

Zabo farming: A traditional wisdom

of tribal farmers for natural resource management in Phek district of Nagaland

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Nagaland is one of the Northeastern States of India inhabited by sixteen major tribes and numerous minor tribes. The Naga Villages and districts are delineated by clan and tribes, respectively. Nagaland is known as land of festivals and the festivals coincide with the agricultural activities, such as crop sowing or harvesting season. Around 71% population of the people lives in villages and primarily dependant on agriculture and allied sector. Each tribe has its own distinct way of doing agriculture farming. The plain land is only 30% of total land and rest is hill area. In plain region, pani kheti or lowland rice cultivation is the predominant farming whereas in hill region, tribal farmers practices jhum or slash and burn farming. Jhum cultivation is done in around one lakh ha in Nagaland. Jhum is an indigenous system of organic multiple cropping well suited to the heavy rainfall areas of hill track. The tribal communities in the region have developed and adopted indigenous land and water management system which are eco-friendly and based on conservation and sustainable utilization of available natural resources. In jhum, there are several variant like alder based farming, oak based farming, maize-kholar based farming, terraced rice cultivation, rice-fish farming etc. One of such system is Zabo farming, which the paper discussed traditional wisdom of tribal farmers in Phek district of Nagaland.

Keywords: Animal shed, Phek district, Rain water, Traditional wisdom, Water harvesting, Zabo farming

ZABO farming system is an indigenous integrated farming system models in Phek districts of Nagaland. In this article we described

the Zabo or a traditional way of integrated farming system being practiced by *Chakesang* tribe in Phek district. The Zabo farming is most

pouplar in Kikruma village (Fig. 1) and other nearby villages of Pfitsero town in Phek district. The region lies at an altitude of around 1,500-2000



Fig. 1. Location of animal shed in Zabo system at Kikruma village in Phek District



Fig. 2. Overview of Zabo system during winter months at Kikruma village in Phek District



Fig. 3. A top view of Zabo farming system in Porba village, Phek District Nagaland



Fig. 4. Location of central pit in the field for fish harvesting, Phek District, Nagaland

meters amsl.

The term Zabo means impounding of water or storage of water in field in Chakesang dialect. This system is also known as Dzüdü or Ruza system in other parts of the region. Although the system have different components but it mainly revolves around rain water harvesting. The system was developed by traditional wisdom out of the necessities to harvest and conserve rain water to sustain the livelihood of the tribal during dry period. The region receives good amount of rainfall during rainy season however, there is scarcity of water during winter season. Also, incessant rain during raining season causes soil erosion and land degradation. Therefore, to overcome the above challenges, the tribal farmers of this region has developed Zabo system, mainly based on conservation and sustainable exploitation of natural resources.

The system includes water catchment area of the forest, water storage tank, water channels, agro-forestry, horticulture crops, animal husbandry component, fisheries and terraced rice field. These components are invariably present in Zabo system with slight variation in the design in different areas. Generally, there will be a big water catchment area of the forest at the top of the hills (Fig. 4). These catchment areas are cleaned before rainy season starts. Rain water

from the catchment area is directed to the water harvesting tank through water channels. These water channels are made of mud lined with clay soil. The base of the water channel is lined with the clay in such a way that there is no leakage of water. The rain water will pass through multiple water siltation tanks before reaching to final water tank. The siltation tanks will filter the water of runoff soil. The water tanks are dug out in the field with the manual labour and again lined with clay soil with earthen embankment. Side and base of the pond is rammed and compacted to reduce the water leakage. Now a days, farmers have also constructed the main water tank with concrete and cement. The water tanks are cleaned before the start of rainy season. The sediment soil from the tank will be spread in the rice field. Generally, the position of water tank is above the rice field but in some cases, rain water will also be diverted to rice field directly and then excess rain water will be directed to water tank located below the rice field. Animal shed is located generally below the water tank (Fig. 1) so that manure from animals will be distributed to the rice field through rain water. Animal component includes *tho-tho* an indigenous breed of cattle and also cross bred cattle, poultry and pig. Animals are reared in low input and low output based system. Animals are housed in shed

made up of locally available materials. The manure of the animal is generally not removed from the shed or if removed it is stored just below the animal shed. General practice is that farmers used to shift the animal shed after one or two years. Sometimes, there are multiple animal shed in the farming system. Animal manure is washed away to the rice fields by rain water during rainy season. Some farmers transport and spread the animal manure to the rice field manually after sun drying it. The cattle are reared on extensive rearing system during winter or dry season. The animals are let loose in the forest for foraging during this period on permanent basis from November to March. During rainy season, animal are housed in the shed during night time and are let loose during day time. The animals are raised on minimal inputs and therefore the output i.e. growth rate and milk production is also low. Animals are mostly reared for meat purpose. However, recently there is increase in milk demand and the farmers are rearing cross bred cattle for milk purpose also.

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