

Tribal Ecology and Food Security: A Study in Visakha Agency Area of Andhra Pradesh

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INTRODUCTION

The social and economic life of the tribals is largely influenced by the ecological conditions prevailing in the agency area. The socio-economic factors of the tribes in this high altitude zone are closely associated with the problem of food security and nutritional status. Food security is primarily about how an individual, household and community goes about meeting its food needs. In Visakha Agency area, the food insecurity is very acute due to non-availability of food resources for the community and also dearth of innovative ideas and technological knowledge with most of the tribes. The problem of food and water contamination, less calories diet lead to tribe to diseases and reduce in working capacity. It also reflects on their livelihood and a pressing problem for their development. The influence of culture on preference of food, its properties, taboos and the social role of food in the family and community can have important effects on food needs and food provision (Atkinson, 1992).

The conception is that the Malnutrition is closely associated with primitive ecology. The acute food insecurity feature is characterized with malnourishment, vulnerability and poor condition. The world bank defines food security "is a situation in which all people have enough food for an active healthy life" (1986). In the ecological perspective, the flora and fauna of a habitat largely determine the food habits of its population. Wissler (1926) and Kroeber (1939) carefully documented the correspondence of cultural and natural area in North America. Julian Steward (1955) in his empirical analysis of "culture core" features the relatedness of subsistence activity and economic arrangements.

The present study is focused to know the food situation in the Tribal eco-system of Visakha Agency area. The study discusses the ecological situation, food resource, food habits and defi-

ciencies. It also explains the degree of food insecurity and causes among the primitive tribal groups like Khond, Gadaba and Porja. It further dealt about the different factor for the cause of Malnutrition and the Government Intervention to eradicate the problem in the agency area. The data was collected in pasuvulabandha and chowdupalli villages of Chintapalli mandal of Visakhapatnam District.

THE ECOLOGY OF VISAKHA AGENCY AREA

Visakhapatnam District has two regions of contrasting ecological and topographical features plain, extending from the Sea-Coast to the foot hills of Eastern Ghats with moderate temperature and the other covered by thick forest atop the eastern ghats with cold climate. The geographical area of the district is 11,161 sq. km. of which the agency area covers 6289 sq. km. i.e., 56.4% area of the district. This district is separated into three revenue divisions viz., (1) Visakhapatnam (2) Narsipatnam (3) Paderu. The entire agency area is under paderu revenue division, consist of three taluks, namely paderu, chintapalli and Araku. The agency area of the district is further divided into eleven Mandals.

There are 33 Tribes in the states of Andhra Pradesh and most of them are living in the eastern ghats as it was considered to be the abode for them. About 90% of the tribal people in the district live in the agency area. The Major Tribes found in the agency area are Bagata, Kotiya, Konda dora, Nooka dora, Konda Kammara, Kondakapu, gadaba, Mali, Porja, Khond and Valmiki.

The economy of the tribes is agro-forest. It is largely influenced by the habitat and level of knowledge accumulated about the natural resources and skills for exploiting these resources. Most of the tribes raise plants and domesticate animals. The Tribal Communities are generally

at subsistence level of economy. With the introduction of cash economy and marketing system the tribals are forcefully selling some part of their produce in the markets to buy certain essential commodities.

About Field Villages: The study was conducted in two villages, pasuvulabandha and chowdupalli of chintapalli mandal. Chowdupalli village is close to Mandal headquarters with a distance of 2km and is located towards North-Western side. This village is considered to be a developed village. There are 110 households with a population of 435. Pasuvulabandha is 5 km away from Mandal Headquarters towards North-Western side. This village consists of seven hamlets namely valmiki colony, chin kothuru, veedhula Bailu, smara veedhi, gurugudem, goyyalametta and gadalametta. All these hamlets are scattered within a radius of 3 kilometers distance. The entire pasuvulabandha revenue village consists of 158 households with a population of 775.

RESOURCES AND UTILIZATION

Majority of the households of these two villages mainly subsist on land and forest resources (Table 1).

Table 1: Land holding type and pattern of the field villages

S.No.	Categories of lands	Extent of land (In hectares)	
		Chowdupalli	Pasuvulabandha
1.	Wet land	56.62	52.13
2.	Dry land	64.94	194.14
3.	Waste and forest land	45.46	35.48
	Total	167.02	281.75

Table 2: Categories of land owned by families

S. No.	Tribe	Categories of land owned (No. of families)							
		Dry	% to total	Wet	% to total	Dry + Wet	% to total	Families with total land	% to total
1	Valmiki	15	7.43	27	13.37	63	31.19	105	1.98
2	Mali	12	5.94	-	-	-	-	12	5.94
3	Konda Dora	12	5.94	-	-	-	-	12	5.94
4	Bagata	5	2.47	2	0.99	15	7.43	22	10.89
5	Konda Kammara	5	2.47	-	-	1	0.50	6	2.97
6	Gadaba	37	18.32	-	-	5	2.47	42	20.79
7	Khond	3	1.49	-	-	-	-	3	1.49
	Total	89	44.05	29	14.36	83	41.09	202	100.00

The Topography of the agency area cannot support wet cultivation, where there is only 24.23% of the land is under wet cultivation. The main sources to support wet cultivation are the Hill Stream and spring water in this area. Dry land and shifting (podu) cultivation are found in large extent in both the villages.

In official records the malis own land is categorised as dry, but these lands have tank irrigation facilities and using for vegetable crops.

Table 2 explain the categories of lands owned by the different tribes in these two villages (patta land holders). There are 202 patta land holding families in both the villages. Out of these there are 112 families own wet lands under tank and checkdam of chowdupalli ayacut. The rest of 89 families own only dry category of land.

It is noted that about 84% of the Tribal families in both the villages mainly depend on agriculture and 16% of families are the landless. The landless families are the agricultural labourers and they actively participate in Minor forest produce collection. Majority of the landless families found in Khond, Gadaba and Nooka-Dora tribes. Valmiki and Bagata tribes own much of the land.

The tribal farmers in these two villages practice both settled and shifting cultivation. The settled cultivation mainly found on the sides of the hill streams and on the plain lands. Most of the Bagata and Valmiki families own the wet and plain dry lands and mainly depend on settled cultivation. Khond, Gadaba and Nooka-Dora tribe, mostly subsist on dry and podu cultivation. The Malis grow vegetables and other seasonal crops throughout the calendar period. The rate of food production in the settled cultivation is comparatively high with the crop yields

Table 3: Crop raising pattern and crop yields

S.	Name of the crop	Calendar Period		Total yield in bags/kgs per acre of land
		Sowing of seeds	Harvesting period	
1	Paddy	July/August	November/December	10-15 bags (400-600) Kgs
2	Dry and Rainfed Crops			
	Ragi	June/July	September/October	2 bags (140) Kgs
3	Sama	June/July	October/November	2 bags (140) Kgs
4	Korra	June/July	October/November	2 bags (140) Kgs
5	Red grams	June/July	December/January	1 bag (60) Kgs
6	Beans (Chikkullu)	June/July	November/December	30-40 Kgs
7	Long beans (Bobbarlu)	June/July	November/December	40 Kgs
8	Olisulu	June/July	December/January	1-2 bags (60-120) Kgs
			December/January	1-2 bags (60-120) Kgs
9	Maize	June/July	September/October	2-3 quintals
10	Turmeric	May/June	February/March	5-6 bags (300-350) Kgs
11	Ginger	May/June	April/May	5 bags (300) Kgs

in shifting (podu) cultivation. The tribal farmers grow mixed crops millets, pulses and oil seeds in dry and shifting cultivation, which are the rain fed crops, where they give very low yields. The wet cultivators grow the paddy in Khariff season only. They still use crude and primitive technology in their agricultural operations. Food insecurity is very acute especially among Khonds, Gadaba and Nooka Dora Tribes, who still, mostly depend on dry and shifting cultivation. However, few families in other tribes are also facing the problem of food at least three months in a calendar period.

The mixed cropping is spread over three months, four months, and six months duration. These crops give food security to the tribals for about six months in a calendar year (Table 3). The Forest laws have become stringent and its enforcement had bearing on the tribal community subsistence. With this practicing of podu cultivation has become a problem.

The podu cultivation is practiced in a plot of land continuously for a period of one or two years, then it is kept fallow continuously for a period of two or three years. Again it is brought under cultivation. In recent times they cannot afford to abandon the old podu lands and to prepare new podu plots due to restrictions imposed by Forest Department in Reserve Forests.

Water Resources: The hill stream and springs are the main water resources available to the tribal communities, mentioned. They use the stream water for wet land cultivation, drinking purpose and for other purposes like bathing and washing the clothes. The tribals pollute the

stream water in many ways, by washing clothes, taking bath and washing cattle. The streams are naturally polluted by the drying and decaying leaves and twigs. The I.T.D.A. has provided the protected bore-well drinking water facility to these settlements, but they are not using it because the water is not palatable. They drink stream or spring water without any hesitation. Moreover they do not have the knowledge to use the stream water properly and cautiously.

Livestock: Most of the tribal families domesticate the cows mainly for the progeniture of calves. A tribal peasant family compulsorily keep at least a minimum of two cows or oxen, for ploughing the lands. They use the cattle dung for manuring the wet and dry lands. They do not have the practice of milching the cattle. They rear the fowls either for sacrificial or marketing purposes. About 50% of the families in Nooka dora and Gadaba tribes rear the goats and sheeps. They kept the goat and sheep units for manuring the field and for marketing and sacrificial purposes.

Forest Resources: The tribal families collect the fire-wood from the forest for fuel purpose. They use the timber of Teak, Maddi, Vegisa in house construction and for making certain wooden implements and furniture. They make the wooden ploughs with the *Chundra Tree* Trunk. They collect minor forest produce like adda levels, adda fibre, adda seeds, shikai, tamarind, myrobalam, black cashew pungai seeds (ganuga pikkalu), karakkaya, jetropa and Honey. They sell all these minor forest produce to Girijan cooperative corporation. Occasionally they

participate in hunting small game in which they catch rabbits, wild fowls, deer, hare wild pigs, "purellu and Konjulu", especially during the *Itikala punduga*. All the males participate in hunting game they collect edible fruits, roots, tubers, leafy vegetable. They graze their cattle in the forest lands.

In addition to these resources a few of them catch small fish in the stream, ponds and tanks for family consumption.

Food Habits: The staple food of the tribes is Ambali (Ragi gruel). However, consumption of rice, if available, once in a day is also observed. All tribes are non-vegetarians. Valmiki, gadaba and khond tribes take beef. In the vegetarian diet, they make curries with seasonally available vegetables like pumpkin, watergourd, beans, brinjal, tomato, drumstick. A few literate and elite tribal families buy certain English vegetables like carrot, cauliflower, cabbage, potato in the shandy or from the malis of chowdupalli for consumption purpose. They prepare chutins with inflorescence of tamarind, konkadi koorra and redgram. They consume the redgram dhal in liquid cooked food from which in mixed with rice. They prepare rasam with boiled tamarind mixed water, which is added to the rice. The oil consumption is very less in all the tribes. The quality of food intake is closely associated with the economic position of the family and tribe.

The Tribal families grow pumpkin and preserve them for future use. They cook pumpkins especially in the festival and socio-ceremonial occasions. The consumption of milk products are almost nil in all the tribes of pasuvulabandha. Both men and women smoke cigars. Alcoholism is too much among tribes. Even the tribal women take the intoxicating drinks like *sara*

(Arrack), Jeelugu Kallu (Sago palm extract), *Maddi* (Rice beer). The intake of intoxicating drinks is more in Gadaba, Khond Nook dora, Kondakammara when compared with that of the Bagata and Valmiki tribes. Generally women are restricted to take alcoholic beverages during pregnancy. It is also prohibited among children. It is interesting to note that restrictions of certain food items like egg, meat, fish to women during the pre and post-natal periods has no significant reason. Where, it is a well-known fact that these food items have much nutritive value. It is also noted that the tribals avoid to take their concerned totemic plants and animals as food items. They do not consume the sacrificial animal blood. They offer it to the supernatural beings. The intake of protein food items is very less in almost all the tribes. They take minimum caloric food during the period of July-Sept in the year.

ECONOMIC PROBLEMS

Food crisis is common to the majority of tribal population in the agency area. It plays a major role in the social organization of the tribal society. In chowdupalli about 90% of the valmiki families are economically good and they do not have any food problem (Table 4). The landscape in the villages is also plain and majority of the tribal families own fertile, Wet and dry lands getting yields when compared with that of the residents of pasuvulabandha.

Out of the total families, 91 families (57.59%) are facing the food problem, 23 families (14.56%) facing problem of indebtedness, 29 families have both food and indebtedness problem and the rest 15 families (9.4%) has no such

Table 4: Major economic problems of different tribes in Pasuvulabandha

S. No.	Tribe	Major economic problems						No. of problems	% to total households
		Food problems	% to total households	Indebtedness	% to total households	Food and indebtedness	% to total population		
1	Bagata	5	3.16	6	3.80	3	1.90	8	5.06
2	Nookadora	14	8.86	4	2.53	6	3.80	1	0.63
3	Koda Kammara	3	1.90	-	-	1	0.63	-	-
4	Gadaba	45	28.48	7	4.43	9	5.70	2	1.27
5	Khond	14	8.86	-	-	2	1.26	-	-
6	Valmiki	8	5.06	6	3.80	6	3.80	4	2.53
7	Madiga (Harijan)	2	1.27	-	-	2	1.26	-	-
Total		91	57.59	23	14.56	29	18.35	15	9.49

problems. It is noticed that the food problem is very high in the primitive tribes khond, gadaba and nookadora. The ecology of these tribes are mostly shifting and dry cultivation. Among Khonds and gadabas the family size is 5 to 6 members. In rest of the tribes the family size is four on an average. Generally the podu and dry cultivators use very simple technology in their agricultural operations and get very low yields. The available other resources are also not sufficient to these tribes. Because of food deficiency in these tribes the incidence of malnutrition cases are also more when compared with other tribes.

Due to non-availability of sufficient food resources to the entire population in the area a section of population is unable to escape from the pangs of hunger. There is also problem of malnutrition. This is also considered to be the hurdle for economic development in certain tribes.

Government's Intervention to Increase Nutritional Status and Economic Development

Under the I.C.D.S., Anganwadi centers were established in the agency area with a view to increase the nutritional status among the pregnant women and children aged below 6 years. But this scheme is a total failure in the Tribal areas.

The Anganwadi school is locally called as Uppma Badi. In the field villages, one such school at valmiki colony of pasuvulabandha, one at malis colony of chowdupalli were functioning. It was observed that the concerned Anganwadi teachers were not playing much attention to get fruitful results. The aim of the scheme is to enhance the nutritional status among the tribal children by providing some additional nutritive value food.

The I.T.D.A. Agricultural extension wing is trying to increase the energy base in the area by introducing the horticulture, providing irrigation through checkdams, introduction of commercial crops like maize, turmeric, ginger and citronella by supplying H.Y.V. seeds, chemical fertilizers and pesticides. It is also taking steps to reduce the soil erosion by means of land leveling. Tribes with their usual traditional crops also raise these commercial crops introduced by I.T.D.A.

CONCLUSION

The ecosystem of the agency area has much potential energy base of forests and lands. But Tribals are restricted to encroach into reserve forest lands. The available cultivable lands and minor forest resources are not meeting the subsistence of the entire tribal population. Majority of them were unable to utilize the available resource to the optimum, as the practice was traditional. As a consequence of this the yields are very low. The shifting cultivation environment in primitive tribal habitats largely associated with weeding. If they pay good attention to remove the weed in podu crops, certainly they are able to increase the output of these crops. The wet land cultivators use the stream water resources only in Khariff season. Even in summer months little water flows in the streams, that water can also be conserved and used for raising the second crop in Rabi season.

The tribal farmers are not in favour of raising the second crop, because they enjoy with more leisure, rather than increase the rate of agricultural production, and also they do not have developed the profit motive. For dry land areas, the drift irrigation, pot irrigation and lift irrigation system should be helpful to raise the vegetable crops, orchards and other commercial crops to increase the energy base. Training in new agricultural innovation is most essential to the tribes. Tribals should be properly motivated to participate in the development activities to elevate the standards of their livelihood.

Public health programmes should be properly implemented to improve the health conditions and nutritional status among tribes. Education is mostly helpful for changing the health and nutritional status of tribal population. Development of Resources certainly solve the problem of malnutrition and increases working capacity in tribal population. In turn it can raise the quality of life for the Tribals.

KEY WORDS Tribal Ecology. Food Security. Energy Base. Malnutrition. Resources.

ABSTRACT The study deals with Tribal Ecology and Food Security in Visakha Agency Area of A.P. It is mainly focused to know the food situation, resources and survival strategy of the tribes, and to know the degree of food

insecurity among the tribes under the study. It also try to suggest intervention and strategies to raise the quality of life.

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