



TRADITIONAL TECHNOLOGY ON HUNTING, FISHING AND FORAGING OF EASTERN HIMALAYAN: STUDY OF NYISHI OF ARUNACHAL PRADESH

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ABSTRACT

Early societies across the globe did not produce their own food but instead survived by hunting and gathering or foraging. The hunter-gatherer culture was the only way of life for early humans until around 12,000 to 10,000 years ago. This was subsistence lifestyle that relies on hunting and fishing animals and foraging for wild vegetation and other nutrients foods. Anthropologists have discovered evidence for the practice of hunter-gatherer culture by modern humans (Homo sapiens) and their distant ancestor dating far back as two million years.

Until recently, nineteenth century Anthropologists believed that many modern hunter-gatherers had limited technologies and they thought that these limited technologies reflected simplicity of mind and lack of skill. Modern anthropologists, in contrast, regard these technologies as highly functional in particular ecological conditions. More important, technology does not refer just to tools, or artefacts; it also includes the cultural knowledge that has to be maintained by the society.

The above paragraph, the traditional tribal society of eastern Himalayan region as well as Nyishi of Arunachal Pradesh has experienced the same. The region is experiencing high hills, mountainous terrain, contour, deep gorge since time immemorial. The early foraging society of the eastern Himalayan region as well as Nyishi of Arunachal Pradesh was 100 percent practices on hunting, fishing and foraging. In this context, the traditional technologies on tools and implements of Nyishi community of Arunachal Pradesh are discussed in this article.

Keywords: Early society, Hunter-Gatherers, Traditional Technology, Implements and Tools, Arunachal Pradesh, Eastern Himalayan, Nyishi Tribe

1. INTRODUCTION

Nestled in the laps of the great Himalayan ranges, the state of Arunachal Pradesh- a land of sensuousness where the variant sportive natural topographical features play around the cliffs to plains like the gleeful children is home to several ethnic communities, who are warm and colorful as the land itself. Geographically, Arunachal Pradesh

lies between 26°28 to 29°30. N latitudes and 91°30 to 97°30.E longitudes with the total area of 83,743 sq.km. It is bounded by Bhutan to the west (160 km), China to the north and north-east (1080 km) and Myanmar to the east (440 km). It shares inter-state boundary with Nagaland in the east and south-east and Assam in the

south.¹ As per 2011 census, Arunachal Pradesh has a total population of 13,83,727 persons of which 7,13,912 are male and 6,69,815 are female. The literacy rate is 65.38%. The scheduled tribe population accounts for 64.22 per cent of the total population, as against 88.50 per cent in 1961.²

The state has comprised of 25 districts with 26 major tribes and number of least populated tribes, which are from West to East; and named after the principal rivers of the hilly terrain. The state is largely divided into three important cultural zones viz, the Western Zone, Central Zone and Eastern Zone. Mahayana sect of Buddhism populates the western zone while the major populations of central zone are believers of *Donyi-Poloism* (Indigenous Faith/Animism). The Eastern zone is largely dominated by the Hinayana sect of Teravada Buddhism and also sizeable number of indigenous worshippers like *Rangfrah*, *Nani Intiya* etc.³

The Tawang District, are the inhabitants by Northern Monpas; The Dirang and Kalaktang are inhabited by Central and Southern *Monpas* (*Sherdukpen*) of west part and *Aka* (*Hrusso*) and *Miji* of West Kameng District.⁴ In East Kameng to Subansiri District and some parts of Assam are inhabited by Nyishi, of *Aabhu Thani* ethnic group of the State. Lower Subansiri and Upper Subansiri

Districts are distributed by Apatani and *Tagin* tribes which also a *Thani* lineage. The Siang Belts are also completely concentrated by *Thani* lineage of *Adi*, *Galo*, *Palibo*, *Ramos*, *Bori*, and *Boker*. But some of northern parts of Siang Belt are also inhabited by *Memba* and *Kamba*, which they considered as Mahayana Sect of Buddhism since time immemorial. The Dibang and Lohit districts are mainly occupied by *Mismis* (*Idu*, *Digaru* and *Miju*) and eastern northern part of Anjaw Districts is occupied by *Meyor/Zakrin* tribe of northern Zayu Province of Burmese origin. The *Singpho* and *Khamti* are the indigenous tribes of Namsai district while in Changlang District, the *Tangsa*, *Moshang*, *Longphi*, *Kimchin*, *Tekhat* etc., live along with a small group of the *Yangkuk* and *Longchang*. In Tirap and Longding District, the *Nocte* and *Wancho* and other minor tribes are inhabited.⁵

1.2 PROFILE OF ARUNACHAL PRADESH

The name Arunachal Pradesh was formerly given on 20 January 1972 at Ziro Headquarters of the then Subansiri district (presently under Lower Subansiri District) by the then Prime Minister of India Mrs Indira Gandhi. In fact it was the renaming of the hitherto known area as the North East Frontier Agency (NEFA), which was organized in 1954. Along with this new name, the territory was upgraded to a Union Territory as per the North East State Reorganization Act 1971. The Union Territory was later on elevated to a full-fledged state on 20

¹ Report on the Physical and Political Geography of the Arunachal Pradesh, 2001, p.1

² Arunachal Pradesh Census Report, 2011. Sources. <https://www.census.co.in> state

³ Tana Showren, The Nyishi of Arunachal Pradesh; An Ethnohistorical Study, 2009, Regency Publication, New Delhi. P. 11

⁴ Verrier Elwin, Democracy in Nefa 1965, Second Reprint 2014. P. 56

⁵ Tana Showren, op.cit, p 11

February 1987, and it became the 24 state of the Indian Republic.⁶

1.3 THE NYISHI

One of the earliest references to the tribes occurs in the account written by the chronicler *Shihabuddin* who accompanied *Mir Jumla* when he invaded Assam in 1662. He says that the Nyishi tribe did not 'place its feet in the skirt of obedience' to the Ahom Raja, but occasionally encroached on his kingdom. Throughout the period of their rule their main concern was to contain the tribal people in their own hills and forests and protect the gentle and unwarlike people of the plains, only sending out expeditions when there were raids of unusual audacity. When *Raja Udayaditya Singha* (1670-72) wanted to send a force to punish the Nyishi of the Subansiri for having taken off number of Assamese men, women and children, his celebrated prime minister, Atan Buragohain said that 'the Nyishi miscreants can be captured only if an Elephant can enter a rat hole.' The Raja ignored the warning and his expedition against Nyishi was defeated with heavy losses of men and provisions.⁷ Later in order to resist the Nyishi, King Pratap Singha (1603-41) constructed a fort called *Dafala Garh* in Darrang district, under his able military commander Gohain Kamal Ali, which was known as *Rajgarh Ali* (that is, royal fortification). Since then the king granted Nyishi the right of *posa*, that is, the right to receive a payments from certain specified villages in the foothills provided they paid an annual

tribute to the king. *Kotakis* [now Political Interpreters (PI)] were appointed for this purpose. A number of *paiks* (adult male subjects) were engaged in the *duars* (passes) to supply the Nyishi with the necessities of life. These *paiks*, who were actually agricultural labourers working under an officer called *dafalaparia phukan*, came to be known as *dafala-bahatias* (adult male labourers of Assam for Dafala or Nyishi Chiefs). This was a privilege enjoyed by the Nyishi in addition to *posa*.⁸

The Nyishi constitutes one of the principal aborigine tribes of Arunachal Pradesh in North East India spread across eight districts of Arunachal Pradesh: East Kameng, Pakke Kessang, Papum Pare, Lower Subansiri, Kra Daadi, Kurung Kumey, Kamle, Upper Subansiri and some part of Lakhimpur and Sonitpur District of Assam. The tribe known for its prowess and sturdy built up, independence loving by nature and temperament, simple, but industrious and straightforward, since the days of the *Varman* [1-650A.D], the *Salastambha* [670-910 A.D], the *Brahmapala* [990-1206 A.D] and the *Ahom* [1228-1826 A.D]⁹ and has played a significant role by way of contributing towards the shaping of the history and culture of the North East

⁶ Nabam Naka Hina, Customary Laws of Nyishi Tribe of Arunachal Pradesh, Authors press, New Delhi, 2012. P2-3

⁷ Varrier Elwin, A Philosophy for Nefa, 1957. Fifth Reprint Edition, 2006. pp. 1-2.

⁸ For details see, B.N. Jha, 'Politics of Posa: a Case Study of Pre and Post Independence Scenario in Arunachal Pradesh and Assam', *Proceedings of Indian History Congress*, 57th Session (Madras, 1996), pp. 446-58. A.K Thakur, *Socio-Economic Formations in Pre-Colonial Arunachal Pradesh: Myth and Reality*, The Indian Historical Review, Volume XXXII, No. 2 (July 2005), pp. 37-63. Published by the Indian Council of Historical Research, New Delhi, 2005.

⁹ Tana Showren, op cit, pp, 12-13.

India in particular and country as a whole. The total population of Nyishi in the State is 249,824 as per the census of 2011.¹⁰ The populations make the most populous tribe of Arunachal Pradesh followed by tribes of Adi as according to the census. The tribe belongs to Mongoloid stocks and speaks the Tibeto-Burman group of languages;¹¹ however, the origin is still in debate. The Nyishi society is not based on caste system or stratification into classes, except a loose type of clan distinction which is determined by birth but not on occupation. They have evolved a broad based family organization and an extended family norm which still exists but altogether in changed forms.¹²

The traditional technology used in hunting, fishing and foraging among the Nyishi tribes of Arunachal Pradesh has been discussed in this article. These activities have added to the otherwise limited diet options available to the people and have helped them in maintaining good health. They have been very effective as means of continued existence. The tribes are able to organise their hunting and fishing by relying on various types of traps, techniques, tools, implements and weapons so as to procure the necessary protein in their diet. No culture relies exclusively upon one of these methods, but generally the greater part of the diet is provided by one of these means than the other. Often the dominant techniques are partly determined by the character of the environment. In the same way, communal fishing and

hunting have always been an important part of tribal social life. The formulation of V. Gordon Childe and other scholars about “Neolithic Revolution” and related developments at one hand and the continuance of the hunting and fishing practices and their various perspectives at the other are, significant enough to be discussed before we discuss the technology and practices related to hunting, fishing and foraging.¹³ He is of the view that; Neolithic stage there would be no specialization of labour-at most division of work between the sexes. And that system can still be seen at work today. Among hoe-cultivators the women generally till the fields, build up and fire the pots, spin, and weave; men look after animals, hunt and fish, clear the plots for cultivation, and act as carpenters, preparing their own tools and weapons. ... Each and all repose on practical science. Moreover, the exercise of each crafts is throughout regulated and directed by a constantly explaining body of practical science. The appropriate lore is handed on from parent to child for generation after generation.¹⁴

Thus, it is clear that even with Neolithic development underway, hunting and gathering practices continued in the societies and the later were considered to be the other art of society. It has nothing to do with the level of development in the society.¹⁵ Though the authors, Ralph L. Beals

¹⁰ Arunachal Gazette, census report 2011, Govt. of Arunachal Pradesh

¹¹ Nabam Naka Hina, op cit, p. 15

¹² ibid, p. 15

¹³ A. K. Thakur, Technology of Tribes of Northeast India, DVS Publishers, H. B. Road, Panbazar, Guwahati, 2017. P. 72

¹⁴ V. Gordon Childe, Man Makes Himself, The New American Library, New York, 1951, p. 72 (Revised edition with a Forward by Glyn Daniel).

¹⁵ Ibid, p. 73

and Harry Hoijer, situate the description to the other parts of the world, their formulations are applicable also to the regions of northeast India and the neighbouring areas. They write rightly that:

A study of the implements and techniques of hunting clearly refutes any notion that

Non-literate peoples are always mystical or non logical in their thinking. Instead it becomes obvious that within the limits of their knowledge they are both practical and ingenious. Super natural aid may be sought for the hunt, and failure may be attributed to supernatural intervention or to the violation of taboos.¹⁶

The discussion on traditional technology on hunting, fishing and foraging in Australia by **Australian Law Reform Commission, Government of Australia** state that:

Traditional Aborigines have been regarded as the sole surviving representatives of hunters and gatherers in Oceania.[1459] Bush food continues to form part of the diet of many Aboriginal people outside urban areas. But traditional hunting, fishing and foraging activities are not concerned only with subsistence. The close relationship between economic

activities and the law has often been described.

Sackett, a law maker suggested Indigenous people of Wiluna:

Hunting ties the past to the present, but is not simply a survival of some subsistence gambit.... Most importantly it is an aspect of the law. As such it offers a venue through which certain men can and do display concern for belief system....

Just like ritual, hunting affords men the opportunity of making claims regarding their position and right to authority in the group....To hunt, then, is as with ritual participation, to follow the law, demonstrate its great potency, and guarantee its continuance.[1460]¹⁷

As in the full customary sense that around the world, hunting, fishing and foraging are only not linked with the economic subsistence rather they are of use of land and sea with spiritual maintenance of that land and sea through ritual. Rituals to maintain the land and replenish the food supply were thus an important part of traditional life.

The discussion on the development of tools and technology related to gathering is enriched by Nancy Makepeace Tanner. She is of the view that women with children developed a new gathering technology and that this, not hunting, was the critical innovation for the human/ape divergence. In a nutshell, this model is

¹⁶ Ralph L. Beals and Harry Hoijer, An Introduction to Anthropology, Surjjeet Publication, New Delhi, 2007(first Indian reprint), pp. 330-32

¹⁷ Australian Law Reform Commission, Govt of Australia, recognition of Aboriginal Customary Laws on Traditional Hunting, Fishing and Gathering Report 31/33, dated 18.08.2010, pp. 1459-60

a sequential scenario beginning with the immediate ancestor of the hominid lineage. The conditions of pregnancy, lactation and child rearing motivated or forced women for technological initiatives largely dealing with the needs and environment. They developed a gathering technology consisting of digging tools and carrying containers which allowed them to obtain and transport sufficient food for themselves and their families. The women shared food their children, as do chimpanzees. The diet was omnivorous and included predation on small animals. The condition of bipedalism was selectively advantageous for carrying infants and raw materials, as well as food. Mothers, who were the best gatherers, taught their children the techniques and turned out to be the most successful reproductively. The earlier stone tools were used primarily for digging, cutting, and smashing plants. Used of tools for hunting is not denied, but Tanner suggests that the increase complexity of stone tools associated with *Homo erectus* indicates a much later transition to hunting as a major means of food acquisition.¹⁸

Nicholas James Reo and Kyle Powys Whyte situate the hunting gathering practice under a larger system of Traditional Ecological Knowledge (TEK), certainly beyond the economy and cultural paradigms as

discussed above.¹⁹ The TEK is a combination of the systems related to practice and belief. TEK is commonly-specific, place-based (i.e., geographically-specific) and accumulates over time by sharing experimental knowledge across generations. Examples of systems of practice include communal systems of hunting, fishing and wild plant harvests, as well as kinship based movement or trade of material goods. The system also involves moral and spiritual values that make up a community's worldview. These values manifest in traditional moral codes, moral judgements about right and wrong, and ceremonial practices associated with plants, animals, and important geographic locations.²⁰

In the context of Arunachal Pradesh, initially, the people of Arunachal Pradesh were hunters and gatherers moving in bands among which lineage or clan organisation had not developed. However, their consequent long struggle for survival led to the development of clan organisation. At this stage, the whole community did hunting and the prey was distributed almost equitably among the members. But the system of leadership originated at this juncture to regulate the activities of hunting and gathering and to ensure proper distribution of the fruits of labour among the community members. However, insecurity about the sharing of grains from hunting and food

¹⁸ Nancy Makepeace Tanner, *On Becoming Human: A Model of the Transition from Ape to Human and the Reconstruction of Early Human Social Life*, Cambridge University Press, Cambridge, 1981 and review of the book by Warren G. Kinzey in *American Anthropology*, New Series, Vol. 84, No. 4, December, 1982, pp. 963-64

¹⁹ Nicholas James Reo and Kyle Powys Whyte, "Hunting and Morality as Elements of Traditional Ecological Knowledge", *Human Ecology*, Vol. 40, No. 1, February 2012, pp. 15-27, <http://www.jstor.org/stable/41433089>.

²⁰ A. K Thakur, op.cit, pp. 74-75

gathering and difficult geographical conditions compelled the people to take up domestication and breeding of animals. So, the animals became items of property. Initially, these were held communally but gradually these became the exclusive possessions of individual families. Therefore, powerful tribes started being aggressive towards neighbouring territories of other tribes in order to enhance the extent of their areas for hunting and gathering activities and for acquiring more animals.²¹

1.4 HUNTING, FISHING AND FORAGING OF NYISHI

The early society of the Nyishi was undoubtedly determined by the surrounding peculiarities of climate, flora and fauna. They might have acted differently according to nature and survived by hunting-games, fishing, trapping and variety of gatherings. They also might have depended on the abundance of forest resources in the forms of wild animals, roots, fruits and aquatic produce of streams and rivers of the locally where they lived. Traditionally Nyishi used to depend for major parts of their daily subsidiary consumptions on the forest resources in addition to their subsistence agricultural products. Probably, in the early days the tribe moved from time to time and place to place according to availability of the game, roots, fruit and other forest products.²²

After adopting an intensive agricultural practice, hunting, fishing and foraging continue to be an important occupation among the

Nyishi tribe of Arunachal Pradesh. The region is hilly and mountainous in nature, narrow land, high altitude temperate zone, zig zag contour, ridges and deep gorge valley with torrential rivers and streams, separating the inhabitants from one another living in small villages. The majority of the Nyishi of Arunachal Pradesh was expert hunter, gatherers and skilled trappers. They used a number of methods of hunting and trapping. Their hunting could be a seasonal or annual. The main weapons for hunting are traditional bows and arrows and spears made of bamboo and woods. A few numbers of arrows are poisoned with *aconite* at sharp point, which fixed with iron barbed. The other methods which employed for hunting are baiting, enticing, stalking, snaring, setting of traps and laying down of poison used according to situations. All these show a certain techniques and by no means, these are mere individual search for food. It is usually associated with religion and rites, social avoidance and taboos for success of any hunting and trapping games. Every Nyishi man firmly believes in the invocation of the Chase God (*Yubbu Uyu*²³). If the *Yubbu Uyu* is favourable to any hunter, he really gives strength, the capacity of learning the technique and swiftness in skill when going for hunt. In fact, this leads to correct concentration, alertness, and self-confidence, which are useful for the success of game and easy sighting of animals. It may be thus being said that if the *Yubbu Uui* does not favour any hunter, he will become lazy and less confident and he will get no game. In

²¹ Ibid, p. 76

²² T. Showren, op. cit. p. 139

²³ A benevolent or goodwill spirit which often support the people

all hunting and trapping games the women folk have fewer roles to play, but they help in preparing food and drinks provided they are not in monthly periods. Most of the hunting is undertaken by individual member except the hunting like 'Kerru Roknam'²⁴ and 'Nyotum'²⁵ which is considered as community hunting or selected group of people involved.

1.5 TYPES OF TRADITIONAL HUNTING GAMING

The Nyishi are expert hunters and it is rare to find without the customary set of bows and arrows and spears. The training in hunting-gaming, shooting archery, spears is received at an early age and by the time a boy is in the prime of his youth, he not only learns to shoot straight but he also learns the techniques of the chase of animals. The members of the tribe believe that hunting brings excitement into the monotonous routine work of agriculture. Any person from the village is theoretically free to hunt in any part of the forest he likes but he is forbidden to disturb the traps already laid by others. This prerogative is so strictly adhered to that any infringement leads to an open quarrel and firing of abuses which can only end when the offender has paid the traditional fine as accordingly therein.²⁶ The various hunting-trapping and gaming of the Nyishi of Arunachal Pradesh are following;

²⁴ A community or villagers hunting/Bush beat hunting

²⁵ Hunting far away from village with group of people and using various types of hunting and game techniques

²⁶ Brahma Kumar Shukla, *The Daflas of Subansiri Region*, Northeast Frontier Agency, Shillong, 1965, pp. 30-34

1.5(a) Kerrug Rognam. This is the one of important community hunting whereabouts 15-30 or more were participating and sometimes entire or intra village adult and young boys also participated. In this method, the hunting experts chasing and identify the newly footprint of the animals where they might be hold night before they leave to another place. The expert called upon the villagers or some section of the people if the animal is Deer or small Boar and if the larger or monster animals like big Boar/Warthog etc. Then they called neighbouring villagers and had a planned and position with its team members in evening. In the very next early morning they rush to the specified location and dogs being smelled to animal's footprints and started chasing and shouting. In this hunting an expert and experience with lucky go man hunter hides behind the shrub with sophisticated weapons at vantage ground position and the movement animals run out in their regular pathway are shot with poisoned arrows called *ommiu oppuk* (arrow paste with aconite). After the shot, the hunter will follow the prey with blood drops till brought down. In this hunting, village dogs (*Kimming Eki*²⁷-a trained dog) play a very important role in the constant chasing and signalling the presence of the animals in the specified forest. The meat of the hunt is equally divided among all the people participating in it and the head portion of the game will be given to one who shots it. The heads of the skull is kept by the hunter and preserved it for their numbers of success in hunting and how much one hunts. Sometimes, the

²⁷ A local scientific name to denote trained dog

skeleton of jaw, shoulder bone is used for subsistence agricultural tools like cutting and grinding

1.5(b) Nyotum Angnam.²⁸ This is the practice of far long distance hunting by few selected peoples or members who are expert in making different types of hunting techniques and trapping, which is generally carried out at a place situated at day's journey from the village. Hunters were encamping for a week or sometimes for half a month in the place of hunting. During their stay, the hunters were prepare many traps or pressing, shooting and spiking, such were

(i) **Kuma/Komiya**²⁹ This is a type of hunting mechanism which operated with special strong hafted wooden or bamboo pole with trigger device, made up of *Talum* (a poison himalayan bamboo) and *Tamak osso* (a Himalayan fishtail palm rope) is used for camouflage. The strong hafted wooden or bamboo pole around 8-10 feet long with 4-6 cm thick which bent and *Talum* blade is fitted at one end and secured to a peg. It is provided tension with the help of the string attached to a trigger device. This often fastened across the animal route and built in a camouflage and animal disturbs the string camouflage track and sets the trigger operational and is hit the target forcefully by spiked end

²⁸ A plural form of hunting and trapping by Nyishi

²⁹ A traditional spiking system to hunt the large animals

of the *Talum* blade which is often sharp and succumbed to the animals at the position and bringing down afterward. This kind of hunting mechanism are often operated at far distance from the village, which means at dense forest and after being erected, the villagers and neighbouring are informed for awareness whereas it might be danger/risk for persons life. The hunters leaved the encamped and visit again the site after 3-4 days and process continuing for the periods of upto 2-3 months.

(ii) **Sogum.**³⁰ This is a kind of deadfall trap or pressing traps used for trapping wild boar, red deer, wild cats etc,. A heavy loaded slab or hafted wooden pole raft are tied together and other such object loaded with heavy materials is raised on horizontal from the ground to a certain degree making sufficient space for movement of the animal and is attached with a proper camouflage trigger device underneath. These practices are often placed across the animal route or specially passer way from one hill to another.

(iii) **Aaday.** It is a kind of small category of deadfall trap or pressing traps which is used for trapping rats, birds etc,. A plate medium stone slab or raft and other such object loaded with heavy materials is raised on one

³⁰ A deadfall trap used as hunting for a large animal

end from the ground to a certain degree making sufficient space for movement of the rats and birds etc., is attached with a trigger device underneath. Some bait may be used to attract the animal. The trigger is operated by disturbing the sliding rod while the animal is eating the bait. It, thus, gets crushed under the weight of the falling heavy objects.³¹

(iv) *Pochik*. This is a kind of noosing trap and is used for trapping birds and smaller animals. Noosing is the most widely used trap by traditional rural folk. As A. K Thakur states that; there are mainly three components of this trap- viz., (a) the tension strip, (b) the string, and (c) the trigger assembly consisting of a pin, a sliding rod, and a holder trip. This is often impoverished with available branches from a tree. A sleek, smooth, sufficiently strong string is used to provide tension to the strip and generally of dull colour so that it does not attract the attention of the animal to be preyed. Generally, bark of a certain fibre plant like *fuyu*, *Tamak* and *Nurey Tanu* is used for this purpose. The trigger and the sliding rod are made up of bamboo or hardwood sticks. The noose is an extension of the tension string. A trap can be laid horizontally or vertically depending upon the nature of

the movement of the animals.³² There are different types of noosing traps practice by the Nyishi.

(v) *Gurang*. This is a popular rat trap that made up of bamboo pole as a main frame with cane rope. At the end of the bamboo strips is an essential part of the trap. At the other end of the bow a string is fixed to a wooden spike. The trap is set, when tension is provided to the bow by fixing the wooden spike ever so lightly inside the triangle that contains a noose, on which some bait is deposited. When a rodents attracted to the bait or passing through the noose, the weight of the prey presses the wooden spike and releases the bow's tension and strangles the rat or bird or even a snake whatever, small animal got between the strings in the triangle. It is very effective and also used at agriculture field as well as at inside houses. The Nyishi people used different style to trap the rodent animals as according to specification and nature of the hunting gaming.

In catching birds, the Nyishi people make use of certain kind of gum called *Tachur*. These *Tachur* is used for three basic purposes to catch the birds. Firstly, the branches of nut trees called *Tajja* and *Yarking* which is a seasonal fruits. These fruit trees, so often frequented by all kinds of birds, are smeared here and there with this

³¹ A. K Thakur, op.cit, pp. 78-79

³² A. K Thakur, op.cit, p. 78

gum. The bird perching on them flutters and gets its leg and feathers stuck. The trapper, who sits below hiding, reaches the bird by climbing a single pole ladder fixed to the tree. Another intelligent device to trap the birds is called *chirgo tonam*. In the process of the use of *chirgo*, a gum is pasted to a cane or bamboo piece joined to a stick holder in the shape of a semi circle. A kind of fly called *Pigin* is suspended by a thread in between the two joints and the trap is held secure on a long with straight thin bamboo called *Tabu* (Chinese bamboo). The trapper hides behind a bush holding the trap and gives it gentle jerks to keep the fly vibrating its wings. The birds, in their attempts to snatch the fly, are trapped by the gum and bagged. Thirdly, the *Tari Riinam*, the last alternative device of catching the birds. These types of traps only practiced at small stream river when the water level is completely dried out (means February and March) months of the periodic season and some small amount of water is digging out by the trapper to fix a pasted gum at the edge where birds are supposed to seat. When birds come to drinks the water, the pasted gum bamboo sticks which fixes at various directions get the bird's leg and feathers and they stuck and captured by the trapper. All these techniques involved a high degree of skill, patience and expertise of the hunter. It is clear that this type of forest activity depends on individual expertise and mutual cooperate for hunting at different seasons according to nature and methods of hunting. For some game most efficient and skilled unit may be consisted of only one person. In the particular study area, the

hunting of barking gazelle in the jungle is better to be done lonely. Some hunting can be carried out by one man and a dog is the best help.

1.6 TRADITIONAL FISHING METHODS OF NYISHI

As hunting is an important means of supplementary food gathering of the tribe, in the same way, the fishing is also necessary subsidiary occupation to supplement a considerable contribution to the Nyishi diet system.³³ A general survey of the fish traps and trapping methods in vogue in various parts of the country reveals that there is a striking similarity between the various devices used in the different parts and their modus operandi.³⁴ Fishing by hand and trapping was the most primitive type of device that man ever resorted to for catching fish long before nets and other highly evolved tackle could be thought of and is indulged in by most of the tribes. Some of the primitive types of traps, probably invented by the most ancient human beings, can still be seen in use in many parts of the world. The modern technology is based on the knowledge of traditional technology to great extent in terms of innovativeness and refinement. Technological advancement helped the communities to act easily to take out their livelihood through their occupational activities. Fishing in the river requires some precise techniques.³⁵ This should not be surprising when it is recounted that

³³ Tana Showren, op. cit, p. 141

³⁴ A. K. Thakur, op.cit, p. 82

³⁵ Basanta K Mohanta & Vipin K Singh, Traditional Knowledge System & Technology in India, Oriental Publishers, Prem Nagar, Delhi, 2012

most of the traps, being fixed engines, do not require continuity of attention and vigilance on the part of the operator but can be left to function and secure a catch while owner is away reposing or engaging in other occupations. Diverse fish traps, ranging from the simplest to the complicated and amazingly effective types are in vogue in different waters and regional of India³⁶.

Some popular modus of catching fish in the river among the Nyishi of Arunachal Pradesh are discussed below;

1.6(a) *SEPPE SERRI*

This is a rare and large fishing trap use by Nyishi which is a seasonal with goodwill time before the weir. It is a type of dam which erected only at large or medium river system by members of the villager and also called community fishing. During the time of erection, the care is taken to select that part of the river bed which is not very deep and has many gigantic boulders. The dam is constructed with wood and bamboo lay across the river bed and these are finally tied with cane are called a *Sepe* and erected a long bamboo channel/cage enclosure platform are called a *Serri*. The gaps are cover with leaves and flow of the water is directed through a long channel enclosure platform of bamboo made is erected on one side of the dam where water current level is high. The fish, in their attempts to swim forward, are checked by the dam and automatically directed into the current. Once the fish enter into the bamboo cage/channel, they are push forward by

the flow and caught and collected by the men who are on the station. Big fish, however, are first struck hard with a stick and then picked up in their unconsciousness state. The system is taken around 4-5 days to complete the whole process. Adult men are the main constructor along women and youths are helping the basic necessities and feeding them a food and drinks. Fishing by *Sepe Serri* usually results in a heavy catch as it continuous for a week or more. During these days, the fishermen do not go home and stay near the river as encamp. The first catch of the fish are consumed only by those builders. They eat only fish and rice during the period. All other meat and vegetables are taboo and women who are having periods are restricted. Though *Sepe Serri* prerogatives are guarded against infringement by people of other villages, yet by courtesy, members of the same village join in the enterprise. The daily catch are smoked/dried then equally distributed among the members and if surplus they also distributed to the stream or river owner called *Eish Athu* and *Eish Ayu* and villagers those who do not participated. Most of the *Sepe Serri* construction are often examined by omens of chicken liver that whether the propose is favourable or not, if the omens are good that people started construct one and expect a good catch and otherwise skipped from the construction.

1.6(b) *SOBUK*

This is another method for catching fish with poisoning of the water. This is done in shallow streams by the selected members of around 15-20 or else by a single village. All age

³⁶ A. K Thakur, op cit, p. 83

group whether a male or female and children above the age of 12-15 irrespective can taken active participating in this fishing system. The adult male group constructed an artificial barricade is made with *Alang* (stones) and *Kujang* (banana stumps) or leafs and divert the direction of the flow of the water into another side. The youths and female members helped them to bring the *kujang* to cover up the leakage of the water from the barricade. In the mid of erection of the barricade, some 3 to 4 conical bamboo/cane basket traps called *Aader* are placed at the last end point of the diverted stream because the running fish downward shall trapped over the conical cage. After erection of the barricade the bark of tree called *Tham* (a typical poisonous bark of tree or creeper) is brought which is already ready at the spot and is placed on a stone near the pool. There are many of the poisonous bark of tree which is available to the people; such are *Huniyer*, *Repak*, *Negin*, *Talik Tham*. It is hammered with a wooden pestle and water is added to soften it into a pulp. When it is ready, its juice squeezed out in the pool. The process is continued till the bark loses its colour entirely. The fish are disturbed from under the stones due to the poison being spread over the surface of the pool, they are stupefied or unconsciousness and people are captured. In this community fishing, sometimes the collected fishes are equally distributed among the members according to family representative or else sometime individual collection can take away by the individual. These types of the fishing practice are often carried out

during the winter season when water is shallow.

1.6(c) *SAKHAM*

This method of fishing is done only in winter season when water level becomes shallow. The large and long hollow with conical in top point bamboo and cane rope basket is often use for traps. The *Sakham* is placed in river/stream or rivulet along the stone barricade gap points being erected and bamboo or wooden is place to arrange more sophisticated. This type of fishing trap is place where water level starts higher slop with high current just after gentle flow. The entire running stream/river are placed a conical in shape bamboo traps and are closed at one end with their mouths facing the direction of the current and are secured gaping point is maintained and traps are care with tied a rope at strong positioning point otherwise flow of water may drowned. The trapped fish is collected early in the morning by the fisherman every day otherwise, stranger may collect it.

1.6(d) *AAKER/PISUK TONAM*

This is most love and popular practice of the traditional angling by any individual since time immemorial. The fishing rig also called a set is a combination of different tools like, threads, hooks, sinkers or plummet, floats, rod and baits etc. The angling rod called *Kiobu Yupum* or *Aaker Nangkio* made up of *Tabu Nangkio/Nayig Kiomug* (Chinese bamboo and rare typical Himalayan bamboo) with thread called *Nurey Osso/Tamak Osso* or thread and hook is called *Kiokam* or *Kioleg/Kioram Lekki* and *Hibong* (upper beak and

foots of the prey birds like eagle/kite). The other additional accessories like sinker called *Rayo* (quartz/sandstone) and baits called *Taddar/Tapum* (earthworm or other insects). *Tago Rayang* (a kind of creeper tree) was use for floats. The angling activities often take place at gentle position of the flowing of the river water. These types of fishing can be practice at any river, rivulet and pond etc. Youths and middle age group of village folk can practise these angling at any river, stream, rivulets and ponds. The *Ngupi*, *Nguka* and *Nguriang* species of fish are the main fishes that anglers often caught during the fishing.

Apart from the above fishing and angling methods, there are many more individual and group practices amongst the Nyishi of Arunachal Pradesh. The brief discussions are given below;

Ngok Tonam

It is also kind of angling which is very similar to the *Aakar Tonam* but bigger in size of its rod and only practice at large river and fishing is targeted for big or large fish like *Nguka*, *Ngupi Ngui* (local fish name often find at large river). Here in *Ngok*, the main thread is made from *Tamak Oosso* and catching noose trap is from *Sayag ameg* (hides of yak). From hides of yak it is only possible to make a noose trap to catch the fish with bait. This practice is a rare because every fisher folk and angler don't have a skill and it process is very difficult during the frequent throwing into the river.

Sapchung

A landing net is a net made from cane rope with enclosure of two sticks of bamboo pole. This practice is only limited to a shallow or small stream, rivulet or else during poisoning of the water or community fishing called *Sobuk*. Such practices are not popular in traditional tribal society because the rivulet, river or stream of the regular Himalayan water is often in high current. A plain area person has maximum use these methods.

Rikso

An underwater net is also a type of fishing activity which is a rare practice system. This fishing net trap is made up of long cane rope with bamboo stick hooks which strongly tied across the rope as cross section. The bait is fastening as according to the number of hooks and put it deep inside the water where water often stagnated or slows flowing position. This type of fishing methods was popular in olden days by primitive nomadic men and is extinct or rare now days.

Ngong

This is one of the popular seasonal fishing systems of the traditional tribal society amongst the Thanyi ethnic group as a particular and state as whole. The breeding season of the fish extends from June to July months of every year when rainy and mainstream rivers volume become huge and flowing high speed current. Meanwhile fish like *Ngupek* they are in search of rivulets where they can able to lay their eggs. During the season the fisher folk of the village use their trap cage called *Aader* (Bamboo conical

fish trap cage). When fishes are coming from the river side, the trap will place upside down and vice versa when they move back from the rivulets. These are often claimed by the river and rivulets owner otherwise, fine system is impose or restricted to the outsider to none performing the fishing. This considered to the most popular age old easy seasonal fishing system of the traditional tribal society of the state as a particular and across the globe in general.

Langpum Pumnam/Tonam

It is a kind of techniques that village fisher folk erected a stone hollow pillar in circular or semi circular type at shallow water where the possibility of fish being gather under the beneath of stone hollow pillar. After erecting a *langpum*, it left for around two week or more that fish can easily hold together. Soon after the scheduled time, the village fisher folk come and cover up all the minor holes where the possibility of fishes escaping from the stone hollow pillar can be blocked and only one to two narrow holes keep open as since the conical bamboo trap or cage is already placed over there to trap the running fishes. After completion of the system, all the erected stone pillars are sided over and fishes are trapped with conical bamboo trap and collected by the fishers. Sometimes, 2-5 kgs of the fishes were caught from the single *Langpum*. These types of fishing can be done by an individual/family or else assisted by two or more.

Langrung Gyanam

This is a simple traditional fishing trap where a conical bamboo trap or cage can be put inside the river water where the permanent big stone structure are there and sometimes between the narrow gape of the two big stone under the shallow water. After putting the fish trap, the sides are systematically cover up that running fishes can't escape from the trap. It left for 1-2 days and collected early in the morning by the fishers. This can be done by single person/individual.

1.7 CONCLUSSION

The social significance of the hunting, fishing and foraging is very important in the Nyishi society like other tribal groups of the state as well as India. Socially, trapping is the indispensable for both hunting and fishing in orders to gather aquatic and non aquatic animals for substituting the otherwise poor die of the people, it helps in checking the growth of the birds and animals harmful to the crops which otherwise would have caused harm to the farmer. Of course, the growth of the human population combined with the diminishing natural habitats and the advancement of technology has driven the wild birds and animals to the National Parks and zoos and traps to the museums.³⁷

Another important dimension to the study of hunting fishing and foraging has been highlighted by David Riches. He is rightly of the view that in more recent times many hunter-gather peoples have come to subscribe to world religions such as Christianity, melting indigenous beliefs with new, and radically different, concepts and

³⁷ A.K thakur, ibid, p, 94

notions.³⁸ Underpinning such religious change may be the heterogeneous economy wrought by colonial contact. He further highlights the point that this sort of analysis will increasingly be required to grasp the changing circumstances of hunter-gatherers throughout the world.

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³⁸ Alan Barnard and Jonathan Spencer (eds), *Encyclopaedia of Social and Cultural Anthropology*. Routledge World Reference, UK, 1996 and 2004 reprint , pp. 439-40

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16. Scheduled and Unscheduled oral interviews with village elders and esoteric person