



Importance of Forest to the Forest based Community: Study on Chakua Forest Fringe village, Purulia, West Bengal

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ABSTRACT

Chakua is the most backward and underdeveloped forest fringe village in Purulia district. Basic problem of the tribal people of this village is poverty. They primarily live in forested hilly and plateau areas of the village. They take various opportunities from forest and maintain their livelihood by collecting fuel wood, fodder, grass, fruits, vegetables and small timber for alternative source of income. Tribal people of this village use the forest as a means of their sustenance. Basically, they live in fragile ecosystem which is most vulnerable to different types of natural as well as human societal threats. They seasonally collect various NTFPs to satisfy the needs for their food, fodder and also medicine. Continuous household survey, observation, Focus Group Discussion were done with a structured questionnaire for data collection. Result reveals that firewood, Mahua flowers and Sal leaves are the most important NTFPs and forest resources which would contribute significantly to the tribal livelihood. The present study focuses on understanding the importance of forest to the people of forest fringe village of the study areas.

Introduction

Forest is the natural vegetation of an area, primarily composed of trees and shrubs that have been existed for thousands of years and has sustained the ecological set up of the area. Thus, forest may be considered as the most precious gifts of nature to human civilization. Forest provides timber for construction and furniture, pulpwood for paper mills and many

other raw materials for cottage, small- and large-scale industries. It also supplies different types of non-timber forest products (NTFPs) such as firewood, seeds, medicinal plants, fodder and small timber for subsistence and commercial purpose. Non-timber forest product (NTFPs) is the main subsistence for the forest dwellers on which they rely most for their livelihoods. Through selling of NTFPs,

they generate crucial amount of money to secure their livelihood. An important location in Purulia where forest communities have suffered considerable setbacks in their livelihoods due to changing forest cover (deforestation) is the Jamtoria forest beat area. The forest loss has occurred as a result of excessive timber exploitation, bad farming practices and other land use activities. Forest communities in the area are characterized by high poverty levels and rely on rain-fed agriculture with little or no access to modern agricultural technology. Besides the imbalances created in the forests' ecosystem, the depletion of the forest cover poses significant repercussions on the livelihood of people, particularly those in such forest fringe communities who depend heavily on the forest and its resources. Present study aims to understanding the importance of forest to the people of forest fringe village of the study areas and to identify the different challenges in forest resource collection of the study area.

Material and methods

Study area: One village from block namely Manbazar II has been selected purposefully for the study. The village Chakua was selected for study purpose. Village with high concentration of tribal communities and have access to forest were the primary consideration for selection of the villages. For a selection of village criteria used are i.e. (i) village must have Forest Protection Committee, (ii) the majority of populations belong to the tribal. According to Census 2011 information the location code or village code of Chakua village is 332330. Chakua village is situated in Manbazar II development block of Puruliya region in West Bengal, India. It is 25.8km away from sub-locale settlement Manbazar (tehsildar office) and 63.1km away from region settlement Purulia. According to 2009 details, Buribandh is the gram panchayat of Chakua village. The area of the town is 231.53 hectares. Chakua has a complete populace of 341 people groups, out of which male populace is 170 while female

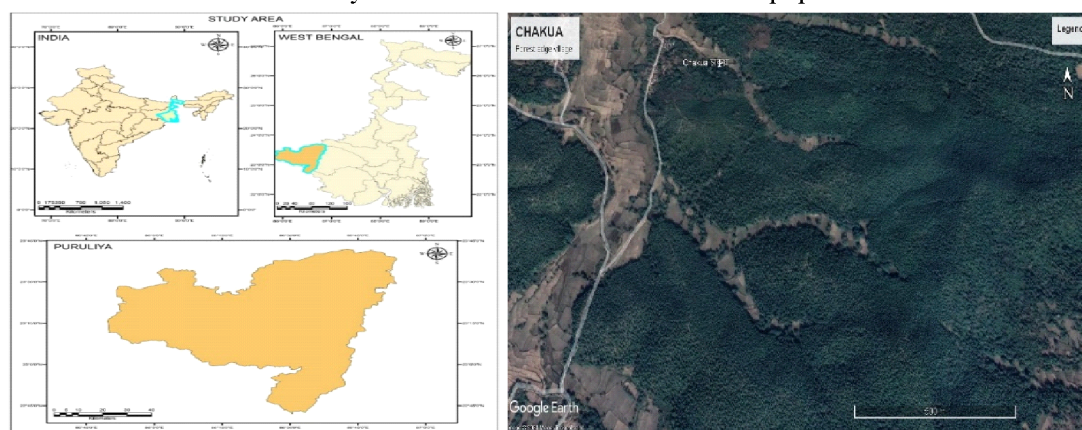


Figure 1 Study Area

population is 171. Proficiency pace of chakua village is 44.57% out of which 59.41% guys and 29.82% females are proficient. There are around 78 houses in Chakua village.

Data collection: The study is basically based on the primary field survey. Data were collected from interviews and observations/visits. These field data were supplemented with secondary data from several references. Secondary data from different sources like Government Report, Books, Journals and other published literatures have also been used to supplement the information from primary sources.

Household Survey: Household surveys were conducted during the period extending from last week of April, 2022 across households (60 households) of Chakua village. In this area number of families' residing in each village varied from 10 to 50. Therefore, to households were randomly selected from each selected village.

Sampling method: Villages are selected through purposive sampling method based on consultation with the officials from different department in Purulia. Following a purposive sampling method, Purulia district was selected on the basis of forest cover, ethnicity, institutional and cultural diversity and people's dependence on forest resources. From the chosen village 60 example ancestral recipient families were studied.

Data analysis: The understanding and insight gained from the literature reviewed formed a

formidable foundation for the analysis of the field data gathered. The processing of the data collected involved data editing to overcome errors. Then, the data was coded and then entered into Statistical Package for Social Sciences (SPSS) to allow for the analysis. The analysis of the data was carried out using qualitative and quantitative techniques. Tables and charts were used for the quantitative analysis. The Statistical Package for Social Sciences (SPSS) and Excel were employed to process and analyze the data. The SPSS allowed for the identification of causal relationship between variables and cross tabulation for useful analysis.

Results and discussion

Forest Resource Collection: In survey region we noticed that the men of this region generally collect two types of resources from the forest. These are- wood and leaves. We also noticed that the numbers of family of wood collection is more than the families of leaves collection. But more families collect both wood and leaves. The tendency of collection of the branches of tree is more than other. In local languages they term it 'jhanti(local term).

Purpose of Forest Resource Collection

Here, a greater number of people collect wood for their own need, the need for fuel and also collect fodder. But there are few people who sold these collected foods (mango, honey, mahua (*Madhuca longiflora*), fowl, red ants, wild mushroom etc.) in local market.

Table I: Forest resource and its uses

| SL. NO. | FOREST RESOURCES | PURPOSE |
|---------|------------------------------|--|
| 1 | Firewood | Cooking food for the household, livestock feed (<i>kudo</i>), heating purposes and celling purpose. |
| 2 | Timber | Construction of homes of people, shelter for livestock, making agricultural implements and celling purpose. |
| 3 | NTFP | Household use, medicinal use for both people and livestock, for sale in the local market |
| 4 | Leaves | Making plates (<i>tapari</i>) for household purpose, used in various religious and cultural works, fodder and celling purpose. |
| 5 | Grass | Fodder for livestock |
| 6 | Leaf Litters | Bedding materials for livestock, compost manure for agriculture |
| 7 | Edible Fruits and Vegetables | Food for human, selling in the local market |

Source: Based on field survey, November (24, 25) 2021

FOREST RESOURCE COLLECTION(MALE AND FEMALE ENGAGEMENT)

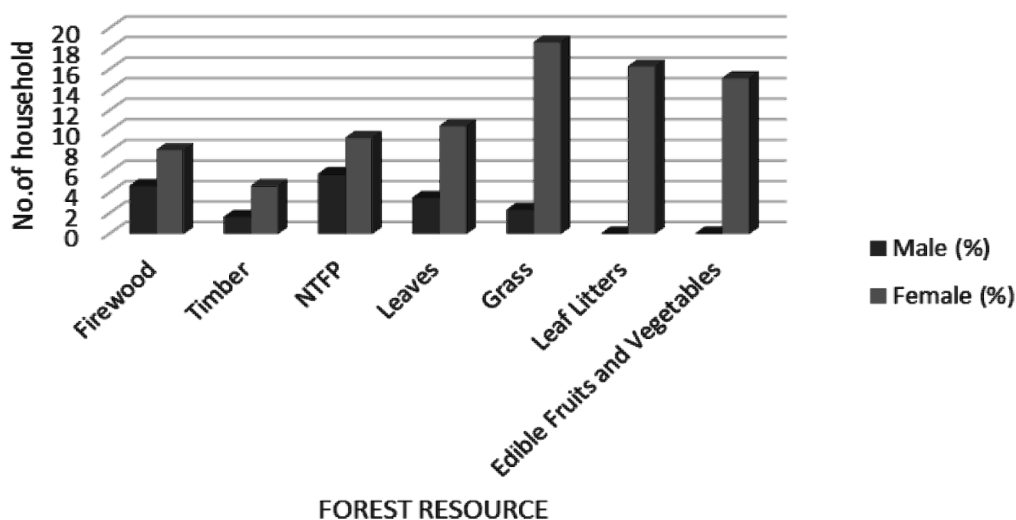


Figure 2 Forest resource collection

Source: Based on field survey, November (24, 25) 2021

The diagram (Figure 2) shows that percentage the distribution of forest resource collection both in the case of male and female. It clearly depicts that the females are more active than the male in the village of Chakua. It shows the (Calendar)favorable and

Generally, they bring that resource to their home by reaping the resource on their head or cycle. **Contribution of Ntfps in Monthly Household Income** NTFPs contribute to occupations for the huge extent of unfortunate living in forests of Purulia

Favourable Time for Forest Resource Collection (Calendar)

| J | F | M | A | M | J | J | A | S | O | N | D |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | |

Favorable Time for Forest Resource Collection

Non-Favorable Time for Forest Resource Collect

Source: Based on field survey, November (24, 25) 2021

Figure 3 Time for forest resource collection

unfavorable period for forest resource collection of sampled village. In study village, favorable time for forest resource collection is January to July and October to December due to available forest resource and NTFP. Basically, they are engaged in another activity. June to September is not favorable time for forest resource collection due to rain.

Method of Collection

The people of this region, themselves go to in the forest and collect the forest resource.

region. NTFPs based income differ across ancestral families relying on the level of exertion exhausted and contribute fundamentally to the absolute family income. In study areas forest dwellers collect NTFPs from open dry-deciduous forest areas (including protected and open state forests). Mainly leaves, flowers and seeds are collected from there. The following table shows the most popular NTFPs of this region sold for cash income purposes.

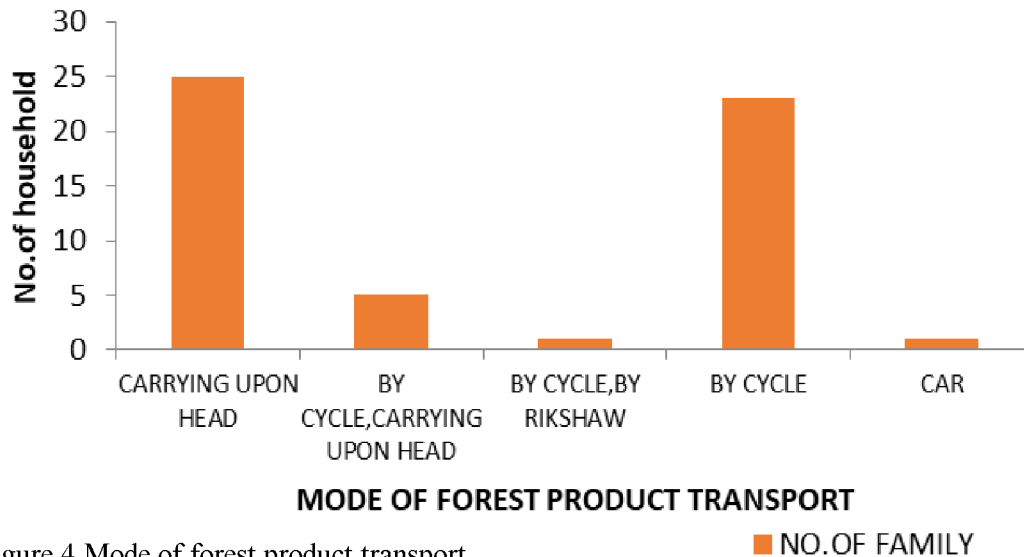


Figure 4 Mode of forest product transport
 Source: Based on field survey, November (24, 25) 2021

Figure 5 shows percentage distribution of non-timber forest product both in the case of male and female. It clearly depicts that the females are more active than the male in the village of Chakua. A majority of 41.66% of non-timber forest product belong to the sal leaf here female population occupies 30% on the other hand male population recorded as 11.66 percentage only. Mahua recorded as the 21.66 percentage where female and male percentage is 11.66 and 10 respectively. Bankundri, Mushroom, arjun, Bahara, kendu share same percentage of 3.33 where distribution of male and female are 1% each. Among the various non timber forest product Haritaki, Satmuli, Khamalu share small percentage of 1.66 in the village of Chakua. In study area forest dwellers collect NTFPs from open dry-deciduous forest areas (including

protected and open state forests). Mainly leaves, flowers, fruits, NTFP and seeds are collected from there. The following figure shows the most popular NTFPs of this region sold for cash income purposes.

The diagram (Figure- 6) shows the percentage of non-timber forest product of Chakua village. A majority of 41.66% of non-timber forest product belongs to the Sal leaf and it is followed by Mahua (21.66%), Palash flower (11.66). Ban Kundri, Mushroom and Arjun, Bahara, Kendu share same percentage of 03.33. Among the various non timber forest product Haritaki, Satmuli, Khamalu share small percentage and it is 1.66 in the Chakua village.

All the non-timber forest products collected from the nearby forest are consumed by the tribal communities to meet various

Types of NTFP and Male-female Engagement for Collection

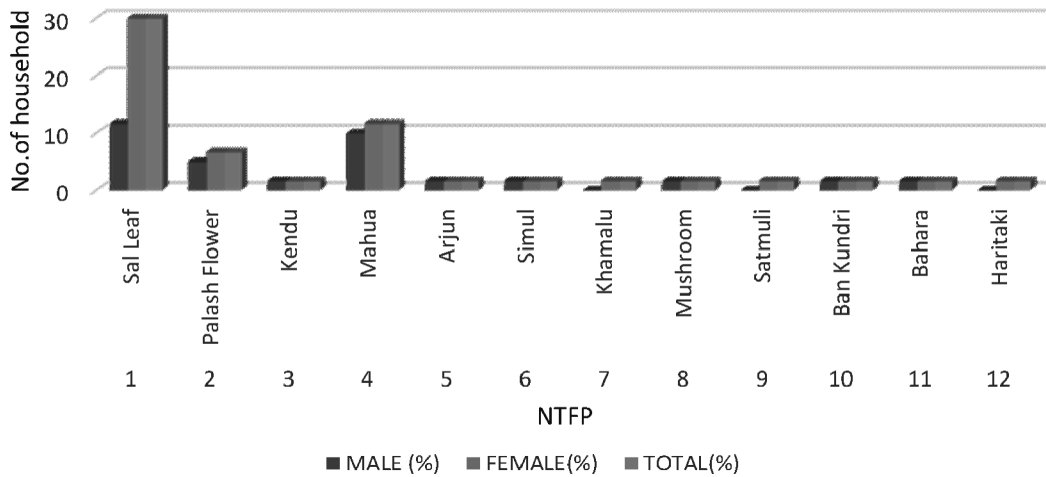


Figure 5 Percentage distribution of NTFP
 Source: Based on field survey, November (24, 25) 2021

requirements of their day to day lives. As many are sent to markets outside their localities as 36.50 % of the species recorded are sold in through middle men. Under the scope of the the local markets or „haats and only 8.46 % present work, it was possible to interrogate 68

NTFPs Sold in Market

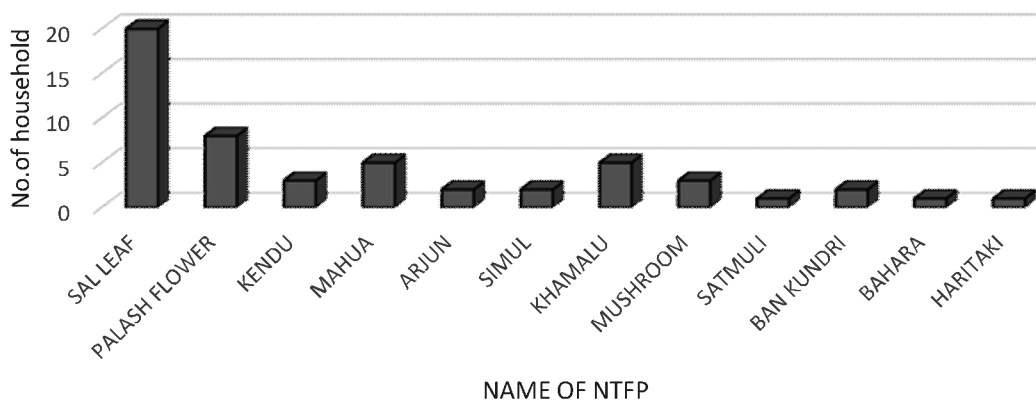


Figure 6 Name of NTFP
 Source: Based on field survey, November (24, 25) 2021

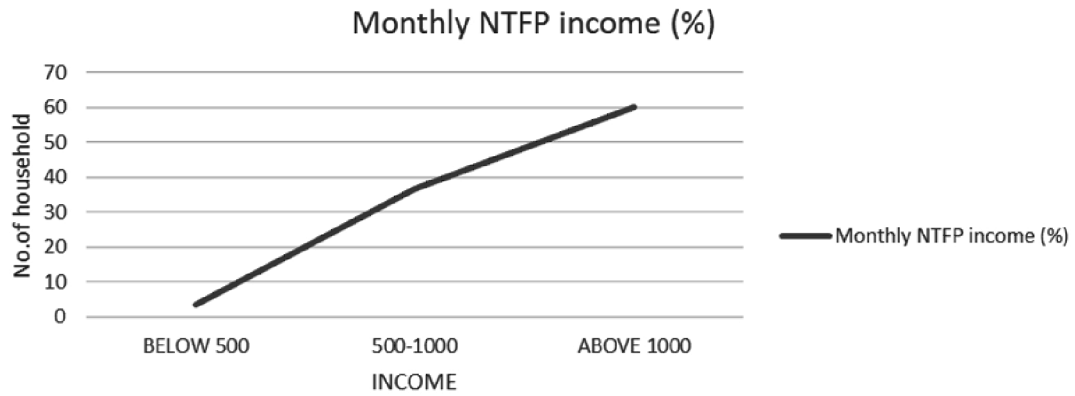


Figure 7 Monthly NTFP income
 Source: Based on field survey, November (24, 25) 2021

persons belonging to Santhals. Although the data may seem to be inadequate, it is capable of reflecting the general trend of the dependence of the tribals on NTFPs for their



Figure 8 Monthly leaves-based plate product income
 Source: Based on field survey, November (24, 25) 2021

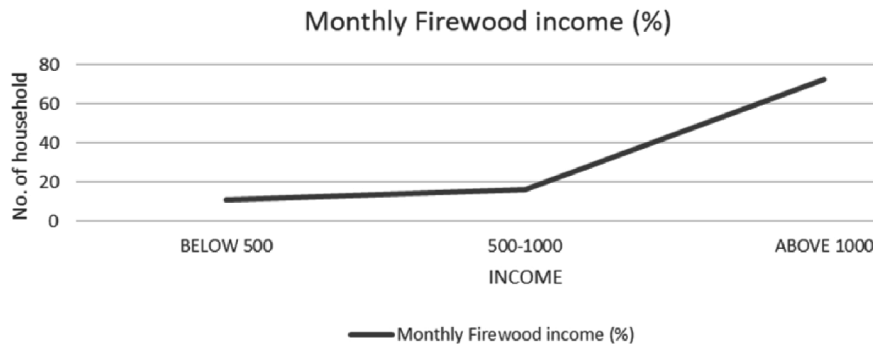


Figure 9 Monthly firewood income
Source: Based on field survey, November (24, 25) 2021

livelihood.

It shows (Figure 7) the household wise monthly non timer forest product income. It reflects that 60% household recorded above Rs 1000 monthly income from the non-timber forest

product. The non- timber forest products collected by them range from 6 to 14 items thus the tribe was found to depend to a great extent on NTFPs mainly for their own consumption and to a smaller extent for earning

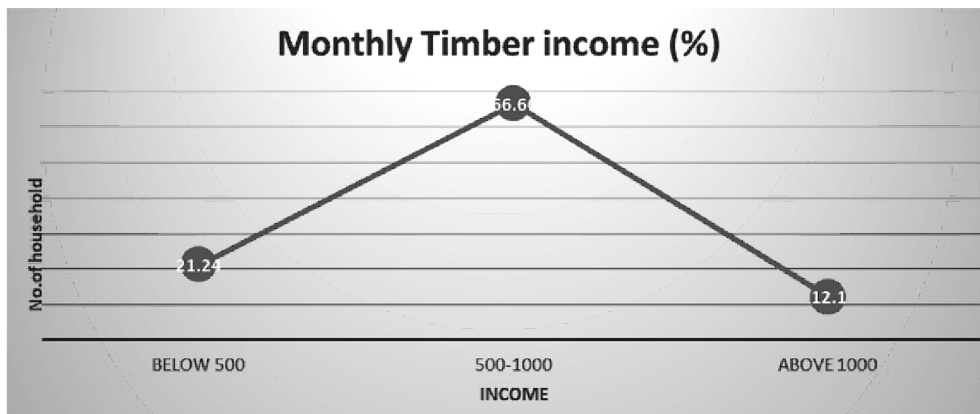


Figure 10 Monthly timber income
Source: Based on field survey, November (24, 25) 2021

A good percentage (36.67%) of household recorded Rs 500-1000 income. Only 3.33% household recorded below Rs 500 monthly income from non-timber forest

money. It shows (Figure 8) the household wise monthly leaves-based plate product income. A huge percentage (88.72%) of household recorded

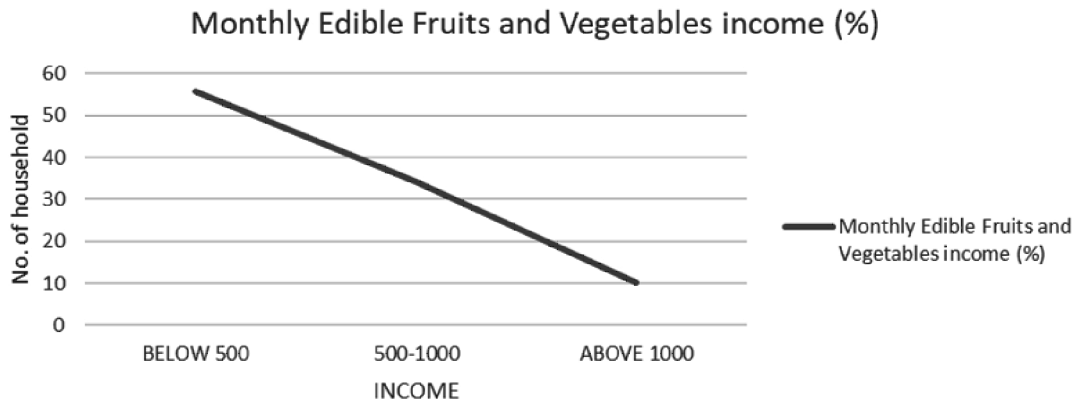


Figure 11 Monthly edible fruits and vegetables income

Source: Based on field survey November (24, 25) 2021

above Rs 1000 monthly income from leaves-based product. Only 9.11% and 2.67% household recorded Rs 500-1000 and below Rs 500 monthly income respectively from leaves-based plate product. Collection of Green Sal leaves from nearby Jungle, get it semi dried in the courtyard, make the improvised thali by stitching it with the help of Neem stick and

sale it in the local market at average price of Rs.8-10 per hundred Sal thali is a traditional economic activity of tribal women of study area. Sometimes, the local agents do collect the improvised Sal Thali from the homestead in the alternate days. However, the price varies from season to season. Sal leaves are abundantly grown in the forest areas. Dealing



Figure 12 Monthly income of different household

Source: Based on field survey, November (24, 25) 2021

with such Sal leaves is the main livelihood activity of tribal women.

It reflects (Figure 9) the household wise monthly firewood income. It shows that the 72.33% household has above Rs 1000 monthly income from firewood. 16.45% and 11.22% household recorded Rs 500-1000 and below 500 Rs monthly income respectively from the firewood. It is another income sources of tribal livelihoods. So, it is increasing the forest dependency.

It illustrates (Figure10) the household wise monthly timber income. It shows that a remarkable percentage (66.66%) of household recorded Rs 500-1000 income from timer. 21.24% household recorded below Rs 500 monthly income from timber. Only 12.1.% household recorded above Rs 1000 monthly income. Timber is an important source of fuel, where its combustion can be used to heat homes, provide energy for cooking food, and heat water for domestic use, construction

| NTFP | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---------------|-----------|------|--------|--------|--------|--------|-----------|-----------|-----------|-----------|-----------|-----------|
| SAL LEAF | Green | | | Green | Green | Green | Green | Green | Green | Green | Green | Green |
| PALASH FLOWER | | Blue | Blue | Blue | | | | | | | | |
| KENDU | | Blue | Blue | Blue | Blue | | | | | | | |
| MAHUA | | | Orange | Orange | Orange | Orange | | | | | | |
| ARJUN | | | Purple | Purple | Purple | Purple | Purple | Purple | Purple | Purple | Purple | |
| SIMUL | | | | | | | | | | Yellow | Yellow | |
| KHAMALU | | | | | | | Red | Red | Red | Red | Red | Red |
| MUSHROOM | Dark Blue | | | | | | Dark Blue | Dark Blue | Dark Blue | Dark Blue | Dark Blue | Dark Blue |
| SATMULI | Grey | Grey | Grey | Grey | Grey | Grey | Grey | Grey | Grey | Grey | Grey | Grey |
| BAN KUNDRI | | | | | | Yellow | Yellow | Yellow | | | | |
| BAHARA | | | | | | | | Black | Black | Black | Black | |
| HARITAKI | | | | | | Red | Red | Red | Red | Red | Red | Red |

Fig 13: Calendar of NTFP Collection

Source: Based on field survey, direct observation, November (24, 25) 2021

materials, furniture timber beams etc. So, it is most significant to tribal livelihoods.

It reflects (Figure 11) the household wise monthly edible fruits and vegetables income. A remarkable percentage of household recorded below Rs 500 income from edible fruits and vegetables. A noticeable percentage (34.33%) of household recorded as Rs 500-1000 monthly income and it is 34.33%. Only

of id 3 to20 is 1000-3000 rupees and id 27 to id 92 is 3000-6000 rupees.

The result reveals that tribal people were totally dependent on forests for their livelihood.

CHALLENGES IN FOREST RESOURCE COLLECTION

Seasonal Dependency: Seasonal pattern (Fig 13) of NTFP collection varies across Chakua village. We found that the female collector

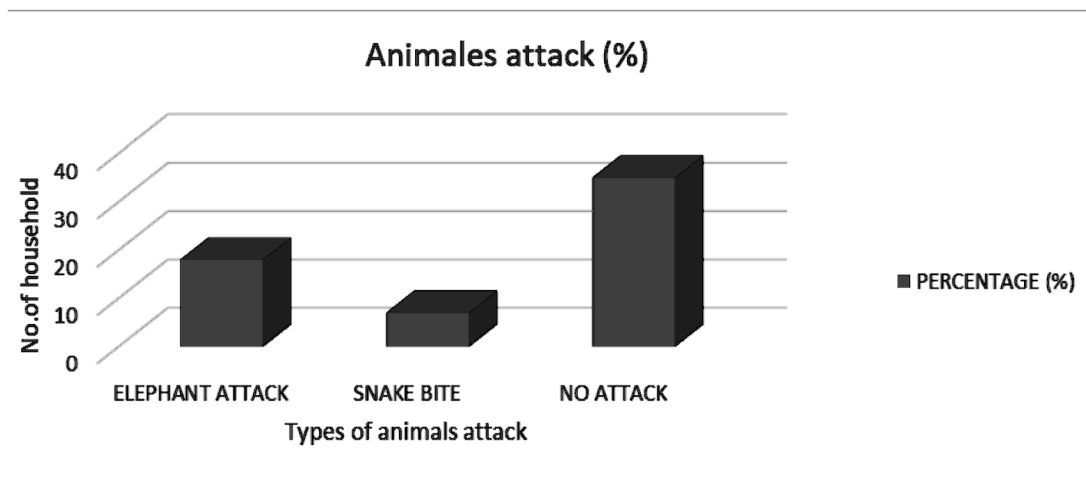


Figure 14 Animals Attack of Chakua Village
Source: Based on field survey, November (24, 25) 2021

10.11% household recorded above Rs 1000 from edible fruits and vegetables. So, it is clear that the monthly fruits and vegetables income are more important to tribal livelihoods.

ECONOMIC BENEFIT

In the times of surveying of this region we have noticed that major families carry on their daily life by selling these resources. More number of families earn a range of 300 -4000 rupees per month. In following picture (Figure 12), we found that the monthly income of families

visits forest during April to December months for collection of sal leaf. Palash flower collection is done from February to April. Kendu collection is done during of February to June. They collect arjun in long period of March to November months. During September and October, they collect simul, during July to December months they collect khamalu. During July to January, they collect mushroom. Satmuli is collected from all seasons and ban kundri is collected only in

June, July, August months. Bahare is collected in August to November and haritaki is collected in June to December months.

Most of the women and men live on various NTFP collections. According to the availability period, they fix their seasonal work calendar to adjust between household or agricultural work as well as forest collection.

Animals Attack: Men and Women forest collector is subjected to frequent animal's attack. Animal attacks are a cause of human injuries and fatalities worldwide. Animal attacks have been identified as a major public health problem. The women are going to forest daily to collect wood, honey, leaves etc. Sometime they are attacked by the different type animals, like elephant, snake. The elephant is destroying the houses of the villages and killed the people. Women are bitten by the dangerous snake like black chiti etc. and they become died due to longest distance to the hospital. During the collection of forest resource many dangerous insects also bite them and they generally die due to sepsis.

Fine of the Beat Officer: The people of this region cannot collect the forest resource properly because forest range officers catch them and even also fine them. The monetary fine may go to Rs 500 per tree. Sometime they cut the big trees. This is illegal and thus, they are destroying the forest. Range officer, or beat officer sometime catches them with this large tree and unmake fine.

Transport Problem: The main problem of

forest resource collection and for selling of this resource is transport. The transport system of this region is much undeveloped and roads are mostly muddy. So, they have to bring this resource by head in early morning. They mainly use narrow, unpaved forest cover road to go the market and it is become very difficult to walk. Many times, they are attacked by many wild animals like snake, elephant etc. and they are injured. These are very hard for the people and therefore people become disinterested to collect forest resource. So, transport problems are the most serious constrain for tribals livelihoods.

Market Problem: As the people of this region collect the forest resources fearing forest ranger officer so they cannot sell these resources in open market. They have to sell through the agent. Therefore, they cannot get appropriate price. They have to sell this resource in fewer prices. The women collect different type of NTFP and they are going to nearest open market. They are sometime betrayed by the seller because he or she do not give them proper price of woods, honey etc. Basically, Jamtoria and Bargoria are two markets available in study area as they sell collected forest resources. It is found that forest resource price is very low here whereas in Bandwan and Manbazar the larger market, forest resource price is high. Distance from villages to market in Jamtoria and Bargoria is 6 km and the big market at Bandwan and Manbazar distance is 13 and 18 km respectively (TABLE-III). So, market is a

Table III: Distance of Market from Study Village

| Sl.No. | Markets | Distance From Study Village (Km) |
|--------|----------|----------------------------------|
| 1 | Jamtoria | 6 |
| 2 | Bargoria | 6 |
| 3 | Bandwan | 13 |
| 4 | Manbazar | 18 |

Source: Based on field survey, November (24, 25) 2021

serious condition for tribal NTFP collectors.

CONCLUSION AND SUGGESTION

At last, after surveying this region we can say that most of tribal peoples totally depend-on forest for their livelihood. If they cannot enter into forest, they have to stay in starvation for two halves of a day. On the other hand, for cutting of the trees indiscriminately the forest will be destroyed within few days. So, some necessary steps should be taken for saving the environment and for better living of the people in this region. Based on the findings of the research the following recommendations are made:

1. Administration should carefully monitor whether local people are cutting inmate trees that degrade the forest.
2. Forest range officers, should be honest to protect the forest. They have to perform strong vigilance.
3. Local govt. have to arrange for alternative livelihoods from SHGs among cooperative.
4. The transport system also has to develop for coming the people to Market Bargaria. So, they will get more work to carry on their livelihood. And they will also be able to sell the collect resource.
5. Most number of people of this region are illiterate. So, they we not aware of environment. So, awareness must be increased through organized programmes.
7. In study area we saw the unpaved, narrow and kachaa road which are very difficult to walk in rainy season. So, govt. should be making a pitched, wide road for these villages.
8. Understanding the dependency of people on forest and its produces is essential.
9. Alternative economic opportunities should be generated for tribal as well as forest-fringe dwellers to reduce their degree of dependency on forest. Other possible sources of fuel and fodder must be

developed or identified. Substitute products of forest resource should be utilized to minimize the exploitation of forest resources.

10. The working plans must operate with proper management. Collection, utilization, maintenance and management of forest resource should be done more scientifically and effectively.
11. Greening of fallow wasteland through large-scale afforestation programme and restoration and rejuvenation of forest with active involvement of local forest fringe dwellers by forming Forest Protection Committees (FPCs) through Joint Forest Management (JFM) method may be proven as an effective measure.
12. Unplanned exploitation is one of the key factors of forest degradation in Puruliya district that is detrimental to its sustainability. Fast removal of the vegetal cover over the earth surface without lending enough time for regeneration leads to deforestation. Once deforestation sets in at a particular place, it releases a series of reactions within the natural environment that leads to various hazards like soil erosion, loss of fertility, drought and several other downstream damages. Those in turn amplify the magnitude of the degrading force and can destroy the entire ecosystem if the preventive measures are not taken in time.

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