**Tribal Agriculture: The Chukitia Bhunjias in Central India**

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Primitive tribal communities like the Chukitia Bhunjias living in Maharashtra, Chhattisgarh and Orissa continue to practise traditional agriculture using bio-cultural resources. Policymakers must learn from them in order to challenge the conventional model of agricultural production and food insecurity, as also about how to make development sustainable.

Social scientists look at “alternative agriculture” to challenge the concepts of “growth”, “capital formation” and “liberalisation” enumerated in agricultural policies. The term “alternative agriculture” has been used here interchangeably with organic farming, traditional farming, traditional agricultural knowledge, etc, as opposed to the civic/market agriculture that is practised by local/tribal peoples.

The theoretical polemic of “alternative agriculture” is understood as the embodiment of local agricultural practice and knowledge of the farmers concerned and that embraces how they variously express, negotiate, and share the meanings and relationships embedded in their soils, ecologies, cuisines, and practices.

This article looks at the agricultural practices of the Chukitia Bhunija tribe of Orissa. It is a primitive tribal group (puro) which also lives in Chhattisgarh and Maharashtra. In Orissa, they only inhabit the interior of the Sunabeda Wildlife Sanctuary located in Nuapada district. Being a forest-dwelling community they live entirely on forest resources, but have adopted settled agriculture since a decade. They do both plains and terrace cultivation, practised in the dehi. Vegetables like chillies, (Ricinus communis), kaker (eleusine coracan), birhi (black gram) and pulses like kandul (canjanus cajan), semi (Canavalia ensiformis), junga (vigna unguiculata) and jutes. Similarly, doli is classified as tipri (small area of shallow land) and bihali (big shallow land with more water retaining capacity). They grow paddy of small duration in tipri and both short and long duration in bihali. When it remains unploughed or uncultivated due to the stony nature of the soil, they call it paria.

On the basis of soil colour they classify the soil as kalamet (black soil), bhubhari (black soil with low texture), Khari (black with less texture), ratamet (red soil) and chhuimet. The first two are considered fertile and generally used for cultivation, whereas the last two are not cultivable. Land use for shifting cultivation (bewar) is known as dehi where they grow millets such as madia (eleusine coracan), birhi (black gram) and pulses like kulath (macrtyoloma uniflorum), kandul, junga (vigna unguiculata), jutes, etc. However, some of them cultivate small duration paddy crops. Mixed cropping is generally practised in the dehi. Vegetables like biagan (solanum melongena), tomato, chillies, semi (Canavalia ensiformis), jada (Ricinus communis), kaker (ecucum sativus), Batlakanda (Eulophia nude), jhunga (vigna unguiculata) and so on are grown in their “kitchens”. A majority of them also use cow dung in their kitchen gardens making the soil more fertile.

**Land Classification**

Unlike other agriculturalist societies, the Chukitia Bhunjia classify the land on the basis of topography, soil colour, texture and water retaining capacity and grow specific crops on specific soil types. On the basis of its water retaining capacity, they classify land into two broad types: (1) sukha-jiang (dry land) and (2) bahal-jiang (wetland). Each is again subdivided into aat (plain area) and doli (shallow land). On the basis of soil texture, aat is classified as belsu aat (sandy soil), mal aat (unfertile sticky land), darli (stony field) and rengtha gada (stony field). In the belsu aat, they cultivate millets, viz, gurji (setaria italica), kodo (paspalum scrobiculatum) and til. Mal aat and rengtha gada are not suitable for cultivation due to lack of water retaining capacity. In darli-aat they grow different millets like jandhla (Zeamanys), kedjandhla (sorguum vulgare); pulses like kandul (canjanus cajan), semi (Canavalia ensiformis), jhunga (vigna unguiculata) and jutes. Similarly, doli is classified as tipri (small area of shallow land) and bihali (big shallow land with more water retaining capacity). They grow paddy of small duration in tipri and both short and long duration in bihali. When it remains unploughed or uncultivated due to the stony nature of the soil, they call it paria.

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The selection and preparation of the dehi is deeply woven into their culture and belief. It begins only after the aam festival which is celebrated in the month of April. They cut the bushes and trees found in the chosen patches with axes and select the land based on its colour and that with fewer trees and small bushes. Fruit-giving and “religious” trees are not cut. The bushes that have been cut down are left there to dry in the sun, while the stem and bark of the trees are used in house construction, for fuel and so on. They set the dried plants on fire after some days. The field is now considered more fertile and productive.

In the first monsoon or asad (June-July) they till the field with the traditional plough pulled by bullocks. Then they sow different millets like madia (eleusine coracana), kedjandhla, jhunga (vigna unguiculata), birhi (phaseolus mungo), and kandul, etc, altogether. According to the quantity of water, some seeds are dibbed into holes without tilling. Madia is the most nutritious food grown in the dehi. The seedling is grown first and transplanted during moderate rain after tilling. It is observed that they do not plant the seeds in the same field. So a kind of crop rotation is observed. They use the field for five to six years and when the crop yields begin to decrease, they move to a new patch of forest to repeat the same process and allow the abandoned land to recuperate. After some years they return to the earlier patch of land for cultivation and start the same process again.

### Paddy Cultivation

The Chukti Bhunjia began cultivating paddy only a decade ago. It is cultivated both in doli and aat. No use of modern varieties of seeds is reported though they are provided by the Chukti Bhunjia Development Agency at subsidised rates. Their local paddy seeds include lachei, kalikhuji, jhuli, etc, and are for short duration paddy.

They do not follow any norms with regard to tilling of the agricultural land though paddy cultivation is associated with certain cultural festivals. If any plain field is converted to doli for the first time a similar process of shifting cultivation is followed. They do not hire labour for it but male relatives are asked to help on a reciprocal basis, when needed.

During the first rains the farmers till the land once or twice according to the texture of the soil. The land is tilled in a manner that helps mix the seeds with the soil. This is known as dhanbuna.

Dhanbuna is done in three different ways: (1) Khurdabuna, (2) Upperbuna, and (3) Transplantation method.

The first two methods are followed in the initial stage of the monsoon. The farmers till the land once or twice depending on the texture and the grass and broadcast the seeds over which they again till the land. This method is mostly observed in the bhurbhuria soil. In the second method farmers first till the land and broadcast the seeds over it. This is generally done in heavy rain and in the malmet (sticky soil).

The transplantation method starts with the seedling (palha). This is done in belsu aat as plucking becomes easier. Paddies of long duration are cultivated by this method. They first till the land twice and then plane it with a leveller (kapar) after which they broadcast the seeds and till the land again but not so deep as to delay

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seedling. Before transplanting begins all the bunds (phar) are prepared to store the rain water. They also cut all the bushes found in the doli and leave them to decompose into good manure. The transplanting takes a month. Before plucking begins, a senior female member of the household pours a little milk in the east corner of the field as an offering to the earth goddess. A handful of plucked seedlings are tied in a paddy straw of the previous year. This is jhura. Before transplantation, they till the doli twice/thrice to soften the soil and dispatch all the stored water.

The Chukti Bhunjia also grow paddy of short duration in aat called aatdhan.

**Between Broadcasting and Harvesting**

In shifting cultivation, the farmers only look after the crops insofar as protection from insects and wild animals is concerned. Branches of various trees are tied together with the skin of certain wild plants to keep out the pests. They have also developed methods to control soil erosion. Where the intensity of the slope is high there is a greater possibility of soil erosion. Trenches are made with the belief that the run-off which flows out of them does not hamper the crops. In the case of heavy rainfall bunds are made to prevent the water from running through the crops.

On the other hand, paddy cultivation needs a lot of care. It is very important to balance the moisture after broadcasting the seeds and the methods depend on the texture of the soil. When the plants grow to a height of half a feet, the rainwater is stored so that the soil remains damp for a longer period. When the plants become a feet tall, the farmers till the land to soften the soil. This helps the paddy to grow faster. This method is known as bihida. At this time all the stored water is dispatched in order to balance the moisture of the soil.

The Chukti Bhunjias have evolved a number of rituals and festivals around their agricultural practices and consumption of the crops. They pray to Bhima (rain god) and Chorokhutein (goddess of harvest) for a good harvest and propitiate another local deity, Sunadei. Asadkhen is the name of the celebration that marks the plucking of the Bhata grass and during Gangadi Jatra the goddess Gangadi is propitiated with offerings of food, liquor and sacrifices of goats and hens for a disease-free yield.

The crops tend to be affected by insects (Baki) following bihida. In such a situation the field is sprayed with ash which is believed to work as an insecticide. Most of the farmers also rely on the services of spiders (makra) to kill the insects in the fields. When the crops are affected by unknown diseases, the farmers simply pray for divine assistance. A few elder members of the village including the village headman, the pujhari and kotria, fast for a day and other older villagers gather at the Sunadei temple. Each of them offers a fistful of rice mixed with wine to the significant village deities and prays for protection of the crops from misfortune. This is known as jagar.

The Chukti Bhunjias generally harvest their crops between October and December. They use the plough and bullocks, sickle, paddy straw (biat), ropes, leaves, branches of certain trees, ash, cow dung, baskertries, etc. The plough is either made of wood from the bamur or sal (Shorea robusta) tree and axes and spades are used to clean the fields. Cow dung is used abundantly to increase the fertility of the soil; however, some farmers have started using modern fertilisers. The cow dung is first decomposed – a process that takes from two to three years and then scattered over the fields. All the crops are cut with the sickle (husia) but before that cow milk and liquor is offered to the goddess for protection of the crops. The harvested crops are carried with the help of a stick made from the bamboo, sal or teak tree to the khala where the farmers separate the paddy from the straw with the help of bullocks. This is known as maden. They separate the pure seeds by spinning (demara) which are then dried in the sun and preserved for further use. Crops like paddy, kodo, suan, etc, are harvested in this way. Millets like madia, gurji, rias, maka, khedijanha and pulses like birhi and horse gram and kandul are harvested through human resources.

Preservation of crops follows different methods. Paddy is first dried in the sun and then kept in an airtight bag made of paddy straw (pura). The quantity in a pura varies from 10 to 20 mann (1 mann=approximately four kgs). Cereals like kodo, gurji, madia are also preserved in this way. Pulses like birhi (black gram), kulath (horse gram) are preserved in bags made of leaves (patardola) by using lim (azadirachta indica) leaves and ash. They also store grains and pulses in baskets (kunli) after plastering their outer and inner surfaces with cow-dung to ensure they are airtight. Fruits like tendu, tamarind, chahar, mahul are preserved after keeping them in the sun in bags made of sial (Bauhinia vahlii) or palsa leaves. The bags are then hung over the hearth in order to protect them from a local insect, the surikira.

**Conclusions**

The agricultural practices of the Chukti Bhunjias are marked by their simplicity. All the resources that are used are available in the forest and can be easily handled by all the members of the community. Why are the tribals poor despite these economical and soil-protecting practices? The small landholdings and exploitation by “outsiders” may be to blame. Policymakers must be made aware of such practices and rural farmers particularly those who practise unscientific conventional agriculture must also learn from them in order to tackle the problem of food insecurity.