Cultural perspective on shifting cultivation: A case study of Dongria Kandha in South Odisha

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Abstract
The basic objectives of the paper are to highlight the present practice of shifting cultivation and cultural beliefs prevalent among Dongria Kandha of Odisha. The authors explored the technique of shifting cultivation practice and conservation and management skill of the Dongria Kandha people. The paper also highlighted the preservation of age old practices among the people of Rayagada district, Odisha. The shifting cultivation is a sustainable approach towards the livelihood system of the indigenous populations. It is a form of agricultural practice which is still found in many parts of the Odisha as a part of the cultural as well as environment need of the people.

Keywords: Dongria Kandha, environment, indigenous, livelihood, & shifting cultivation

Introduction
The primitive population of India, not only the Indian population but the mankind as a whole have came across from hunting gathering stages of Palaeolithic period to food producing stage of Neolithic period. The shifting hill cultivation can be traced back to 8000-10,000 B.C. of Neolithic period. In tropical and sub-tropical zone of the world practise some or other form of shifting cultivation (Majumdar & Madan, 2002) [7]. In various countries of the world the shifting cultivation is known by different terms. In Indonesia it call “Ladang”, in Mexico it call “Loamile”, in Brazil it call “Roca”, in Korea it call “Koren” in Ghana it call “Proka” etc. Shifting hill cultivation is considered as a primitive form of farming system for the thousands of people who are settled in the hilly track. The other name of shifting cultivation is “Field Forest Rotation” or it may call as “slash and burn” cultivation. This form of agriculture is not chosen by the communities but it is a mere necessity and demand of the environment. Due to the environmental condition and absence of plain land the people forced to do this type of farming without any alternative choices. This form of cultivation is not only for sake of food basket but a strong sense of social, cultural and religious beliefs rapped within a single domain. The tribal population of the state like Andhra Pradesh, Bihar, Odisha, Chhattisgarh, Madhya Pradesh have been practiced it since long. As a part of age old practice it is still a major source of economy for the tribal populations of northeast zone of our country. And considered as a tradition based system where numbers of rituals and festivals undertake in the jhum field (Rathore, Karunakaran, Prakash, 2010) [8]. In this system the same land is not cultivated regularly (years after years). After cultivation the land is abandon for 10-12 years to allow the vegetation to cover the land and get ready for next cycle. But due to population pressure, shortage of land, ownership system, restriction impose on using of land, economic constraints of the people, fertility of soil and climatic factors the fallow period is decreasing to 2-3 years or even one year. The same patch of land continuously works out year after year. This leads to degradation of soil fertility and production range. The alternation land utilization by agro forestry of 8-10 years, plantation of huge amount of mixed tree like leguminous trees and vacate the land for years together ranges from 5-7 years that enable the soil to restore and increase its fertile (Devi & Choudhury, 2013) [4]. But due to several factors still the people practice this form of farming due to absence of cultivated plain land, sloping more than 30 degree, in-sufficient labour, finance, irrigation facilities, inaccurate option other than shifting cultivation, the scheduled tribe of Tripura practice it for their survival (Das & Das, 2014) [2]. Shifting cultivation is not a easy task it is required a in-depth specialized knowledge regarding the ecosystem, plant species, fertility of soil, ability of...
selecting the crop area in accordance to its required temperature and water etc. as the tribal population practice it since past generation after generation they have the knowledge regarding forest management and develop conservation system of their own that vary from tribe to tribe. But still there are evil consequences arise out of this practices like soil erosion, environmental degradation, extinct of wild species and rare endangered botanical plant etc. The Government of India adopted a number of initiatives like introduction of alternative livelihood option, formulate rules and impose restriction through land tenure system and reserve forest. The earlier effort made by government to deprive people from doing this cultivation achieved less success as the social cultural aspects are attached to this practice (Singh, Purohit, & Bhaduri, 2016). The measures taken to reduce and meet sustainability among tribal population proved too difficult as social cultural economic and psychological sentiments has related to it. For the tribal shifting hill cultivation is not only a means of livelihood. There are many socio-religious beliefs and rituals attached to it. The people who practiced it follow a number of rituals starting from selection of plot to consumption of productions. The Wancho tribe select the patch by following an omen i.e. by breaking an egg using left hand and the position of shell decide the approval or disapproval of the patch (Sachidananda, 1989) (9). Shifting cultivation is a best way to gain livelihood and sustain under such unfavorable ecological system (Biswal, & Kumar, 2010). Frequently shifting from one patch of land to other give negative impact to the environment, for this natural forest decreases, extinct of endangered species, intrusion of new weed etc taken place in the NER region (Deka, & Sarmah, 2010) (3). Shifting cultivation is not only a livelihood system for the north eastern tribal communities but a means of custom, tradition, value based system as the tribal life revolves around it (Kalita, Baruah, Datta, Jini & Alone, 2017) (6).

Materials & Methods
The district Rayagada established as an independent district on 02.10.1992. Rayagada district came into existence on 02.10.1992. The district having two sub-division namely Rayagada and Gunupur with blocks number eleven and Panchayat number 171. The study was conducted in the Kurli GP of Bissamcuttack, Muniguda and Kalyansinghpur block. They are settled in the Niyamgiri hill ranges. The Dongria Kandha has 103 villages or hamlets across the Niyamgiri hills. The Niyamgiri hill ranges covered the area of Muniguda, Kalyansinghpur, Bissamcuttack of Rayagada and Langigard of Kalahandi district. The Niyamgiri is recognised as the “hill of law”. The Niyam debtas is the powerful God of Niyamgiri and Dongria are the descendents of Niyam raja. The Niyam raja lives along with other deities. Dongria obey the rules and restrict the entry and use of resources in the abode of Niyamraja. Dongria Kandhas are basically shifting cultivators, they also depend on horticulture, Minor forest produce and live stock as an important means of their economy. Shifting cultivation is the primary means of earning livelihood for the Dongria Kandha. Since ages they have been practicing shifting cultivation on the hill slopes around their settlements. It is a type of slash and burn cultivation. The hill lands are considered to be fertile lands due to the decomposition of forest litter. Right from the selection of a plot till the harvest, the process shows many indigenous techniques as well as the “scientific” outlook of the people. In the stages of shifting cultivation, slashing is the most tedious job. The Dongria Kandha basically cultivated the patch in rotation basis. The fallow period among Dongria Kandha is severally five to six years. They cultivated the land consecutively three or maximum four times. In the first year the major evops such as millet, cow pea, pigeon pea, pulses, finger millet, mil and bajra are cultivated. In the second and third year except finger millet all others are cultivated (Jena, Pathi, Dash, Patnaik, & Seeland, 2002) (5). The Dongria Kandha is doing mixed cultivation. They grow variety of crops like cereals, pulses, lagumens, yam, turmeric, ginger, etc. They sowing seeds of different food grains in a single plot viz. Mande (ragi), Kosala (millet), Arka (bajra), Kaanga (pigeon pea), Jana, Kating (Cow pea), Kanya, Uhakana, Rani kuna, Aadai (ginger), Hinga (turmeric) etc. The Dongaria Kandha once cultivated around 50 varieties of millets now it reduce to 10 due to vested interest in cash cultivation and partial replacement by rice. Now the people get less number of wild forest food which is the main reason behind nutritional deficiency found among them and the scenery is worst among the Dongria Kandha who are settled in the dense forest.

Analysis & Discussion
This is not only a means of subsistence for the people who practised it but it is associated with cultural belief and rituals. The tribal people are inhabited in the dense forest and in accessible area and become the protector and conservator of the forest ecosystem. This cultivation is popular and practised more or less in almost all the tribal population of India and Odisha who are settled in the hilly terrain. In Odisha the popular term of it is “Podu Chasa”. The tribal population regularly practised it are Kutia Kandha, Dongria Kandha, Lanjia Saura, Paudi Bhuiyan, Bonda, Hill Kharia, Juang etc. The other name of the shifting cultivation are different among different tribe such as Dongria Kandha of Rayagada call it “Haru”, Kutia Kandha call it “Podu/ Gudiachaas”, Desia Kandha call it Rama, Lanjia Soura call it “Barun”, Paudi Bhuyan call it “Taila chasa”, Naga tribe named it “Jhum”, Bhuiya call it “Dahi” and “Koman”, the Baiga name it “Bewar” among Maria Gond it known as “Penda”.

Dongria Kandha communities are inhabited in the Rayagada district of Odisha and confined to the area like Bissamcuttack, Muniguda and Kalyansinghpur block. They are settled in the Niyamgiri hill ranges. The Dongria Kandha has 103 villages or hamlets across the Niyamgiri hills. The Niyamgiri hill ranges covered the area of Muniguda, Kalyansinghpur, Bissamcuttack of Rayagada and Langigard of Kalahandi district. The Niyamgiri is recognised as the “hill of law”. The Niyam debtas is the powerful God of Niyamgiri and Dongria are the descendents of Niyam raja. The Niyam raja lives along with other deities. Dongria obey the rules and restrict the entry and use of resources in the abode of Niyamraja. Dongria Kandhas are basically shifting cultivators, they also depend on horticulture, Minor forest produce and live stock as an important means of their economy. Shifting cultivation is the primary means of earning livelihood for the Dongria Kandha. Since ages they have been practicing shifting cultivation on the hill slopes around their settlements. It is a type of slash and burn cultivation. The hill lands are considered to be fertile lands due to the decomposition of forest litter. Right from the selection of a plot till the harvest, the process shows many indigenous techniques as well as the “scientific” outlook of the people. In the stages of shifting cultivation, slashing is the most tedious job. The Dongria Kandha basically cultivated the patch in rotation basis. The fallow period among Dongria Kandha is severally five to six years. They cultivated the land consecutively three or maximum four times. In the first year the major evops such as millet, cow pea, pigeon pea, pulses, finger millet, mil and bajra are cultivated. In the second and third year except finger millet all others are cultivated (Jena, Pathi, Dash, Patnaik, & Seeland, 2002) (5). The Dongria Kandha is doing mixed cultivation. They grow variety of crops like cereals, pulses, lagumens, yam, turmeric, ginger, etc. They sowing seeds of different food grains in a single plot viz. Mande (ragi), Kosala (millet), Arka (bajra), Kaanga (pigeon pea), Jana, Kating (Cow pea), Kanya, Uhakana, Rani kuna, Aadai (ginger), Hinga (turmeric) etc. The Dongaria Kandha once cultivated around 50 varieties of millets now it reduce to 10 due to vested interest in cash cultivation and partial replacement by rice. Now the people get less number of wild forest food which is the main reason behind nutritional deficiency found among them and the scenery is worst among the Dongria Kandha who are settled in the dense forest.

Every year in the month of Magha (January-February) the village headman and the priest may take a vital role in selecting and distributing the land among the villager. Basically the patch of land which is completed the fallow period required for cultivation and give bumper harvesting. The patch of land which covered by bushy and trees are idol for doing cultivation. After the hill is selected the head of
the village divided into several patch and handed over to all household.

**Cycle of Shifting Hill Cultivation**

<table>
<thead>
<tr>
<th>Selection of Patch</th>
<th>Slashing of Bushes, Grass, Small slashing trees</th>
<th>Burning of shrubs, bushes grass, small trees</th>
<th>Left of dried up</th>
<th>Sowing Seed</th>
<th>Harvesting</th>
<th>Vacate the Land</th>
</tr>
</thead>
</table>

**Steps of Shifting Cultivation**

**Selection of patch of land:** The patch is either selected by village head or head of the family. After selection of the patch the member of the family select a day by taking concerned from Bejju or Bejuni. That specific day along with Bejuni all the household member go to that place and performed a rituals to take the permission of Dongar and forest deity and please them by offering fowl, hen or pigeon.

**Neta Tudunga: Slashing of old Swidden:** After selection of the patch the most pain staggering work is done. The members of the household assemblage in the Dongar and engaged in slashing the vegetation. During slashing the bushy vegetation is cleared by the women folk and the trees are cleared by the men folk. But the fruit bearing trees and giant trees are left because it gives shades as well as food to Dongri and certain crop are grow properly in the shades. This slashing work is done during February and March. The labour cooperatives also work if the household required more labour

**Padak Kina: Heaping:** After slashing is over the bush and trees are assemblage in various place within the plot in heaps. Basically the logs are keeping aside and only leafy and small branches are gathering together. This is known as Heledi. The heledi are left for days within 15 to 30 days. During that period people engaged in constructing boundary line and remove stone in the plot.

**Nani Rundna: Setting Fire:** Once the heledi becomes dry then the next job is to set fire on it. The slashes are burnt and give ashes and seem a black blanket is coated over the plot. But still some logs are remaining half burn left in the plot.

**Kandi Pergana: Burning of Remnant Slashes:** The leftover slash is known as ‘beatede heledi’ is collected and burnt again in order to convert it into ashes which is desire to make the soil fertile more. The ashes are evenly distributed in the plot by using simple instrument.

**Neta Katkana: Cultivation:** The land after thoroughly dried up the next job is to start sowing. But the most favorable circumstances are to sow in dry land which is preferable by Dongria Kandha. If the land is remain wet the seeds are germinate quickly but later it affect by insects. Before sowing the land is hoeing by using a simple hand hoe locally known as ‘Tapa’. The seeds are put in the hole and some are just sprinkling in the boundary line. Dongri Kandha sow the seeds of different crop one after another. First the seeds of kosala (little millet- Panicum miliare Lam.), kanga (pigeon pea- Cajanus cajan (L.) Millsp), Mande (ragi-Eleusine coracana (L.) Gaertn) and arka (bajra-Pennisetum typhoides) are shown. These crops are shown on the boundary of the field. The line-sowing is locally known as “Padi matamu”. The padi matamu is normally sown in a lines.After sowing is complete the seeds are germinated by a single shower of rain.

**Religious Beliefs on Shifting Cultivation**

**Katla Perpa:** This is an important festivals associated with shifting hill cultivation. After setting fire the bushes and small trees are burned but the logs are collected for utilize in various purposes but with the permission of god (Danda Penu). If the gods get angry it will bring epidemic. The festival is conducted in the month of February-March.

**Bicha Harpana:** This is also an important festival related to shifting hill cultivation. The deity worshipped is sita penu with aiming of bumper production in swidden. The seeds collected for sowing are worshipped before the goddess and sacrifice hen or pigeon. The festival usually held at March-April.

**Mandia Rani (Manda Raninga):** This is held in the month of July-August. The main reason behind the festival to harvest more and more of ragi from the swidden. The festival can be observed individually or communal level. The Jani, Beju, Bejuni worshipped the sita penu and other and offer goat & hen.

**Bana Tupoli:** This festival is related to harvesting of little millet. This is observed individually before cutting the crop while it reapen the festival is taken place. The Gangi deity is worshipped and offered pig, hen & pigeon. If they cut the crop it brings misfortune. It is observed in the month of Dial lenju (October-November).

**Menda:** The festival is observed in the month of October-November. The literally meaning of Menda is heaping of harvest crop. The before threshing of crop the Jani, Beju, Bejuni all are conducting the festival and offer sacrifice hen, pig, pigeon in the name of the sita penu, lahi penu & boyer penu.

**Puna Padi:** This festival is observed in the month of November. Before eating the millets viz-Kosla, Arka, Ragi etc are offered to the Jatra Kudi Penu by Bejuni and also offered to the ancestors. The main offering animals are gen, goat & buffalo.

The Dongria Kandha people never ever cut the trees in the hill top. They believed that the dense forest known as “Kaman” is the habitat place of many benevolence and malevolence spirits. The disturbance in the ecology of their habitat place is give rise to serious consequences and they face the wrath of the deities. At the time of construction and festival occasion they cut the trees with permission by doing rituals and offerings. The primitive folk basically cultivated the middle section of the hill. In order to conserve the
species they never extract the trees from its root. They allow the tree to grow up in its natural setting. They have the knowledge regarding the utility and how a species is conserve and sustainable for the future which is only limited to them. In the name of the religious beliefs they protect and cause of sustainable of a wild species. The attitude of conservation is lies within the cultural practices and religious believes reflect in each and every Dongria Kandha. Instead of other sources of livelihood the people still practice and transmit the knowledge of shifting cultivation generation after generation.

Conclusion
Being a primitive section coming under particularly vulnerable tribal groups of the state Dongria Kandha lives in harmony within their natural surroundings. The skill of shifting hill cultivation and knowledge regarding the seed and crop is made them able to survive and provide adequate food required by them. The natural surrounding give them not only space for shifting cultivation but it is a source of edible food supplied to them throughout the years. The Dongria Kandha both practice and transmit this skill to its future generation to come. The process of shifting cultivation starting from selection of patch to consumption is culture bound.

Acknowledgments
Authors acknowledge the each and every member of the Dongria Kandha community for their cooperation and University Grants Commission (UGC) for their financial support and P.G Department of Anthropology (CAS), Utkal University, Bhubaneswar, Odisha.

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