

Indigenous Technological Knowledge and Practices of the Tribal People in Maharashtra

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INTRODUCTION

Today development is seen in terms of long term sustainability. In order to ensure a culturally and ecologically sound approach to sustainable development, the necessity to understand and utilize the people's indigenous knowledge has been considered as important. A detailed study of the indigenous technological knowledge of the tribal people is not adequately available.

The knowledge possessed by community members and their behavioural patterns associated with respect to selection, gathering and quality testing of the raw material and making of product is technology. Technology is a product of culture and environment interaction. This is the operational concept of technology used in research.

The understanding of strengths and limitations of tribal people's indigenous technological knowledge can be of great help in planning for appropriate technological and socioeconomic development.

This is a study of the traditional and indigenous technological knowledge system of the tribal people of Jawhar (district Thane in Maharashtra).

The objectives of the study are outlined as follows:

- i) To document the existing tribal technologies in the areas of agriculture, animal husbandry, housing, household tools, food gathering and processing, fishing, hunting, rope making and medicine
- ii) To explore the relationship between tribal culture and technology
- iii) To study the nature and characteristics of tribal technology

STUDY REGION AND METHOD

The study was conducted in a tribal village, Kharonda, tahsil Jawhar, district Thane in Maharashtra. The village is 30 Km away from Jawhar, the taluka place. The village is inhabited by three tribes (namely, Warli, Kokna and

Dhorkoli). According to a study by the Maharashtra Association of Anthropological Sciences, 1995, the total population of the village is 1600, in which the Warli outnumber the others. The village is surrounded with forest. The approach road to the village is not well developed. Transportation facility to and from Jawhar is available, but the problem of bus failure is common. In rainy season, the village is cut off with the outside world.

Agriculture: Agriculture is the common mode of occupation. A variety of crops are grown in the area like millets, cereals, pulses, oilseeds, fiber crop, vegetable crops and flower plants.

Nagli (Finger Millet) is the staple and ritually important crop, addressed as goddess *Kansari*. The whole tribal life revolves around *nagli*. The crop is handled with great affection and care. People are emotionally attached to it. Huge ceremonies and rituals are held for this crop. Health problems are associated to the wrath of *nagli* goddess. *Vari* (common millet) is the only traditionally raised cash crop. Paddy is the crop wherein few high yielding varieties are grown.

The belief system of the people has given rise to a system of inter-cropping and multiple-cropping. For example, it is believed that *nagli* should not be grown alone. It should be grown along with other crop. That the fiber crop *Ambari* grows well and tall when grown along with a pulse.

Almost all the crops are sown in *Rab*, the traditional organic fertilizer. This fertilizer is prepared by setting on fire the local plant material like dried leaves and twigs, grass, Paddy straw, or damaged products made up of plant material, cow-dung and dry mud.

Hands and legs, a wooden stick, a wooden plough, and a sickle form the main agricultural tool kit. The sowing of seeds is done by hand without any aids. A specific technique is employed for sowing, so as to achieve consistency of space between the seedlings and consequently better yield. The transplantation and weeding is done by hand. The harvest is performed by hand as well as sickle. Threshing is done by hands,

legs, a stick and with the help of bulls.

The storage of seeds and grain is done in a very peculiar fashion. The storage containers are made up of *sag* (Teak) leaves and dried gourd to store seeds. The mouth of these containers is sealed with paddy straw, dung and mud so as to prevent its spoilage from insects and moisture. There is hot and cold classification of crops. For example, the underground crops are considered as hot and should be stored in a container made up of plant that is cold by nature. For example, the straw of *vari* is considered to be cold. So the containers made up of *vari* straw are used to store the bulbs of underground crops. The grains are stored in bamboo baskets and sealed.

Animal Husbandry: The cattle, the goat and the poultry form the main livestock. The animals are of local breed. The cattle are draught animals, while the goat and the poultry are used for rituals. They are also a source of income and food. The cattle are not milked and the eggs are not consumed. The cattle are left in the open after harvest till the next period of sowing, that is, for nearly eight months. This practice is related to the migration pattern of the people. As the people migrate for employment they have to leave the cattle out. Baskets of various sizes are made for the poultry to lay eggs, for the chicks and for the young ones of the goat to stay for the initial few months. The baskets are designed taking into account the body heat of the animal. For example, the poultry require cool, airy basket, while the goats need more warmth. The Dhorkoli are considered to have a better knowledge of cattle. They are consulted to understand the cause of cattle death.

Housing: The houses are made up of wood and other local plant material. They are rectangular in shape. A house is partitioned into a kitchen and a sitting room with cattle and goat-shed inside the house. There is open space outside or verandah, where the villagers sit for chat and tool making.

In house construction, especially those having tiled roofs, local carpenters are employed for fixing of beams. The fixing up of the wall, of the tiles and pattering of the floor are done by men and women. The carpenters are paid in cash and kind. The thatched houses are constructed without using nails. Instead, ropes made up of specific trees are used for fixing of beams and for thatching of roofs. This job is done without

the help of carpenters. Women select the place for mortar and grinder, while the priest and the Bhagat decide the site for kitchen in the house.

Household Tools: The household tools mainly consist of utensils required in kitchen work. The *chula* (or the oven) is the main tool that marks the identity of a tribe. The *chulas* are of two types, mud *chulas* as found among the Kokna and stone *chulas* found among the Warli. Then there are other tools like stone or wooden container for pounding work, stone grinders of two types, one used for grinding of the pulses and the other type for making flour. A wooden mortar and pestle, bamboo made objects like food and grain storage baskets, grain measuring and drying baskets, winnower and sieve are some of the other tools.

Food Gathering and Processing: A variety of vegetables, fruits, seeds, honey, toddy and gum are collected from the forest. One of the peculiar features of the food processing is the use of simple, natural methods for processing. For example certain fruits like those of *erand* (*Ricinus communis* L.) are fed to the goats and the seeds thrown are collected for barter. The vegetables that taste bitter are sliced and kept in a processing basket in the streams overnight to wash off the bitterness. The tender stalks, leaves of *bondar* (*Lagerstroemia parviflora* Roxb.) and seeds of *baphli* (*Peucedanum grande* Clke.) are directly used as spices while cooking. Liquor is brewed in the house by means of traditional fermentation technique.

Fishing and Hunting: Fishing takes place in the streams, rivers, rivulets and dams. There are various types of bamboo made fishing baskets used for trapping of fishes. The baskets vary depending upon the place and season of collection. The structure of basket used in the river differs from that used in the rivulet where the water currents are moderate.

There is a separate basket made for collection of the crabs. Some of the small fishes and crabs are eaten raw. Fishing is looked upon as a matter of enjoyment after the hard work in the field gets over. Fishing is also done by poisoning the place of water and by using a piece of cloth. Usually the kinsmen or a group belonging to a common settlement do fishing together.

The hunting of birds is more popular than animals. There are different types of hunting

tools used for trapping the animals.

Customarily there is certain period in the year, falling in late winter and summer when people concentrate on fishing and hunting. This is the time when they are free from agricultural work.

Rope Making: There are different kinds of ropes made out of fibers from different kinds of trees. The ropes have a vital importance, in the material life of the tribals. Ropes are used largely in agriculture, for tying animals, in house construction, for household tools, fishing and hunting. Maximum use of ropes and minimum use of nails is a peculiarity of tribal products.

Medicine: Medicinal plants are collected from the forest and the extracts prepared when the problem is identified and diagnosed. The medicines prepared are used in fresh form. It is believed that they are more effective than the stored medicines.

CHARACTERISTICS OF TRIBAL TECHNOLOGY

The present study of indigenous knowledge and practices of the tribal people help us to understand some of the potentials of their traditional and indigenous tribal technological system. The following list gives a few characteristics of their technology.

- The technology is environment based. The raw material is obtained from nature. The life of the people depends upon and revolves around specific natural resources. *sag*, Bamboo, crop Nagli, animals like cattle, goat and poultry serve their survival and cultural needs.
- The technology is conservation oriented. It contributes to the conservation of bio-diversity. For example, after damage, the herbal raw material is reused for making of organic fertilizer. There is no problem of disposal. Everything gets reused and recycled.
- It is simple. Most of the activities are carried out by hand and by using simple tools.
- There is less mechanization. It is almost a non-machine technology.
- The technology is labour intensive. There is maximum utilisation of human labour, while conducting different activities.
- Although simple, it is a highly developed craft.

For example, works like carpentry, basketry, involve numerous processes in its making.

- It is a subsistents technology. No surplus is generated. Profit is not the motive and productivity is not the interest.
- The people are almost self reliant with their technology. There is less dependency for any kind of product on the external sources.
- It is an organized enterprise. The various activities like harvest and threshing of crops, fishing, hunting are performed in groups.
- The tools serve multiple needs. For example, a sickle is used for cutting grass, small trees, digging out roots, harvest and in rope making. A basket called Panti is a carrying basket, a storage basket as well as used in the rearing of the poultry.
- Preservation technology is less developed. For example, food and medicines are used in fresh form. The houses are short lived.
- There is no occupational specialization. There are specialists who possess specific skills and not specific knowledge.
- The various technologies are integrated with each other and with culture. Technology influences social system. It is a social process. Agriculture technology for instance, produces patterns different from a hunting type. For example the changes brought about by the Kokna in their housing and social structure for agricultural development is a case in point.

KEY WORDS Tribe. Technology. Indigenous Knowledge. Development.

ABSTRACT Although the value of indigenous knowledge is growing, it has not received much attention from development professionals and academicians. The present paper discusses the tribal people's indigenous technological knowledge and practices in various areas. It puts forth the potentials of tribal technological system. Knowledge is a part of culture. Development programmes based on the lines of the tribal people's indigenous knowledge system are likely to be more acceptable.

REFERENCE

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