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Original Research Article

Food Habits and Livelihood of Galo Tribe in Arunachal Pradesh: A Case Study

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Abstract

***Introduction*:** The socio-economic aspects of livelihood of Galo tribe are largely based on agriculture and forests and rely heavily on working together as a community. The way they eat is strongly influenced by how they are living. ***Objective*:** The study is to provide a complete overview of the livelihood systems and food habits of Galo tribe. ***Method and Materials*:** The study will primarily be qualitative, but it also has a limited quantitative component. The research design for this project uses a combination of descriptive and exploratory methods. This descriptive aspect documents the dietary habits, patterns, and livelihoods of the Galo tribe. ***Results and Discussion*:** Most local communities are dependent on forests, trees and natural CPRs for their food and fuel wood requirements. The community possesses good health and their health management is purely nature-based and environment friendly. The lifestyles of tribes and Indigenous peoples - such as economic systems, social structures, cultural aspects, and political systems - are affected by and adapted to changes in the environment they depend upon. ***Conclusion*:** Natural resources are the basis for rural livelihood development. Forest is an important natural resource providing livelihood to rural communities besides lots of environmental services to the human settlements.

Keywords: Forest, Community, Environment, Cultural Aspects, Political Systems, Natural Resources.

INTRODUCTION

Located in India's north-eastern region, Arunachal Pradesh has many tribes, each with its own distinct culture and economic activity. One major ethnic group is the Galo, who primarily live in West Siang, Lower Siang, and Lepa Rada Districts. The Galo comprise part of the Tani group of tribes and are known for their connection to nature, traditional ecological knowledge, and subsistence-based economy (Lombi, 2016). The socio-economic aspects of their lives are largely based on agriculture and forests and rely heavily on working together as a community. The way they eat is strongly influenced by how they are living. They participate in shifting cultivation (jhum), hunting, fishing, and gathering; therefore, food is more than just a basic need; it is an expression of culture through its use in rituals and celebrations and how it relates to social interactions (Tag & Lendo, 2024; Bam, 2018).

OBJECTIVE

The aim of this paper is to provide a complete overview of the Galo's livelihood systems and food habits by examining traditional practices, ecological sustainability, and current changes.

METHOD AND MATERIALS

Geographic and cultural information about the Galo Tribe: The Galo Tribe is a native of Arunachal Pradesh and lives in the mountains, which consist of large forests with high levels of rainfall. Because of their location, there is a rich diversity of plants and animals that have an impact on the structure of Galo society, including food types, income source, etc. There are many types of wild animals and plants, so food can usually be obtained without much difficulty. The Galo people are animistic and believe in living in harmony with nature according to their Donyi-Polo beliefs. They also have many agricultural events and festivals that are based on agricultural cycles, like the Agricultural festival of Mopin, which demonstrates how closely linked their culture and livelihoods are.

Research Design:

The research design for this project uses a combination of descriptive and exploratory methods. This descriptive aspect documents the dietary habits,

patterns, and livelihoods of the Galo tribe; while the exploratory aspect attempts to clarify how the Galo tribe's uses of natural resources are interrelated to their culture and subsistence economy this latter aspect occurs in a less-studied tribal context.

Nature of the Study:

The nature of the study will primarily be qualitative, but it also has a limited quantitative component. The focus of the study will be on indigenous knowledge systems, traditional ecologies, and the socio-economic structures of the Galo community.

Data Sources:

The study is built primarily on the collection of primary data through the following methods: (1) Field observation methods to study consumption of food within villages observed from household level; (2) Through personal interviews with members of the tribe, village elders, and communities, via: (3) Participant observation methods specifically while preparing food, via agriculture and through communal activities; and lastly (4) Informal discussions with local herbalists and leaders from the community.

Secondary data was comprised of previously published books, journal articles, government reports (e.g., Human Development Reports), researches on tribal livelihood systems, and secondary data collected through online or institutional databases.

Sampling design for selecting villages to study involved using purposive sampling methods – the villages studied were based on a dominant Galo population. Within the villages, households were sampled based on the characteristics of accessibility and willingness to participate. By virtue of understanding how the Galo tribe differs from one another based on dependent variables involving natural resource usage, all sample villages included both poor and not-poor households. The sample villages of Kamba, Kamki, and Kambu were also selected for comparative analysis between them.

Data Collection Procedures

Household Surveys:

The use of structured and semi-structured questionnaires was utilised to collect data on: Food consumption (how food is consumed), Source of income (how continued income is received), and Dependence on natural resources.

Observation Method:

Direct observations were used to assess: How people prepare their meals (dietary practices), how people use the forests for resources, and how people farm and hunt animals.

RESULTS AND DISCUSSION

Food And Dietary Structure

The primary staple food of the Galo tribe is rice, which forms the core of their daily diet. Rice is consumed in various forms and is often accompanied by vegetables, meat, and fish. The importance of rice is evident not only as a food item but also as a cultural symbol associated with rituals and festivals in Mopin (Innercall).

The typical Galo meal consists of Boiled rice, Boiled or smoked meat (pork, beef, or wild animals), Fish (fresh or dried), Green leafy vegetables, etc. Rice is consumed three times a day, highlighting its centrality in their dietary system.

Selected Benefits from Natural/Community Forest Food and Its Security:

Forests provide essential inputs to local communities and hence, play a critical role in their lives. One major function is that of providing food and its security. Local forest wealth and other locally available resources, in their infinite variety, are sometimes the mainstay or backup to food availability in such communities. Such resources provide a wide range of food to local communities through roots, plants, leaves, flowers, fruits, vegetables, seeds, meat from wild life etc. Each season brings with it a variety of food.

Habitat and Shelter:

Forests and trees make available logs of wood, bamboo, grass etc. required by local communities for constructing their huts for shelter. Local communities are dependent on forests and trees for procuring such materials. Forests also provide shade and grazing space to their animals.

Livelihood:

Forests sustain livelihoods of local communities. Sustainable livelihood requires a level of wealth, of stocks and flows of food and cash which provide for physical and social wellbeing and insecurity against becoming poorer (Chambers, 1986). Livelihoods dependent on local natural resources can be diverse from making of leaf plates to collecting wild vegetables and seeds to hunting of wildlife etc. Such livelihoods, generally, vary with seasons. Forests, trees and CPRs support livelihoods of local communities/groups in three ways (Chambers, Saxena & Shah: 1991) as indicated below:

- by providing for subsistence needs of food, fodder, fuel etc.
- as a source of income, and
- as capital goods or savings to be encashed to meet contingencies.

Such sustenance to livelihood can be reduced or disrupted with loss of forest cover, degraded forests and CPRs or reduced accessibility to such resources. It

can have serious implications on livelihood patterns resulting in migration to other areas and/or increase in poverty and hunger of local people. While forests and natural resources sustain the livelihood of the rural poor, the poor contribute to the degeneration process of their natural environment because of the system of their occupation and growing population. They acknowledge this but they are equally resentful of the activities of the non-poor for deforestation and its impact on their environment.

Food, Fuel, wood and Fodder:

Most local communities are dependent on forests, trees and natural CPRs for their food and fuel wood requirements. Some collect it on a daily basis while others go on selected days for such collection. Amongst fuel wood species, local people have their own preferences and priorities for varied reasons. Cent percentage people of the villages collect fuel wood and also hoard during winter season for rainy season (Mandal, 2012).

Benefits - A Mixed Bag:

The bounties of forest, trees and natural CPRs are a mixed bag providing direct and indirect benefits. Here only direct benefits are shown in Table-1.

Table-1: Collected Items from Natural CPRs i.e., Major Use of Forest (Direct Benefits)

Food		Construction/ Furniture	Health-Care Medicine	Fuel	Other minor forest produces
Vitamins & Carbohydrates	Protein				
Edible fruits, Edible seeds, Mushroom, Leaves, Branches, Yams, Tubers, Roots, Flowers, Stems, Tender Bamboo shoots, etc.	Edible insects, Deer, Fowl, Rabbits, Monkey, Wild Goat, Wild Pig, snake, Bear, Wild Cat, Mongoose, Fishes, Squirrel, Rat, & Birds (all types), etc.	Stone, Mud, Wood, Bamboo, Leaves & Cane, etc.	Root, Leaves, Branch, Bark, Flower, Bud, Honey, Animal parts, etc.	Wood, Leaves, Straw, Bark, Bamboo, Oil, etc.	Grazing land for the livestock, Grass, Leaves, Animal Fodder, Wood for furniture and capital equipment for agriculture and tools

Source: Field Survey, 2020 as listed by the local community.

Observation in view of Table-1:

All the people in the study area depend directly and indirectly on Natural Common Property Resources (NCPRs). The respondents are collecting almost all of the items from NCPRstermed as direct benefit shown in the Table-1. Bamboo has great financial impact in the rural economy. There are 1,200 different species of bamboos worldwide; bamboos are subfamilies of grasses. In India there are currently 18 genera that contain 130 species of bamboos. There are 26 species of bamboo from 9 genera which exist in Arunachal Pradesh (Deptt. Of Forest, Itanagar, State of Arunachal Pradesh). In addition to many other vegetables found locally, the shoots of bamboo are picked by local residents to create many different vegetable dishes. The people of this area have found ways to preserve the bamboo shoots for year-round consumption and almost always eat bamboo shoots on a daily basis. Health management practice forms a part of their culture, the man-made part of their environment. They have a close and symbiotic relation with the nature. Their health management system has two parts: (a) propitiation of spirits – good or bad – responsible for causing diseases and (b) use of curative medicines prescribed by herbiest from local herbs. Nature not only provides food and shelter but even today most of the tribes depend on forest for herbal medicine to keep them fit and healthy. They mostly depend on the local herbalist (traditional healer) for their common ailment. The modern medical facilities are yet to reach far flung hamlets and they are delighted and keep themselves fit and fine with traditional method. For common diseases like cough and cold, indigestion, skin diseases, etc. their older folk of the family treats them from the surrounding herbs. The herbalist does treat jaundice, piles, bone fracture, cardiovascular diseases, gynaecological disorder etc. Before going for modern medical treatment, even today most of them consult and take permission from the local herbalist in the villages. The community possesses good health and their health management is purely nature-based and environment friendly.

At this time, the lifestyles of tribes and Indigenous peoples - such as economic systems, social structures, cultural aspects, and political systems - are affected by and adapted to changes in the environment they depend upon. The way that tribal people are distributed spatially is also significantly transformed as a result of these environmental changes. As tribal populations within the sampled study area increase at an exceedingly high rate, and thus the tribes living in the sampled areas will be increasingly placing extreme pressures on their natural environments, which will then reduce the ability of the natural environment to support both the tribal peoples living in and around the environment studied, as well as other residents of the area. Thus, the problem of physical survival of the tribal people under such circumstances crops up inviting attention of the authority by and large.

Application of new agricultural technology in farm production has also transformed the farm economy and the mode of life. The family in regard to political and social lives of tribal communities is continuing to experience major change due to the rapid evolution from an agrarian tribal society into a market-oriented, profit driven, commercial tribal society. The introduction of parliamentary democracy and universal adult suffrage has further integrated the tribal villages into the broader political system. In addition, these villages now have representatives at all levels of local government such as gram panchayats as well as state legislatures and parliaments. Societal as well as economic changes in tribal life due to developmental processes may be examined in two crucial sections first, structural changes in the primary work especially in agriculture and secondly, the shift of tribes from non-literate to literate status.

It is evident that, tribal assimilation into peasant mode of production is a very slow process though its consequences may be detrimental due to the fact that slow rate of change in tribal economy, leading to the transformation of tribal mode of production again led to the destruction of physical environment in the end.

The traditional agrarian structure is undergoing a rapid change. Since Independence various measures have been undertaken by the Government in order to develop the agricultural sector of the state. Their cumulative effect has generated a new trend in the components of the structure, e.g., the pattern of land ownership, land use and land holding. Agricultural practices as well as agrarian relations are also changing. However, as there is no reliable and systematic data regarding the land ownership, cadastral survey and land revenue system, so any attempt to analyse such issues is limited by the data gap.

The analysis recognises four components of the farming-system, namely, crop production, livestock, horticulture and farm forestry. At the same time, these sectors suffer from several problems. The land holdings are small and fragmented. The level of economic development is low. There is also a lack of infrastructural facilities like transport and communications impute supply system, output marketing systems etc.

The local peoples' way of perceiving environment is very much distinct from that of the plain people. The rites, culture and tradition of tribal people are still today interlinked with forests and forest resources. The festivals are celebrated with variety of beautiful leaves, flowers and branches. In the performance of rites specific and variety of plants and animals are prescribed by their priests to be used in rites to make please the unseen spirit for their well being and healing diseases of ailing persons. Thus, flora and fauna are inseparable part and parcel of the tribal people and hence their socio-economic life solely dependent on forests and they have age long respect for forests.

The local people believe that every creature or thing in the forest, river and land is created as well as is owned by certain deities or spirits. So as they fear spirits and deities, they respect and also fear the nature. The age old interactions with the ecosystem have been helping them acquiring a way of life adjusted to the eco-system. This constant interaction of the tribal with their ecosystem has helped them to know many unknown facets of nature. Thus, a system of belief based on tradition have been developed and nourished through generations after generations and these beliefs have been acting as the guiding principle of their day to day life. The World Banks' Report on Human Ecology also has rightly recognised these indigenous beliefs and the importance of these beliefs among the tribal people (World Bank, 1982).

Dependency of Rural People on Natural Property Resources

Natural Property Resources mean the forest, lake, river or pasture. The dependency of a rural household on natural resource provides a major source of income that is commonly used in their daily lives. Forests or community and personal forests provide an important source of income and a basis for economic activity, as well as the spiritual aspects of beliefs, traditions and myths. Many factors result in the rural population's heavy dependence upon the forest or natural resources; the majority of rural people in the survey area practice jhum (shifting) agriculture as their primary agricultural practice, lack of infrastructure, lack of transportation, limited access to markets and traditional cultural beliefs. These factors also create a very high dependency upon various products from forests or natural resources, as well as supporting rural households by providing the fish they catch in rivers or lakes, animals they hunt and wild fruits, nuts, yams, roots and leafy vegetables they collect. The animals that are part of the rural household's livestock survive on the forests and available surrounding pasture. The rural households' existences are tied to the local ecosystem or natural resources. The income that rural households receive from businesses, services and wages in the survey area is low. Agricultural practices are predominantly shifting cultivation and permanent cultivation. Permanent cultivation is limited by the scarcity of level land for agriculture. For the poorest households the amount of land devoted to permanent cultivation is very small compared to total land amount. Shifting cultivation is the primary agricultural practice. However, the inability to operate on large areas of land at any one time due to limited family labour and inability to hire workers restricts the amount of land cultivated by poorer households. Thus, poorer rural households must rely upon the natural resource base.

The dependency of tribal people on natural resources can be established in various ways. Most of the researchers are taking into consideration the household income in this aspect. But the collection of information about income from rural areas in the tribal society is extremely difficult and over and under estimation of collected data cannot be ignored.

Quantify the level of Dependency:

Notwithstanding monitoring and measurement complexities, some of the benefits derived from natural property resources in the regions have been quantified. Table-1 highlights these benefits. Natural property resources have been degraded and their productivity is much lower in that situation than the past. Consequently, the non-poor i.e., the rural rich (large farmers) depend very little on them. It is not worthwhile for them to collect and use meagre quantity of products from these resources. On the other hand, the rural poor (small farmers and landless labourers) with limited alternatives increasingly depend on low pay-off options offered by such resources.

In the villages of the study, 60 to 90 percent of the rural poor depended on natural property resources for fuel, fodder and food; the corresponding proportion of non poor do not exceed 20 percent. The heavy dependence of the rural poor linked these resources to the dynamics of poverty and to development interventions centred on the poor. Therefore, any change in the status and productivity of natural property resources directly influenced the economy of the rural poor. The dependency of poor and non-poor on CPRs is shown in Table-2.

Table-2: Extent of Households' Dependence on Natural Property Resources in the Study Area

Study Villages	Household Categories	Natural Property Resources (NPRs) Contribution Per Household			
		Food items (%) per HH	Fuel supplies[1] (%) per HH	Animal grazing[2] per HH	Employment days (No.) in a year per HH
Kamba	Poor	30	100	80	70
	Non Poor	20	80	80	50
Kamki	Poor	25	85	75	65
	Non Poor	15	75	75	40
Kambu	Poor	20	80	60	60
	Non Poor	15	50	60	30

Source: Field Survey, 2020, HH= Household; [1]Fuel gathered from natural property resources as a proportion of total fuel used throughout the whole year. [2]Animal units grazing on natural pasture land as a percentage of total animal units

Anova: Single Factor						
SUMMARY						
Groups	**Count**	**Sum**	**Average**	**Variance**		
Column 1	6	125	20.83333	34.16667		
Column 2	6	470	78.33333	266.6667		
Column 3	6	430	71.66667	86.66667		
Column 4	6	315	52.5	237.5		
ANOVA						
Source of Variation	**SS**	**df**	**MS**	**F**	**P-value**	**F crit**
Between Groups	11958.33	3	3986.111	25.51111	4.86E-07	3.098391
Within Groups	3125	20	156.25			
Total	**15083.33**	**23**				

Explanation of Anova Table: F-statistic is 25.51, which means group means are very different relative to internal variation. P-value is 4.86×10^{-7} (very small), which is much less than 0.05. So we reject the null hypothesis and we can say that there is a statistically significant difference between groups. Again, the value of F critical (F crit) is 3.098. It is F > F crit tells that it is significant (25.51 > 3.098). Therefore, there is a strong statistically significant difference among the groups.

In general, the dependency of poor households on NPRs for consumption is relatively higher than the non-poor households on firewood, bamboo, wild leafy vegetables, eatable roots and leaves while the income of non-poor is relatively higher than the poor households on timber and other groups of forest products like honey, medicinal herbs, seeds and wild animals hunt which can be marketed. Besides, the rural households generate directly some income by selling NPRs products in the markets and save expenditure by consuming and using NPRs items at free of cost. The income earned from NPRs for the poor and non-poor is quite hard to estimate as the respondents have no records and cannot guess accurately. In relative terms the poor's income from NPRs is very important and crucial in their household economies. The dependency of poor households on NPRs is higher than that of non-poor households.

Following the Table-2 in regard of poor and non-poor households shows the dependency in terms of food items, fuel, animals' grazing and employment days in a year. It has been observed in the study area that both the poor as well as the non-poor household derive a substantial portion of their consumption requirement from the NPRs. The collected basket of NPRs products consists of fuel wood, edible leaves, roots, mushroom, fruits, fish, hunted animal for meat, etc. There is a marginal variation in the consumption of NPRs products among the villages (Kato, & Gopi, 2009).

Distributional Implication of Natural Property Resource (NPRs) Based Products:

The level of consumption of forest products depends upon the socio-economic characteristics of the households. Due to impact of modern civil amenities in the era of globalization, degradation of NPRs and rural livelihood linkages with NPRs are gradually changes. Here we have tried to explain the contribution of NPRs to the poor and non-poor households as well as their rural livelihood linkages. Regarding household income estimation, there are some studies (Jodha, 1986; Pasha, 1992 and Kumar, 2000). But the income data suffers a lot of errors, as because the respondents normally hesitated in disclosing their real income and also the sources of income. Again, in the study area the illiteracy is also another reason to get real income structure of the households. The average consumption of each household from NPRs with respect to their total consumption is analyzed in order to understand the relative importance of NPRs. Now the Common property Resources (CPRs) is no more in our study area. Most of CPRs have been converted into personal property or little more community property in our study area. That is why; I have mentioned here NPRs in place of CPRs (Baruah, & Bhattacharyya, 2019). Some Natural Resource Based Food Items are shown in Table-3 for Protein and Natural Resource Based Food Items in Table-4 for vegetables for the villagers.

Table-3: Natural Resource Based Food Items (Protein)

 **Fresh fish caught from local river/stream**	 **Rodents (Local name Kobu) Trap from surrounding jungle eaten as meat**
 **Sacrificed Pig in House Puja for the well Being of the House**	 **Raw meat being roasted mixed with salt in forest during hunting**
 **Tari (local name) found near riverside beneath stone and taken as raw**	 **Tatik (local name) found in farming area and roasted for consumption**

Hobo (Mithun) freely grazing in the forest at Kamki

Hobo (Mithun) is kept ready to sacrifice in Marriage Ceremony

Table-4: Natural Resource Based Food Items (Vegetables)

Tender Bamboo collected from Forest for Bamboo Shoot

Ite or Kuute (Tender Bamboo) collected from Forest

Tender Bamboo

Flower of wild banana plant used as vegetables

Bamboo Shoot (Iku local name) mixed with boiled vegetables or meat

Iyup (local Name), Dried Bamboo shoot mainly cooked with dried meat

Laipatta (local name: Giyii) eaten almost every day as boil vegetable

Raar (local name) boiled for consumption as it is a very effective antibiotic for body

Ori-Taka (left) and Oyik (right) used as vegetable

Marsaa (local name), regularly used as vegetable in various dishes

Tayir used as condiment

Oyin(left) and Oko-Mama used as vegetable

Oko-Mama (local name) used as vegetable

Osik and Ogen (local name) used as vegetable

A jhum cultivation of paddy in Kambu village

Fallow land after Jhum Cultivation kept for regeneration of vegetation

FINDINGS

1. Households in every village of the state are around 40 belonging to a same community. Its number increases in the villages lying along road side or near market area. They live on co-operation basis. One's problem is more or less everyone's problem. Remote village contains very less number of households. As per secondary data and field study there is very less number of non-tribal people in the remote villages. The non-tribal people are mostly household and agricultural workers.
2. Most of the family in the village is living jointly. Joint family system is the general rule, but indication is that it is not likely to continue for very long. It is not only the father, sons and brothers who live under one roof but also the uncles, nephews and co-fathers of the same descent who live and sometimes own property in common. Again, in addition to that some relative from 'in-law' may live as member of family and help in the cultivation and management of property. Of late, there has been a growing tendency among the young generation desiring to live separately who are staying far from the village for performing job or business.
3. The women of the interior areas where the large majority of population depends upon agriculture and animal husbandry bear the burden of all works excepting a few occasional items. The sex ratio is more in the sample villages as some males are working or studying in the urban areas.
4. The main occupation of the majority of the people is agriculture and the ownership of land is an important indicator of the access to productive assets. With the change in the structure of production, the occupational structure of the people has changed. Occupational structure in the study area transforms from primitive and indigenous agricultural practices with an inbuilt knowledge system which initiates traditional occupational engagements in activities like hunting and gathering, shifting cultivation (slash and burn method) and collection of minor forest produce for self consumption, wage labour in agriculture and service sector as well as earning from their inbuilt management system of natural resources to modern practices such services either in private or public and business. Agriculture in the study area is not much of a source of livelihood for a large majority of the people. But crops e.g., paddy, ginger, pumpkin, millets and potatoes are grown to meet a part of the domestic needs. Cropping system is entirely different from that of the plains.
5. The increased demand of food grains is partly met through the extension of the area under cultivation from forest and partly through higher productivity. There is vast plain land in the study area of West Siang district while there is less plain land in the study area of other districts. Jhum cultivation has been long in practice very much there. Major crop is paddy. Productivity of every crop in the study area is quite low and this is mostly due to the inclement weather and traditional methods of production (Bam, 2018).Jhum farming is present in 50% of Kamba households, while it was present in 70% of Kamki and 62.5% of Kambu. All of those engaged in jhum farming also practice permanent farming. The figure for Jhum farmers practicing permanent farming is also 50% in Kamba, 30% in Kamki, and 37.5% in Kambu.
6. Tribes in Arunachal Pradesh build traditional homes using materials found in their locality. The type of house they make is usually based on how big their family is. The weather can be quite severe in the area; therefore, building such houses provides protection from the elements. Depending upon the area in which they are built will determine whether the home will sit on level ground or slope down to the lower levels. Although families vary in their sizes, they will usually build similar types of houses, but differences exist due to regional customs. Houses are typically made out of bamboo, wood, cane, leaves, etc., and are not built with nails as fasteners. Houses are typically elevated about six to ten feet above ground level, using stilts.
7. The concept of sustainable development has gained momentum popularity as a reaction to the negative experiences of development. It is on this assumption that emphasis has been laid on the

preservation of environment with economic development as a part of sustainable economic development. The question of sustainable development is more important in the hilly terrain State as the State is very rich in natural resources. At the same time, the economy is in a transitional stage from the subsistence economy to the monetized market economy where the majority of the people are very poor. So, it has resulted in a lack of sustainability in the use of natural resources, particularly the forest resources.

8. The local people of the study area are the tribal people who live and depend on forests since the time immemorial and also practise jhum cultivation by slashing and burning the forests. The relative backwardness and high rate of illiteracy among the tribal people of the area coupled with their historical close proximity with the forest have made them dependent on forest resources. They obtain their every necessity of life from the environment. The forests are their source of livelihood. This has naturally made the tribal people to maintain a harmonious relationship with the environment.
9. The economy of study area is agro-pastoral in nature. The economy must have played a great part in the evolution of their professions. We find them active, enterprising and industrious, occupied in extensive commercial intercourse and trade, rearing vast flocks which form their chief dependence. There has never been a single primary source of livelihood for the people of this village. All the avenues of animal husbandary, agriculture, cottage industry, trade and commerce must have been equally important to them. The state of employment is inextricably linked with the poverty and level of living of the people. Besides the level of employment and unemployment also shows to what extent labour, an important factor of production gets utilized in a particular area.
10. The dependency of poor households on natural property resources (NPRs) for consumption is relatively higher than the non-poor households for firewood, bamboo, wild leafy vegetables, eatable roots and leaves while the income of non-poor is relatively higher than the poor households on timber and other groups of forest products like honey, medicinal herbs, seeds and wild animals hunt which can be marketed. Besides, the rural households generate directly some income by selling NPRs products in the markets and save expenditure by consuming and using NPRs items at free of cost. The income earned from NPRs for the poor and non-poor is quite hard to estimate as the respondents have no records and cannot guess accurately. **T**he dependency of poor households on NPRs is higher than that of non-poor households.
11. Meat of fowl, rabbits, deer, pigs, rats, snakes, monkeys, etc., is used to be an important source of protein of hunting community. But the forest laws restricted these practices. Hunting was curtailed under the Wildlife (Protection) Act, 1972, but an amendment in 1991 banned it entirely. But these laws are not functioning in the study area. Many times the villagers are hunting the wild animal and selling the meat in the village or in small market. Bark, roots, tubers, corns, leaves, flowers, seeds, fruits, sap, honey and other forest produces are a regular source of nutrition for this community. The forest laws are restricting them for massive extraction of forest produces. The minor forest produce gathered by this community is now restricted in massive way. Fish in ponds and streams in the forest is also used to be a traditional source of protein (Kato, & Gopi, 2009).
12. In the present study it is also found that the forest degradation is comparatively lesser than before. This may be due to the following factors: (i) the forest land is privatized to the individual family. As a result, there is a growing emergence of private ownership in forest which is replacing the traditional community ownership of forest and (2) due to shortage of sufficient forest land, there is a growing tendency of the tribal people to practise settled cultivation.
13. It is also observed that the environmental awareness is growing among tribal people at greater momentum. They have already framed some strict rules against the cutting of trees. Therefore, the need of the hour is to adopt an effective Government policy and planning for achieving sustainable development of the State which will maximize the flow of public goods from the environment.
14. It is observed that the tribal people are very much conservative minded. They want to preserve their culture through their art and culture but with the changing notion due to impact of Liberalization, Privatization and Globalization in the modern age. The tribes living in geographical isolation from each other possess certain distinctive characteristics in language, dress, customs, art and culture among themselves. They have a tradition of artistic craftsmanship and a sense of aesthetics manifested through a variety of crafts such as weaving, painting etc.

CONCLUSION

Natural resources are the basis for rural livelihood development. Forest is an important natural resource providing livelihood to rural communities besides lots of environmental services to the human settlements. Non-sustainable land-use practices and monsoon rains have led to deforestation and soil erosion continuing to occur rapidly on different portions of the plateau's land. Families currently rely heavily on sources of non-agricultural income for their sustenance.

Most non-agricultural income-generating activities are not productive or high-paying, as is the case with tribal families. The Galo people of Arunachal Pradesh have established a sustainable lifestyle through their understanding of ecology and traditional systems of living. Galo cuisine is primarily made up of rice, but they also consume many other food sources, mostly from native plants grown in forests, as well as numerous fermented foods. Galo communities rely on farming, animal husbandry, and handicraft production for their means of subsistence, which have changed over time with respect to the way they grow their food. The Galo continues to use their traditional methods of production and have proven that they can endure environmental changes and resist the pressure of modernization. Finding ways to create a sustainable future for the Galo will mean that modern practices are incorporated into their continued use of traditional production methods. Creating a sustainable future will also provide the Galo with a secure supply of food; an economically stable community; and a distinct social and cultural identity.

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