

Different Indigenous Farming Systems Practised in Jaintia Hills – A Case Study

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Agriculture in North-Eastern Hill Region is predominantly jhum and terrace based in nature. Non availability/scarcity of valley lands is the basic reason behind this practice. The farmers of this region have developed different types of indigenous farming systems best suited to their situation. These systems significantly differ from that of the developed systems which are considered to be ideal in many aspects. The various components of these type of farming systems are in line with the available resources and needs of the farmers. Incorporation of scientific knowledge can be made wherever necessary for the best use of the existing resources without disturbing the whole system. For this, systematic study of different indigenous farming systems alongwith its components is a pre-requisite for suggesting any change and for the proper conservation of the resources. Keeping this into consideration, this case study was conducted to identify various indigenous farming systems practised by the farmers of Jayantia Hills and to suggest changes, if needed, in the existing systems.

The study was conducted in Jowai District of Jayantia Hills. Two villages of the district were randomly selected for the study. The concerned Headmen were contacted to select ten farmers from the respective villages to study different components of indigenous farming systems practised by them. Before collection of relevant information the selected villages were preliminarily surveyed to get an overall idea about different systems of cultivation both in the terraces and valley land.

In all, four different farming systems (FS) were identified in the surveyed villages which are described below :

Farming system I

This farming system was found to have three major components :

- Evergreen forest in the top of the hillock.
- Shifting cultivation was practised in the slopes.
- The valley land was used for settled cultivation for staple crop.

The evergreen forest was mainly consisted of pine and some local trees like Kakai, Kaflo, Makrisal etc. which were the main source of fuel energy and timber. The slopes of the hill was utilised for mixed crop of paddy and maize, paddy as the main crop. The valley land was utilised for the staple crop of rice where local varieties of paddy like 'Lespa' and 'Than' were taken up.

Farming systems II

This system was characterised by five different components :

- Settled cultivation existed in the valley land as in FSI.
- Shifting cultivation in the hill slopes.
- Upper part of the slope was utilised for fruit crops.
- Vegetables were mainly cultivated in the mid portion of the slope.
- Livestock was the another component in this system.

Livestock like pig and backyard poultry were the integral part of this system which were the main avenues for subsidiary income generation of the farmers. The unique feature of this system was the vegetable based farming system wherein cabbage and cauliflower were extensively grown. These vegetables were taken as the main commercial crops and maximum resources were utilised for growing this crop. But the cultivation of vegetables was along the slope of the hillock in boons.

Farming system III

The major components of this farming systems are as follows :

- Shifting cultivation
- Mixed vegetable was the main component in this system
- Livestock again was the integral part of this systems.
- Settled cultivation in the valley land.
- Catchment area was converted into pisci-culture pond.

Paddy as sole crop was only cultivated in the valley land with local variety and maize was taken as mixed crop in the jhum land with paddy. Mixed vegetables (tomato, chilly and cauliflower) were grown along the slope causing rapid depletion of soil nutrients.

Farming system IV

This system was characterised by five different components :

- Valley land was used for paddy as settled crop.
- Cabbage was the main vegetable grown in the boons along the slopes.
- Shifting cultivation in the hill slopes for growing paddy and maize both as sole as well as mixed crops.
- The top portion of the hillock was occupied by dense forest (pine, makrisal and other local trees) for fuel energy and timber.
- Livestock rearing.
- The artificially created catchment area served the purpose of irrigation as well fish rearing for subsidiary income generation.

This system was having maximum number of components of which paddy, livestock, cattle, pig, goat and poultry, vegetable (cabbage) and pisciculture were the important ones. Though paddy was the staple crop, yield was very poor and improved varieties were hardly found in any of the farmers' field.

Farmign systems V

The various components of this farmign systems are as follows

- Shifting cultivation
- Mixed vegetables (Tomato, chilly and cauliflower) were cultivated in the slope.
- Animal like cattle, goat and pig were reared.
- Settled cultivation was practised in the valley land with paddy as main crop.
- The catchment area was converted into ponds for pisciculture.

Vegetable based farming system is the only profit making component common in two villages. But farmers have not constructed any terraces. Instead, they are practising boon method of cultivation. Moreover vegetables are cultivated along the slopes only which causes rapid soil loss due to erosion and run off. This system should immediately be checked to maintain soil health and for smoothe land preparation.

Paddy, though the staple crop, is taken only once in a year and only local varieties are cultivated which are of very longer duration and yield potential is also very low. The suitable improved varieties having high yield potential may be tried. Similarly, the local breeds of livestock can also be replaced by the improved breed of pig, poultry and cattle to make livestock rearing more profitable. The farmers were maintaining orchards for household consumption only ignoring the vast potentiality of its commercialisation. Another neglected sector was the non-cultivation of fodder crop for the livestock. The study indicates that the existing components need to be strengthened by incorporating improved inputs and package of prtices to make the FS more profitable and sustainable.