Short Communication



# Lepcha agriculture on Primitive Agro-system perspective

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#### Abstract

Lepchas are indigenous people of the Eastern Himalaya especially of the Sikkim Himalaya which includes state of Sikkim and Darjeeling-Kalimpong Districts of West Bengal. They practice a unique highland agro-ecosystem of primitive nature though modern agro-techniques have intervened a lot in their culture. This paper will throw some insights on their agricultural practices which will add to primitive agriculture perspective in the line to the Indian government modality. It could be contended that though there is dynamism in any society or community but its unique culture could be preserved and here in case of Lepcha community it is equally applicable in this region.

Keywords: Darjeeling, Indigenous tribe, Lepcha, primitive agriculture technique, Sikkim.

# INTRODUCTION

Indigenous people occupy an important place in the global family. They are sometimes referred to as aboriginal or primitive or autochthonous people. It is estimated that 3000 million indigenous people live in more than 70 countries, from the Arctic regions to Amazon and Australia. In some countries, such as Peru and Gauatemala, almost half the population is indigenous. They are often defined as aboriginals, autochthonous people, natives of first nations; indigenous people have widely varying cultural, ethnic and religious backgrounds. In December 1990, the United Nations General Assembly adopted resolution 45/164 proclaiming 1993 as the International Year for the World's Indigenous People, aiming to strengthen 'International cooperation for the solution of problems faced by indigenous communities in areas such as human rights, the environment, development, education and help.

## MATERIALS AND METHOD

The relevant literatures pertaining to the Lepcha were reviewed to collect the information on the resources utilization.

The field visits to the different locations of Lepcha dominating areas were conducted, both in Sikkim and Darjeeling Himalayas.

## **RESULTS AND DISCUSSION**

## The Primitive Tribe

In 1977, the Ministry of Home Affairs, Government of India brought out a proceeding of a workshop for identification of primitive tribe on the eve of the

5<sup>th</sup> Five Year Plan. Accordingly, the Ministry had accepted following criteria for the identification of Primitive Tribal Group (P.T.G).

- i) Population growth rate is very low compared to the rest of the population. They, therefore, exist as small communities.
- ii) The level of technological development is still in pre agricultural stage.
- iii) The level of literacy is extremely low and is lagging far behind the average tribals. There is practically little or no progress of literacy among such groups.

Any tribe qualifying at least one such criteria, was stated as primitive tribe and as per that frame 52 tribes were categorized as PTG at the end of  $5^{\pm}$  Plan Period (Chaudhari and Chaudhari, 2005). In 1979 Ministry of Tribal Affairs Government of India identified the above 52 tribal people as PTG's whose number increased to 75 in 2001 whereby the tribe Maram Naga of Manipur and the Lepcha of Sikkim have been enlisted as PTG from North Eastern states. In West Bengal, 3 tribes have been identified as PTG and they are Birhor, Lodha and Toto.

# History of Agriculture

Food and water are the two necessary items of living being and livelihood of mankind started with hunters or gatherers. Before agriculture, people lived by hunting wild animals and gathering edible plants and fishing which were possibly when the herds were plentiful and the plants flourished. But, when the herds migrated elsewhere, people might have to follow them discovering a whole new set of plants to supplement their diet. This "feast or famine" lifestyle had its definite drawbacks including starvation. Fortunately, several geniuses throughout the world eventually discovered how to produce and preserve resources.

By and by the process of domestication of wild plants started thousands years and agriculture began during the second stage of the Epipaleolithic i.e. between 10,000 to 8,500 BC (Moore, 1982). Rice, millet, barley, maize, oat, wheat are ancient cereals whereas beans, grapes, onions, yam, melon, chickpea, radish, sunflower, etc are old garden crop.

Intensive food gathering, in which regional inhabitants set up permanent residences and made extensive use of already present plants, seems to have started in the Near East around 9000 – 7000 B.C. (Moore,1982).

# **Primitive Agriculture**

Origin of agriculture started with traditional agroforestry practices. According to Solanki and Bisaria (2000), the agroforestry is a primitive type of agriculture which can be manifested in four different forms:

- 1) Shifting cultivation (4-5 to 10-20) years.
- 2) Tangya cultivation (1-3 years, e.g. teak plantation where tribals grow paddy, tapioca, ginger, turmeric etc.).
- 3) Intercropping plantation (cardamom and trees).
- 4) Home garden- principally for home consumption.

Though slash and burn is considered to be a primitive agriculture system, it has a science behind its practice. People burn plants in different cycle i.e. forest fallow 20 - 25 years, bush fallow 6-10 years and grass fallow less than 5 years

(Mukhopadhyay, 2000). They cut partial forest and burn the area to release nutrients and eliminate weeds where short term crops like potato, dry rice and other tubers are planted. Nutrients are released when the fallow vegetation is burned to clear the land for the next cropping cycle (Ruthenberg, 1971). Small trees are only trimmed and big branches are left for staking crops. The top cuts are spread on soil and burned. In this way, bush fallow provides staking material and also recycle nutrients (Giardina *et al.*, 2000). Scientists later on modified the primitive and traditional agro-practices like Sloping Agriculture Land Technology (SALT) in Phillippines, this technique is culturally accepted because the farming techniques matches with the belief and traditional practices of Filipino people.

Slash and burn agriculture is an efficient system as long as population pressure is low. To stabilize such pressure a new alternative system to slash and burn-the Quesungual system is practiced in hilly terrain of Honduras (Welches and Cherrett, 2002). This system is characterized by three layers of vegetation: mulch, crops and dispersed shrubs, and trees. It is a conventional agricultural system with a tree component which allows small farmers to cultivate the land on steep slopes continuously while replacing it.

## The Lepchas

The Lepchas (they call themselves as Rong) are original inhabitants of Sikkim. According to their legend their original home is Mayal, is located somewhere near Kanchandzonga(Tamlong, 2008). Their population is concentrated in the hills of the western fringe of the Eastern Himalaya i.e. the state of Sikkim, Ilam (Eastern Nepal), Kalimpong-Darjeeling hills of West Bengal and Western Bhutan. They speak their own Rong or Lepcha language which is considered a branch of Himalayan group of Tibeto-Burman family but some scholars are of the view that its root is in the Austro-Asiatic family (Singh, 1923)

O'Malley (1907) mentions Lepchas are born naturalist which can be reflected in their expertise in having separate names for every bird, plant, orchid, butterfly etc. However, he mentioned *jhooming*, a traditional slash and burn agricultural practices of Lepchas as a wasteful system of cultivation.

Risley (1928) mentioned Lepcha are conversant with birds, peaks, geological and botanical nomenclatures as well as practice primitive method of cultivation. They find themselves more attached towards forest as they believe the forest are their original home.

Lepchas land subsistence economy is mostly derived from agroforestry and animal husbandry. It is interesting to note that both sexes participate in the agricultural activity (Das and Banerjee, 1962). Lepchas prefer to do their field work in partner or team (Lobo) with limited agricultural implements (Siiger, 1967). Lepchas are known to be born naturalist i.e. they love and care for nature and natural resources. Their knowledge of conservation could be highlighted by their rites and rituals performed on worshipping peaks, rivers, lakes, forests, etc. they consider their each clans have been originated from the surrounding nature (Pradhan et.al, 2021).

Lepchas main source of economy comes from land and forest. They were basically hunter/food gatherer moved to shifting cultivation and later became valley agriculturist (Singh, 1993).

Saklani and Jain (1994) on their studies on ethnobotany of North Eastern India opined that the Lepchas are prominent primitive tribe in Sikkim and Darjeeling. They still depend directly on nature for their food and drink, customs and rituals, housing, medicine etc. even their agriculture tools are of old fashion.

Sharma and Singh (2002) stated that Lepcha the aboriginal inhabitant of Sikkim were believed to be the first to collect cardamom capsules from natural forest and eventually these forest were converted into village ownerships and the crops were domesticated.

Nowadays, remains of shifting cultivation are rarely observed in the form of *Khoriya* (*Bhasmay*) in Dzongu, North Sikkim. Moreover, the agricultural tools, farm implements and techniques, cultivation methodology, farm raised animals, local crops, irrigation systems etc. are still primitive (Subba, 2008).

## Lepcha Agro-ecosystem

Two land-use types are extremely important for Lepchas: forests and agriculture. Today agriculture is the main livelihood practice of the Lepchas as hunting has been abandoned years ago. Conservation of agro-biodiversity in Lepcha villages are developed adopting different land races.

Gurung (2001) states that the Lepchas practice two forms of Agriculture – permanent and swidden (slash and burn). The Lepchas classified all cultivated area into four agro-ecosystem:

i) Punzok: The cultivated area in the forest or when agro -forestry is practiced e.g. cardamom cultivation.

ii) Sadlium: The area where slash and burn is practiced for dry rice, maize and buck-wheat.

iii) Leeden Shing: The cultivated area near houses or homestead garden where vegetables, tubers and other minor crops are cultivated.

iv) Ari or Yong: The terraced field at lower elevation for cultivation of wet rice, maize, meat, etc. this is again of two types:- irrigated and rain fed.

Punzok is dominated by men and Sadlium was once completely under female domination but now have joint domain. Moreover, home-garden Leeden Shing is considered womens' domain for the reason that such area usually small in size and crops that are cultivated, are all minor of subsistence crops. Ari-Yong is men's sphere but women do also participate during planting and harvesting.

# Primitive agriculture technique of Lepchas

The agricultural implements used by Lepchas are simple and primitive like, Bahur (special sickle) for cutting small saplings, Bamphok (shopping knife) a fairly sickle for bush clearing, Thingyal (dibbling stick for planting dry rice) a small hoe for weeding, Aunzu (special sickle for harvesting), a plough for wet paddy cultivation, bamboo pipes for irrigation etc. All above primitive type of agricultural implements are still in use among Lepcha farmers.

A primitive agriculture is characterized by a mixed farming which is well reflected in a Lepcha composite farming system i.e. agroforestry livestock, horticulture together at a time. The Lepchas being true naturalists possess an intensive knowledge on the forestry and the use of forest products who use everything judiciously with a mind of conservation of nature. Lepcha's livelihood is totally dependent on their Mother Nature starting from cultivated plants to wild edibles, beverage to local drinks, firewood to light production, fish poisoning to hunting devices, gum yielding techniques to extraction of dyes, fodder to fibre, timber to building construction, incense to worship and lastly ethnomedicine to medico-religious belief, all are found in Lepcha household surroundings (Jana and Chauhan, 2000; Pradhan, 2021). Such a diverse use of natural resources is an age old practice and could be well considered as a primitive agro based livelihood option

All the above criteria of primitive agriculture are available on account of agricultural practices of Lepchas. The Lepcha ways of planting dry rice by means of slash and burn system in mountain slope is a very primitive type of agricultural practice. Locally known those land races are Tak-Mat-Jo, Chob-Yo-Jo, Jo-Kyop. They practice consumption oriented farming system i.e. they do not go for surplus or selling vegetables and cereals. They are usually contented having their livelihood from their field and surroundings. This indicates the primitive characteristics of agricultural economy of PTG.

It warrants further research on the hill agro-dynamic of PTG and its pivotal roles in the Himalayan ecosystem.

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