continue working
1:00 p.m.	Afternoon lunch break with rice, meat, and vegetables
5:00 p.m. (summer), 3.30 p.m. (winter)	Return to the village

Family members usually supplement workers in the field. Based on the answers from the 99 respondents, 72.7 % of their family members were all engaged in the cultivation process. A primary feature of all Naga society, which is also seen at Zapami, is how children are inculcated with the concept of work culture from a very young age. Small children who are not yet able to help their parents in the field are entrusted with taking care of their younger siblings, and those who have reached the age where they are physically able to help contribute to the field's labour force (Plate 4.8). Nowadays, children are sent to school for education. However, they are still imbibed with the work culture spirit in the village and are expected to help their parents after school with the household work and in the field if possible. During the school summer break, which usually coincides with the peak cultivation season, the children are all expected to help in the fields.

In the past, after coming back, the male elders and young folks would usually gather around a place known as '*Tehuba*' (resting elevated place) and discuss general village issues, and the older folks would share their pearls of wisdom and stories with the younger generations. These places impart the village culture from one generation to the other. The young and old would sing songs, reminiscing about their lovers and day-to-day works and sharing stories. Women, on the other part, would start the kitchen fire to prepare food for the family, with the girls helping their mothers. However, times have changed, and we see this system being replaced by the complexity of modern gadgets and an attitude of detachment by the younger generation from the traditional values of the village. Today, when we visit any modern

Naga village, we can only see a few village elders sitting on the platform reminiscing their bygone days and life.

4.7. Division of labour system:

The tasks assigned to men and women at various stages depend on the nature of the work. Although the gender division of labour in rice cultivation is relatively flexible, there is no restriction on why a particular gender should be assigned to any work. Rather, the nature of the work depends on the physical strength needed. Rice cultivation is mainly considered a woman's domain, with women spending most of their time in the field and doing all the work that is considered tedious.

This system might also have resulted from our forefathers' traditional way of life. During the earlier days, men were entrusted with protecting the women and children from enemy attack. Even while working in the field, men would stand guard while women and the rest of the villagers would be busy with their work in the field. Table 4.10 shows the work distribution at Zapami:

Table 4.10: Work distribution at Zapami

1. Jhum cultivation

Nature of Work	Gender
Selection of site	Men
Clearing of site	Both
Burning	Both
Preparing the land	Both
Sowing	Women
Weeding	Women
Harvest	Both
Post-harvest and sorting	Both
Marketing decision	Both

2. Terrace cultivation

Nature of Work	Gender
Field preparation	Both
Nursery preparation	Both
Breaking Soil	Women
Cleaning irrigation channel	Both
Transplantation	Both
Weeding	Women
Harvest	Both
Post-harvest cleaning and sorting	Both
Marketing decision	Both

Terrace rice cultivation is labour-intensive and cannot be done individually. Like any typical Naga village, the village also has a peer group-like system known as '*Lezhie kro'* in the local dialect, whereby they help one another in their fields during cultivation season and other significant community events. This is still prevalent today in the present context whereby from the data collected from 99 respondent, it was seen that 51% still use hired labour in the fields and repayment was done by helping them back in their fields. These are comprised of both genders and help each other in need. This group can be within the family, age group, or friends and is not confined to any notion of a group system. It is considered a reciprocal system of labour exchange groups. One peculiar system noticed in this village is how the idea of *lezhie kro* is open to more than just the village alone. The village, located around the Zuketsa circle, consists of three main villages, i.e., *Lasumi, Leshemi* and *Zapami* Village. Since ages, these villages have always considered themselves to be one. They have always helped one another whenever one needed help. This system, which their ancestors started, continues till today. The most recent case is during the current cultivation season when 30-50 youths from the village gave a helping hand to the neighbouring village of Lasumi. Due to the late monsoon arrival in their area, they could not start their terrace rice cultivation process.[5] The Zapami villagers also shared their water irrigation resources with their neighbours. They helped them complete their field preparation for the season, which would otherwise have had disastrous effects on the village.

Presently, the rate for payment for hire in the fields is given based on a standard rate fixed by the village council. In the past, for hired work, payment was made mostly in terms of the reciprocal system of helping one another, which was in existence. Table 4.11 highlights the rate of payment given to the workers for hired labour in the field at Zapami.

Table 4.11: Hired labour cost

Gender	Rate (Rs)
Men	Above 500
Women	400-500
Children	300-400

During the agricultural season, hired labour is only for certain purposes and not in all seasons. The data collected (Table 4.12) shows that the highest labour use is during harvesting season at 34 % of the response (Fig. 4.4). This was followed by transplantation (29 %) and field preparation (16%).

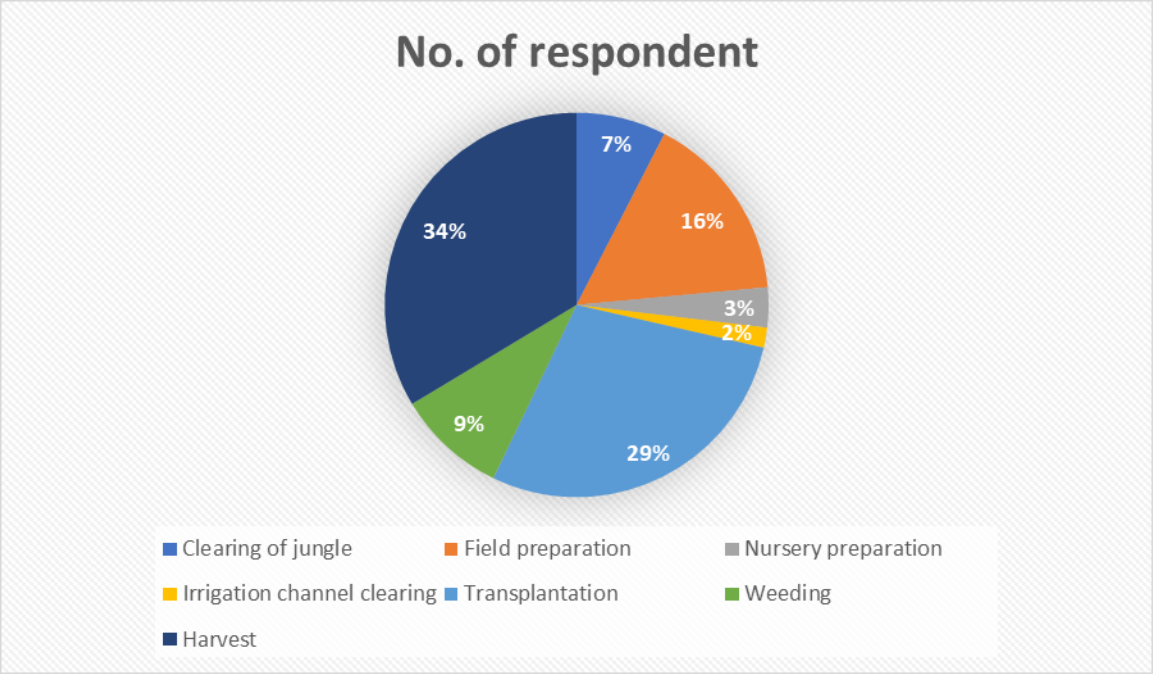
Table 4.12: Task specifications

Work	No. of respondent
Clearing of jungle	9
Filed preparation	19
Nursery preparation	4
Irrigation channel clearing	2
Transplantation	34
Weeding	11
Harvest	40

Cultivating rice among the villagers continues to have a strong hold on the agricultural system of Zapami. In recent years, many new varieties of paddy have been introduced, which has led to more yield in harvest. People have turned from quality to quantity, where more yield means better. This has led to, in one way, a decline in the use of traditional rice varieties whose yield is less than the newly introduced variants. The introduction of better road connectivity, access to markets, better seed variety, hired labour, etc., have, in one way, changed the lifestyle of the people and made their lives easier and more comfortable. However, it has also led to drastic changes in the lives of the villagers as they know it from the past. A negative effect of these changes, as pointed out by Mechimvü Kreo (Male, age 66 years):

> *People have become lazy and are now prone to many sicknesses and health problems we did not hear of during our forefathers' times. Our fathers and grandfathers hardly had any problems or sickness. They led a healthy life without any complaints.*

Figure 4.4: Percentage of respondents using hired labour in farming



End notes

[1] Interview with Zewekha Wetsah, 62 years, Village Council Member, Zapami Village, on 21/08/23

[2] Interview with Tewelehi Khutso, 58 years, Village Council Chairman, Zapami Village on 21/08/23.

[3] Interview with Zhiengulo Puse, 64 years old, Village Council Member, Zapami village on 21/08/23.

[4] Interview with Mechimvü Kreo, 66 years, Village Council Member and Zhiengulo Puse, 64 years, Village Council Member, Zapami Village on 21/08/23.

[5] Interview with Tewelehi Khutso, 58 years, Village Council Chairman, Zapami Village, on 21/08/23.

Chapter- 5

Women in Agriculture

5.1. Introduction:

Agrarian history is more than just a local history; it is an institution that has shaped the state and other social institutions. David Ludden (2005) historically defined agriculture as the social organisation of physical powers to produce organic material for human use. In simple terms, agriculture is also defined as cultivating soil to grow crops for consumption. When we look at the agricultural scenario, we find that though both men and women work together in the fields, the female role is no more or less than their male counterparts. Guite (2019) describes tribal society as a space where agriculture is their culture and agriculture as a space of escape for them. He further elaborates that the hill society is a space where there is equality among all individuals, an area where 'cooperation and reciprocity between all individuals are equal and a place where all individuals' freedom and equality are respected (Guite, 2019, p. xxxv). It is estimated that around 1.6 billion women live in rural areas and depend on agriculture for their livelihood. More than 60% of the food produced in Asia is also estimated to be made by women farmers (Women et al., n.d, p.1). It is also believed that close to 80% of Sub-Saharan African women and half of the Asian women work in agriculture and related activities. (Bullock, 1994, p. 22)

Agriculture is Nagaland's primary sector, with men and women engaged in various activities throughout the year. A glance at the state's demographic profile clearly shows that agriculture is a significant source of income for a large proportion of the population in Nagaland. While urban inhabitants work in various occupations such as government service, business, and so forth, rural people still predominantly rely on agricultural farming for sustenance. The multiple roles assigned by men and women are socially and culturally determined and influenced by traditional institutions, customs, and beliefs. Most societies throughout Northeast India are

patriarchal, with men dominating and controlling the majority of resources and considered superior to women. Traditional gender roles have a substantial impact on gender-societal relationships. Nagas being traditionally a warring society, in the past, men would go out for warfare. Women were left behind to take care of the households and domestic affairs. M. Swaminathan, a well-known agricultural scientist commented how some historians believe it was women who domesticated crop plants and helped pioneer the art and science of farming. While men went out foraging for food, women began gathering seeds from native flora and cultivating those of interest for food, feed, fodder, fibre, and fuel (as cited in Thangapandian, 2021)

Women are the management of the households and domestic affairs. F.W. Taylor (1911), the father of scientific management, notes that management is the art of knowing what to do, when to do it and seeing that it is done in the best and cheapest way. It is a method of turning things that are freely accessible without the intention of causing harm or destruction but instead into something beneficial and new. Women are biodiversity users, custodians, and managers, and they play an important role in terms of conservation. Their understanding of nature's ways is considered essential for mountain communities' food security, health, and overall well-being.

Agriculture is the mainstay of the local economy. Many women in villages are actively involved in strenuous work, particularly jhumming and terrace rice cultivation. Naga women are an essential part of the cultivation process and experts who manage household affairs at the family level (Niumai, 2015, p. 350). According to the Nagaland Census 2011, it is estimated that the distribution of workers in cultivation in Nagaland is 4,20,379, out of which the percentage of male and female cultivators were 49.53% and 50.46 %. In a comparative analysis of Nagaland State Human Development Report 2004 and State Statistical Handbook 2022, women's workforce participation in agriculture went from 38.2% to 42.8% in almost a decade and a half, showing a growth of 4.6 % (Nagaland Statistical Handbook 2022, p.10). The State Human Development Report 2004 and 2016 put around 70 % of the women in rural areas to be engaged in agriculture.

The 2016 Nagaland State Human Development Report states that in 2011, 59.76% of workers were involved in agricultural and related activities, 1.28 % in the domestic industry, and 38.95 % were other workers. In 2011, state employees comprised 9.37 per cent of the total workforce. These statistics highlight the agrarian nature of the state's economy. Notwithstanding this, agriculture in the state remains the main subsistence. Over the last few decades, the gender imbalance in labour-force participation rates has narrowed in rural and urban areas. In the districts of Phek, Longleng, and Kiphire, the Workforce Participation Rate (WPR) of both males and females is relatively similar. Tuensang has a male WPR of 56.33% and a female WPR of 43.66%, while Mon has a male WPR of 55.91% and a female WPR of 44.08%. Furthermore, the percentage of primary workers working in agriculture was significantly high in Mon (14.16%), Tuensang (9.91%), and Phek (8.58%).

Nagaland lies in the Northeastern part of the country. The terrain is mountainous, primarily having a typical monsoon climatic condition. There are mainly two types of agriculture practices in Nagaland: Jhum/Swidden cultivation or Slash and Burn agricultural practices, Terrace Rice cultivation, and Wet Rice cultivation, along with kitchen gardens, which are found in almost all households and managed by women mostly. Slash and Burn cultivation constitute more than 60% of farmers in Nagaland (NEPED,2006), while the rest are engaged in terrace rice cultivation and other crops. Boserup (2007) calls swidden cultivation a women's enterprise since they almost entirely managed the show, while men mainly felled the trees and spread them around on the ground for further burning (Boserup, 2007, p. 26). Aside from paddy cultivation, mixed cropping is an important activity in the shifting cultivation process, with many women in charge of crop planning, planting, and management. As a result, such multiple cropping allows women to incorporate different food varieties into their diet, promoting family food nutrition. Besides growing crops for food consumption, women also utilise the additional products to increase household income. They sell the excess produce in the local markets, which are mainly brought by the people living in urban towns and cities.

5.2. Traditional role of women:

Agriculture is a community-based practice in Nagaland whereby both genders participate, from the initial clearing of the jungles to the sowing and harvesting of crops. Almost all festivities in Nagaland revolve around agricultural activities, which are the mainstay of the people. In nearly all celebrations and customs, the participation of women is essential, which can also be seen by women being considered as a symbol of 'Fertility' among the tribes and their role in the festivities.

Nagaland has a rich linguistic tradition inhabited by different tribes with distinct customs and traditions. Sometimes, even within the same tribe among other villages, there are variations in languages, norms, and customs. The common underlying feature of all Nagas is that they are, first and foremost, an agriculturist. In his account, Fürer-Haimendorf (1933) describes how a Naga is so occupied that ninth-tenths of his thought and life is devoted to his field and the things which mean the most to him Naga deal with his agriculture. For the Nagas, land is a precious property; agricultural lands where cultivation and forest resources are available are considered the most important. Possession of both types of land by any individual symbolises that person's wealth and position in society.

In Hinduism, mother nature is known by different names, such as Prithvi or Prithvi Mata. She is considered complementary to '*Dyaus Pita'*, which means the Father Sky. Traditionally, the Nagas, before the arrival of the Europeans, the Nagas followed the traditional belief system of nature worship or animism. Nature has always been associated with feminine beings, such as mother nature. In the Naga concept of cosmology, the earth was considered the centre of everything that exists. The moon was designated the female deity among the Tenyimia group of Naga, the Phom and Pochury (Neinu, 2015, p. 140). The Naga agriculturalists across all tribes follow the lunar cycle for sowing. To them, the moon indicates when to start a plantation, the felling and burning of trees for jhum cultivation, sowing and harvest, and accordingly, all festivities revolve around it.

Almost all activities and festivities begin with performances of some rituals, invoking the blessings of the supreme being for better results and success of their untiring efforts. In a Naga village, all festivities and customs revolve around agricultural activities. Nevertheless, the adaptation of the Nagas to Christianity has

resulted in a transformation of these rituals and customs. They incorporated their customs and traditions within the fold of their new faith. Women's roles and positions in this have also undergone various changes. Even so, one aspect where her role has remained unchanged is her position in economic activities and the invincible labour input that she contributes to agricultural production.

Today, agricultural production in Nagaland is mainly rice-based in jhum and terrace irrigated fields. Jhum is practised by all Naga tribes, while terrace rice farming is more popular among the Angami and Chakhesang tribes. However, in recent years, with the government's initiatives, terrace rice cultivation are also introduced in other parts of Nagaland. Almost all festivities among the tribes revolve around their farming activity. When we examine the ancestral practice of Naga agriculture, all activities begin first with some form of ritual performed by the village priest or ritual head. The priest is called by different names in different tribes. Among the Chakhesang, he is called '*Mawo-o'* (Zehol, 1998, p. 70); among the Sumi, he is known as '*Awomi*' (Katholi, 2012, p. 4), while in the southern Angami of Kigwema, the priest is known as '*Zievo*'[1]. The village priest is consulted for the right omen to begin work in almost all-important village activities. He is also considered the custodian of the agricultural calendar of the village. The priest's wife from the Chakhesang community, '*Mawopi*,' helped her husband in all his activities. Likewise, the economic activity of the village begins with the start of the agricultural cycle, which usually starts with the eldest member of the village, usually a male, performing some offerings for the beginning of the agricultural cycle.

After selecting a site for cultivation (in the case of Jhum cultivation), which is usually the task of the male members of the village, the clearing of the jungles is done together by the men and women, with most of the 'heavy work' resting on men. However, when we say heavy work, we also cannot ignore the fact that women are mostly left to do most of the later menial work, which is more labour-intensive. Sometimes, there are minor intra and inter-regional variations. However, the division of labour between men and women are relatively similar. Almost all respondents from the selected areas and villages are of the opinion that women's participation and role in agricultural activities are no less than, if not more than, their male counterparts.

Women participate in every aspect of agricultural activity. From the burning and clearing of the jungle to the ploughing of the terraced fields, preparing for the sowing of the seeds till their harvest (Plate 5.1). Women are also tasked with the responsibility of the 'first reaper' during harvest time. In traditional Angami society, they were called '*Liedepfü*'(Yano,2015) and, among the Zeliang, as '*Ludeupui*'[2], which the oldest female member of the society usually performed. At the end of every agricultural cycle, harvest time is also one of the most important parts of the season. Among the Zeliang, it is usually the mother of the family or daughter who undertakes the first harvesting. The first blessing for the harvest among the Lotha is also done by the female member of the village, usually the oldest member. Until the first reaper completes the rituals, none is permitted to go to the fields to start harvesting. Such was the importance of women during the harvesting season.

Women usually conduct post-harvest activities like winnowing and cleaning the grains. Grains are re-stored in large baskets after the empty husks are separated from the heavy grain. After the harvest, almost all Naga tribes celebrated post-harvest festivals like the *Tokhu Emong* among the Lotha, *Ahuna* of the Sumi and *Ngada* of the Rengmas. These are all celebrated as thanksgiving festivals. Among the Lothas, during the Tokhu festival, a day specifically for the girls was celebrated in the month of Oct-Nov,[3] known as *Loroe Tokhu*. There is also the '*Tel khukhu'*[4] festival, which the people from the southern Angami village of Viswema celebrate. This festival, usually celebrated in July after the paddy plantation, is exclusively for the women and girls of the village. That it is celebrated after the most strenuous work in the field is completed indicates a form of honouring the women who contributed the most in the field.

Another important task performed by the Angami women is that of initiating the work in the field, known as '*Tsiakrii*' (Kelhou,1998, p.57). She also performs the task of sanctification of harvest, known as '*Ki Kenyii'* (Kelhou,1998, p. 58). Among the Chakhesangs, the sowing of seeds known as '*Tinyikechii khrii'* (Vitso,2003, p. 34) is usually done in March. This is done exclusively by the women of each household. The women of the village also perform a ritual before transplanting seasons begin. Only after the village priest (*Mawo)* and the women of the village are done with their rituals can the rest of the villagers start their plantation process.

However, this status given to women is not equal in all Naga societies. This revered position given to women differs from tribe to tribe.

An important task that women perform as agriculturalists is also the task of preserving the seeds for the next season. A good seed meant that the farmers would have a good harvest for the next season. Women farmers are also seen to be the custodians of knowledge of various types of seeds, cereals, fruits, etc. and agricultural practices. Women would carefully select the best seeds for preservation based on their expertise of years of farming and could not afford to make any mistake. A bad seed selection meant that for the next plantation, it would spell a disastrous harvest. The seeds selected for preservation for the next season would be dried under the sun or above the kitchen fireplace. In former times, women of a village would also exchange seeds with their neighbouring villages. In Longsa village of Mokokchung district, women would exchange seeds with their neighbouring villages from the Sumi tribe as well as nearby areas like Tuensang[5]. In a traditional Naga home and kitchen, in every house, the sights of corn and other crops for the next season are usually hung above the kitchen fire. The kitchen household is considered the domain of the women of the house. Paddy seeds for the next cultivation are also carefully selected by women farmers from the harvested crops and sundried on a mat under the sun. Seeds are then stored in bamboo baskets or small pots in the granary to be used for the next season. Sumi Krishna (2005) classified the cultivation of rice as a domain of women's knowledge. She attributes the wide cultivation of rice in the Northeastern region as a reflection of a woman's knowledge in preserving seeds and planting. Plates 5.2 to 5.5 highlight a few of the traditional methods of conserving seeds.

In Nagaland and the Northeastern parts of India, women are considered to be hard workers, and their work seems a never-ending process. From a very young age, women are taught the basics of household work and are expected to help out the family in the fields as well. From early dawn, their task begins by making a fire in the kitchen, cooking, taking care of the household work and then getting ready to go to work in the fields. Every woman in a traditional Naga society in the villages can be seen carrying a big basket on her head, also known as '*Mükho*' in Angami, '*Amutukho'* [6] in Sumi, etc… where she would be carrying all the types of equipment

and tools to be used in the fields for the day. Even after she was done with the work in the field for the day, a Naga woman's work was never over, while her husband/son would go and spend time with their friends in the 'Morung' or '*Dahu*' (Yano,2015, p.159). Women in Naga society carry out all agricultural as well as household work. But tribal customary laws are such that all properties are under the control of the male line.

5.3. Land inheritance and women:

Khatoli Khala (2012) describes gender disparity in the agricultural sphere, in particular the Sumi Naga women describing them as 'Invisible farmers', particularly in facing imbalance in access to property, protection, and justice. Article 371(A) of the Indian Constitution provides special protection to Naga customary laws and practices and other traditional institutions. As such, women, for a very long time in Naga society, have been more or less neglected by their male peers, and their rights denied and pushed back under the guise of this law. Tribal customary laws mandate that ancestral property be inherited through the male lineage. In the absence of male heirs, the paternal family takes over the property. Each Naga tribe has specific customary laws and regulations. Among the Ao Naga tribe, inheritance is along the male line, which the village body or *Putumenden*[7] strictly enforces. In a tribal society or any society, an individual status mostly depends on his/her contribution to the total growth and development of the ethnic unit concerned.

Women's role in the economic production of their families and households is further recognised by the status given to them in the agricultural production sphere. Women's role as the first reaper, harvester and without whom the feast giver could not perform his feast of merit highlights her position in her family's agrarian frontier. Recognising the role and importance of women in a family economic structure and her bearing of the family's workload, in some Naga tribes, land as inheritance is given to the daughters of the family. The land given are mostly agricultural land comprising of terrace fields, jhum fields, and sometimes forest lands, which are rare. Families who could afford to do so mostly gave agricultural lands to their daughters. The customary norms and regulations surrounding these lands, which were given to the daughters, differ from tribe to tribe. Nagas are a diverse tribe, with each tribe

having its customary norms, while cultural differences also arise from village to village regarding their social conventions and traditions. In recent years we also have cases of families giving agricultural lands and houses to their daughters as part of their inheritance. However, in this also, the land given was not ancestral but only those which were purchased by the parents (Shimray,2002, p.376).

The different types of agricultural lands which are given to women are:

1. *Gifted lands*: The practice of giving away paddy fields as gifts, known as *'Lüna'* (Vitso,2003), was seen in Khezhakeno village, whereby women held that land for seven generations. Vitso (2003), in her work on *Customary Law and Women: the Chakhesang Nagas,* also narrates a case where a woman from another nearby village known as 'Leshemi' bought a field along with her on her marriage and how it was reported to be still in the possession of her ancestors. That ancestral land was given to the daughters speaks volumes about the importance and revered position women were given. In the Tuensang district of Kutur village, women are also given lands as gifts which were known as '*Lümshe Jihkhe,'*[8] and for those families who could afford to do so, these lands are given as a permanent inheritance. The well-to-do families would also give lands to their daughters as gifts, as noted among the Rengma tribe of the Tseminyu village. In exchange as a token, the daughters of the family would give a small chicken as a fee for the land, which is given by the parents[9]. Land given as gifts is also observed to be in practice among the Southern Angami tribe of Jakhama.
2. *Land as dowry*: Among the Pochury tribe of Laluri and Shatüza Village, cultivable lands are given to daughters as gifts during marriages. These are regarded as her permanent property. There is another type of land which was given to the women after marriage known as '*Phichű*',[10] which would usually pass on to the son and not the daughter, and if there are no male inheritors, it would revert to the paternal family. The best cultivable lands are also given as bride dowry to the groom by her family at the time of their marriage by her parents. They are, however, not inheritable to her among the Phom tribe[11].

3. *Land as inheritance*: At Zapami village, daughters are also given agricultural lands, which are at her disposal to give to whomever they wanted.[12] As a token, when the mother of the family died, for the land which was given to her by her paternal family, the husband would usually give a basket of paddy to her male sibling. This was a form of acknowledgement as a type of payment to her family for the land which was given to her during her lifetime. Among the Sema tribe, lands is given to the daughters by their parents who could afford to do so, known as '*Angatsuvi*'[13] and '*Amhighi*'[14]. Lands given to her are at her disposal to do however she wanted. She could also pass on her land to whomever she wanted. Among the Chakhesangs of Zhavame village, ancestral agricultural lands were given to the daughters, which were known as '*Modumorao*' (Zhavame Village Council,2017). These lands were, however, to be returned to her paternal family after the completion of three generations. Similarly, from Kigwema village, lands which are brought by her parents could be given to their daughters as inheritance. However, ancestral land can never be given to her.
4. *Land for cultivation during lifetime of a daughter*: Another type of land which was given to daughters is known as '*Titilu*'[15], '*Alilu*'[16], and '*Asupha*'[17] among the Sumi tribe. This type of agricultural land, which is given to the daughter, would, however, usually revert back to her paternal family in the course of her demise. Among the Ao tribe, in some villages, lands which were given to daughters to cultivate as long as they were alive are known as "*Alushou*'.[18]

Another unique system found in the southern Angami region is from Viswema village. There are two types of lands which were given to the daughters, one which she could use as long as she is alive, known as '*Ophe*' and another which is given to her permanently, known as 'Thenomi ophe'.[19] These lands which are given to her are paddy fields as well as forest land. The second category of land that is gifted to the women was exclusive to be passed on to her daughters. Women are also allowed to inherit the land which is brought by their parents.[20] In practice, when we look at it, this is a kind of women's inheritance. However, it is generally called "gift" rather

than "inheritance". Thus, the practice of giving and receiving land as a gift is rooted in some of the Naga customs and can be found to be still practised today.

5.4.Gender division in agriculture:

Both men and women participate actively in agricultural activities. They are each designated multiple activities, roles, and responsibilities, though agricultural activities may sometimes overlap. The variety of responsibilities that are assigned to women in agricultural activities is seen to be frequently heavily burdened at times. Women's contribution to agriculture and rural economies is significant in many developing countries. Nagaland is no exception to this situation, where we find women in rural communities contribute more. There may be minor differences between regions or even within regions; however, the division of labour between men and women is relatively similar.

5.4.1. *Role of women in Jhum Cultivation*:

Agriculture in Nagaland, as stated earlier, consists mainly of Terrace rice cultivation and Jhum cultivation or Shifting cultivation. In Jhum cultivation, the first step involves the selection of sites which is mainly undertaken by the men of the village after consultation with the village council. In most of the study areas, clearing the jungles for cultivation is done depending on the climatic condition, usually from Dec- Jan. However, there are some variations in the districts of Longleng in the village of Yongnyah,[21] where it is stated that cutting of forest started as early as Oct-Nov, and December was the month of drying of the felled trees. Usually, this is done by the men of each family. However, in some areas, women also participated in this process, which was previously considered a man's domain[22]. Felled trees and shrubs are burnt after an interval of a few days. These serve as manure for the soil to increase its fertility. The branches of the trees are used for firewood, which is either sold to add to the family's income or used for their own domestic usage. While the burning of the trees is going on, women engage in helping their men folk control the fire and assist in preparing tea or food for the family. All villagers work together to slash and clear the fields, demonstrating the villagers' bond of cooperation and community

feeling. Collective work and cooperation in community service is an important aspect of village life.

After the burning of the trees and shrubs is done, the women are usually the ones who are involved in the levelling of the fields for proper distribution of the ashes on the soil for proper fertilization of the soil for sowing of seeds later. The next step, which involves the bunding process, is done by both males and females as it is a tedious and long process which cannot be done by one alone. Felled log woods and sometimes bamboo is used to make bunds along the contour of the fields called *Dedang* in the Zeliang local language. Depending on the size of the field, this process may last for a day or two or even more. Next, the construction of field huts is undertaken, which is usually the task of men. These serve as protection for the farmers not only from natural elements but also serve as rest places. Usually, jhum fields are located far away from the villages, and during peak season, the farmers prefer to sleep in the fields rather than return to the village to save time and energy. Besides the field hut serving as a rest house, they also cook food, demonstrating that their domestic routine extends beyond time and space.

As stated earlier, the next agricultural activity, and the selection of seeds for planting, is usually the task of women. They have the best traditional knowledge for the selection of the best seeds for planting, passed on from generation. While men dig and sow seeds, women follow behind and cover the tiny pits with soil using a rake or spade. Thus, we find that there is a harmonious division of labour. During this operation, women would sing work songs that energise and encourage men and women to continue working. The most tedious and important work is the weeding, which occurs between the plantation and harvesting. This is usually initiated by women who regularly visit the jhum fields.

After the entire process is completed, harvesting of the jhum crops usually occurs between August to September, depending on the area. While we find that harvesting and storing of grains are usually done equally by both genders in most of the study sites, among the Sumi tribe, there are

some indications of a division of labour whereby men would cut the paddy and women would thrash the paddy into their baskets which is called '*Amutukho*' (Sumi dialect), during the early days. However, in the present day, there has been equal participation of both genders in all activities.

The next step, which involves cleaning and winnowing, is also usually done by the women. After the cleaning, the women usually store the grains in the field hut. Depending on the field's distance to the village, the harvested paddy is stored in the granary in the villages. In the olden days, women and men together carry the paddy in baskets back to the village. However, with improved transportation facilities and better road connectivity, the harvest is now carried by lorries to the granary. Husking the paddy into edible grains was done manually in the past by pouring the grain into a large wooden mortar (called *Hepa* in Zeliang and *Thsakhűk* in Sangtam). Women were the only ones who participated in this activity. However, most villages now have rice mills that do the husking.

5.4.2. *Role of women in Terrace cultivation*:

The Angami, Chakhesang, Zeliang, and Rengma tribes of Nagaland usually practise this type of cultivation. It is a settled form of cultivation with the fields generally located near a water source. It is usually considered labour-intensive, where both genders participate in the cultivation process. Work in the terrace fields usually starts around Feb-March, with both genders involved in ploughing the soil in preparation for the monsoon rain. Announcements for the work is usually conveyed by the village priest in the olden days. Today, this role has been replaced by the church. With the arrival of the rain, on a designated day, which is announced by the village council, the villagers begin with a day to clear the water channel path, which is also known as '*Helau Teimei Tingba'* (Zeliang). In this, both genders are found to participate equally in the water channel clearing process. The next step, which is planting the seeds for the transplantation

process, is usually done by the women folk on a hillock above the terrace field or nearby area.

By the month of May-June, the paddy sapling is ready to be transplanted into the paddy field, which has been soaked with water. Here, women are usually found to be involved more in this process (Plate 5.6). Men also help their counterparts in this process (Plate 5.7). The next step is cleaning and weeding, which is usually the task of women again in terrace fields. Women engaged in weeding 2-3 times before the paddy ripened for harvest. In the olden days, during this time of weeding process, men go out to earn money in order to buy salt and other goods. Harvesting of crops usually begins by the month of October, lasting till November in some places. Both men and women equally participate in the harvesting process. Winnowing and cleaning are done mostly by women, while men would help their counterparts to carry the paddy husk to the village granary on the day itself or the next day, depending on the distance of the field to the village.

In terrace cultivation, otherwise known as '*Lokhulo*' (Chakhesang dialect), the involvement of women labour force is found to be more supported by more than half of the respondents from the terrace cultivating villages. We also find that the whole family as a unit also provide the labour force required for the cultivation. The women folk, generally the mothers and daughters of the family, are the ones involved in the most tedious part of the cultivation process, beginning from the pounding of the soil with feet and stick to the cleaning of the husk and pounding the rice for consumption.

In the agricultural cultivation process, the significance of women's involvement is paramount, as their contributions throughout this endeavour are exceedingly substantial. As a result, the allocation of tasks in different agricultural tasks highlights the visible involvement of women in labor. The engagement of women in agriculture is a crucial factor in understanding their social and economic standing in rural families. Additionally, their involvement serves to underscore their economic contributions to the household. Throughout history, women have played a

fundamental role in the socio-economic structure of agriculture in Naga society, irrespective of their biological constraints.

End note

[1] Interview with Mosa Yokha, 76 years and Kavi Yokha, 81 years, retired teacher, and farmer, Kigwema village, Kohima district on 08/02/20.

[2] Interview with Heijumbuing Lungalang, 68 years, retired Headteacher, Benrue village, Peren district on 23/02/21.

[3] Interview with S.Chumdamo Ezung, farmer, Wokha town on 17/04/19.

[4]Interview with Kerinoleno Pucho, 50 years farmer, Viswema village, Kohima district on 14/09/19.

[5] Interview with R.Lanusungkum Jamir, 85 years old, retired teacher, Longsa village, Mokokchung district on 04/06/22.

[6] Interview with Nahgipu Swu,72 years, Village council Member, Lazami village, Zunhebhoto district on 13/02/21.

[7] The term "putu menden" can be interpreted literally as 'generation seat', signifying the selection of a group of individuals or a specific age cohort to serve as representatives in the governing body for a designated timeframe, typically around 30 years. In contemporary society, "putu menden" is commonly recognized as the village council or village government.

[8] Interview with J. Shokum Yim, 87 years, G.B, farmer, Kuthur village, Tuensang district on 21/11/19.

[9] Interview with Yhunsinlo Khing, 73 years, farmer. Ex-Chairman, Tseminyu village, Tseminyu district on 23/04/19.

[10] Interview with Sipiru Pfithu,73 years, ex-V.C, farmer and Apele Trakha, 54 years, VDB member, Farmer, Hutsu village, Phek district on 15/05/19.

[11] Interview with Punga Angh, 69 years and Chingkam Chingkung, 46 years, farmers,Pongo village, Longleng district on 23/09/19.

[12] Interview with Zelou Wetsah, 65 years and Ditsolo-ü Khutso, 66 years, farmers, Zapami village, Phek district on 22/06/19.

[13] Interview with Pisheto Achumi, 75 years, farmer, Nunomi village, Zunhebhoto district on 07/03/20.

[14] Interview with Johan Wotsa, 67 years and Ahovi Swu, 49 years, G.B., farmers, Ghokimi village, Zunhebhoto district on 10/02/21.

[15] Interview with Inakhe Achumi, 86 years, farmer, Ighanumi village, Zunhebhoto district on 11/02/21.

[16] Interview with P. Saluvi Swu, 55 years, Naghipu Swu, 72 years and Mixeni Tizi, 70 years, farmers, Lazami village, Zunhebhoto district on 13/02/21.

[17] Interview with Akhalu Sheqi, 85 years, G.B, farmer, Mishilimi village, Zunhebhoto district on 12/02/21.

[18] Interview with Yashikaba Jamir, 65 years, farmer, ex-chairman, Longsa village, Mokokchung district on 04/06/22.

[19] Interview with Pusovilie Kraho, 63 years, farmer; Viswema village, Kohima district on 14/09/19.

[20] Interview with Daniel Khiki, 84 years, Ex-Village Chairman and farmer, Viswema village Kohima district on 14/0919.

[21] Interview with M. Lipen, 40 years and Chumyang Phom, 46 years, farmers, Yongnyah village, Longleng district, on 22/09/19.

[22] Interview with S. Chukhum, 52 years, Council Secretary, Kuthur village, Tuensang district on 21/11/19.

Chapter- 6

Discussion and Conclusion

Agriculture is a multi-layered occupation that supports food production, economic stability, and sustainability of the environment. Agriculture can be regarded as the art and science of cultivating the ground, cultivating crops, and domesticating animals to produce food, fibre, and other products. On this, V. Gordon Childe (1936, p.74) describes the process of agriculture as the first revolution which allowed man to transform his economy giving him control over his food supply. For the Nagas, from time immemorial, they have not known any other type of sustenance. It can be considered that it was only with the arrival of the colonial administrators to the region that they were introduced to the idea of agriculture as more than a form of sustenance. Cultural development encompasses knowledge, beliefs, art, morality, law, customs, and abilities acquired through society. The Nagas, as traditional agriculturist, have a rich cultural heritage passed down through generations, including their lifestyle, religious beliefs, traditional legal systems, communal arrangements, dietary preferences, and daily social interactions. Their agricultural system reflects their culture, community engagement, social structure, and oral backgrounds. Agriculture is the main source of economic sustenance for the Nagas, who use basic techniques to utilize the ecosystem. Despite being considered primitive in cultivation, the Nagas are self-sufficient in their social units, relying on their cultivation for self-sufficiency and trading for necessities.

The advent of the colonial British power into the Naga hills in the aftermath of the Treaty of Yandabo in 1826 brought about an immense transformation to the socio-political and cultural sphere. One such crucial effect which was seen was in the agrarian landscape with the change in agricultural relations and systems. Agriculture for the Nagas is not only a way of life but it is embedded deeply into the core of the society. Pre-colonial agricultural system was marked by various rituals and ceremonies which were performed by designated members of the village. The types of crops grown by the people were also reflective of their social system and culture.

For the Nagas, every festival or celebration is centred around their crop calendar (Das,2022, p.62). The arrival of the missionaries into the Naga Hills is also regarded to have greatly affected the traditional economy of the village which was based on the principle of a communal redistributive system and their crop calendar.

In the context of the above discussion, this research examines the agricultural practices of the people, particularly the traditional Naga agrarian system and structure. An attempt is made to study the changing agricultural patterns that came about with colonisation in the Naga hills and the changes observed in the practices. Consequently, this study examines the agricultural practices in Nagaland, the corresponding cultural traditions, and the progress attained within this domain, and a preliminary attempt is made to understand the lexical terminology used in agriculture from a historical perspective.

Agricultural scenario in Nagaland:

As seen among the Nagas, the agricultural practices of the people, there are mainly two types of cultivation- Jhum/ Swidden and Terrace rice cultivation, along with Wet Rice cultivation. In Nagaland, 70% of the arable land is used for the indigenous farming method known as jhum, or swidden cultivation. Established in 1970, the Nagaland Jhumland Act recognizes its deep roots in traditional agroforestry. Archaeological evidence points to jhum cultivation preceding the terrace. Botanical evidences unearthed from various ancestral sites in Nagaland suggest that subsistence agriculture can be traced back to the late first millennium BC through the second millennium AD, whereas terrace farming is perceived as a response to the escalating demographic pressures on limited resources, compelling communities to embrace innovative agricultural techniques alongside the integration of novel crop varieties. Predominantly featuring indigenous wild and cultivated rice and millet species, the remnants of *Oryza* sp., *Setaria* sp., *Echinochloa* sp., and leguminous cotyledons discovered at the New Phor (NPHR) Burakha site, dated between 30 BC and 60 AD (which is currently regarded as the earliest Naga ancestral site), signify the initial utilization of rice and millet in conjunction with legumes, whether through collection or agricultural practices (Pokharia *et al*., 2013, p. 1351).

Jhum cultivation in Nagaland is found to be commonly employed in regions characterized by challenging topography that hinders water accessibility, unlike the more easily accessible water sources found in terrace cultivating areas. This environmental adaptation has enabled the villages to practice this method of cultivation to cater to their own specific cultural needs. In the context of cultural-ecological adaptation, Steward (1973, p.38) clarifies his fundamental argument regarding 'cultural ecology,' highlighting that it is more concerned with the application of technologies across varied contexts than with the simple distribution of these technologies, which in turn shapes the distinct social structures characteristic of each environment.

Among the major terrace-cultivating communities like the Angamis, Chakhesangs, Zeliangs, etc, jhum cultivation is relegated to a secondary position due to the fulfilment of rice needs through terrace cultivation, thus assigning a supplementary role to jhum fields in supplying additional food crops as also observed by Cairns (2007, p.411) while conducting his study on the alder-based agricultural system of the Khonoma Angami people. Considering that the agricultural cycle is initiated earlier in jhum fields than in terrace fields, the resulting harvest occurs much sooner, ensuring the timely provision of rice as the reserves from the previous year are being depleted. Traditionally, for the upland hill areas like the Ao, Lotha and Eastern Nagas, jhum cultivation is their main way of sustenance.

The study carried out reveals that the rotation of the jhum fields in the dominant jhum cultivating villages (particularly among the Trans-Dikhu-Doyang group) as evident is influenced by two main factors:

1. Availability of land for cultivation
2. Labour force needed for cultivation

Villages with larger land areas exhibited a higher prevalence of jhum cultivation compared to those with smaller land sizes. The abundance of land resources facilitated increased agricultural activities and enabled mobility between different regions. Additionally, the presence of a substantial labour force played a crucial role in the promotion of jhumming. Communities where most individuals were dedicated to agriculture on a full-time scale significantly contributed to the maintenance of the jhum system. The traditional practice of jhumming necessitated the collaborative

efforts of multiple labourers, with additional support provided by family and clan members. It operated on the fundamental principle of communal collaboration and fosters a mutually supportive relationship, providing help to one another. The longevity of traditional Naga agrarian philosophy and social life within their society was maintained by implementing jhum and terrace cultivation methods.

However, as a consequence of the younger people's migration from rural areas in pursuit of educational and employment opportunities, a substantial segment of the workforce is declining from the village. With a diminished labour force, the villagers are unable to cultivate larger areas of the jhum fields. As a result, they have opted to focus their agricultural efforts in close areas where access to the fields are more convenient and requires less labour and time, thereby reducing the duration of the jhum cycle. This phenomenon is corroborated by studies conducted in the Northern Angami villages of Nerhema and Chiechama. A salient characteristic feature to note in these villages is that alongside jhum/swidden cultivation, terrace rice farming also constitutes a significant agricultural practice, and the geographic positioning of these villages can be classified as semi-urban. In relation to the examination regarding the reduction of the fallow period, it is also noteworthy that the length of the fallow period varies between the more remote rural regions and those areas identified as semi-rural. Drawing from the data compiled and presented in Chapter 2, Table 2.1, it is evident that the fallow period in Longsa (Wokha) village has diminished from 20 years to approximately 6-7 years, while in Nunomi (Zunebhoto village), the fallow period has experienced an increase from 10 to 15 years.

Jamir (2005) following Boserup's theoretical framework concerning the interplay between population density and technological advancement, argues that the reduction of the fallow period is a consequence of demographic pressures, as increasing population density would intensify the necessity to diminish the fallow duration, potentially prompting the community to adopt an innovative agricultural system. This phenomenon may have similarly transpired among other tribes where terrace rice cultivation is prevalent. Within the principal societies engaged in terrace cultivation, the transition from swidden agriculture, which is regarded as the rudimentary form of agricultural practice in the region, to both dry and wet rice cultivation may have been compelled by the pressures imposed by population density

on land resources and the diminishing availability of arable land during course of migration (Jamir, 2005, p.220)

In the Naga society, the knowledge of terrace cultivation has been passed down for generations and has remained relatively unchanged. Terrace fields are permanent features of a village and have been cultivated for generations The task of maintaining the irrigation channels which constitutes the most important part of the cultivation process in terrace rice cultivation is rooted in the cultural practices of the rural communities as observed from the case study undertaken in Zapami village, which has been practising this form of cultivation since the foundation of the village. Each terrace cultivation society is based on the principle of communal reciprocity. Conventional agricultural practices among the Nagas traditionally primarily rely on manual labour with minimal utilization of livestock. The recent trend, however, indicates a gradual adoption of machinery by farmers in their agricultural activities. This can be regarded as an outcome of the initiative which was taken by the State government to improve agricultural production in the state. Following the formation of the State Agricultural Department subsequent to the designation of Nagaland as the 16th State, the Nagaland State Agriculture Department has delineated the mechanization of agriculture as a pivotal strategy aimed at enhancing the welfare of the agricultural community (Nagaland State Agriculture Department,2024).

On the other hand, traditional conventional methods which the people have applied have helped sustain their village society and economy for decades. One ideal example of this is the '*Zabo*/ *Rüza*' (Plate 6.1) system of cultivation which is a characteristic of the terrace cultivation practices found at Kikruma village which constitutes one of the Chakhesang Naga (one of the major terrace cultivator communities). Indigenous knowledge is crucial in tribal communities for being self-sufficient and resource preservation. This traditional knowledge of agricultural methods has helped to assist the community in developing an ideal compromise to meet the needs of the people while also addressing issues of environmental concern and meeting the needs of future generations. As Boserup (1983) articulates the significant impact of motivational factors on the inclination for innovation among individuals and societies confronted with heightened demands arising from the

diminishing availability of land and natural resources in contexts of population growth. She further argues that the technological advancements would consequently lead to additional demographic transformations, which would subsequently provoke further technological innovations. The spread of crucial advanced technologies may act as a means to reduce or eliminate the issues linked to a decreasing proportion of natural resources in the population (Boserup, 1983, p.5).

The *Zabo/Rüza* uses a system of land excavation during March and April to accumulate water during the monsoon season. A *nullah*, a drainage mechanism, is unearthed from the mountain, channelling water to a catchment area called *Dzülücho*. The water reservoir, called *Rüza*, is excavated above agricultural fields to transfer water to the fields. These ponds serve as reservoirs for water accumulation and habitats for aquaculture species. Traditional materials include spades, logs, bamboo screens, straw, and mud. Each *Rüza* is owned by a specific family or clan, promoting kinship and social relations. Water is released during paddy cultivation. The pond collects water for irrigation, rearing fish, and planting vegetables and fruits. Villagers also allow domesticated animals like buffaloes and cows to use the reservoir for drinking and cooling. Cattle dung serve as manures, increasing soil fertility and production (Plate 6.2). This system supports people and the environment, with higher paddy yields compared to other fields. The *Zabo* or *Rüza* system, developed by village elders, is a unique and sustainable agricultural system that has met immediate needs and ensured a balance with the environment. It has become a unique part of the village's history and should be adopted in other areas facing similar agro-climatic conditions.

Role of tools and equipment in agriculture:

Tools and equipment have historically assumed a pivotal role in agricultural practices and have functioned as instrumental mechanisms within the economic sphere. Both modes of cultivation employ the iron hoe referred to as *Kapfü/Küdi/Hepeu*. Traditionally these tools/spades were made from wood and the scapula of Mithuns/cows which were then replaced by iron (Stoner, 1949, p.133). A salient feature that is identified in both jhum and terrace cultivation is the perception of agricultural implements such as the iron hoe and *dao (Nohtsamüri*: a type of dao used by the Sangtams for buying Mithun), which are regarded not merely as tools for

cultivation but also as entities imbued with economic and cultural significance. Oral history of the Konyaks and Aos narrates about the exchange of items like handicrafts goods and agricultural items for metal from neighbouring areas like Assam and even Myanmar. Even among the Aos, metal (*Dao/Nok*) was used for barter with the neighbouring tribes of the Sangtam with salt which they did not possess. These implements were employed not only as a medium of exchange but also, as evidenced in Zapami, the *dao/za* served as a tool for negotiation and barter in the context of disputes. This aspect of the employment of agricultural implements transcends their function as mere tools and can similarly be noted among the dry upland cultivating tribes, where such implements serve as a status symbol within the agrarian social hierarchy of the village. This has been exemplified by the evidence of the *Merpang dao* (Plate 2.34) which was used by the Pochury Naga community from Laruri village. Initially, the ownership of the *dao* was usually vested with the chief of the clan and village who was considered of higher status and the rest of the village would sometimes borrow or rent it for use in their agricultural activities.

Agrarian structure in Nagaland:

The Naga village agrarian structure works on the principle of a reciprocal system of labour, where the members are expected to help each other during the peak agricultural season. Every Naga child residing in the community is anticipated to assist their family both in agricultural tasks and household chores from a tender age. They receive early exposure to fundamental fieldwork techniques while accompanying their parents to the agricultural fields. Neinu (2015) describes this reciprocity as an enduring and lasting relationship based on the act of returning kindness in return for the kindness shown.

Malinowski (1932) observing the natives of Trobriand of the western Pacific entails that the whole of tribal existence is filled with a continuous exchange; whereby each ceremonial event, alongside every legal and customary action, transpires in conjunction with the presentation of material gifts and their reciprocal counterparts; it follows that wealth, both conferred and received, constitutes one of the principal mechanisms of social organization, underpinning the authority of the chief, the bonds of kinship, and the relationships governed by law (Malinowski,1932,p.167). Sanglir

(2023) on the other hand describes this reciprocal system of labour found in the hills as a response to the difficulties associated with the hilly terrain. The societal structures have led to the formation of various types of reciprocal labour forces. The socio-economic dynamics that manifest is marked by cooperation and reciprocal aid among individuals, consequently ensuring the prevention of exploitation of one individual by another.

Taking into consideration the major terrace rice cultivating villages, Zapami demonstrates such a social set-up of agrarian structure, where we find three types of reciprocal aid systems, i.e., *Lezhie kro* (*Lezhie* meaning exchange of labour/kind and *kro* meaning group), *Lothrami* (*lo* from *Khulo* meaning field and *thrami* meaning a peer group going together) and *Kethruhi* (volunteer workers/labourers helping people in need). *Lezhie kro*, or age groups, remain an essential part of the village social structure, despite almost a quarter of the village youth moving out for better education and job prospects. These groups, including *khel*, village, and church youth, play a crucial role in social life and may offer services for rent during cultivation and form an important part of the village kinship bond and social relationship. Another form of this reciprocal form of relation could also be seen in the feast of merit which a couple gives to their fellow villager. West (1985), in his observation of the Nagas' concept of status in society in the 19th century, reflects that the status and position achieved through the concept of the Feast of Merit and the individual level of prosperity was done through giving it back to the society via this ceremony. Cultural rituals associated with status acquisition, particularly through feasts of merit, noticeably aided in the circulation and redistribution of resources, leading to the cultivation and sustenance of a defined level of social stability among the people. Moreover, it also functioned as a mechanism for transforming material wealth into social prestige and respect through the visible display of an individual's generous inclination (Aier,2008). Wunderlich (2020) further asserts that the feast of merit can be understood as a mechanism for the redistribution of resources and the promotion of social equity, which can only be realized through an enhanced level of cooperative behaviours that strengthen the ties of mutual assistance and reinforce the affirmation of social interconnectedness among the principal social units within Naga communities; rice stands out as one of the essential resources that facilitate this process (Wunderlich, 2020, p.142).

Historically, wages for labourers were given in paddy-filled baskets following the harvest season, with the number of baskets differing from one village to another. The introduction of currency led to a shift towards monetary remuneration for labour services. Thus, based on the study conducted it can be concluded that there are mainly two types of wages in the Naga traditional agricultural setting:

(i) Wages disbursed for labour through the utilization of measuring containers filled with paddy.

(ii) Wages paid in kind through feasts, animals, reciprocal systems, etc.

From the case study conducted in one of the major rice cultivating villages, of the total respondents, 80% agree that the growth of horticultural and cash crops has not diminished the value and role of paddy cultivation in the village. The storage of rice in the granary (*bou*) continues to be seen as a form of wealth and security in the village. As Zewekha Wetsah (Male, 62 years) maintains, 'Money comes and goes, but rice stored in a granary lasts for years.'

The level of prosperity of an individual could increase or decrease depending on his level of achievements in the fields of warfare where the warrior would take the enemy head as a war trophy, as well as his wealth, which was measured in terms of grains in his granary. The argument put forth by West (1985), while notably longstanding in contemporary discourse, may still be evidenced in the persistent significance of the *Bou* as a symbol of affluence and stability within rural communities. This status is not inherently assigned but is instead attained through the diligent efforts exerted in one's agricultural endeavours. Rice as one of the major cultivated cereal crops among the Nagas serves as not only a component of this process but is also regarded as a symbol of wealth, particularly among the terrace rice-cultivating society. This view can be considered a common feature of all cultural groups. Malinowski (1932, p. 64) also records such practices among the natives of the western Pacific where the village chief's of the village wealth was counted from his full storehouse of yams. Neli (2021), in her research on the Angami Naga community regarding the standing and symbolism associated with rice, articulates that the prestige attained through the execution of the feast of merit is not solely conferred upon the individuals who arrange the feast; rather, the village also acquires a certain degree of

renown contingent upon the number of individuals who undertake the organization of the feast.

A noteworthy feature in the traditional agrarian system was how the First Sower (*Tsakrü*/*Yangthanpü*) and First Harvester (*Liedepfü)*, were also paid with baskets of paddy which were collected from the people as a way of payment for their services. In the present context with the people adopting the Christian faith, this has been replaced by the 'ten tithes' offered to the Church according to the Christian principle. These are utilized in events held by the church, including but not limited to the Christmas and New Year festivities, which are conducted in a communal setting, alongside other occasions. The remaining portion is sold of which the revenue are directed towards the maintenance of the church and other needs. Furthermore, the initial yield or produce of all agricultural crops is presented as an thanksgiving to the church before the individual farmer consumes it.

A Naga whose being is entirely impacted by the communal framework of the village is part of a bilateral and reciprocal system of mutual aid that is functionally interdependent. This can be seen in the workforce agrarian structure in the Naga villages. Both types of cultivation methods involve a laborious workforce, which the family, clan, and village supplement. Helping family members and neighbours who could not finish theirs on time is a common sight in every Naga village. The family represents the foundational unit within the Naga agrarian framework, succeeded by the clan and village. In the past, children, by the time they are able to hold the spade or *dao*, are taken to the fields by their parents to learn the task and knowledge of how to grow and have a bountiful harvest from the fields. The scenario today, however, has drastically changed. The process of development and the subsequent migration of individuals to urban areas in search of professional employment opportunities are identified as contributing factors leading to the abandonment of agricultural practices and the decline in the labour force, forcing many to abandon even their fields for cultivation. At Jakhama village, Pukoho, 90 years old, articulates his apprehensions by highlighting the declining trend in childbirth. Previously, families would typically have between 9 to 10 siblings, bolstering the workforce available for agricultural activities. However, the current generation tends to have only around 3 children. The

primary focus has now shifted from imparting knowledge of agriculture to the younger members of society towards ensuring their access to education and better livelihood. Consequently, there arises a legitimate concern regarding the transmission of traditional agricultural wisdom and cultural heritage to future generations, particularly once the current groups of elders have passed on.

Festivals and rituals:

The various festivals and rituals conducted by the Nagas exhibit significant diversity across different tribes. These ceremonies are typically undertaken following each agricultural endeavour primarily to pacify the spirits, thereby ensuring favourable crop yields and mitigating potential natural disasters affecting both the population and their agricultural produce. Additionally, thanksgiving festivals are observed as a method of expressing gratitude towards the deity for a prosperous harvest. Moreover, these celebrations provide an avenue for villagers to reciprocate to their community members for the generous yield. In contrast to other rituals that have been predominantly forsaken due to the influences of modernization, the tradition of the inaugural harvester among the Chang Naga referred to as *Amimpungpou,* remains firmly entrenched in the practices of the villagers. This tradition may have functioned as a mechanism for the community to safeguard and sustain their agricultural responsibilities and roles, particularly in reinforcing the agrarian social structure. Although the Church has now taken over the responsibilities previously held by them in many of the Naga agrarian structures, the *Yitsuthü* clan (Pochury) still holds the responsibility regarding the designation of new jhum field locations. The community persists in placing their trust in this traditional practice, which endures to the present day. It may be interpreted as a concerted effort by individuals to integrate their cultural practices into the framework of modernity and the transformations that have occurred.

Festivals and rituals within the traditional Naga community exhibit a high level of interrelation. According to Jacobs (2015), “the Naga people's faith in the presence of spiritual entities and deities, as well as the ceremonial practices conducted to pacify them, are perceived not as direct influences but rather as attempts to petition their favour to enhance fertility, be it for agricultural purposes or other reasons.” Each ritual and festival celebrated is done to appease the spirits to ask for good vegetation and

harvest. The cultural activities and life traditions of the Naga are supervised by a designated leader or guardian, highlighting the significance of preserving their customs and traditions. A common underlying feature which can be observed from the traditional rituals and festivals followed is how the selection of the designated leader or guardian is carried out. The village-designated guardian is selected from revered elder members of the society based on certain criteria laid down, like age, wisdom, fertility, etc. The agricultural practices of the Naga people and their deep connection with the environment have been pivotal in moulding their cultural identity, as exemplified by the incorporation of Indigenous knowledge systems for the communication of religious and cultural beliefs.

Indigenous knowledge and socio-economic system of cultivation:

The indigenous knowledge of the people can also be observed in the way with which they are well accustomed to the knowledge of where what variety of rice grows well in what type of environmental condition. The cultivators understand temperature variations in terrace fields, identifying rice varieties that thrive in colder or warmer areas. Cold-tolerant varieties are sown near irrigation channels where the water from the channel meets first. Glutinous varieties require higher temperatures and longer maturation, hence, rice varieties like *Mena be* and *Kerebe* which are glutinous rice are grown in warmer water in the terrace fields. Even in the upland cultivation, farmers have been able to ascertain what variety grows best in what areas. This knowledge which has been passed on for generations sustains even today in the present. This is observed in Pongo village (Phom Naga) in Longleng district. One of the respondents on enquiry narrates how a farmer is so well accustomed to his field and crop that depending on the soil condition of the fields as well as the compatibility of the rice variety with the person, the villagers would choose and cultivate the paddy accordingly. Punga Angh, one of the respondents, comments how he only cultivates *Khupthuk* mostly as he feels it suits his land and him more. Even though there are different varieties of rice available in the village, he prefers only this variety.

In the agrarian framework of the Naga community, rice constitutes the predominant crop, although supplementary crops such as millet and Job's tears are also cultivated. This assertion is corroborated by archaeological excavations conducted in

New Phor, Chungliyimti, Khusomi, Khezhakeno and Phor which have yielded pieces of evidence of *Oryza* sp. (cf. *sativa*, *officinalis, rufipogon*), *Setaria* sp, O. *sativa* and *Setaria* sp (Pokharia, *et.al.*, 2013, p. 1346, Jamir, *et al.*, 2014, pp. 627-628). From Nokpu village (Ao), Walling (2016;2023) also documented the existence and utilization of both wild rice species *Oryza* sp. (cf. *nivara*?); *Oryza* sp. (cf. *rufipogon*), as well as the domesticated variety *Oryza officinalis*, in conjunction with millet (*Setaria* sp.) (Walling, 2016, p. 239: 2023, p. 81). The empirical evidence indicates that the Ao Nagas engaged in the cultivation of both wild and domesticated rice, in addition to millet, despite a lack of comprehensive scrutiny of their subsistence strategies.

Cropping in combination with other crops is also typical in many of the Naga agricultural systems. Planting of millets, Job's tears, upland rice and *Colocasia* (taro) are a common feature in the fields. Among the upland cultivating tribes, millets, and Job's tears along with *Colocasia* are their main dietary component. For the ancient Chinese too, rice constituted their main staple crop along with millet which was considered a delicacy. In Northern China, during the Han Dynasty millet was the staple crop grown while rice was said to be grown particularly in Southern China which was necessitated by the topography and environmental factors (Sinclair *et al*., 2010, p.91). On this, Mintz (2008) argues that a culturally specific food system is formed within a specific territory, with specific seasons, flora, fauna, soils, topography, hydrology, local technologies, tools, and labour divisions, affecting the production process. If this is so, it might suggest that cultures sharing similar food patterns and traits might share some ancestral origin. Neli (2022) also posits that the discourse clarifies the concept that similar cultural traits observed within a shared geographical region may signify a common origin and that this consistency among cultural groups could be ascribed to the integration of components from neighbouring societies.

Rice is not only considered a form of diet of the people in traditional Naga agrarian culture. But it signifies a much broader area, the cultivation and consumption of rice goes beyond. As discussed in Chapter 2 on agricultural practices, whereby the study revealed how rice is given/called different lexical names based on certain characteristics like typology, provenance, community affiliations, morphological traits and first cultivators. Rice names indicate the place, tribe/people, and areas where it is

grown best. The lexical meaning of the words used to term the varieties of rice grown by the people also indicates some preliminary origin of the crop. Among the Konyak Naga tribe, their primary subsistence pattern is jhum, while terrace is considered as a new initiative. This can also be highlighted by the lexical word used to call a particular variety of rice which is planted by them, *Chi shah.* The word 'Chi' is called 'water' and *Shah* means 'rice'. Hence *Chi shah* is the variety which is grown in wet terrace fields, considering that the Konyaks traditionally are jhum cultivators, this variety probably has been introduced to the region with the introduction of terrace rice farming. The practice of naming rice also points to the deep relationship that the Nagas have with their environment. Names like *Khuniechü Rü* which is one of the oldest varieties of rice grown in Zapami village, translate to 'Insect rice', *Khuniechü* meaning 'insect' and *Rü* for *Rübe* which means 'rice'. *Asukhaghi* rice which is grown by the Sumi people is also called because of where it is grown. *Asukh* means 'forest' and *aghi* means 'grain', hence grain which has been found in a forest, indicating their cultivation of jhum rice.

Rice consumption and cultivation among the Naga people, in addition to constituting a pivotal agricultural endeavour, also served to illuminate the intricate social hierarchy of the community. The Konyak Naga subgroup cultivated a specific rice variety called '*Shahtoi*', believed to be exclusive to the *Angh* clan. This phenomenon, in turn, underscored their traditional superstitions and taboos, which persist to this day. In Benrue village, the Zeliang people cultivated '*Swampuiehie*', a paddy with small seeds and breakable husk, allowing even disabled individuals to consume it. This particular variety was specifically cultivated and consumed by these social groups.

The act of naming is a significant medium for expressing identity and cultural heritage. Traditional rice varieties that are cultivated are often designated names that symbolize the individuals or locations responsible for introducing the variety within the village. Occasionally, these names may also reflect morphological characteristics or distinctive attributes; for instance, *Duikung Meu*, which is cultivated by the Zeliang people from Poilwa village, where '*Duikung*' signifies the coldest locality and '*Meu'* denotes 'rice.' This variety of paddy is thus optimally suited for cultivation in the

coldest regions of the terrace fields. *Hepwaieirangtui* rice, which translates to a paddy resembling an elephant's mouth, was similarly cultivated by the inhabitants of Benrue village. Another variety known as *Rusűo lha,* cultivated by the Angami tribe from Viswema village, was reportedly first introduced during the Second World War by Japanese soldiers, leading to its nomenclature. This tradition, which has been consistently upheld by these communities, is particularly prevalent among farmers engaged in terrace rice cultivation. Nevertheless, following the advent of terrace farming in regions where Jhum cultivation was traditionally dominant, this practice gained prominence in those areas as well. Similarly, Elsdon Best (1930) discusses such an approach through which the Māori people of New Zealand have effectively preserved the nomenclature of the agricultural produce fostered by their forefathers, along with the modern cultivars that have been woven into their poetic expressions and traditional lore, the titles given to the crops they have cultivated, thus playing a significant role in the conservation of their historical legacy for succeeding generations.

Economically, rice also functioned as a medium of exchange for the Naga people with neighbouring tribes and villagers. Yemnyei Ngonyen, an octogenarian from Yongnyah village, a Phom settlement, reminisces about how the upper Konyak populace from adjacent areas would descend upon the village to purchase paddy in exchange for utensils and tea. Seed exchanges among neighbouring villages and tribes were also commonly practised. In certain instances, baskets of rice were presented as a token to male siblings for cultivable lands, which were allocated to daughters of the family as an inheritance from their father. Therefore, rice served a crucial role in societal and cultural rituals.

Further, the use of some rice varieties like *Pfürü Rüso* (Zapami), *Tsülu Chak* (Longkhum) and *Kungtűh Khangpű* (Tuensang) which are grown both in terrace and jhum cultivation also points to the adaptation of the crop which might have been imposed by various factors like the introduction of new crops, changing agricultural cropping patterns coupled by other factors. But this remains a supposed hypothesis yet to be proven.

Rice cultivation and linguistic affiliation:

Rice is said to have been first cultivated in the Indian sub-continent along the Gangetic basin. Hazarika (2006a,2017) proposes that the Tibeto-Burman languages speaking group were likely the earliest agrarian society in the northeastern area that initiated rice farming practices in this region, which can be traced back to East Asia. Van Driem (2011) based on linguistic evidence suggest that the ancient Austroasiatic and ancient Hmong-mien were probably the earliest cultivators of rice and that the Tibeto-Burman perhaps came after them and might have picked up this trait from them. Based on the reconstructible lexicon that the ancient Austroasiatic were considered the most likely candidates for the cultivation of rice, van Driem suggests that the early Hmong-Mien were identified as the original domesticators of *japonica* rice and the ancient Austroasiatic as the original domesticators of *indica* rice from the wild precursors O. *rufipogon* stricto sensu and *rufipogon*, *var. nivara* respectively. The ancient Austroasiatic were presumed to have acquired knowledge of rice agriculture from the ancient Hmong-Mien, and introgressive hybridisation with the already domesticated *japonica* was presumed to have introduced certain traits into the *nivara* gene pool during or before this early contact phase (van Driem 2011, p.121).

In such a case, were the Nagas as one of the ethnolinguistic groups of the Tibeto-Burman, also in some ways, linguistically related to them. Van Driem (2011, p.362) list a rich repertoire of lexical terms in the Austroasiatic language given by Osada (1995). If we are to try and make a comparative linguistic lexicons that refers to rice, where **phe*? relates to 'Rice bran' in Austroasiatic and 'rice bran' – *pha* (Chokri)/ *ephi* (Kheza) which is classified under the Tibet-Burman group of language, then we can also infer the connection between these two lexical terms based on this fundamental analysis and suggest that rice as a cultivable crop might probably have been picked up by them during a period of cultural contact, or it might just as well be some lexical borrowing or similarity in all rice-cultivating Tibeto-Burman societies. While we cannot draw a conclusion based on lexical similarities, yet at the same time, we also cannot ignore the possibility of such a connection and thus provoke us to hypothesize of such a connection. The ethnolinguistic data thus provoke us to

hypothesize of such a contact between Austro-Asiatic and Tibeto-Burman populations in northeast India during prehistoric times.

In this framework, an examination of the ethnohistorical narratives concerning the genesis of traditional rice varieties as articulated in Chapter 2, which elucidates the discovery of rice within forested areas, its procurement from a lake, the involvement of mountain spirits in providing rice for the populace, and the blessings conferred upon two orphaned girls by two seers, we can formulate several significant hypotheses based on this inquiry. Firstly, the period during which humans lacked the knowledge of rice consumption or cultivation may signify a period in which the Nagas were likely engaged in a subsistence economy, during which rice was presumably unfamiliar to them. The folklore detailing the acquisition of rice from the lake, the meeting of the mountain spirit, and the intervention of the two seers may imply that rice agriculture was potentially introduced or assimilated by them from other cultures or societies that possessed advanced agricultural practices. Furthermore, the narrative describing the transfer of paddy from the lake by a rat may also serve to signify the potential dissemination of terrace rice cultivation techniques to the community, with the lake symbolizing the crucial element of water that is indispensable for wet rice agriculture.

Changes and development in the agrarian system:

The endeavour to incorporate new crops in the Hills was started during the era of colonial governance. It was perceived as a strategic manoeuvre by the British to commodify agrarian practices, thereby augmenting revenue generation and facilitating surplus production for the global market. This initiative was executed via two principal methodologies—namely, the introduction of foreign crops deemed more commercially advantageous and the enhancement of agricultural productivity (Nag,2016). In the context of this policy, masked in the assertion that jhum cultivation lacks productivity and economic viability, the colonial authorities attempted to implement terrace cultivation, an innovative approach in regions where jhum practices were prevalent. This colonial manoeuvre could also be seen later with the appointment of traditional agricultural demonstrators, also called *Kelu babu/ kheti babu* (Das,2023,

p.149) by the Nagaland State Government to the Eastern Naga tribes. Interestingly, it is to be noted also that during the First World War, the British Commissioner of the Khasi Hills proposed for the Angami Nagas to be imported to the Khasi Hills as demonstrators (Nag, 2016, p.152). The colonial policy of using agricultural demonstrators to introduce new cultivation methods and crops was adopted later by the State government after the creation of the Nagaland State. During the early 1940s, we also have records of agricultural demonstrators who were paid special pay for potato cultivation in the Naga Hills[1]. The efforts undertaken by colonial administrators to implement terrace cultivation in the upland agricultural villages can be discerned from the government's initiative to augment the house tax imposed on both terrace and jhum-cultivating villages. Notably, the tax levied on terrace-cultivating villages was established at Rs. 3/-, while that on jhum-cultivating villages was set at Rs. 4[2]. In a correspondence directed to the Commissioner of the Surma Valley and Hill division by the Deputy Commissioner, a recommendation was made to reduce the house tax on jhum cultivating villages from Rs. 4 to Rs. 2 as it was considered an unproductive system (Governor's secretariat, 1940. File no: 4241).

The introduction of new non-traditional crop varieties initiated by State agencies as part of the 'developmental package' has led people to cultivate cash crops, giving them a better income source, which was not possible with the traditional way of rice cultivation. In the context of economic valuation, the involvement in the production of cash crops yields greater advantages, as evidenced by Das (2022) in his research concerning the Eastern Nagas; however, this phenomenon has concurrently resulted in the erosion of traditional agricultural practices and, consequently, the decline of indigenous crop varieties. This could also be observed from the many responses from the villages where they could not recollect the names of rice which were grown in the jhum fields. The case study conducted at Zapami village (see Chapter 4) whereby traditionally along with terrace rice farming, jhum rice cultivation was also practised, the villagers could no longer recollect the names of traditional jhum rice varieties. From thirty-two (32) rice varieties which are cultivated by the village, after careful investigation, only one variety which is said to have been cultivated in the jhum fields was identified along with an ancestral rice name. It is also ironic to note that despite 47.4% (see Fig.4.2) response from the Zapami study village on the

annual harvest of rice saying that they produce more than 50 tin of rice from their terrace fields, 38% (see Fig.4.3) responded that they were only somewhat able to meet their family requirements. Dependence on market rice is also not absent among the self-sufficient farmers. The central Indian government policy of introducing subsidised rice to every household in India under the Public Distribution System (PDS) in 1997 has also greatly affected rice cultivation (Sahoo, *et.al*. 2019). With the subsidy reaching many of the villages now, it can be observed and substantiated by the response from the respondent how with the introduction of this subsidised rice many of the cultivators have started to depend on this rice for their sustenance. The cultivation of millet and other indigenous crops like Job's tears have also been found to have been more or less completely abandoned by the people.

Millet cultivation which was the main traditional sustenance and upland rice cultivation, also declined among the Eastern Naga communities. The introduction of wet rice cultivation in the 1950s by the Government was seen as an attempt to root out shifting cultivation which was deemed unproductive and harmful to the environment causing a shift in societal norms. The Christian missionaries' efforts to regulate agriculture's economic dimension, rather than modernization, were considered aimed to integrate conventional societal norms with emerging belief systems which caused a contrast in millet farming practices among the Sangtam and other upland tribes. Das (2023) further suggests that the incorporation of rice cultivation within the Naga Hills, alongside the practice of slash-and-burn agriculture during the late 1950s, was a deliberate initiative by external units aimed at reshaping the dietary practices, land utilization, land relations, and agricultural priorities of the local populace (Das, 2023, p.144). Suppose one were to agree with Das's perspective, in that case, it can be posited that the incorporation of new crops into rural communities represents an implicit endeavour by those in authority to achieve similar objectives.

One of the new crops which was introduced into the Naga Hills was potatoes as a cash crop by the colonial administrators. Potato and a few other crops of European consumption were first introduced to the Khasi Hills between 1834-35 under the initiative of David Scott, the Agent to the Governor-General (Nag,2016, p.147). It was only later in 1871, that potatoes were introduced to the Naga Hills (particularly among the Angami villages) under the initiatives of Captain Butler, the officiating Deputy

Commissioner of the Naga Hills during that time[3]. Cairns (2007) also in his observation on the Khonoma Angami Nagas describes how the introduction of potatoes into the village economy transformed the village agrarian set-up. Even today, if one travels across the Angami areas after the harvest of terrace rice, the next crop to be planted is potatoes. Some families have given up rice cultivation for potato farming which they deemed to be more beneficial. Among the Angami Naga, in the village of Kigwema, dry terrace fields which were previously used for terrace farming are now being replaced by potato farms, which are deemed more productive and returns more profitable than rice cultivation (Plate 6.3).

The shift from subsistence to commercial cultivation also brought about a change in the village's traditional subsistence farming to commercial farming as observed in the Ao village of Longkhum. The introduction of new commercial crops during the late 1990s saw a shift in the agricultural production of the village. Tomato cultivation started with the introduction of hybrid tomato seeds to the villagers by S.I. Aren, a resident of Longkhum village in the year 1999 (Longkumer,2020, p. 101). The Department of Horticulture, Government of Nagaland even declared Longkhum village as a 'Vegetable Village' in 2004 and a 'Potato Village' in 2002. Though the village continues to practice the traditional cultivation of jhum, many of the villagers have shifted to commercial tomato and other horticultural crop cultivation which they deem more profitable. This growing popularity of commercial crops has also led to a shift in traditional agrarian practices. The evolving characteristics of Jhum cultivation and its associated activities have experienced a significant percentage reduction in agricultural employment within the village. Yaden and Yutsungchaba (2021, p.146) in their study of land use patterns in Longkhum village covering the period from 2010-2019 concluded the decline in jhum cultivators from 77.8% to 27.83%. This phenomenon indicates a transformation in the occupational framework of the village. Horticulture, plantation crops, animal husbandry, and aquaculture are notably advancing, as they provide superior livelihoods, while traditional jhum cultivation is diminishing at an alarming rate. However, the influence of innovative agricultural practices on land utilization remains relatively ineffective due to shortages in marketing infrastructure, inadequate planning, and the deeply in-built cultural ties of Jhumming within the community.

With traditional crops being relegated to secondary roles, traditional agrarian roles like that of the role of the First Sower (*Tsakrü*) and Harvester (*Liedepfü)*are also slowly relegated to mere symbolical status. Likewise, the introduction of terrace rice cultivation into the upland areas in the 1950s and subsequent years has also greatly affected the traditional cropping pattern of the villages. Traditional crops like millet, Job's tears and jhum rice that were once cultivated are being replaced by these new crops.

Women's position in Naga agrarian culture:

One of the social groups to be affected greatly by this shift from subsistence to commercial cultivation is the women. Women in the Naga socio-agrarian landscape is considered the backbone of the set-up. This can also be attested by the fact that almost all the male respondents though reluctant to admit it, maintained that compared to men, women took up most of the work in terrace as well as jhum cultivation (see chapter 5). Tables 2.6 and 2.7 also highlight how men and women function within the agricultural calendar in a year. Women are seen to be more involved and active in the agricultural operations. Traditional agrarian society gave due importance to women in the agricultural field by giving them the task of the First Sower as well as the First Harvester. Women are also the ones who are given the task for the preservation of seeds for the next season. Khala (2012) labels women as 'the most productive class in agrarian structure who continue to remain subordinate in status' (Khala, 2012, p.1) although according to the State Human Development Report (2004, 2016) around 70 % of the women in rural areas are engaged in agriculture. The evolving nature of women's participation in the agricultural domain is characterized by its complexity. She occupies the roles of daughter, spouse, parent, and custodian of her cultivated produce. Though she undertakes most of the work in the agricultural operations (Table 4.10), women have been relegated to the background. One area where we can see this is in the inheritance of land. Women are denied inheritance of land, particularly ancestral land (see Chapter 5), where we find that even the cultivable land in many cases which is given to women is also reverted back to her paternal family on account of her demise.

The uneven status of women in this constitutes perhaps the most notable reminder of Naga history which was characterized by constant inter-communal and village conflict during which the responsibilities of men were mainly oriented towards guarding their village and protection, thus assigning the agricultural task to women. With change brought by Christianity and the coming of modernity, the men folk have now shifted their focus to non-agricultural income-generating activities, while women mainly continue to function in their agricultural endeavours. Besides their household responsibilities, women residing in the study villages were found to dedicate more hours to cultivation compared to their male counterparts. Even though women are the ones who dedicate more of their time and energy to agricultural endeavours and within their domestic sphere, ironically, it is men who are in the end the owners of the land that they dedicate their time to. Cairns (2007, p.481) also observed how among the Angamis, land ownership remains predominantly in the hands of men, and the demanding task of cultivation is primarily shouldered by those who lack ownership rights—namely, the women.

Conclusion:

Thus, from the study carried out, we observe the following:

- In the wake of the introduction of new crops many of the traditional varieties of crops cultivated have been lost.
- Rice grown in jhum fields, among the terrace cultivating societies, has almost disappeared and even among the jhum cultivators, the cultivation of rice as a sustenance has declined in the wake of many people now turning towards the cultivation of commercial crops which they deemed more profitable.
- The significance of rituals and ceremonies in agricultural practices has been assimilated within the parameters of the newly adopted faith. This transformation has triggered a shift in the agrarian socio-cultural dynamics, with the Christian institution assuming numerous responsibilities previously held by the community. Individuals who once bestowed gifts or compensated the First Harvester or Sower for their labour have now transitioned to providing a tithe of ten per cent to the ecclesiastical authority. Their understanding of the

ultimate omnipotent entity responsible for guaranteeing a bountiful harvest has now been redirected towards the Church, accompanied by prayers directed to God.

- Moreover, the study demonstrates that participation in rice farming within terraced environments is inherently interdependent; the terraces belonging to one agriculturalist are intricately linked to those of adjacent farmers, thus facilitating irrigation access and alleviating the risks associated with pest infestations. Each farmer depended on their respective age-groups for the upkeep of their terraced plots, and their collaborative efforts yielded significant impacts. Results of failing to engage with fellow farmers led to restricted access to labour and water supplies, thereby emphasizing the importance of fostering harmonious social networks that transcend the agricultural sphere. But with many people giving up agriculture, this traditional system of community interdependence is at risk.
- One of the research's main findings has also been on the significant influence exerted by the fallow period of the jhum cycle on the demographic transition of individuals migrating from rural to urban locales and on the accessibility of labour.
- With many of the farmers also adopting new methods of cultivation, the traditional shifting cultivation is at risk of disappearing which might also lead to the loss of one of our earliest cultural heritage systems.
- With the enhanced accessibility of rice within market frameworks and the governmental provisions of rice supplies, younger generations exhibit a pronounced inclination towards the cultivation of commercial cash crops, which they perceive as yielding superior financial returns compared to rice production, which is regarded merely as a means of subsistence. While the older generations view their customs and way of life as something to protect against disruptions to social balance, leading to rejection of external negative influences.
- The Naga village has been able to experience socio-economic changes without social conflicts due to its openness to innovations that do not conflict with

traditional practices. They have been able to adopt innovations and changes that align with their customs. However, the drastic change in the agrarian system of Nagas under the initiative of economic development has led to the risk of losing the traditional knowledge that align with the traditional agricultural practices of the people.

- In the aftermath of demographic transitions from rural to urban settings, a substantial portion of the labour force has diminished, leading to the emergence of hired labour compensated monetarily, which has subsequently influenced the communal framework of the Naga agrarian system.
- Despite the role that women play in the agrarian system, where we see her involvement to be much more than her counterpart, she has been relegated to the background and she remains a 'landless cultivator' who is at the mercy of her spouse, son, etc.
- The study on the ethnohistorical accounts of the origins of crops opened up a new dimension towards the cultivation of certain crops among the Naga communities.

Limitations and scope of study:

The examination of the agricultural practices among the Nagas constitutes an extensive and multifaceted domain that necessitates a more comprehensive investigation. Although the investigator has endeavoured to explore the diverse socio-cultural dimensions of the subject, certain constraints have impeded the research process. One significant challenge encountered was that during numerous interviews and engagements with participants, some individuals occasionally refrained from disclosing information, which could adversely affect the representation of their community. Analysing one's cultural context also presents its challenges, as personal biases may obscure objective perspectives and evaluations. The research further illuminated how the advent of modernity and the evolving socio-economic conditions of the populace prompted a transition from traditional agricultural methodologies to commercial farming, thereby significantly influencing the intangible heritage of the community, which is at risk of erosion in the face of contemporary changes.

Concurrently, this investigation has also generated new inquiries and opportunities for further exploration. One area that the researcher has sought to delve into, and believes could potentially pave the way for additional research and inquiry, pertains to the historical linguistic dimensions that have largely remained in a fundamental state.

Endnote

[1] Governor's Secretary. Grant of Special pay to the Agricultural Demonstrator for Potato cultivation in the Naga hills, 1942. File no:448/42

[2] Governor's secretariat, Excluded Branch. Reduction of House tax in Lazami village in the Naga Hills. 1940. File no: 4241.

[3] Potato seeds for the Naga Hills. 1871. File no: 206/364

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Appendix-1: Varieties of rice cultivated at Mokokchung district (*Longsa* and *Longkhum* village)

Village	**Name of Paddy (jhum)**	**Description**	**Name of Paddy (Terrace)**	**Description**
Longsa	*Mapuk Tsük*	Grown on new fields since forefather days/glutinous	*Chiden Tsük*	New introduced variety
	Lotha Tsük	Grown on new fields in the first year since forefather days	*V.K.Tsük*	Newly introduced variety
	Longsa Tsük	Grown on new fields in the first year since forefathers' days	*L.O.Z Tsük*	Glutinous rice
	Tsüngkero Tsük	Grown in the new field in the first year. It is mainly used for making local rice beer.		
	Lanujungket Tsük	Grown in first and second year in the field. grown since forefathers' days		
	Tsük Merem	Grown in the first year in the field since forefather days		
	Yarba Tsük	Grown in the first year in the jhum field		
	Shiko Tsük	Grown in the first year in the jhum field		

	Maipu Tsük	Grown since forefathers' days		
	Thambo Tsük	Grown since the forefathers' days		
Longkhum	*Kuyu Chak*	Brought from nearby Lotha village around 60-70 years ago. Grown in old and new fields/ white grain		
	Manen Chak	Ancestral grain. Grown mostly in old jhum fields/ white grain		
	Tsungmiki Chak	Brought to the village around 100 years ago from Lotha Village. It is mostly grown in the new Jhum field.		
	Ongpang Chak	Planted in new jhum field around the village/red grain		
	Yimsou Chak	Planted in new jhum field/white grain		
	Süli Chak	Planted in new jhum fields/white grain		
	Masuti Chak	Ancestral origin and can be grown in old and new jhum fields/ black grain and glutinous		
	Tsülu Chak	Grown since ancestral days in New Jhum field	*Tsülu Chak*	Also grown in terrace fields

	Manen Musu	Grown in old and new Jhum field/ glutinous		
	Maisa Chak	Grown mostly for making rice beer, but it has been abandoned/red grain		
	Sügmang Chak	Brought to the village around 20 years ago by a prayer warrior/ black husk with red grain		
	Moyar Chak	Brought from the Sema areas around 60-70 years ago/white grain		
	Grouping Chak	White grain/ not grown anymore		

Appendix-2: Varieties of rice cultivated in Zunheboto district (*Ighanumi, Gokhimi, Lazami, Mishilimi, Nunomi* villages)

Village	**Name of Paddy (jhum)**	**Description**	**Name of Paddy (Terrace)**	**Description**
Ighanumi	*Amukhughi*	Grown on new Jhum fields/ red grain	*Akhulughi*	Glutinous White rice
	Akathaghi	Grown on new Jhum fields/ red grain		
	Atükü	Grown on old Jhum fields/red grain		
	Jeshughi	Grown on new jhum fields. (red grain/glutinous)		
Mishilimi	*Khuloghi*	Grown on New Jhum Fields		
	Yeshoghi	Grown in both types of Jhum fields/glutinous		
	Atükü	Grown in old Jhum fields/red grain		
	Chishoghi	Grown in both types of Jhum fields		
	Mukhupughi	Grown on new Jhum fields		
	Khathaghi	Grown on new Jhum fields		
	Asukhaghi	Grown on new Jhum fields/red grain		
	Yevixe	Grown on new Jhum fields/white		
	Chishogi	Grown on new Jhum fields/white grain	*Anibathi*	White long grain
	Ghukhatu	Grown on new Jhum fields/ white grain with red husk	*Tonilithe*	White husk with red grain

Gokhimi	*Mathape*	Grown on new Jhum fields/white grain	*Vikhulithi*	Tall plant with White grain
	Kumupu Akimiye	Grown on new Jhum fields/white grain and glutinous	*Kumuna*	Glutinous Red rice
	Kumupu Akhuhu	Grown on new Jhum fields/red grain and glutinous	*Kumuna Akutsu*	Brown husk with black grain and glutinous
	Atükü	Grown on old Jhum field/ white and red grain		
	Atoku	Grown on old Jhum field/white grain with black husk		
Lazami	*Kathagi*	Grown on new Jhum field/ red grain	*Veposaghi*	Glutinous rice
	Kinighalimi	Grown on new Jhum field/red grain		
	Chishoghi	Grown on new Jhum field/red grain		
	Khuloghi	Grown on new Jhum field/white grain		
	Yeshoghi	Grown on new Jhum field/ white grain		
	Khalamaghi	Grown on new Jhum field/red husk with white grain		
	Atükü	Grown on old Jhum field		

	Yeshoghi Kholepu	Grown on new Jhum field/white/glutinous		
	Kathagi	Grown on new Jhum field/ red grain		
	Kinighalimi	Grown on new Jhum field/red grain		
	Adoghi	Grown on new Jhum field/red husk with white grain		
	Yevixe	Grown on new Jhum field/ white grain		
	Amughi	Grown on new Jhum field/red husk with white grain		
	Amijeghi	Grown on new Jhum field in cold area		
	Choli	Grown on new Jhum fields/red husk with white grain /glutinous)		
Nunomi	*Mathape*	White grain	Mathape	White grain
	Katighi	White grain		
	Khüloghi	White grain		
	Metsakü	Red grain which is used specifically for making local brews		
	Shekughe	White grain		
	Chisoghe	White grain		
	Aspa	White grain and glutinous		

	Kumunup	White grain and glutinous		
	Koyamü	White grain and glutinous		
	Yesaghi	White grain and glutinous		

Appendix.3: Varieties of rice cultivated in Mon district (*Hongpoi* and *Tangyu* village)

Village	**Name of Paddy (jhum)**	**Description**	**Name of Paddy (Terrace)**	**Description**
Hongpoi	*Gang Zaklo*	Glutinous red grain		
	Gang Gam	Glutinous white grain		
	Gang Gimjong	White grain with red husk		
	Kholei	First to sow and last to harvest/ white grain		
	Gang Hahsho	White non -glutinous grain		
	Gang Hahkit	Non-glutinous rice		
	Gang Bee	Red non-glutinous grain		
Tangyu	*Menyak Shah*	Planted in old Jhum fields/red grain/used for making local brew	*Ailet Shah*	White grain
	Yamthao Shah	Planted in old Jhum fields/white grain	*Shahkhi Shah*	Red grain
	Phesa Shah	Planted in old Jhum fields/white grain	*Lahe Shah*	White grain
	Shahyam Shah	Planted in old Jhum fields/ red grain	*Ao Shah*	White grain
	Chonnyak Shah	Planted in old Jhum fields/white grain	*Chi Shah*	

Tangyu	*Shathtoi Shah*		Planted in old Jhum fields/red husk with white grain and grown near the field hut		
	Shelei Shah		Planted in old jhum fields/ red and white rice		
	Yamkhai Shah	(Red) *Kakhen*	Planted in old Jhum fields/ glutinous. it is also used for making a local brew and eaten specifically during appetite loss to give strength		
		(White) *Kashe*			

Appendix-4: Varieties of rice cultivated at Tuensang district *(Tuensang* and *Kuthur* village)

Village	**Name of Paddy (jhum)**	**Description**	**Name of Paddy (Terrace)**		**Description**
Tuensang	*Khangpű*		*Thimyou*	*Dypou* (small plant)	White, non-glutinous grain which grows in black, muddy soil
				Loupou (tall plant)	
	Kungtűh Khangpű	Glutinous white grains with black vertical lines on the husk	*Mani*		White grain and non-glutinous
	Saklangpu		*Oungpou Youdi*		White non-glutinous grain
	Thupaipü	Non-glutinous white rice	*Kungtűh Khangpű*		Glutinous rice with black vertical lines on the husk, which is grown in both jhum and TRC fields

			Ponlűmhipű Khangpű	Scented rice with red husk and white grain
			Yongnya Khangpű	Glutinous rice
			Chuha Youli	Scented rice with dark husk colour
			Epou Youli	Rice which grows in cold temperate water
Kuthur	*Tsabi*	Grown in new jhum field		
	Phurub	Grown in new jhum field	*Kerűng Műjih*	
	Ashipű	Glutinous	*Mukhok*	New grain given by the Agri department
	Moso Yimso	Non-glutinous rice planted in new jhum fields	*Manipur*	
	Molong	Non-glutinous rice planted in new jhum fields	*Shikari Műjih*	

			Moso	*Forűb*	Non-glutinous rice
				Tsabe	
				Wongke Műjih	

Appendix-5: Varieties of rice grown in Kiphire district (*Yingphire* and *Phelungre* village)

Village	**Name of Paddy (jhum)**	**Description**	**Name of Paddy (Terrace)**	**Description**
Yingphire	*Thrushu*	Planted in the first year in new fields in red soil/ white grain	*Singtangma*	White non-glutinous rice
	Puruma	Planted in the first year in new fields in both red and black soil types/ white grain	*Anyahma*	White and red grain with black husk/ non-glutinous which are given to special guests of the village
	Chomima	Planted in the first year in black soil type/ white grain	*Velema*	White non-glutinous rice
	Kipongma	Planted in the first year in red soil type/white grain	*Athruma*	White non-glutinous rice
	Azongshu	Planted in the first year in both red and black soil type/white grain. mostly used for making local brew	*Khaujima*	White non-glutinous rice
			Akhikhikiu	White non-glutinous rice
			Müshema	White non-glutinous rice (not cultivated presently)

				Kilushu	Long plant with a brown husk	Glutinous white rice
					Short plant with normal husk	
Phelungre	*Onglu Matshu*	*Matshu Ashu*	Planted in red soil in the first year/ glutinous rice	*Kilushu Matshu*	*Akyupi Matshu*	Mostly used form making local brew
		Matshu Azu	Planted in red soil in the first year		*Athsangpa Matshu*	

Appendix-6: Varieties of rice cultivated in Wokha district (*Longsa* and *Wokha* village)

Village	**Name of Paddy (Jhum)**	**Description**	**Name of Paddy (Terrace)**	**Description**
Longsa	*Epuyo*	Glutinous rice		
	Rükhatung	Non-glutinous red rice		
	Malukin	Used for making local brew		
	Tapvula	Black husk with white grain (not grown anymore)		
	Kukimoro	Red husk with white grain (not grown anymore)		
	Hoka			
	Moro	Traditional rice		
	Shapuva	Used for making local brew		
	Tsuknyeik	Black husk with red grain		
	Moro Epuyo	Glutinous white rice grown in humid areas		
	Rhükatsung	Non-glutinous red rice which are grown in dry areas.		

Wokha village	*Maulkin*	Non-glutinous black rice grown in humid areas		
	Mesa	Non-glutinous black rice grown in humid areas		
	Hoka	Not in cultivation anymore		
	Tsuknyuk	Black rice		
	Moro	Traditional variety of glutinous white rice which are grown in dry shallow jhum fields		
	Compemo	Non-glutinous white rice which are grown in dry area of jhum fields		
	Vepvüotsuk	Glutinous rice which are available in white and red variety		

Appendix-7: Varieties of rice cultivated in Tseminyu district (*Tesophenyu, Phenshenyü, Tseminyu* and *Terogvunyu* villages)

Village	**Name of Paddy (Jhum)**	**Description**	**Name of Paddy (Terrace)**	**Description**
Tesophenyu	*Laza*	White and small-grain	*Rusoha*	Brought from an angami village (Rusoma)
	Akathong	White and large-grain	*Theveri*	Traditional variety brought from Angami area
	Mphunighi	White and large-grain	*Kemana*	Glutinous rice
	Tsipvü	Red grain with dark leaves	*Kesinusi*	
	Tarü	Traditional grain		
	Tsüli	Traditional grain		
	Rükathon	Common variety grown by all		
	Amvürutsin	Traditional variety		
	Nzomvürü			
	Nnphonmvürü			
	Chvüphüle			

Phenshenyü	*Tsüwenyüshye*	Brought from the lotha area		
	Kenyü	Glutinous rice		
	Lophünyü	Glutinous rice		
	Merim	Glutinous rice		
	Azeto Kenyü	Brought by a person named Azeto from the Ao area		
Tsymenyu	*Küchonyi*	White rice	*Makürunye shye*	Said to be brought from Manipur
	Kedai	Red rice	*Tevü shye*	White rice, which becomes yellowish when cooked
	Rürhenyü	Red husk with white grain	*Thanye Kesügü*	Short terrace rice plant
	Amüri	White grain	*Thanye Kethongü*	Tall terrace plant
	Kopemuri	White grain	*Lalmati*	Brought from Lalmati area
	Kümoru			
	Taryü			

Tsymenyu	*Tsegwenyu*	Said to be brought from the Lotha people		
	Betgote	New variety brought from Assam		
	Tsipvü	Red rice		
Terogvunyu	*Kathorü*	Red rice	*Kezügi*	White rice
	Terishye	Reddish black rice grown commonly in the area		

Appendix-8: Varieties of rice cultivated in Kohima district (*Nerhema, Chichema, Kigwema, Jakhama* and *Viswema* villages)

Village	**Name of Paddy (Jhum)**	**Description**	**Name of Paddy (Terrace)**	**Description**
Nerhema	*Neikulie Lha*	Non-glutinous white grain	*Rosho Lha*	Non-glutinous red husk rice which was introduced after the Second World War in the form of post-conflict aid
	Thekie Lha	Non-glutinous rice of red and white variant	*Nyadi phruo Lha*	Non-glutinous red with white grain
	Lekerü Lha	Non-glutinous white grain with red husk	*Tsamvürü Lha*	Non-glutinous red husk grain
Nerhema	*Rüyha-ü Lha*	Non-glutinous white grain with red husk	*Neikonuo Lha*	Glutinous red husk grain
	Khelhorü Lha	Non-glutinous rice of red and white variant	*Tengo Lha*	Non-glutinous red rice
			Mekrü Nya Lha	Non-glutinous soft texture white rice
			Chakrü Lha	Non-glutinous
			Nyadi Lha	Glutinous white rice which is considered the best for making local brew

			Nyamho Lha	Glutinous
Chichema	*Neikulie Lha*	Non-glutinous white rice	*Rosho Lha*	Non-glutinous red husk rice
	Thekie Lha	Non-glutinous red husk small white grain	*Nyadi phruo Lha*	Glutinous white rice which is harvested last which has a soft texture
	Lekerü Lha	Non-glutinous white grain	*Tsamvürü Lha*	Non-glutinous red husk white rice
	Rüyha-ü Lha	Non-glutinous red husk white rice	*Neikonuo Lha*	Glutinous red husk white rice
	Khelhorü Lha	Non-glutinous white and red rice	*Tengo Lha*	Non-glutinous red rice
	Zethorü Nya	Glutinous red husk white rice	*Mekrü lha*	Non-glutinous soft texture with red/white husk and white grain
	Thenyie Lha	Non-glutinous rice	*Mekrü Nya Lha*	Non-glutinous soft texture with red/white husk and white grain
			Chakrü Lha/Khezha Lha	Non-glutinous rice brought from the Chakhesang area.
			Nyadi Lha	Glutinous

			Nyamho Lha	Glutinous white rice
			Menuolie Nya	Non-glutinous white rice
Jakhama			*Thevürü*	Traditional variety red grain rice
			Wosho	Red grain rice
			Ngoba	Glutinous red rice
			Sayie	White rice
			Hadie	----
Viswema			*Ngorise*	Non-glutinous red rice
			Wase	Non-glutinous white rice used for making local brew (not in cultivation anymore)
			Ngowa wadi	Non-glutinous white rice used as yeast for making local brew
			Norhutsa	Non-glutinous red rice
			Wado	Non-glutinous white rice which was used as yeasts for making local brew (not cultivate anymore)
			Ngodzu	Short plant with soft and glutinous rice grain

Viswema			*Niriha*	Glutinous rice brought from the neighbouring village of Viswema
			Rulü	White rice, which is planted near the settlement area/ non-glutinous
			Rhünuo	Scented glutinous rice used for making local tea
			Rütore	Black rice grain
			Tevürü	Traditional variety brought by the early Tepa people
			Rüsüo Lha	White-scented rice which was said to be brought by the Japanese during the Second World War
Kigwema	*Khato*	Planted in the first year in new fields (not cultivated anymore)	*Thevürü*	Traditional red grain/ non-glutinous
	Temürü	Planted in the first year in new fields (not cultivated anymore)	*Tengo*	White grain with big seeds

	lhagari	Planted in the first year in new fields and used for making local brew (not cultivated anymore)	*Ramorü*	Glutinous white grain used for making local bread and brew during big occasions/festivals
			Nyasüno	Glutinous rice used for eating as well as for making local bread

Appendix-9: Varieties of rice cultivated in Phek district (*Phusachodu, Meluri and Weziho* villages)

Village	**Name of Paddy (Jhum)**	**Description**	**Name of Paddy (Terrace)**	**Description**
Phusachodu	*Mulu ri*	White rice (Glutinous)	*Trhűvűri*	White rice
	Khosa ri	White rice	*Jhatsovűri*	White rice
	Ruza ri	White rice	*Venű Ritsa*	White rice
	Sagya ri	Red rice	*Tsori*	White rice
	Muzho ri	Red rice	*Niezie*	Red rice (Glutinous)
			Sahizű Ritsa	White rice
			Makrewe	White rice
			Sopa	Red rice
			Dehu	White rice
			Vetsosayi Ritsa	White rice
			Mikre Ri	White rice
Meluri	*Thonari*	Scented rice used on special occasions for consumption by well-to-do people	*Shupenűtha*	White grain
	Ashutlű	White and red grain	*Mussaria*	Glutinous rice used for making local brew

Meluri	*Arhű*	Used as fermentation in local brew	*Asupa*	Glutinous rice used for making local brew
			Atűnga	Non-glutinous white rice
			Kűnguthsou	Black rice used for consumption as well as to make local tea
			Zhűluo Tsű	Non-glutinous rice
			Tharuchu	Red rice, which bore many grains
Weziho	*Polasű*	White rice		
	Hentsű	White rice	*Tharuchu*	Red rice
	Khűna Masű	White rice said to be brought by the Kuki (*Khuna* refers to the Kuki in the local dialect)		
	Hero Masű	White rice		

Appendix-10: Varieties of rice cultivated in Peren district (*Old Peren, Poilwa* and *Benreu* villages)

Village	**Name of Paddy (Jhum)**	**Description**	**Name of Paddy (Terrace)**	**Description**
Old Peren	*Petchuam*	Grown on new field in the first year in warm place/ white rice		
	Petdi	Grown on new field in the first year in warm place/ white rice		
	Meitikna	Grown on new field in the first year in warm place/red rice		
	Geuteunie	Grown on new field in the first year in warm place/ white rice		
	Petgie	Grown on new field in the first year in warm place/ red husk with white grain		
	Hepet	Grown on new field in the first year in warm place/white rice		
	Heuteilungmei	Grown on new field in the first year in warm place/red husk with white grain		

Old Peren	*Nkimei*	Grown on new field in the first year in warm place		
	Chipoimei	Planted on new fields in the first year in cold places/white rice		
	Petoi	Planted on new fields in the first year in cold places/white rice		
	Guilemei	Planted on new fields in the first year on cold place/glutinous rice		
	Tesenmei	Planted on new fields in the first year on cold place/glutinous rice		
Poilwa				Traditional Red rice
			Haiboilungbe Meu	White glutinous rice
			Ngwangmelu Meu	---
			Nkireu Meu	White rice used for making local brew
			Punglwaki Meu	White rice
			Touphe Meu	White rice
			Ziumi Nei	White rice brought by a woman who married into

					the village from another village, Ziumi.
				Hepwa Nei	Red glutinous rice
				Ngarei Nei	White glutinous rice
				Boidinglu Meu	Traditional Red rice
				Ruso Meu	Red rice (ration rice)
				Duikung Meu	Red rice, which grows in cold water
Benrue	*Hepet*		Grows in warm Places	*Nki Rei*	
	Hechie		Two types of Hechie- one with long plant and another with short plant	*Touphe mei*	Brought from Poilwa village
	Hetui	*Tampeutui*	Glutinous rice	*Kenie Mei*	
		Tuibaletui	Soft grain	*Takgei Mei*	Red rice
		Hepwanieirangtui	Grain in the shape of an elephant trunk	*Ngwangme Mei*	White rice (not in cultivation presently)

Benrue	*Swampuiehie*	Small grains of rice which can be easily husked	*Melunie*	Glutinous rice
	Petdi Rei	White rice	*Zekirie*	Presently not in cultivation
			Reitiak	Black rice with short and long plants used for making local tea
			Kwangeai Mei	Brought from the Kuki people
			Reuduine	Two types of grain- white and red rice
			Tunglepuinie	Glutinous white rice (not in cultivation presently)
			Zuimi nie	Red husk with glutinous white grain (not in cultivation presently)
			Poilwa Nei	Glutinous white rice
			Punglewa Rie	Red husk with white grain

Appendix-11: Varieties of rice cultivated in Longleng district (*Yongnyah* and *Pongo* villages)

<table>
<tr><th>Village</th><th colspan="2">Name of Paddy (Jhum)</th><th>Description</th><th colspan="2">Name of Paddy (Terrace)</th><th>Description</th></tr>
<tr><td rowspan="8">Yongnyah</td><td colspan="2">Ongshu</td><td>White rice</td><td colspan="2"></td><td></td></tr>
<tr><td colspan="2">Angja</td><td>Red rice</td><td colspan="2"></td><td></td></tr>
<tr><td colspan="2">Jaüsho</td><td>Glutinous white rice</td><td colspan="2"></td><td></td></tr>
<tr><td colspan="2">Jaünyak</td><td>Glutinous black and red rice</td><td colspan="2"></td><td></td></tr>
<tr><td rowspan="3">Hangmong</td><td rowspan="2">Hangshu</td><td rowspan="2">White rice grown on a double fallow field</td><td rowspan="4">Maipo</td><td>Poha</td><td>Red rice which can be harvested within two and half months</td></tr>
<tr><td>Yangphai</td><td>Red non-glutinous rice</td></tr>
<tr><td>Hangnyü</td><td>Red rice grown on a double fallow field</td><td>Yunghah</td><td>Red rice which can be harvested within two and half months</td></tr>
<tr><td colspan="2"></td><td></td><td colspan="2">Shahmah</td><td>Red husk with white grain</td></tr>
</table>

	Chahak	Red rice with small grain		
	Shengeya	Red rice with long-grain		
Pongo	*Utha,Matha,Hohungongsho, Khupthuk, Homlek, Tantahnyu, Tangmen, Chali, Nukshügaü, Hunshü*	White rice planted on new jhum fields	*Manipur ta*	Brought from the Manipur area and has a tall plant
	Khampomg, Kashu, Thungtah, Tatak, ethah, Angja, Tangmen, Tahshu	Red rice planted on new jhum fields	*Iyarat Ta*	Supplied by the Agri department of short plant variety
	Samptha, Tanyak, Ukha	Black rice planted on new jhum fields	*Yangchim Ta*	Brought from Yangchim village
			Chakphang Ta	Brought from Chakphang village
			Longchin Ta	Brought from the neighbouring Konyak tribe
			Sham Ta	Grows in muddy, well-watered fields

Appendix-12: Questionnaire used for sample study at Zapami village, Phek district

Dear Respondent,

I am PhD a research Scholar from Nagaland University from the Department of History and Archaeology, working on the topic, 'Agricultural Practices in Nagaland: A Historical Study.' The study aims to investigate the age-old agricultural practices of the Nagas in general. The aim of this questionnaire is to achieve a more in-depth understanding of the agricultural practices of your village and its socio-economic scenario. Please furnish the following information to the questions given below, which would greatly help in understanding the agrarian system and its changes in Nagaland. I hereby declare that the personal data obtained will be strictly confidential in all respects, while the data shall be solely utilised for research.

(Tick whichever is the appropriate one for your answer)

1. Personal data of the informant:

   (a) Name (optional)-

   (b) Gender: Male ( ) Female ( )

2. Age-

   (a) Below 30 years (c) 40-50

   (b) 31-40 (d) 50-60

   (e) Above 60

3. Marital Status

   (a) Married ( ) (b) Unmarried ( )

4. Number of Family Members-

   (a) 1-5 (c) Above 10

   (b) 5-10

5. Are all your family members engaged in the cultivation process-

(a) Yes (c) Partially

(b) No

6. How many family members have migrated out of the village for education/work?

(a) 1-2 (b) 2-3

© 3-4 (d) 4-5

7. What type of cultivation process is your family engaged in -

(a) Jhum cultivation- (c) Both

(b) Terrace cultivation-

8. How long have you been cultivating-

(a) 1-5 years (b) 5-10 years

© 10-20 years (d) 20-30 years

9. What is the total size of cultivable land your household owns?

(a) 1-2 (b) 2 -3

© 3-4 (d) 4-5

10. During the (Agricultural season), how much land did your household use for agriculture (including land that is owned, rented/leased in, and borrowed, i.e., used without payment)

(a) All the land (b) Half of the land

11. Was the size of land your household used for agriculture during the (current agricultural season) more, less, or about the same as it was during the (previous season)? (Tick whichever is applicable)

	More	less	
	Wanted to increase production because of increased need (e.g., for increased household consumption, increased expenses/income, etc.)	Reduced production because of reduced need (i.e., smaller household, lower expenses/income, etc.)	
	Wanted to increase production to meet new demand (for existing or new crops)	Reduced production because you lost markets	
	Had more own capital (not borrowed) to invest in agriculture (hire labour, rent/buy land, buy inputs, buy/rent equipment, or draught power, etc)	Had less own capital (not borrowed) to invest in agriculture (hire labour, rent/buy land, buy inputs, etc)	
	Able to access more credit (cash or in-kind) to invest in agriculture (hire labour, rent/buy land, buy inputs, buy/rent equipment, or draught power, etc)	Had access to less credit (cash or in-kind) to invest in agriculture (hire labour, rent/buy land, buy inputs, etc)	
	Had access to more land that you did not have to pay for	Less household labour available (due to illness, smaller household, etc.)	
	Higher prices for crops encouraged you to plant more	Lower prices for crops discouraged you from planting as much	
	More of the land you use for agriculture was useable (less damage from floods/weeds, etc.	Wanted to leave land fallow	
	Began using land left fallow in the previous year	Other reason	

12. Do you still use the traditional method of cultivation?

(a) Yes (b) No

13. In the selection of seeds for the next plantation, who makes the decision mostly?

(a) Men (b) Women © Both

14. Do you use animals/machineries in your agricultural activity?

(a) Yes (b) No- (c) Manual labour

15. What methods do you follow to increase the fertility of the soil for cultivation?

(a) Organic

(b) Non-organic

16. If organic, what type of organic fertilizers do you use in your fields?

(a) Animal manure (c) Ash

(b) Manure from plants

17. Do you use hired labour in your farming activity -

Yes ( ) No ( )

If yes, during which season- (Tick whichever is applicable)

(a) Clearing of jungles/ fields

(b) Field preparation

(c) Nursery preparation

(d) Irrigation channel cleaning

(e) Transplantation

(f) Weeding

(g) Harvest

18. Do you pay in cash for your hired labour in farming activity?

(a) Yes (b) No

19. If yes, how much do you pay for hired labour in the fields-

(Tick whichever is applicable)

Rate	Men	Women	Children
100-200			
200-300			
300-400			
400-500			
Above 500			

20. If no, how do you usually pay for your hired labour?

(a) Payment in kind (e.g., goods, paddy)

(b) Helping them back in their field

21. Do you feel that education and migration of people outside the village have impacted the Agri-labour force in farming activity?

(a) Yes (b) No © To some extent

22. What is the nature of work distribution in the field in your household?

(Tick whichever is applicable)

Jhum	Men	Women	Both	Terrace	Men	Women	Both
Selection of site				Field preparation			
Clearing of site				Nursery preparation			
Burning				Breaking soil			

Preparing the land				Cleaning irrigation channel			
Sowing				Transplantation			
Weeding				Weeding			
Harvest				Harvest			
Post-harvest cleaning and sorting				Post-harvest cleaning and sorting			
Marketing decision				Marketing decision			

23. How much is the average paddy harvest in your field in a season? (Baskets/Tin)

Baskets/Tin	**Jhum**	**Terrace**
5-10		
10-20		
20-30		
30-40		
40-50		
Above 50		

24. Are you able to meet your family's requirement of rice for a year from your paddy harvested?

(a) Yes (b) No

25. What type of storage method do you use for your harvested crop?

(a) Traditional method (b) Non-traditional

26. Do you also sell your surplus paddy harvested?

(a) Yes (b) No

27. If yes, for what purpose do you utilise the money?

(a) Children's education (b) Household expenditures

(b) Purchase of tools, seeds, fertilisers, etc. (c) Savings

28. Do you sell your cash crops to/through any farmer organisation?

(a) Yes (b) No (c)Sell yourself

29. What other food resources do you produce besides rice in the terrace fields?

(a) Snail (b) Fish

© Fruits (d) Vegetables

30. Jhum fields are mostly utilized for

(a) Growing cereals (Naga dal, soybeans, beans, corn)

(b) Growing trees for firewood

(c) Horti crops (cardamon, fruits, etc)

(d) Paddy cultivation

31. Do you feel that the growth of the Horti/cash crop (Cardamon, fruits, etc) has diminished the value/role of paddy cultivation in the village?

(a) yes (b) No.

32. What other cultivation are you engaged in besides paddy cultivation?

(a) Fruits (Kiwi, Persimmon, Plum, Banana) (b) Cardamon

© Vegetables

(e.g., Cabbage, Tree tomato, Garlic) (d) Others

33. Are you self-sufficient with your crops grown or not?

(a) Yes (b) No (c) To some extent

34. Do you feel the availability of rice in the market has diminished/lessened the cultivation of paddy in the village?

(a) Yes (b) No

35. Are you aware of any scheme which the government has introduced in your village to improve your livelihood?

(a) Yes (b) No (c) To some extent

36. If yes, are you a beneficiary of any government scheme that has helped your agricultural production?

(a) Yes (b) No

37. Are you involved in any farmer organization or association?

(a) Yes (b) No

38. Have you attended any training in technical assistance or agricultural practices which were initiated by any organisation?

(a) Yes (b) No

39. If yes, what are the trainings which you have attended?

(Tick whichever is applicable)

(a) Training on pest management and crop improvement

(b) Farm mechanization

(c) Seed production and improvement programme

(d) Integrated nutrient management programme

(e) Sustainable agriculture development

40. Have you taken any credit or loan from any credit institution for your agricultural activities?

(a) Yes (b) No

Thank you for your cooperation and feedback

Glossary

Ai/Aei:	Agrarian peer group among the Konyak Naga tribe.
Aiokko:	Payment as rent to the Jhum field landowner among the Phom Naga tribe using a grain basket.
Aloji:	Agrarian peer group system among the Sumi Naga tribe.
Angh:	(Konyak) Chief or King- a hereditary theocratic cum autocratic chief.
Asahrü/Atirü:	Agrarian labour group among the Sangtam Naga tribe.
Athong:	Traditional village priest among the Sangtam Naga tribe.
Athong:	First planter/harvester for crops among the Sangtam Naga tribe.
Awomi:	Village priest who performs the rituals among the Sumi Naga tribe.
Bou:	Big bamboo baskets for storing grains.
Chokri	The Chakhsesang community consists of two main dialect-speaking groups of which Chokri is a part.
Dahu/Tehouba:	A raised circular stone structure present in all the *khel* of every Angami village, where social gatherings take place and where announcements are made. As this is an elevated structure usually the entire *khel* area is visible.

Dedang:	Contour bunds made around the terrace fields among the Zeliang tribe.
Dao:	A multi-purpose machete used by Naga as a tool for cutting vegetation in jhum cultivation, building houses, cutting and slicing meat, fashioning other tools making crafts, etc.
Diswang:	Name of Zeliang tribe Morung.
Dzülücho	Water catchment channel.
Dzutho:	Traditional spade specially used in terrace cultivation by the Angami/Chakhesang Naga tribe.
Elak:	Hired agrarian labour group among the Phom Naga.
Hazwa:	The place in the middle of the village (Zeliang tribe) where a long jump pit is made and competitions are held among the youths for tests of strength and agility.
Heabu:	Big bamboo baskets used for storing harvested grains.
Kahlat:	Form of labour provided by a tenant in the landowner's fields for a specified period as required by the landowner among the Phom Naga tribe
Kapfü:	Name of a local spade used in terrace fields in Khuzha/Khezha dialect. The Khezha/Khuza are a sub-group within the Chakhesangs Naga tribe.
Kesin Lo:	Jhum field in Rengma dialect.

Khel:	The area or section of a village occupied by a specific clan.
Kheza	One of the major dialects spoken among the Chakhesang Naga.
Khodi:	Bamboo carrying baskets for carrying harvested grains.
Lamlwalo:	Jhum field in Zeliang dialect.
Leshemi:	A Khuza/Kheza Chakhesang village located in Zuketsa Circle under the Phek district of Nagaland.
Lezhie kro:	Agrarian labour reciprocal group.
Liedepfu:	The oldest woman in the village selected to perform the ritualistic reaping for the village, after which the harvest season is open for the community.
Ludeupui:	The oldest female member in the village selected to perform the ritualistic reaping for the village, after which the harvest season is open for the family (Zeliang).
Mena:	(Genna) It has four meanings: (1) Ritual rite (2) Sacrilegious, impious (3) Forbidden (4) Prohibitions and restriction.
Mena Khru:	Restricted month when it is forbidden to work in the agricultural field.
Mewo:	Village priest who performs religious rites and oversees maintaining the law and order of the village.

Mt. Pauna	The peak stands majestically along the Benreu range, Peren district and is the third-highest peak in Nagaland.
Monyu:	Phom Naga festival celebrated after the sowing of crops is done.
Morung:	Youth dormitory where young boys are imparted with social, cultural and ethical values.
Nhalie:	Jhum field in Angami dialect.
Onglu/Azong:	Jhum field in Sangtam dialect.
Peli Khroto:	Peer group who work in a reciprocal system of labour (*peli*).
Perhün Loshi:	Terrace field among the Rengma Naga tribe
Pethi:	A respected elder of the village (Angami).
Pfomi:	Name of a *khel*/clan within the village (Zapami).
Phom:	One of the major Naga tribes residing in Longleng district.
Poilwa:	Name of a village of the Zeliang tribe.
Purama:	Grain measuring basket used by the Ao Naga for wages to be paid to the hired labourers in Jhum cultivation.
Rampoa:	Rent given by landless farmers for cultivation to the landowner among the Zeliang Naga.
Rüza	Water body/pond.
Sumi:	One of the major Naga tribes (previously called by the nomenclature Sema).

Tehuba:	A wide-open plaza, centrally located within the village, used for meetings and performing entertainment.
Tekhulie:	Terrace field among the Angami Naga tribe.
Thongro:	Name of a clan/*khel* among the Sangtam tribe from Yingphire village.
Trans-Dikhu-Doyang group:	Tribes inhabiting the Dikhu and Doyang river as well as the Tizu river consisting of the Ao, Chang, Khiemniugan, Konyak, Lotha, Phom, Rengma, Sangtam, Tikhir and Yimkhiung sharing cultural manifestation.
Tsakra:	The oldest man from the *Thepa* moiety who performs the ritualistic sowing and begins the sowing seasons for the entire village. He is the one who performs all rituals concerning agriculture.
Tsakrü	First female sower among the Chakhesang naga.
Tsiakrii:	The first sowing ritual performed by Tsakra-u.
Tükhu:	Terrace field among the Chakhesangs Naga tribe.
Tuensang:	One of the major districts of Nagaland occupied by the Chang tribe.
Ukepenopfu:	Supreme God, which translates to “birth spirit.”
Viswema:	A southern Angami Naga village.
Vü:	Biggest size in measuring baskets used for weights and measure. One *Vü* is equal to one tin.

Yangthanpü	First sower among the Yimkhiung Naga in the jhum field.
Yimkhiung:	A Naga tribe previously known as Yimchunger.
Yingrü:	Agrarian labour group among the Yimkhiung Naga.
Zhie/Zhe:	A Chokri Chakhesang term for dao. Chokri is a dialect spoken among the Chakhesang Naga.
Zievo:	Priest who presides over the rituals concerning the village and its people among the Angami Naga.

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Oral Sources

Interview with Zakieneisa Keiwhuo, 59 years, ex. Vice chairman, Nerhema village and Neitsho Sogotsu, 73 years, Village chairman, Chichema village, on 6/10/18.

Interview with Akhalu Sheqi, 85 years, farmer and Zaniu Sheqi, 86 years, farmer, Mishilimi village on 12/02/21.

Interview with Nasetyemtong. N., 55 years, Head GB, Tuensang village on 20/11/19.

Interview with Yemnyei Ngonyen, 86 years, GB, Yongnyah village on 22/09/19.

Interview with Namhungle Ndang, 69 years, farmer, Peren Village, on 16/01/21.

Interview with S. Chukhim, 52 years, Council Secretary, J. Shokum Yim, 86 years, farmer Kuthur village on 21/11/19.

Interview with Khuvito Jimo, 87 years, farmer and Kihovi Jimo, 97 years, farmer: Shenivi Jimo, 79 years, farmer, Nunomi village, on 07/03/20.

Interview with Yashikaba Jamir, 65 years, farmer at Longsa village on 4/06/22.

Interview with M. Lipen, 40 years, Chumyang Phom, 46 years, farmer, Yemnyei Ngonyen, 86 years, GB, Yongnyah village on 22/09/19.

Interview with Aseba Anar,70 years, Retired teacher and farmer, Yingphire village on 15/10/21.

Interview with Pukoho Rolnu, 93 years, retired teacher, Jakhama village on 13/09/19.

Interview with Kerileno Pucho,50 years and Pusovilie Kraho,63 years at Viswema village on 14/09/19.

Interview with Heutwacholie Rau, 56 years, farmer; Dwayisilie Rau, 61 years, farmer at Old Poilwa Village on 19/02/21.

Interview with Pusovilie Kraho, 63 years farmer at Viswema village on 14/09/19.

Interview with Thuricho,98 years, Phelungre village on 17/10/21.

Interview with Tahyem Wangnao, 98 years, farmer at Hongpoi village on 16/04/21.

Interview with Nasetyemtong.N. 55 years, Head GB, Tuensang village on 20/11/19.

Interview with Murilo, 69 years, Thuricho, 98 years, Phelungre village on 17/10/21.

Interview with Kurakiu, 58 years, VDB secretary, Phelungre village, on 17/10/21.

Interview with Kavi Yokha,81 years, Farmer, Kigwema village on 08/02/20.

Interview with P. Saluvi Swu,55 years, farmer, VCC: Naghipu Swu, 72 years, farmer, secretary LVPO: Mixeni Tizi, 70 years, Chairman, LPO, farmer, Lazami village on 13/02/21.

Interview with Yemnyei Ngonyen, 86 years, GB, Yongnyah village, on 22/09/19.

Interview with Zewekha Wetsah, 62 years, Village Council Member, Zapami Village, on 21/08/23

Interview with Tewelehi Khutso, 58 years, Village Council Chairman, Zapami Village on 21/08/23.

Interview with Zhiengulo Puse, 64 years old, Village Council Member, Zapami village on 21/08/23.

Interview with Mechimvü Kreo, 66 years, Village Council Member and Zhiengulo Puse, 64 years, Village Council Member, Zapami Village on 21/08/23.

Interview with Tewelehi Khutso, 58 years, village council chairman, Zapami Village, on 21/08/23.

Interview with Mosa Yokha, 76 years and Kavi Yokha, 81 years, retired teacher, and farmer, Kigwema village, Kohima district on 08/02/20.

Interview with Heijumbuing Lungalang, 68 years, retired Headteacher, Benrue village, Peren district on 23/02/21.

Interview with S.Chumdamo Ezung, farmer, Wokha town on 17/04/19.

Interview with Kerinoleno Pucho, 50 years farmer, Viswema village, Kohima district on 14/09/19.

Interview with R.Lanusungkum Jamir, 85 years old, retired teacher, Longsa village, Mokokchung district on 04/06/22.

Interview with Nahgipu Swu,72 years, Village council Member, Lazami village, Zunhebhoto district on 13/02/21.

Interview with J. Shokum Yim, 87 years, G.B, farmer, Kuthur village, Tuensang district on 21/11/19.

Interview with Yhunsinlo Khing, 73 years, farmer. Ex-Chairman, Tseminyu village, Tseminyu district on 23/04/19.

Interview with Sipiru Pfithu,73 years, ex-V.C, farmer and Apele Trakha, 54 years, VDB member, Farmer, Hutsu village, Phek district on 15/05/19.

Interview with Punga Angh, 69 years and Chingkam Chingkung, 46 years, farmers,Pongo village, Longleng district on 23/09/19.

Interview with Zelou Wetsah, 65 years and Ditsolo-ü Khutso, 66 years, farmers, Zapami village, Phek district on 22/06/19.

Interview with Pisheto Achumi, 75 years, farmer, Nunomi village, Zunhebhoto district on 07/03/20.

Interview with Johan Wotsa, 67 years and Ahovi Swu, 49 years, G.B., farmers, Ghokimi village, Zunhebhoto district on 10/02/21.

Interview with Inakhe Achumi, 86 years, farmer, Ighanumi village, Zunhebhoto district on 11/02/21.

Interview with P. Saluvi Swu, 55 years, Naghipu Swu, 72 years and Mixeni Tizi, 70 years, farmers, Lazami village, Zunhebhoto district on 13/02/21.

Interview with Akhalu Sheqi, 85 years, G.B, farmer, Mishilimi village, Zunhebhoto district on 12/02/21.

Interview with Yashikaba Jamir, 65 years, farmer, ex-chairman, Longsa village, Mokokchung district on 04/06/22.

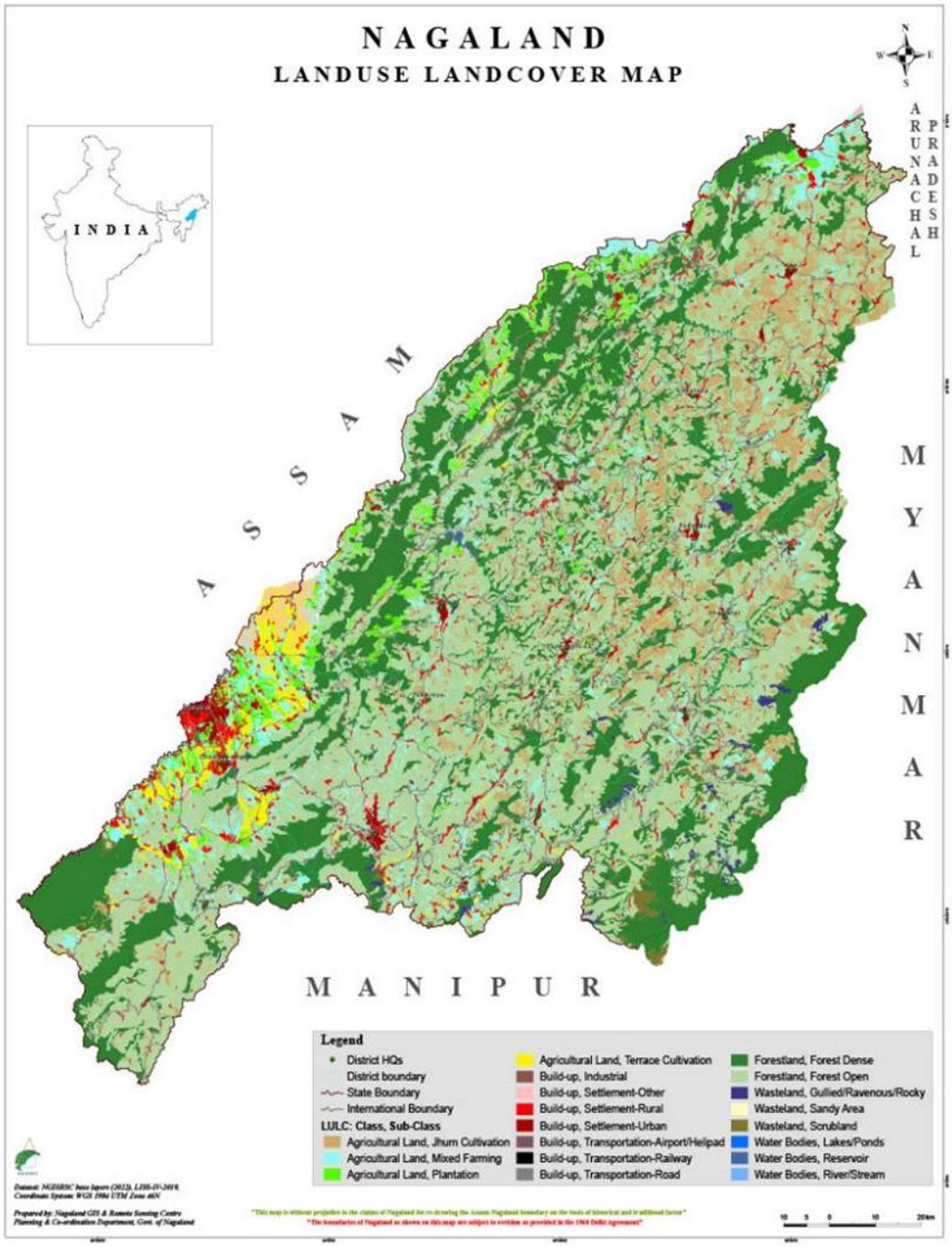
Interview with Pusovilie Kraho, 63 years, farmer; Viswema village, Kohima district on 14/09/19.

Interview with Daniel Khiki, 84 years, Ex-Village Chairman and farmer, Viswema village Kohima district on 14/0919.

Interview with M. Lipen, 40 years and Chumyang Phom, 46 years, farmers, Yongnyah village, Longleng district, on 22/09/19.

Interview with S. Chukhum, 52 years, Council Secretary, Kuthur village, Tuensang district on 21/11/19.

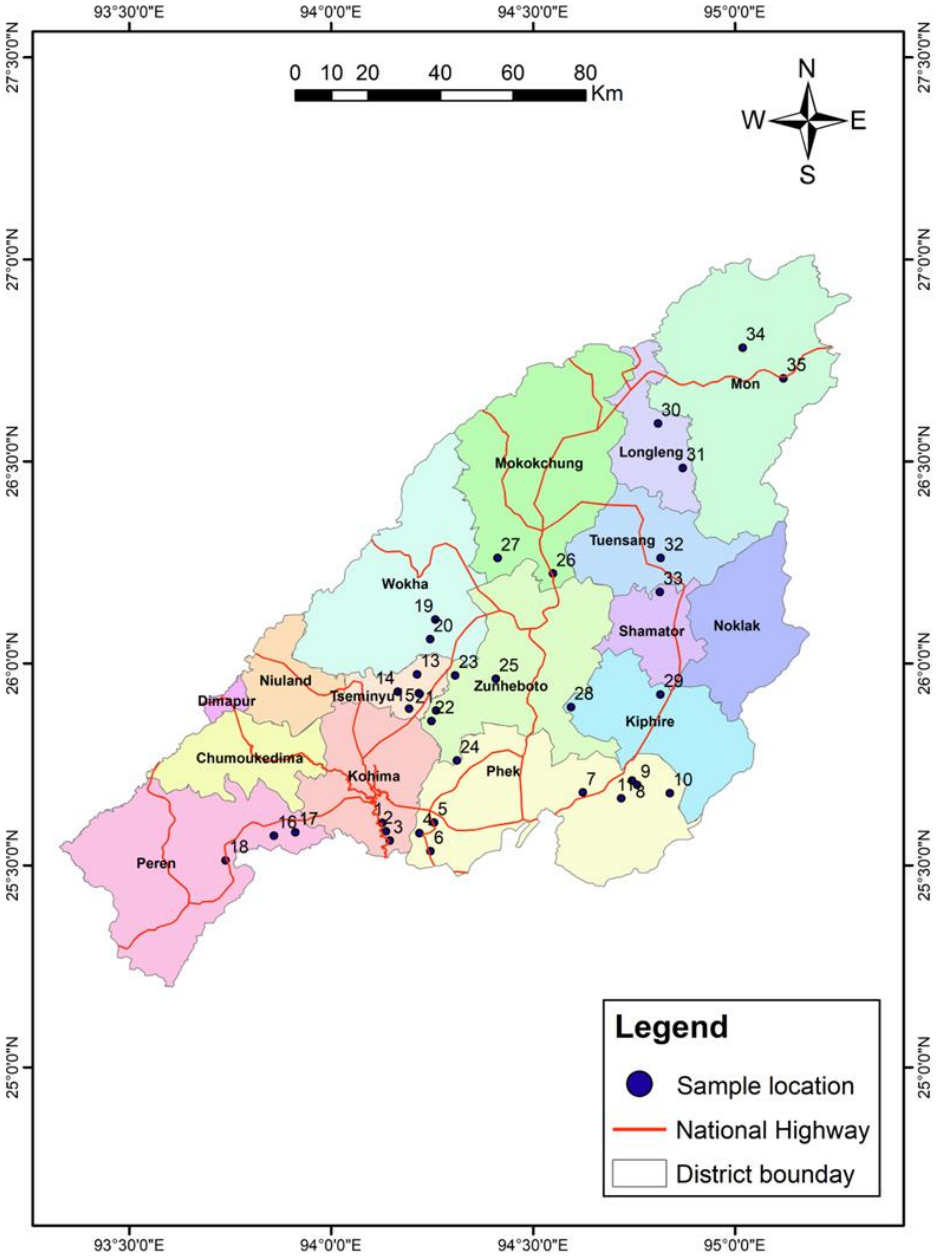
Plate 1.1: Land use cover map of Nagaland



Source: Nagaland GIS and Remote Sensing Centre.

https://nagalandgis.in/map-downloads/

Plate 1.2: Nagaland map showing the selected study villages



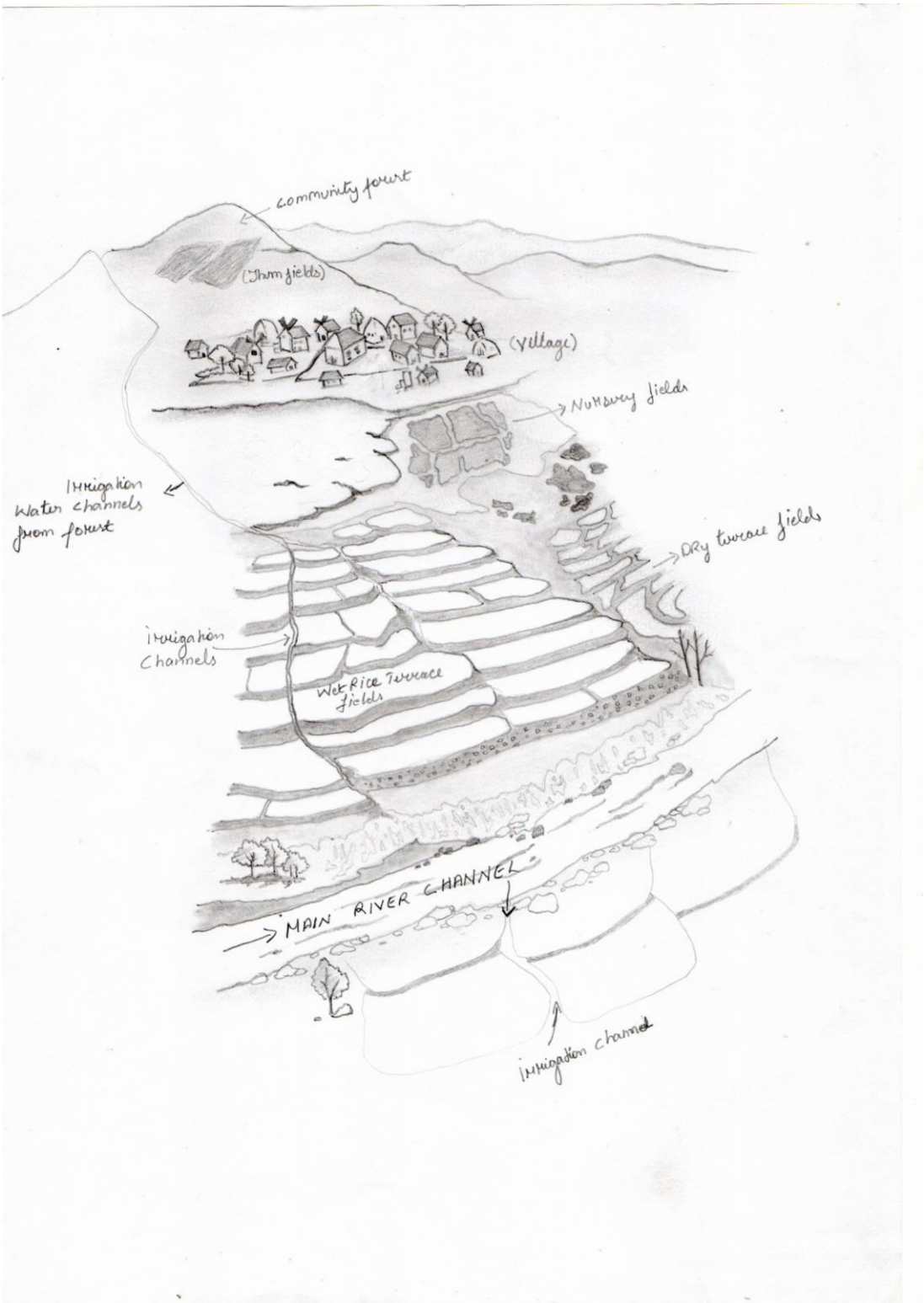


Plate 2.1: Representational Sketch of a traditional Chakhesang Naga village location.

Plate 2.2: Traditional morung (*Rehangki*), Old Peren village

Plate 2.3: Modern morung (*Ban*), Hongpoi village

Plate 2.4: Representational Sketch of a Rengma Naga couple working in their jhum field

Plate 2.5: Baskets for carrying grain Yongnyah village.

Plate 2.6: Contour bunds in a jhum (*Ko*), field, Hongpoi Konyak village.

Plate 2.7: Field hut in a jhum field at Hongpoi, Konyak village (*Daab*)

Plate 2.8: Weeding tool, *Hun*/Konyak

Plate 2.9: Earthen pots used for storing Laruri village

Plate 2.10: Bamboo baskets used for Grains, storing grains, Yongnyah village

Plate 2.11: Granary located on the outskirts of Meluri village.

Plate 2.12: Traditional granary Kuthur village.

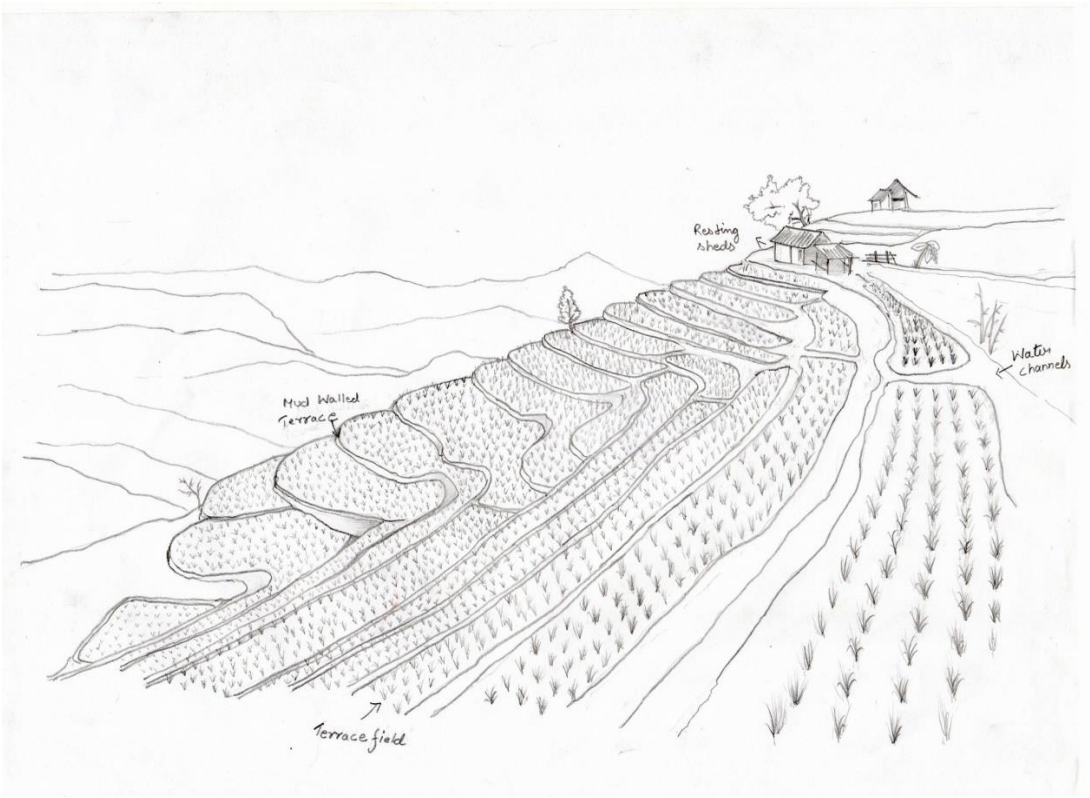


Plate 2.13: Representational Sketch of terraced rice fields of the Angami Naga

Plate 2.14: Nursery field ready for stalks in transplantation, Phusachodu village

Plate 2.15: Rampa leaves and leftover paddy terrace field, Poilwa village.

Plate 2.16: An old woman preparing and and repairing the terrace dikes at Phusachodu village

Plate 2.17: A group of men levelling puddling the terrace field, Phusachodu

Plate 2.18: A Purama (measuring basket), Longsa village

Plate 2.19. Big spade (*Küdi*), Phusachodu village

Plate 2.20: Modern Sickle (*Awukiti*/Sumi), Mishilimi village

Plate 2.21: Wooden mattock used for cleaning the burned jhum fields after burning *Haosoü*,Tangnyu Konyak village

Plate 2.22. Traditional weeding tool made of bamboo, Hongpoi Konyak village

Plate 2.23: Threshing of harvested paddy on a terrace field at a Chakhesang Naga village, Mesulumi.

Plate 2.24: Threshing of harvested paddy from a jhum field at an Ao Naga village, Longsa.

Plate 2.25: Winnowing baskets, Hongpoi Konyak village

Plate 2.26: Basket for carrying wood/tools, Hongpoi village

Plate 2.27: *Kerang* (carrying basket) with neck support (Ngwang gai), Benrue

Plate 2.28: Two types of baskets for carrying grains, Hongpoi village

Plate 2.29: Granary Basket (*Khi*), Phusachodu village

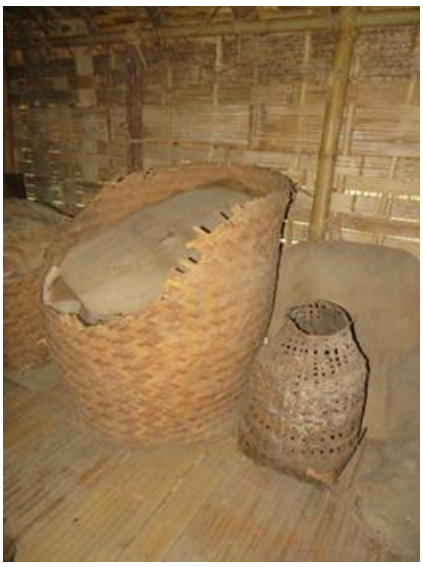


Plate 2.30: Granary to store seeds, Gokhimi village

Plate 2.31: Earthen pots used for storing grains, Laruri village

Plate 2.32: Winnowing sieve *Onghen*, Yongnyah village

Plate2.33: *Gongi*, Hongpoi village

Plate 2.34: Double Pounding table, Tangnyu village

Plate2.35: Single pounding table Tuensang village

Plate 2.36: Dao with wooden handle and iron handle(*merpang*), Laruri village

Plate 2.37: Naga *Dao* (*Nohtsamüri*), Phelungre village

Plate 2.38: Inter-cropping of beans in a paddy nursery field, Phusachodu village

Plate 2.39: Inter-cropping of maize in a field, Viswema village

Plate 2.40: Mixed cropping in a jhum field, Longsa village

Plate 2.41: *Thanphe Tuo*, Tangyu village

Plate 3.1: Lesütho Phoji, a non-Christian with his wife at Meluri village

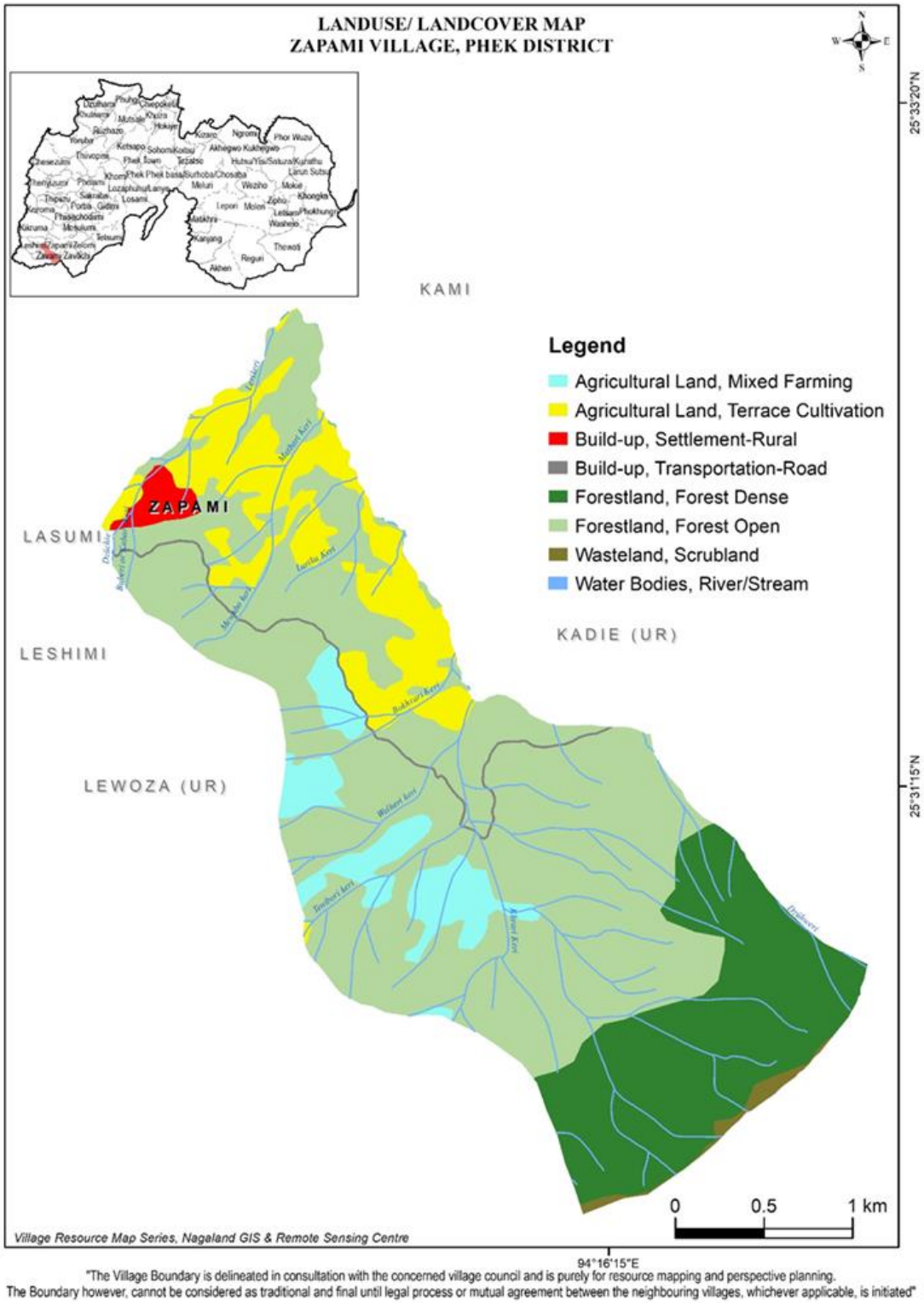
Plate 3.2: Ritualistic rice grain tied on the door of a granary house at Meluri village

Plate3.3: Village main pathway leading to the fields at Poilwa

Plate 3.4: *Hazwa*: long jump pit, Peren village

Plate 3.5: Path clearing festival of the Angami Nagas, Rüsoma village

Plate 3.6: Cultural troop performing the traditional dance and song at the Sekrenyi festival celebration, Touphema, Angami village



(*Source*: Nagaland GIS & Remote Sensing Centre)

Plate 4.1: Land use/landcover map of Zapami village

Plate 4.2: Terrace field during transplantation, Zapami village

Plate 4.3: Terrace fields post-transplantation Zapami village

Plate 4.4: Tehuba (sitting platform), Zapami Village

Plate 4.5: Irrigation channels, Zapami village

Plate 4.6: Water flowing from one terrace field to the other through controlled water outlets, Zapami village

Plate 4.7: *Mena Naha* (Glutinous/white)

Plate 4.8: A young boy digging the terrace fields, Zapami village

Plate 5.1: A group of women busy in transplantation, Phusachodu village

Plate 5.2: Preserving rice grains in an earthen, pot, Laruri village

Plate 5.3: Preserving Job's tears seeds, earthen pot, Laruri village

Plate 5.4: Preserving and drying of millet above the fireplace, Kuthur village

Plate 5.5: Drying of rice grains gourd above fireplace on a basket for the next season, Kuthur village

Plate 5.6:Women busy plucking the paddy sapling to be transplanted in the field, Phusachodu village

Plate5.7:Men preparing the terrace field for transplantation, Phusachodu village

Plate 6.1: *Zabo*/*Ruza* system of cultivation, Kikruma village

Plate 6.2: Animal shed located above the water catchment area, Kikruma village

Plate 6.3: Potatoes grown in terrace fields, Kigwema village