

## Livelihood Patterns and Resource Management among Bangru Community of Arunachal Pradesh

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### Abstract

Livelihood of a community comprises of the capabilities, assets (including both material and social resources) and activities required for a means of living. The economic life of the Bangru is based on shifting as well as terraced cultivation because of the geo-morphological condition of their habitat. The food deficit is supplemented by occasional hunting, fishing and forest collection. Within this backdrop, the present paper is aimed to discuss the livelihood patterns of the Bangru, a numerically weak and marginalised community located in Kurung Kumey district of Arunachal Pradesh. Based on extensive fieldworks, this paper also tries to underscore the utilization and management of natural resources like land, water and forest by this lesser-known community. Further it also deals with the diverse belief systems and resource perception of the Bangrus who are still having close linkages with nature.

**Keywords:** Bangru; Livelihood Patterns; Resource Management; Natural Resources.

### Introduction

Arunachal Pradesh, the largest state in North-east India, is home to 26 major tribes with a large number of smaller sub-tribes or ethnic groups totalling around 100 who, by and large belong to the Indo-Mongoloid racial stock. Tribal population is ethnic in composition, smaller in size having subsistence economy based on land, water and forest. The livelihood strategies of households are determined mostly by their social, demographic, economic and cultural settings. Their economy is affected by poverty of the physical environment, ignorance of efficient technique of exploiting

natural resources and lack of capital for investment, therefore, lack of food security is a major problem for them.

The economy of these people is agro-forest based and considered to be subsistence in nature. A habitat of the people is surrounded by fruit bearing trees, agricultural fields and forest. They frequently interact with their physical environment of forests and hills. In general, forests and people are indivisible and existence and development of one depends on the other. Forests constitute the most important natural resources of people besides lands and waters. No matter how far back we look into the past, Bangru economic patterns

appear to be persistent in terms of the agricultural sector dominating other forms of production. The adoption of *Jhum cultivation* otherwise shifting cultivation as a way of life is no doubt due to the nature of the environment in which they are living. This adoption may be due to the lack of suitable lands for permanent agriculture and sedentary settlement. The pattern of shifting farming has been adapted to the cultivation of crops such as rice, millet, maize etc., and is sometimes supplemented by growing vegetables in the fields for commercial transaction.

With the above background, the present paper tries to underscore the various livelihood patterns and utilization and management of natural resources like land, water and forest by Bangru, the lesser-known community in Kurung Kumey district of Arunachal Pradesh. Besides, the paper also deals with the diverse belief systems and resource perception of the Bangrus who are still having close linkages with nature.

### Objectives

- i. To understand the various livelihood patterns prevailing in the present-day Bangru society;
- ii. To understand the utilization and management of natural resources like land, water and forest by this lesser-known marginalised community; and
- iii. Finally, to understand the diverse belief systems and resource perception of the

Bangrus who still have close linkages with nature.

### Methodology

The present paper is based on an intensive fieldwork conducted in Sarli circle of Kurung Kumey district, Arunachal Pradesh. Data was collected from 15 Bangru villages through structured interview schedule. Collected data was analysed and interpreted whereby the different livelihood patterns of the families were identified and emphasis was laid on resource structure of livelihood patterns.

### Study Area

The fieldwork was conducted on the Bangru; a numerically weak and lesser-known marginalised community of Kurung Kumey district who inhabited the geographical belt that shares a 'hard international border' with Tibet (China) in the northern part of central Arunachal Pradesh (Fig. 1).

### Livelihood Strategies of Bangru

The livelihood patterns of the Bangru in traditional village settings have very much resembles that of many tribal communities of present day Arunachal Pradesh. The economic life of the *Bangrus* is based on shifting cultivation (*Jhum* or slash-and-burn) and terraced cultivation, as the terrain is hilly. The

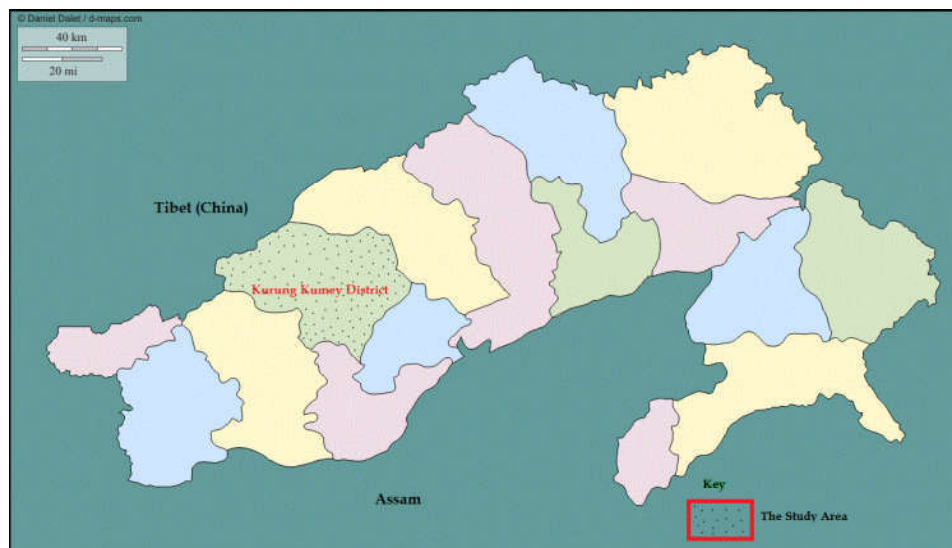


Fig. 1: Map Showing the Bangru inhabited region.

food deficit is supplemented by occasional hunting, fishing and forest collection. Their economy is closely associated with the ecological factors and habitats in which they inhabit. Among the people, the main livelihood is agriculture besides hunting, gathering and fishing. People largely depending on shifting cultivation and minor forest produce collection. Bangru were once known for their inactive cultivators, but in modern times, they are becoming an active cultivators and rearing of domestic animals has become their secondary occupation.

The Bangru people mostly resided in close proximity to forest and fringe of the river in the past. This is so due to their dependency on products for firewood, close access to wild medicinal plants used to cure disease and fishery as their source of income for livelihoods (Ramya, 2012, p.7). They have generated enormous knowledge on a large number of plants species on which they have depended for centuries. Due to this, forests were most important resources for them in terms of food, fibre, medicine, housing materials, fodder and various other needs.

As inform by Bangru respondents, people lived in the group near the forest and fringe of the river because their life is depended on the forests and rivers. They practiced shifting cultivation, hunting wild animals and gathering wild fruits and herbs. The Bangrus are expert in capturing wild animals, perfected in hunting and fishing. They used various traps and tools and natural poisons while fishing in rivers and streams.

#### *Agriculture*

Agriculture is of the utmost importance to the Bangru economy. The Bangrus depend upon their plots not only for the major part of their sustenance but also for a cash income since few years back. The staple crop cultivated by the Bangru is *eay/eaii* (paddy); but there are other crops like maize, *tamai* (millet), finger-millet which supplement the rice at regular interval. Other than all these crops, there is one such tree called *Lavo* [1] known as famine food which supplement their foods at very difficult time like during famine like situation very often due to bamboo flowering. This tree is particularly predominant among the neighbouring Puroiks, for whom, it is serving as staple food.

Briefly, the Bangru farming practices are as follows: a plot is planted with paddy, maize, and other eatables for one year. In some of the villages, plot is allowed to lie fallow for years. After the years of fallowing, it is again put back into cultivation.

In other words, plots carry crops on alternate years. The fallow periods of the plots ranges from 4-5 years. In theory, the cycle of fallow and carrying crops continues indefinitely but the Bangru people perceived that some plots "tire" more quickly than others and these, after a few years, must be allowed a longer period of rest than the usual one year.

The complete cycle of agricultural labour is shown on Table 1. Here I noted the two periods in which the most concentrated labour is performed. The first one is from the end of February to the end of March. At the beginning of this period, the little rainy season starts, that is, there are a few days of rain, the first rains of the year, to be broken by almost a full month of dry weather. The first rains are eagerly awaited as they soften the soil, so that clearing the plots that are to be used for the planting of primary crops is simplified. As soon as these rains have fallen, the Bangru turn out en masse to begin clearing their plots, burning the woods and grass and hoeing up the ridges. The burning must be done before the main rains begin or the grass will be humid and difficult to burn. The Bangrus say that the maize should also be planted before the rains come because, if put into the humid soils, the seeds are likely to rot before germinating. Therefore, the amount of work to be done during this time is great. All of the able-bodied residents of the village work on the plots and the villages become deserted during the greater part of the day.

The second period of intensive labour is months of June to August. This period is associated with most important parts of the cultivation i.e. broadcasting of paddies and millets, weeding of paddy and millet fields, guarding of crops against birds and rodents, and harvesting of maize. The villagers say that the paddies and millets must be broadcasted as quickly as possible. Also the maize is now ripe and must not be allowed to stand or it will spoil. Again, it finds that almost the entire villagers except small children spend from morning to evening on the fields. It is during these two periods of concentrated effort that many community works [2] are held.

During the period in which the most energy is utilised, the amount of food consumed is at a high level due to the frequent millet-beer parties that are given to reward those who have participated in community works. The Bangrus are fortunate that they are able to grow enough food to guarantee themselves against periods of famine toward the end of the agricultural year but the same is not so profound since few years back due to the reason mentioned earlier.

As we can see from the table 1, there are almost

**Table 1:** Bangru Agricultural Cycle

Month	Work
February	Clearing plots for maize cultivation and other eatables.
March	Clearing continues, Plots fired, Hoeing ridges, Maize and other eatables planted.
April	Clearing of plots for paddies and millets commenced.
May	Clearing continues, Plots fired, Hoeing ridges, sowing of paddy and millets started in shifting fields, irrigating the terrace fields and sowing commenced, Weeding maize plots.
June	Broadcasting of paddy and millets start in both shifting and terraced fields.
July	Broadcasting continues, weeding of paddy fields commenced, and Harvesting of maize commenced.
August	Weeding of paddy fields continues, Guarding the paddy and millet fields against birds and rodents.
September	Guarding continues, and harvesting commenced at later part of the month.
October	Harvesting of paddy continues, and guarding of millet fields continues.
November	Storage of paddies in the traditional granaries begins, harvesting of millets started.
December	Completion of whole harvesting process, both paddies and millets.
January	No major cultivation task, festive season started.

**Source:** Fieldwork (July, 2017)/Bangru villages.

constant demands on the labour force of the village but not only are these demands less pressing during the other periods of the year, but also the amount of energy required to complete the necessary tasks is lower. No work diaries were kept but I believe that a fairly accurate estimate of man hours spent in agricultural labour may be made. During the periods of most intensive labour the average man and woman spends about 10-12 hours a day working on their farms. During the rest of the year, the average man spends from 5 to 6 hours, seven days a week, on his plots and women 7 to 8 hours for the same number of days. However, as many of the people have converted to Christianity the number of working days has reduced to six days a week since the seventh day is Sunday, a day for church going. The day after Sunday they usually resume devoting their agricultural work, as the tasks are pressing. Apart from these daily work routine, it will significant to mention here that since few years back, the Bangrus are not devoted much in agricultural works due to recent bamboo flowering resulting in massive outbreaks of rodents which led to the complete damage of their agricultural fields.

#### *Livestock Rearing*

Livestock too plays a very important role in the economy of the Bangrus. People keep livestock as a source of food and income, invest in livestock as a form of saving and use them as assets for social obligations, such as marriage and religious ceremonies. Most of the family in the villages own a *su* (mithun), *yu* (pigs), *se* (cows), and *dojmey* (chickens) and occasionally one or two *sapaying* (goats) and *sopey* (dogs). Goats and dogs are

occasionally possessed because these two animals are culturally restricted to eat. During my stay in the Bangru villages, I found that goats and dogs were possessed just for sacrifice during the ritual occasions. However, specifically, goats are rear for sell to neighbouring Nyishis and Puroiks besides other foreign visitors. Dogs, on the other hand, are frequently used for hunting and the people say that they are more useful for that purpose rather than for food. Chickens are more frequently killed but, again, mainly on ritual or other special occasions. Chickens are sometimes sold in the village or in the adjoining towns' markets but I have never seen either a goat or a dog for sale there.

#### *Tyazi-jyak (Hunting)*

Hunting efficiency among the Bangrus is in part the result of a choice between alternate economic strategies. Hunting is intensive during 'jhuming' and after harvesting of the crops mainly during the month of October-December and April-May. September and October are the suitable months for group hunting for the people. However, hunting time and seasons vary with species to species. Capturing and killing of bear, larger cats particularly leopards and *ganii* (tigers) are carried out for many days usually during night by the Bangrus.

Bangru reported food as the main reason for hunting followed by money, rituals/customs, and interest in hunting and retaliatory killing of crop-raiding animals. For Bangrus, hunting is both a solitary and a group activity. Most hunters go in either pairs or alone. Relatively few hunters go in larger groups of more than 3 persons. Group hunting is common in villages. They take their hunting dogs and at times, in groups of up to

10-15 people.

Hunting is carried out mainly for household consumption as well as trade besides sometime for ritual purposes. Wild meat is sold locally among the villagers. Fresh wild meat costs Rs.100 to Rs.150/- per kg, while dried meat is Rs.200 to Rs.250/- per kg (Table 4). Apart from consumption and rituals, some species are targeted for the market by villagers. Pods from musk deer and gall bladders of black bear fetch a high price. Villagers made bags out of bear skin for their own usage and sometime for marketing. Three bags can be made out of one bear skin. Villagers also use capped langur skins to wrap the *vya* (dao/machete) which sells for Rs. 250 to Rs.500 per piece in Sarli and Koloriang towns. Among the older generation of adults (40 and over), subsistence hunting remain exceedingly important and viable economic strategies, providing food and raw materials that are shared among a large network of related families.

#### *Chezmeii (Fishing)*

The Bangrus who lived on the banks of Kurung River were spending a considerable time in catching fish. In the wet season they build intricate wooden dams across rivers to trap large quantities of fish. They spend several days camped in the forest, smoking the caught fish in specially built houses and then carry them back to the village. Bangrus living in the interior hills have the opportunity of coming down to the rivers and nearby streams for fishing. Fishing as a source of livelihood has so far not gained much importance among them but it remains as part of their economic activities.

### **Other Economic Activities**

#### *Weaving*

Weaving is popular among the Bangru women and young girls. Though this is not their traditional activity but most of them prepare to weave for their own utility. Very few of them sell their weave cloths in nearby markets at Sarli and Koloriang. However, nowadays it's going to be a part of their economy as almost all village women and girls are weaving throughout the year for their own use and for selling. There are two sources of getting the weaving materials. First is the traditionally cultivated *Tachak* or *chakmang* (cotton plant). The other one is the yarn collected from the markets.

#### *Basketry*

Basket making or basketry is a common practice of Bangru communities of Arunachal Pradesh. The Bangrus are also make baskets of various sorts with the help of materials like bamboo and cane accessible in their inhabited forests. These baskets of different shapes and sizes are used for carrying food grains, firewood, storing of edible and non-edible items, winnowing and sieving purposes, etc. In usual terms, these items are prepared by the older people. Various types of baskets prepare by the Bangrus may given as under.

*Bukh* is a conical shaped basket made of cane used by both men and women for carrying solid and finer items like grains from different places. Such baskets are tightly interlaced so that any finer items like grains would not fell from the same.

*Kangchang* is another conical basket made of bamboo which the people carry on their back and used generally for carrying firewood, maize, etc. from the jhum fields and from nearby forests. Usually, these baskets are carrying by womenfolk.

*Papee* is another rectangular basket made of bamboo and cane. It is used for sieving wheat and barley. The size of such basket is very small and handy.

*Periya* is a winnowing receptacle made of bamboo and cane. The women folk use such basket for cleaning food grains, rice and seeds.

*Chungkya* is a simple and small basket made of bamboo. This small basket is usually hung on the walls of their houses and used for keep items like spoon, herbal and ethnomedicines and other important items.

*Nara* is a kind of carry bag made of cane which suspended on the back of menfolk by means of straps. Other than cane such baskets are also made of bamboo and other indigenous materials. Men use such basket for carrying knife, food items, etc. during their journey to far-off places, during hunting in the forests and during fishing in the rivers and streams.

### **Natural Resource Management among the Bangrus**

Natural resources provide the base on which the edifice of development is raised. Its use depends upon the type of economy, the level of technology and preferences of the culture of a given society. The importance of natural resources is more critical to societies, which are at a relatively low level of development. People have to conform

with their livelihood and lifestyle to the settings of nature. The sustainable use of natural resources to attain high levels of human development has become imperative. Natural resources of Bangrus have a direct relationship with its physiographic conditions including relief, drainage, climate and geology. These in turn influence the type of soils and the kind of vegetation cover.

Natural resources have since time immemorial been an integral part of Bangru peoples' diet, economy and culture. For those who living in or near forests, plants and animals provided foods, ethnomedicines, construction materials, income and were the source of inspiration. Water, in the form of river provides fish and other sea-foods. For a long moment, Bangru have developed location specific holistic strategies of sustainable management of natural resources and improved livelihoods at the high altitude habitats. Most of the surface area is situated in a rain-fed ecosystem and a great extent of this consists of un inhabited forestlands, cared for and used by the people until recent government and other external influences began to upset their equilibrium with the traditional natural resources on which they depend and its management pattern.

Like many other tribes of Arunachal Pradesh in particular and of India and world as a whole, the Bangrus are the people of hills and forests who have the close relationship with the natural and supernatural elements. Since time immemorial, they have developed their knowledge and proficiency in the construction of their houses, preparation of agricultural fields, use of available water resources both for drinking and irrigation, crop rotation, exploitation and management of forest resources, etc., suiting to the physical environment in which they live. Although many of them illiterate, they possess working knowledge about their environment.

They have their own indigenous skills inherited from their forefathers, which they timely utilise to sustain their economy, though at a subsistence level. Living in the interior hills and forests, having less contact with the outside world, they could persuade their limited needs of life by exploiting the available land, forest and water resources. Their self-sufficient life system has been disturbed in recent years, like that of many other tribes, with the degradation of natural resources including forests.

Resources among the Bangrus are managed by the community and private individuals since the area was first settled by them. The main resources that are managed by communities are land, forest and water. Within each village, a village panchayat

is in charge of local management of resources along with the villagers. Between villages, resource management is also based on an agreement which define show resources should be shared. In the case of disputes over resources, the Gaon Burahs and village panchayat are responsible for resolving the crisis.

### **Resource Utilisation and Management by the Bangrus**

The management of natural resources by the local community is closely linked to the management of the village territory and the use of the resources within, on the basis of each area's potential and local people's preferences of using. A village territory is commonly divided into several designated areas, including a settlement area and several farming areas. The natural resources are used for various purposes like cultivation, hunting, fishing, harvesting fruit and plants, gathering building materials, and collecting commercial forest products.

#### ***Latmaii (Land) Resources***

##### *Land Reform Measures & Operational Land Holdings in the Area*

In Bangru villages, the problem of fragmentation of land holdings is not an issue because of the peculiar pattern of landownership, tenure and land use prevalent. Customary laws of the community govern the ownership of land and the individual rights. Due to the unique ownership and management system of the people, there is little or no alienation of the people from their land and resources and therefore, even farmers, despite their poor economic condition can be considered resource rich.

A comparatively low population pressure, high regeneration rate of natural resources, community based natural resource management initiatives and projects like the watershed programmes have all further created opportunities for other economic activities to take place and contribute to the overall development of the area. The cultivable land is the most valued form of property for its economic and symbolic significance. It is a productive, wealth creating and livelihood-sustaining asset. It also provides a sense of identity and rootedness because it has durability and permanence, which no other asset possesses. Over and above this, the ancestral land has a symbolic meaning, which purchased land does not. Moreover, there are different rules

for devolution of ancestral and self-acquired land. The society is based on patrilineal descent and hence children take their social identity from their father and are placed in his agnatic group and familial unit. A female child's membership of her father's agnatic unit is neither permanent nor complete. Gender differences in group membership and social identity are closely connected with the patterns of inheritance and resource distribution.

Property is inherited by the male heirs and transmitted through them. They have legal rights in ancestral property. The women have no share in such inheritance although acquired properties can be gifted to daughters also. It is widely believed that the daughters after their marriage come under the care of the husband's clan and family. Largely because of this, in practice, no landed property was gifted to women although most of the work on the land was done by the womenfolk. In recent times, through the pioneering initiatives undertaken by few private and official, women are being allowed to own land.

#### *Land Sales*

Land Sales took place in the past, but are now prohibited since years back. The reason given for this prohibition was that, if strangers to the village bought land and at a future date left the village, the land that they had purchased could not be put to use. I guess that this is not the real reason for the new ruling since none of the plots which had been sold is today not in cultivation because of the owner's absence. All of the land sales were either between ancestors of present residents or else between the residents themselves. It is equally doubtful whether, even if the purchaser were to leave the community, his land would be kept unused. I can give no reason for the instigation of the prohibition, unless it is that the elders feared that, if sales were continued, what little ultimate control they as elders had over land would disappear.

This is a mere hypothesis and no evidence is available to support it. In some of the cases of land sales, the sale was carried out with the consent of the owner's kindred, and in others, without it. It would appear from the little information available that the price of land decreased through time. The earliest recorded prices paid for land were either a mithun or cow or pig. In recent time the plot is obtained with Rs.50,000. The plots sold were roughly of equivalent size and quality. Admittedly, it is rather hazardous to postulate a decrease in land value on so few cases, but in view of the fact that land was scarcer in the past than it is today, it is probable that

this was the case.

#### *Land Use Pattern*

The land ownership and management systems of the people in the study area are unique and are somewhat similar from the rest of the areas, where local customary laws govern the land. Such laws are tribe specific where each tribe or even village has its own land laws. These customary laws are usually not codified but have the constitutional sanction. The enforcement of these laws and regulations rests on traditional villages institutions such as village councils headed by Head Gaon Burah.

Amongst Bangrus, the land either belongs to the community or individual as custodian. In most community land, all members have a right to use it freely but with prior consent of the custodians. There are, however, restrictions on transfer or even use of traditional land by outsiders. Outsiders are people who do not belong to the community or clan. Jhum lands are usually owned by the community/Clan/private gifted down by forefathers but regulated by the respective village councils for any dispute on account of boundary/ownership where the village elders inspect & provide views based on their knowledge of boundary & then village council consist of village elders give the final.

There is already increased privatisation and individual ownership, especially of land under permanent cultivation such as wet rice cultivation, terraced lands, orchards, gardens, tree farming, bamboo grooves, etc., in the study area. The practices and trends of land ownership differ largely depend on existing traditions, availability of land and interpersonal relationship with the community members.

#### *Wee/Wii (Water) Resources*

The practice of agriculture is mainly dependent upon the Niidi (rainfall). The area under study comparatively receives high rainfall among other places of Kurung Kumey district. Even though, the region receives highest rainfall, the people did not develop the technology of storage and conservation of water resources. Most of the rainfall water merges into the rivers.

It is a well known fact that almost all the human settlements lies near by a water point. In the Study area, each village is usually situated near by a hill *wuju* (stream). The universal importance of water as a basic necessity of all forms of life makes its utilisation a most complicated. Water is a Biological necessity and has great economic importance. All

life is completely dependent upon water, which includes drinking water for man and beast, soil water for vegetation and surface water for the habitat of all types of aquatic life (Garland, 1950). It is most important to human life and such natural resource should be properly conserved and utilised.

Surface waters like rivers, hill *wuju* (streams) and tanks are the major sources of water supply to the Bangru people in the study area. The other ground water resource is the springs. The spring water is largely used for drinking and terrace cultivation purposes. Many springs are of limited volume of intermittent nature that they are of value as source of water supply for individual houses, especially isolated farmsteads, and small settlements. People used freely the available surface water.

People use such the water for drinking, bathing and use it for other domestic purposes. Of late, the Public Health Department has begun a considerable number of projects in the study area with a view to provide protected drinking water facility to the people. But till date there is lack of proper supply of water from these projects in almost every village. Government implemented the Integrated Water Management Programme (IWMP) for irrigation purpose in some of the villages with a view to increase the extent of wet cultivation area and for agricultural and economic development among the people. Even this kind of water supply is also not properly used by the farmers fully for irrigation. Only in few Bangru settlements certain medium and large farmers are using it.

#### *Conservation and Management of Water Resources*

The natural rainfall serves as the source for all kinds of water supply in the study area. The *Niidi* (rainfall) on the land surface or hill slopes run off directly into streams to drain by way of rivers. The people have developed certain indigenous technology to conserve the rainfall water in the form of check-dams, ponds and tanks. The government has also established small, minor irrigation projects in study area. These projects in the study area have constructed the tanks check-dams and small reservoirs. Due to certain technical problems some of the tanks and check-dams are also washed away during the heavy rainy seasons.

Topographically it is also very difficult task for the people to conserve the water with locally available technology. They construct the check-dams, ponds and tanks with pebbles, rocks and clay. The Bangru farmers divert the stored water through the canals to their agricultural fields for the

wet crops which they raise. If they wanted to divert the check-dam's water for the highly elevated fields they make use of the hollow bamboo or wood logs by joining one another with the use of add a fibre covering the gaps with the locally available leaves. Generally springs flow in the form of canals and merged into the hill streams.

The farmers use the spring water in terrace cultivation. They usually prepare small fields from the bottom of the hilly terrain upto the place of spring's origination. They make the bunds on the three sides of each field and made hole on each field. This is done so that the springs over flow water reaches from the top most field to the bottom most one. This kind of irrigation technology is very commonly found in terrace cultivation throughout the study area and in among the neighbouring Nyishis and Puroiks. Only limited area is available even for this kind of cultivation in the study area.

The major water conservation problems in the area are uneven landscape, erosion, heavy rainfall leading to overflow of the streams, lack of concrete check-dam construction structures and tank structures. And also large majority of the people have not developed water conservation attitude and most of them make use of only freely available surface water for both wet cultivation and domestic purposes.

#### *Siimi (Forest) Resources*

Forest is an integral part of the livelihood of the Bangrus and serves as an essence around which the economy and culture of the community revolves (Ramya, 2013). The people collect the firewood for fuel purpose, timber for house construction and making of agricultural wooden implements, furniture and other articles for domestic usage. Forest also serves as hunting location for the people. The Bangru people in the study area now and then participate in small hunting games in which they catch rats, deers, wild pigs, fowls and other birds. The flesh of these animals and birds are used only for their own consumption purpose.

The forests also serve as an important source of *go* (firewood) and virtually all the domestic firewood requirement in the household is met through the forests. Households often make piles of firewood procured from the forest for future utilize. The firewood sourced from the forest is also an imperative source of income for the households. It is a common phenomenon among the villagers especially the women travelling over 20 or more kilometres carrying head loads of firewood every



day. However, it also found that those women are collect firewood from the forests basically for domestic purpose. But, sometime, around 4-5 bundles of wood are sold in the nearby market located at Sarli.

This is very often sold to Indo-Tibetan Border Police (ITBP) personnel and other government staffs stationed at Sarli at the rate of Rs. 40-50 per bundle. At times of severe food scarcity in the household, tubers growing wildly in the forests are dug from underneath the ground to serve as food.

Overtime the gradual degradation of forest due to unprecedented felling of trees by some villagers as timbers and expansion of agricultural land into forest areas have created serious environmental problems like regular recurrence of droughts, soil erosion and loss of bio-diversity putting the livelihoods of the people at stake.

#### *Farm Forestry*

Bamboo is commonly grown by most of the households wherever space is available. Farmers are not too inclined towards growing tree crops on the fields' boundaries because of easy availability of firewood from the surrounding forest (Gupta, 2007). Bamboo however is a fast growing grass and has a readily available market locally where it is sold at the rate of Rs. 10-20 for each full grown strand. Bamboo often serves as a source of income during periods of distress and hence has an important role to play in the coping mechanisms adopted by the villagers.

The process of management of environment involves relations of power. The management of the community forest by the local people of Bangru villages is a positive change because this protects natural environment and increases the sustainable use of natural resources. One of the important dimensions of the environmental changes of Bangru villages, as mentioned above is the shift from traditional subsistence farming to the production of cash crops. When the sources of regular grains become disrupted, the traditional occupations of the people do not provide them sustainable livelihood.

#### **Bangrus Belief System with the Nature**

Worshipping natural objects and products is the habitual feature and part of the life of the tribal communities in Arunachal Pradesh, including Bangru. They refer the forest as *Siimi*, the hill or

hillock as *Gang*, Land as *Latmaii*, and water source as *Wee/Wii*. They believe that the forest will nourish them and provide food for their livelihood. They believe that Gods and Goddesses should be seen properly with a view to get protection from wild animals, snakes and natural calamities. The *jhum* (Shifting) cultivators in the villages have the belief that *arey* (spirits) shall protect their crops and helps to get good yields from the crops which they raise. Because of this reason, they worship the deity at the time of sowing and harvesting of the crops. They consider that forests and hills are the abode for spirits. Majority of them still have the superstitious beliefs, witch craft and sorcery. For various diseases they consult the local *kawae* (priest) and make vows to local deities. The animal sacrifices are widespread among most of the tribes of Arunachal Pradesh.

In the study area, the Bangrus considered like *sangrik-sangney* (banyan/peepal) tree as sacred in nature, which they do not cut neither for firewood nor for the house construction, agricultural and other domestic purposes.

#### **Conclusion**

This paper had made an attempt to discuss the traditional patterns of livelihood and resource managements among the Bangrus of Arunachal Pradesh taking the anthropological methodology into account. It reflected how the tribal culture and their livelihood are closely associated with nature. It has also discussed the diverse belief systems and resource perception of the Bangrus. The study revealed several types of livelihood patterns viz. agriculture, hunting, fishing and animal husbandry based prevailing in the study area.

The study leads to conclude that the livelihoods of the Bangru in the study area have traditionally been dominated by subsistence agriculture. However, the land, water and forest resources play a vital role in the livelihoods of the people. The livelihoods promotion among the people needs a shift of paradigm focusing on natural resources to keep pace with current development and future challenges in the study area.

There is enormous scope in improving the livelihoods of people through proper storage and value addition to natural resources, domestication and commercialization of resource based products, organized marketing system, proper refinement and dissemination of indigenous technologies, institutional support in training and skill development, appropriate extension

and communication networks and exploring new natural resources based livelihood avenues. The interventions visualized needs to be implemented efficiently for all-round development of the people and ecological stability in the study area.

This paper also demonstrates that traditional natural resources management in the study area is enshrined in religious beliefs and practices. The need to investigate these issues for conservation has been emphasised in recent times. However, a much clearer understanding of spiritual and mystical beliefs, and the related local institutions associated with traditional natural resources management, is needed. Government and non-governmental organisations should fund integrated social and biological research at several locations in the country to promote a better understanding of traditional management practices. Collaborative research involving anthropologists and natural scientists may help explain the scientific and social value of beliefs related to traditional natural resources management in the study area and other parts of Arunachal Pradesh.

## References

1. Gupta V. Community Forestry among the Bangni-Nishi: A Case Study from Arunachal Pradesh, N.E. India. Tahoe, USA: Community Forestry International. 2007.
2. Ramya T. Bangrus of Arunachal Pradesh: An Ethnographic Profile. *International Journal of Social Science Tomorrow*, 2012;1(3):1-12.
3. Ramya T. Forest and Tribes: A Study on Livelihood Patterns of the Bangrus in Kurung Kumey District of Arunachal Pradesh, India. *International Journal of Social Sciences & Interdisciplinary Research*, 2013;2(2):36-48.

## Endnote

1. This was the staple food of the Bangrus before they shift for contemporary modes of cultivation. The term is called as *Tasse* and *Bey* among Nyishis and Puroiks respectively.
2. The community works here refers to the helping hands to a family at a time among the villagers in the cultivation as to complete the process before the cultivation time went-out.

