

Importance of Minor Forest Produces in tribal life

Dr. Manoshi Das



Tribal Research and Cultural Institute,
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TRIBAL RESEARCH AND
CULTURAL INSTITUTE



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Minor Forest Produces play important role in Tribal life. It provides fuel, fodder, food, medicine, construction material and other necessary materials for their life and livelihood. This book, based on the empirical research, tries to showcase the importance of minor forest produces in Tribal life in Tripura. It discusses the socio-economic background of tribal communities in the study area and also calculates the monetary value of various minor forest produces used by different communities. This book will be helpful for the researchers and policy makers to develop specific plan for minor forest based livelihood of Tribal people.

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Dr. Manoshi Das, freelancer Trainer and Researcher did her M.Sc. and Ph.D. in Anthropology from Visva-Bharati University, West Bengal. Dr. Das is author of 6 books and more than 30 research papers. She is involved in various research studies on different aspects of Tribal, Gender and Health issues as Director (Research), BMPSS (Institute for Inclusive Development) - a not-for-profit Social Organisation.

IMPORTANCE OF MINOR FOREST PRODUCE IN TRIBAL LIFE

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PREFACE

This book named 'Importance of Minor Forest Produces in Tribal Life' is mainly based on empirical study in two most tribal concentrated districts in Tripura – South Tripura District and Dhalai District in the year 2016 sponsored by Tribal Research and Cultural Institute, Government of Tripura.

The overall research study took shape of this book to disclose the socio-economic features, educational status, housing conditions etc. and also the dependency on minor forest produces by Tribal community in the study area.

The first chapter of the book discusses the synergy between forest and tribal communities and also clarifies the concept and importance of minor forest produces in tribal life. The second chapter highlights the scenario of minor forest produces in Tripura with available data while chapter three makes a thorough review of literature on different aspects of minor forest produces and tries to find out the research gaps. The fourth chapter is about the methodology of the present study. The fifth chapter analyses and interprets the findings of the research. The chapter is divided into two parts based on the objectives of the study. The first part deals with the socio-economic aspects of the respondents like educational status, occupational pattern, household amenities, economic conditions, health status, etc. The second part of the chapter assesses the dependency of various tribal communities on forest. It was found that respondents were dependent on forests in terms of vegetables, fruits, flowers, leaves, roots & shoots, etc. The sixth and last chapter concludes with the major findings and lastly tries to bridge between the fact and reality and summarized with some suggestions and recommendations.

My sincere thanks go to the Sri. S. Debbarma, Director, Tribal Research and Cultural Institute, Government of Tripura for awarding me the study to conduct the study and also considering the research report to publish in book form. I am also thankful to all the members of Research Advisory Committee and Manuscript Committee of Tribal Research & Cultural Institute for keeping faith on me. Special thank goes to Sri. Bidyut Kanti Dhar, Research Assistant of TR & CI for his sincere efforts in various stages to bring the manuscript in book form.

I duly acknowledge the hard work of Miss. Parbati Paul, Mr. Abhijit Saha and Mr. Dikankar Biswas, students of Department of Rural Management & Development, Tripura University for involving during various stages of the present study. The study is enriched enormously by the discussions with villagers during the study; I duly acknowledge their support and information sharing. In this regards I am indebted to Mr. Isan Jamatia, Mr. Ananta Kalai, Mr. Sentu Debbarma, Miss. Ajanta Debbarma, Miss. Reshna Debbarma, Miss. Saloni Debbarma, Miss. Mithu Murasing, Miss. Bijita Debbarma, Miss. Namrata Debbarma, Miss. Jeli Debbarma and Miss. Sima Debbarma who worked hard as field investigators.

The study provides some suggestions and recommendations for possible consideration of the Government of Tripura. I hope Government of Tripura would consider the suggestions seriously.

However, I am responsible for any fault that may remains.

Date: 08 / 08 / 2018

Place: Agartala, Tripura

Dr. Manoshi Das

FOREWORD

Tribal communities are the most vulnerable and backward category in economic and social prospect. They are the socially deprived and live in forest from a long period of time with family group. Forest is the source for providing food and other **basic amenities** to this community. Internally and externally they are dependent on forest. Non timber forest products play the important role for this community. Tribal people extracted fruits, vegetables, meat, etc from forest and their daily livelihood also depends on forest. But there is hardly any serious research in Tripura in this aspect.

Under this background Tribal Research & Cultural Institute intended an in-depth research study and awarded the task to Dr. Manoshi Das, Anthropologist.

I feel happy that Tribal Research and Culture Institute is publishing the book 'Importance of Minor Forest Produces in Tribal Life' based on the empirical research study conducted by Dr. Manoshi Das and her team sponsored by Tribal Research and Cultural Institute, Government of Tripura.

I strongly believe that the study will provide immense inside about the importance of minor forest produces in Tribal Life in Tripura and the recommendations will be helpful to prepare the roadmap for development of tribal communities in the state.

I congratulate the author and wish her grand success of her work.

Place: Agartala

Date: 08 / 08 / 2018


Shri. Sunil Debbarma

Director

Tribal Research and Cultural Institute
Government of Tripura

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INTRODUCTION

INTRODUCTION

Forest is the important source for offering food, shelter and many other important resources which are directly or indirectly comes from forest. From several decades it provides valuable contribution to the community livelihood and economic development. Not only this but also forest provides the primary material to the industry for producing final products. There are basically two types of forest products. One is timber and another is non timber forest product.

Tribal communities are the most vulnerable and backward category in economic and social prospect. They are socially deprived and lived in forest from a long period of time with family group. Forest is the source for providing food to this community. Internally and externally they are dependent on forest. Non timber forest products play the important role for this community. Tribal people extract fruits, vegetables, meat, etc. from forest and for their daily livelihood they dependent on forest.

IMPORTANCE OF MINOR FOREST PRODUCTS IN TRIBAL LIFE

Non-timber forest product (NTFPs) also known as 'Minor Forest Product' because of their small contribution to the forest revenue compared with that from timber. The vast natural resources of India's forests, including non-timber forest products (NTFPs), such as medicinal and aromatic plants, leaves, fruits, seeds, resins, gums, bamboos, and canes, offer employment that provides up to half the income of about 25 per cent of the country's rural labour force. However, poor harvesting practices and over-exploitation in the face of increasing market demand are threatening the sustainability of these resources, and thus the livelihoods of forest-dependent tribal communities. (Prasad, et al. 1999).

Forestry and Tribal Development

At the time of launching of the forest Policy of 1952 it was averred that village communities in the neighborhood of a forest want to make excessive use of its products for satisfaction of domestic and agricultural needs, but such use should not be permitted at the cost of national interests. This is really the heart of the matter. While we agree that the management of forests and vegetable resources should be such as will provide for maximum goods and services for the well-being of all sections of the country's population, there has to be a judicious balance between the national needs such as defence, communications, industries, etc. and the local, particularly the tribal, needs. In fact, forest economy and tribal economy should be two co-equal goals. A strong forest economy should be geared to the requirements of employment and economic progress of the scheduled tribe communities living in the area. In any event, the two should not be antithetical to each other.

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The national goal of covering one-third of the country's geographical area under forests can be achieved by careful evolving and observance of the land-use pattern. This requires identification of the area fit for agriculture; silviculture could be undertaken over the rest.

Before the era of State control of forests commencing from the middle of the last century, tree, land was freely available for the use of the community, but with a much smaller population there was little danger of wastage exceeding increment. Today, with the pressure of population, reserved forests require to be demarcated for production forestry to meet the national needs of industries, communications, defence, etc. At the same time, the growing needs of the community in the way of fuel, fodder, agricultural implements, house construction, domestic furniture, fruit, flower, herbs and medicines, have to be satisfied through social forestry in village forests, protected forests and other waste-land around villages. The need for providing requirements of the local community is conceded by foresters, but forest plans have yet to be so oriented. The needs of environment and conservation can be met through tree cover planted on land falling outside the aforesaid two categories.

For the forest-based programmes to subserve tribal economy, comprehensive plans would need to be prepared for all integrated tribal development projects with sizeable forest area in which tribal development and forestry development share equal emphasis. In forest-rich regions, forestry-oriented tribal development programmes should be framed in which agriculture occupies a secondary position. In fact, for such ITDPs separate forest working plans or management plans would be necessary comprised of two

parts, one in which the basic needs of the tribal economy are provided on a priority basis and the second related to considerations of forestry (Thakur, 1996).

Economic potential and value of NTFP

India possesses a rich bounty of NTFPs in state managed forests. Over 50% of forest revenues and 70% of forest export income come from NTFPs. In India, the major source of both self-employment and indirect employment in forestry is the collection, processing, and sale of a wide range of NTFPs. Although the designation 'minor' may give the impression that this sub sector is of low value, in 1986 NTFPs accounted for almost 40% of forest department revenues, 75% of net export earnings from forest sector revenues, and 75% of net export earning from forest produce. Small-scale forest based enterprises, many of them reliant on NTFPs, provide up to 50% of income for 20-30% of the rural labour force in India. Of the total wage employment in the forestry sector, NTFPs perhaps account for more than 70 percent (Gupta and Guleria, 1982a). More important is the opportunity for self-employment, which these enterprises provide to the forest dwellers, around 3.3 million person years. Non Timber Forest Products (NTFP) or Minor Forest Products (MFP) (an estimated 3000 plant species yield one or other NTFP) provide substantial inputs to the livelihood of forest dependent communities especially the tribals. A study of Ministry of Forests & Environment has observed that some 50 million tribal people depend on Minor Forest Produce (MFP) for meeting their subsistence and economic needs. Some estimate that NTFP contribute US\$ 208 million to the Indian economy while another calculation places the revenues from

NTFP at US\$ 645 million (Lele et al., 1994). Another figure offered by Poffenberger (1999) estimates that the total annual value of NTFP from the central Indian tribal belt alone exceeds US\$ 500 million. Still another estimate indicates that it's state governments earn roughly Rs 2000 million per annum from NTFP trade in the form of royalty, fees, sales profits, licenses and so on (Mitchell et al 2003).

NTFP provide about 40% of total official forest revenue, 55% of forest based employment and nearly 400-500 million people living in and around forest of India depend on NTFPs for their sustenance and supplementing their meager income. The study in Nepal exposes the fact of higher dependence of and lower return to the poorest from NTFP. Even in India, where the rural poor living below poverty line earns less than Rs 4416/ per year, the average income from NTFP comes to only Rs 839/ (US \$21) per poor per annum (19% of total income as per MoEF, 2006). This income also seems to be in line with NFC quoted study in Orissa, where income from NTFP (including Kendu leaves) was Rs 1197/- (Chhetri, 2006).

All the estimates, despite their variations, lead to the conclusion that collecting and processing of NTFP are economically significant activities for forest dependent tribals (Poffenberger, 1990).

NTFP Management

Management plan and perspective of NTFPs would essentially depend on the purview of NTFPs, i.e. what they include and/or exclude. In India there was no legal definition of terms like Non-timber Forest Produce, Nonwood, Minor Forest Produce (MFP) till the Schedule Tribe & Other Forest Dwellers (Recognition of Forest Rights) Act, 2006 otherwise

IMPORTANCE OF MINOR FOREST PRODUCTS IN TRIBAL LIFE

known as FRA (Forest Rights Act) defined MFP as under: "Minor forest produce includes all non-timber forest produce of plant origin including bamboo, brushwood, stumps, cane, tussar, cocoons, honey, wax, lac, tendu or kendu leaves, medicinal plants and herbs, roots, tubers and the alike." (Section 2-1) Thus, while the FRA recognized a wide range of forest produce starting from bamboo to lichens, thereby giving no scope to the earlier prevailing management concepts that, despite their differences across the states, tried to put certain items under restriction and/or monopoly and hence gave the right and responsibility to the state agency (usually the Forest Department) to manage the same; it critically depended on the term NTFP which itself is a dubious term. For instance, bamboo is said to be an NTFP because it belongs to the grass family and is a monocotyledon but at the same time it has the potential to create a wide canopy cover of its own like trees and contains cellulose that is present in wood/timber. Further, the term 'non-timber' can also refer to forest produces of faunal origin ranging from feathers to horns & hides; so the definition of MFP in FRA is on a safe side by mentioning 'non-timber forest produce of plant origin', thereby excluding produces of animal/faunal origin though it actually includes lac, honey and tassar cocoon that are of faunal origin.

Based on the recommendations of an internal interdepartmental Food and Agriculture Organisation (FAO) meeting on definitions of NWFPs held in June 1999, the following new FAO working definition of NWFPs has been adopted: "Non-wood forest products consist of goods of biological origin other than wood, derived from forests, other

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wooded land and trees outside forests." According to working definition adopted by FAO, the three components of the term "nonwood forest products" are interpreted as follows:

Non-wood: The term NWFP excludes all woody raw materials. Consequently, timber, chips, charcoal and fuelwood, as well as small woods such as tools, household equipment and carvings, are excluded. Non-timber forest products (NTFPs), in contrast, generally include fuelwood and small woods; this is the main difference between NWFPs and NTFPs. NWFPs should be derived from forests and similar land uses. Since plantations are included in the FAO definition of forest, NWFPs that are obtained from plantations, such as gum arabic (*Acacia Senegal*) or rubber (*Hevea brasiliensis*), are thus included in the definition of NWFPs. Many NWFPs are derived from both natural forests and plantations. The final definition of "trees outside forests" (including trees originating from forests which are located out of the forest and other wooded land, such as *Acacia albida* and the Karité tree, *Butyrospermum parkii*) is still in the process of elaboration.

Products: In the proposed definition, the term "product" corresponds to goods that are tangible and physical objects of biological origin such as plants, animals and their products. Forest services (e.g. ecotourism, grazing, bioprospecting) and forest benefits (e.g. soil conservation, soil fertility, watershed protection) are excluded. Services and benefits are even more difficult to assess and quantify than NWFPs and have therefore already been excluded from most publications dealing with NWFPs. A clear definition of forest services and benefits is still lacking (FAO, 1999).

However, India normally NTFP is not supposed to include fuelwood as per the prevalent practice. Further, to include certain items like tamarind in the NTFP/MFP list has also been questioned as a significant part of their production comes from non-forest growths. The Orissa government therefore had a legal provision to register growers of specified forest produces so as to allow them certain relaxations. However, when the PESA Act gives ownership right to the Gram sabha over MFP, it doesn't clarify if this would not be applicable to produces from private lands (e.g., cultivated lac).

NTFPs activities provide them with a cushion to absorb the surplus labour force in the family and this provides a major source of income to sustain themselves in the absence of adequate productive resources. The regional economy in the tribal area has displayed strong backward and forward linkages with NTFPs collection. This suggests that any effort to sever the connection with NTFPs can seriously undermine the income and employment in the short term" (DMI, 2010).

While on an average NTFP collection does have a potential to absorb surplus labour, the reality may vary significantly from area to area and from season to season. While there is an understanding that NTFP development can help in poverty alleviation, and hence should be a part of poverty alleviation projects; the vulnerability of NTFP-based livelihood due to seasonal variations in productivity, and the out-of-control for the primary collectors) market dynamics, etc. also made this conclusion that such a livelihood base is comparatively insecure and hence there need to be some kinds of support to ensure a minimum secure income for the people dependent on NTFP collection. Mahatma Gandhi NREGS thus

has two scopes: one, to provide minimum 100 day's work; and second, to create/increase the NTFP resource base through afforestation activities. PDS and other such schemes provide rice at nominal prices to BPL people. Where these schemes have been effectively and sincerely implemented, people's dependency on forest produce has been expected to be reduced though there might not be sufficient study findings to substantiate this. For instance, the CSE survey in 2008 in the Sidhi district of Madhya Pradesh got to know from local organizations that NREGS had led to reduction in forest dependency though it was still too early to conclude this because the critical dependency on forest produce, particularly in absence of any other viable source of income, requires intensive alternative arrangements for its substantial reduction which through NREGS may take years because the potential of this scheme has been often found underutilized or misutilized by the authorities, depriving the target people of its benefits.

In Odisha do suggest that employment assurance schemes and poverty alleviation schemes have actually reduced availability/engagement of people for agricultural work (as wage labourer) and NTFP collection. The fact seems to be that people now have more choices, and unless they feel satisfied that the conventional practice would fetch them an income at par with that from the newly available opportunities, they hardly opt for that unless otherwise necessary. However, this is not a universal case because there are still many remote areas where the government schemes are not implemented properly and people have to depend on conventional systems like NTFP collection.

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Growth of educational status, particularly with a higher secondary degree or graduation, is likely to have its impact on NTFP collection because the present educational system primarily creates a tendency in the student to prefer a more secure and more beneficial livelihood than NTFP collection or agriculture.



2

MINOR FOREST PRODUCTS IN TRIPURA

Introduction

Minor Forest Produce (MFP), meaning all forest products other than wood, plays an important role in tribal economy. In the first place, the various items of MFP form an ingredient in the family's domestic consumption. Further, studies conducted show that between 10 to 15 per cent of the income budget of an average tribal family in major tribal concentration states of Madhya Pradesh, Orissa, Bihar and Andhra Pradesh is obtained through sale of MFP, the rest being derived from agriculture.

MFP items are important raw materials for cottage, small and village industries and contribute to national economy through export and import substitution. Notwithstanding these factors, the tribals have not been conceded full rights of collection of MFP by all States. States lagging behind may take steps necessary for conferring the right.

Marketing of MFP should channelise through co-operatives. There is a tendency to relate price to the labor



input and, in some cases, wages lower than the statutory minimum are paid. The price to be paid to the tribal should be based on the market value of the item concerned. Linkages of primary cooperatives, (e.g. LAMPS) with secondary or apex bodies like Tribal Development Corporations and Forest Development Corporation~ will have to be: (a) strong to drive worth-while benefit, and (b) rational in respect of commodities the latter deal with. Further, the Forest Development Corporation should take in hand not merely the commercial but also development aspects.

Apart from the tribal being merely regarded as a gatherer of forest produce; the inequity is compounded by the lack of any effort for value addition to produce. Various oilseeds like Sal, Karanj, Kusum, Niger, and Castor are sent out of tribal areas as such, without conversion into oil. Lac: gums and resins are hardly treated. Even de-seeding of certain produce, like tamarind, is more of an exception than the rule. Rolling of Kendu leaves into Bidis is a simple affair, yet Kendu leaves are plucked and sent out as such. Reeling of tassar cocoons can be easily done and even weaving, as a lon-lest art, can be picked up without much difficulty. There is a dire need of first processing of minor forest produce through cooperatives of primary collectors and ensuring value-addition. The requisite skills for such value-additions should be imparted.

Out of more than 21000 botanical species reported from forest areas, so far less than 3000 species have: been identified yielding minor forest produce of some commercial importance. With such dependence of a large segment of the tribal population on MFP, there is need for research and development of the various items by the various centers of Indian Council of Scientific and Industrial Research, Forest Research Institute,

State Forest Research Institutes and other such bodies. These should relate to discovery and multiplication of improved varieties of species yielding higher production. Further, it would appear that a small percentage of the total potential of minor forest produce in the country is being tapped. Scientific collection and storage of these items cannot be ignored to avoid deterioration and value-reduction.

As recommended by the National Commission on Agriculture, product-wise survey, proper method of collection and grading, improving resource base, developing a system of marketing and distribution, ensuring proper processing and utilisation are necessary. The Commission recommended creation of product-wise corporations in rich forested states and a national organisation for tackling different matters connected with marketing, intelligence, export, etc., of MFP.

Non-Timber Forest Products (NTFPs) Potential in the State of Tripura

Non-Timber Forest Products (NTFPs) play an important role in the life and economy of people living in and around the forests. NTFPs, NTWFPs, and MFPS terms are used frequently synonymously to a group of forest products of forest origin other than Timber and other wooded material that form single major trade item. NWFPs include all the forest products derived from material of non-wood origin. Whereas NTFPs include forest produces except timber and thus include fuel wood, charcoal etc. also. MFPS include all non-timber forest products of plant and animal origin i.e. bamboo, brushwood, stumps, cane, tassar, cocoons, honey, wax, lac, tendu leaves, medicinal plants, herbs, roots, tubers, and likes. Some include even environmental services and minerals in the MFP group.

NTFPs are not only subsistence forest products but also source of income and nutritional security to the people and play role in poverty alleviation, economic development and conservation. Tripura forests are richly endowed with NTFPs like bamboo, broom flower, thatch grass, kumira, dhup and different kinds of edible vegetables, medicinal herbs etc. But these NTFPs are not getting required attention of the people, even though a large number of people are engaged in NTFP collection for sale and for self consumption.

Since poor people are largely dependent on NTFPs but lack access to information and financial capital, their extraction gets affected by commercial interests, which leads to unsustainable extraction. Through, communities use large number of NTFPs (>100), information in respect of the quantum of their collection, sustainable harvesting practices, supply chain, value addition etc. are not researched well in the state. Working plans concentrate mainly on bamboo, thatch (*Imperata cylindrica*) and Arjun flowers (*Broom sticks-Thysanolaema maxima*) but information in respect of other NTFPs is available to limited extent in the state. Chakraborty (1973) proposed cultivation of canes in Muhuripur and Betaga area of Southern Forest Division. Also proposal was a MFP overlapping working circle for cultivation of rubber, coffee, pepper, orchids, chal mogra, dioscorea, turmeric, lemon grass, citronella grass, and ginger in Southern Forest Division (Sharma, 2009).

Despite significant economic growth in India's recent past, poverty remains a major development challenge. More than 380 million people in the country live below the poverty line. The role of non-timber forest products (NTFPs) in alleviating poverty, particularly for forest dependent people is now well

recognised. Forests provide rural communities with diverse products for subsistence and cash income: about 100 million people living in and around forests in India depend heavily on the collection and marketing of NTFPs. They also serve as a 'safety net' during seasonal food shortages and other economic crises: about 60 per cent of the harvest of NTFPs goes unrecorded and is consumed by households themselves. India's forests are endowed with vast natural resources, including non-timber forest products, such as a large variety of medicinal and aromatic plants (MAPs), leaves, fruits, seeds, resins, gum, bamboos, and canes. More than 3000 plant species produce economically useful NTFPs in India.

NTFPs provide diverse employment and economic opportunities to support rural livelihoods and protect the environment. They provide subsistence and cash income to millions of tribal in India, as a major source of fuel, fodder, food, medicines, construction materials, and livelihoods. Small-scale forest-based enterprises, many of which rely on NTFPs, provide up to half the income of about 25 per cent of India's rural labour force. Nearly half of the country's forest revenue and 70 per cent of export forest revenue comes from NTFPs. Studies in Orissa, Madhya Pradesh, Himachal Pradesh, and Bihar show that more than 80 per cent of forest dwellers depend entirely on NTFP; 17 per cent of the landless depend on daily wage labour, mainly consisting of the collection of NTFPs; and 39 per cent are engaged in NTFP collection as a subsidiary occupation. The collection of NTFPs is also a source of cash income, because of their increasing commercial importance. The proportion of household income earned by the sale of NTFPs varies from State to State and from one area to another: at a rough estimate, it ranges from 5.4 per

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cent to 55 percent. In tribal areas of Orissa more than 60 per cent of all households depend on forests for between 15 per cent and 50 per cent of their incomes every year. Average income derived from various NTFPs in the Sathy Forest Range of Western Tamil Nadu was found to be Rs. 9000 per household. As the market for natural products is growing, particularly from medicinal and aromatic plants and organic mountain products, the sustainable harvesting and management of these products offers an immense opportunity to improve livelihoods of local communities as well as conserving resources in India. Besides supporting livelihoods, the NTFP sector provides employment for the unskilled and semi-skilled rural poor. It is estimated that 1.6 million person-years of employment in India are derived from NTFPs, while the forestry sector in total provides 2.3 million person-years of employment. In certain seasons, when there are no regular work opportunities, the NTFP sector provides alternative sources of livelihoods. This sector also contributes heavily to the rural health-care system. The export potential of NTFPs is growing as the scope of globalisation increases and recognition of the health benefits of herbs becomes more widespread. Despite the significant role of NTFPs in supporting rural livelihoods and the rural economy in India, their potential is still grossly underutilised and their contribution to poverty alleviation has remained minimal (Sahetal. 2008).

In the year 1952, forest rules relating to RF and PF were put in to force. No Working Scheme or Working Plan for management of forests was prepared prior to 1958, though some silvi-culture systems like a selection system in Sal areas and Coppice with Standard for firewood areas were in force

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during the time of Maharaja. The first Working Plan of Tripura was written by DC Choudhury, Extra- Assistant Conservator of Forests (Retired) of West Bengal, who was appointed as Working Plan Officer in Tripura in 1956. This working plan was operative from the year 1957-58 to 1966-67 and covered all three forest divisions then, namely Southern, Sadar and Northern Forest Divisions. But, only about 10% of the area was attempted to be brought under forest management prescriptions. Nine working circles were proposed in this working plan and one of them dealt with Minor Forest Produce (MFP). This working circle was named Bamboo Working Circle overlapping over 672955 Ha. area of the plan. The plan indicated that Dolu, Mritinga and Rupai bamboo were limited, Kanak- Kaich practically absent and Muli bamboo is extensively growing in the forest area. This plan recommended cutting of Bamboo in a 3 year cycle.

Choudhury (1956) has mentioned that the population of towns and bazaars were dependent on forests for supply of firewood and building materials like bamboos, thatch grass and timber. Forests used to be worked under mahal (lease) system comprising of few blocks. This system was discontinued and later the forests were brought under Khas (state governmental control) permit consisting of River route permit, land route permit, Kheda operation and Grazing permits. However leasing out of thatch grass, muli bamboo and umbrella sticks continued even afterwards. In the past twenty years, lease for broom sticks has been provided to state government corporation. However, the corporation had not shown serious interest in this direction.

Choudhury (1956) in his first working plan for the forests of Tripura had suggested the maintenance of preservation

Plants Resource

Tripura has one of the oldest, richest & most diverse cultural traditions associated with use of medical plants. There are large number of village based herbal medicines practitioners who have traditional knowledge of herbal home remedies of ailments & nutrition. The herbal medicines used by rural people including tribal have not yet been documented. Compiling an exhaustive inventory of medicinal plants in the State is the need of the hour. So far about 266 species of medicinal plants (68 trees, 39 shrubs, 71 herbs and 88 climbers) have been identified and documented.

Bamboo and Cane Resource

Bamboo plays a very vital role in the economy of the State as it serves the artisan & non-artisan users of the state. The bamboo forests of Tripura may be fitted into the following types & sub types as per Champion & Seth classification.

- (i) Moist mixed Deciduous Forest – 1/3/3C/C3
- (ii) Secondary moist Bamboo Brakers – 1/2/2B/2Si

Availability of Bamboo

A total of 19 species of bamboo are reported in the state.

Barak (*Bambusa balcooa*), Bari (*Bambusa polymorpha*), Mritinga (*Bambusa tulda*), Muli (*Melocanna baccifera*), Kai (*Bambusa nutans*), Paora (*Bambusa teres*), Rupai (*Dendrocalamus longispathus*), Dolu (*Neohuzeaua dullooa*), Makal (*Bambusa pallida*), Pecha (*Dendrocalamus hamiltonii*), Kailyai (*Oxytenanthera nigrociliata*), Kanak kaich (*Bambusa offinis*), Lanthi bans (*Dendrocalamus strictus*), Tetua (*Bambusa spp.*), Ish (*Bambusa spp.*), Jai (*Bambusa spp.*), Bombash (*Bambusa spp.*), Sairil/Wadu bamboo (*Melocalamus compactiflorus*), Bosai (*Bambusa spp.*).

Contribution of Forestry Sector to Rural Economy

While the annual revenue from forests in the State is around Rs. 300 lakhs, the subsidy that flows to the rural economy on account of free removal of only five items of forest produce has been conservatively estimated to be Rs. 12,926 lakhs, which is about 5.57% of State Domestic Product (SDP). This does not take into account edible fruits, tubers, medicinal plants and many other non-timber forest produce. Recorded/unrecorded removal/use of aforesaid five categories of forest produce is estimated as below:

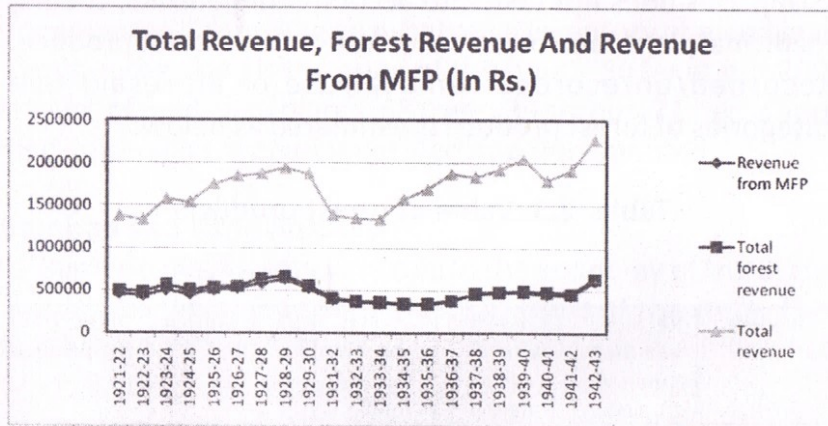
Table -2.3: Value of forest products

| Produce | Recorded removal (million units) | Unrecorded removal (million units) | Actual removal (million units) | Value per unit (Rs.) | Value (in Rs. Lakhs) |
|----------|----------------------------------|------------------------------------|--------------------------------|----------------------|----------------------|
| Timber | 0.012 | 0.034 | 0.046 | 2000/m ³ | 680 |
| Fuelwood | 0.043 | 2.194 | 2.236 | 200/m ³ | 4388 |
| Thatch | 0.13 | 0.213 | 0.343 | 80/ton | 170 |
| Fodder | | 1.53 | 1.53 | 500/ton | 7650 |
| Bamboo | 109.76 | 75.50 | 184.26 | 50000/million | 38 |
| Total | | | | | 12926 |

Source: Tripura Forest Development Corporation

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The amount of forest revenue provides an indication in respect of exploitation of forest resource of the state. From the available data it is clear that forest revenue contributed nearly 30% of total revenue during 1921-22 to 1942-43 except few deviations in certain year.



Source: Sharma, D. (2009), *Non Timber Forest Products of Tripura, vol.no.1, pp- 12.*



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The tribal communities who are the primary user of forests, control forest resources through traditional norms and customs. During the colonial period, the rulers through a number of measures restricted the right to control forest resources. Thus the Forest Acts of 1865, 1878, 1894, 1927 and 1935 not only restricted the exploitation of forest resources but also the right of the local communities in the management system. The Act of 1927 stated "no person can claim a right to private property in forest land merely because he is domiciled there, or even if his forefathers have lived there for centuries. Nor do such people have any rights over forest produce". Singh: 1986. It has been observed that prior to this Act, "at least 80% of India's natural resources were common property, much of which has subsequently been acquired by state forest agencies or privatized."

Dallimore, W. (1927) defined that Minor forest products are may be instanced by a few subjects culled at random from the many that are available, such as tans, dyes, rubbers, canes,



resins, oils and fats, distillates, edible and other useful fungi, gums, seeds, fruits, fibres, and maple sugar. In many instances the minor products are of more importance in open than in close forests, or they may even be most profitable from isolated trees, and they may be exploited by farmers rather than foresters, as in the case of maple sugar, but all the same they are produced by trees and may be regarded as legitimate forest products, whether worked by farmer or forester.

Gamage et al. (1992) mentioned that there are several widely used non-timber forest species in and around Sinharaja. One of these, the palm, *Caryota urens*, locally known as kithul, is a rare under storey tree in rain forests and eco-tones of monsoonal forests. The sugary sap tapped from its young inflorescence can be fermented to "toddy," an alcoholic drink, or to vinegar. Distillation of toddy produces "arrack," an alcoholic spirit. The most economically important product of this tree, however, is "jaggery," prepared by concentrating the sap before fermentation. Jaggery is non perishable and can be stored for long periods. It has a reasonably well established marketing system and villagers often use it in lieu of cash payment. Other products obtained from *C. urens* include the pith or sago, used for food and medicine; young palm heart used as a vegetable, leaves used for elephant fodder, and mature wood for construction. Seed germination was greatly enhanced in the dark, with a viability period of about 30 days. This palm is a promising multipurpose agro forestry tree for both home gardens and mixed species plantations. Initial results from enrichment planting trials in gaps created in *P. caribaea* stands show good establishment, provided the plots are protected from herbivore predation and anthropogenic fires.

Ganesan, (1993) conducted a study on "Extraction of Non-Timber Forest Products, Including Fodder and Fuelwood, In Mudumalai, India". From this study it was found that Non-timber forest products contributed almost a million rupees (over \$30 000) to the local economy in 1991-1992. The LAMP society in the Mudumalai area pays a lease amount based on potential yield to the Forest Department and gets the right to harvest NTFP. The lease payments have averaged approximately \$6700 (Rs 200 000) in recent year.

Paul (1993) discussed the "Role of Non-Timber Forest Products in a Subsistence Economy: The Case of a Joint Forestry Project in India". From this study it was found that the forest wealth of India has not been properly valued. Fuel wood and timber which are illegally removed as well as numerous non-timber forest products collected and consumed by the rural poor do not enter into the system of national accounts. There also has been no serious effort to evaluate the intangible contribution of forests to ecological security.

Gunatilleke, et al. (1993) conducted a research study on "Interdisciplinary Research Towards Management of Non-Timber Forest Resources in Lowland Rain Forests of Srilanka". From this research study it was found that production to a conservation-oriented forest provides some of the information needed for management of non-timber forest resources. Studies on the ecology, reproductive and soil biology, ethno-botany and silvi-culture of non-timber forest species are being carried out with two primary objectives in mind: gene pool conservation in the wild and domestication of the species in buffer zones, plantations and village home gardens. Initial botanical surveys documented the abundance and distribution of both timber and non-timber forest species

in both natural and modified forest sites. The surveys documented 71 tree, shrub and herb species growing in the natural forest and village home gardens in Sinharaja which are used for food, medicine or both. Ethno-botanical surveys conducted in the peripheral villages in Sinharaja have shown that 53 (23%) of the woody species enumerated in the undisturbed forest have uses other than timber.

Godoy, Ricardo, et al. (1993) conducted a study on "a method for the economic valuation of non-timber tropical forest products". A quantitative study has done for conducting an economic valuation of non-timber forest products. From these studies it was found that the median value for non-timber forest products is about \$50/ha/year.

Hall, and Bawa, (1993) discussed the Methods to Assess the Impact of Extraction of Non-Timber Tropical Forest Products on Plant Populations. Harvesting can have both short and long term effects on population dynamics. Though every stage of the plant life cycle is ultimately critical to population maintenance, there may be proximate effects on particular stages of the life history for which the effect of harvesting can be rapidly assessed. Immediate short term effects of harvesting can be seen in the decline of the harvested product and changes in the density, growth rates or, if applicable, reproductive capacity of the life history stage from which the product is harvested. Secondary short term effects include changes in population structure that result from immediate short term effect. For instance, harvesting latex from large, mature trees may generate an immediate effect of higher mortality rates among adults or minimally lower fruit production of heavily tapped trees. The lowered fruit production will have a secondary short term effect on seedling recruitment and eventually a long

term effect on the future density of adults. The final long term effect may be an overall lowering of density and a decrease in the average size and amount of reproductive output of adults. Lowering the population size of a species may make it vulnerable to extinction by leaving it with less capacity to recover from catastrophic events such as prolonged droughts or tropical storms.

Saulei and Aruga, (1994) conducted a study on "The status and prospects of non-timber forest products development in Papua New Guinea" from this study it was found that in Papua New Guinea, research and development of NTFP is conducted by the Minor Forest product section of the Forest Research Institute. This section was conducting research into the utilization of rattans, copal gum, massey bark and Vatica resin until the late 1970s. However, since then very little has been done to expand research and development and the promotion of these products, so that the potential contribution of NTFP to national development remains largely underutilize.

Hedge, Achoth, and Bawa, (1995) conducted a study on "extraction of non timber forest products in the forests of Biligiri Rangan Hills, India". From this study it was found that approximately 800 species of flowering plants were found in the BR Hills. The exact number of species that are used for one purpose or the other is not documented thoroughly for India but, as a whole, one out of every three species has some known use. In the BRT sanctuary, 8 species are extracted for commercial purposes and marketed through LAMPS. In addition, several species are traded through other channels. The number of species used by the Soligas for subsistence or medicinal purposes is perhaps substantial but unknown at present.

The two blocks has significant differences only with respect to the level of literacy, which is higher in the exterior (33.33%) than in the interior block (14.33%). There is no significant difference between the two blocks in percentage income contributed by agriculture, subsidiary occupations (e.g., goat, sheep, and poultry rearing) and other sources of employment. However, the contribution of NTFPs to the household gross income is significantly less in the exterior (47.63%) than in the interior block (60.44%). In addition, wage employment contributes significantly more to the household gross income of the exterior block (23.76%) than the interior block (14.66%). The percentage of days devoted to extraction of NTFPs parallels the relative income derived from NTFPs. Greater percentages (54.46%) of days are spent extracting NTFPs in the interior block than in the exterior block (39.25%). In both the blocks the percentage of time spent in the collection of NTFPs is disproportionately less than the relative income derived from NTFPs: 54.46% versus 60.44% in the interior and 39.25% versus 47.63% in the exterior block. The relative amount of time spent on agriculture is significantly more in the interior block (20.95%) than in the exterior block (14.86%), whereas less time is devoted to the wage labour and "other" employment in the interior than in the exterior block.

Tiwari and Campbell (1995) mentioned that NTFPs provide diverse employment and economic opportunities to support rural livelihoods and protect the environment. Small-scale forest-based enterprises, many of which rely on NTFPs, provide up to half the income of about 25 percent of India's rural labour force. Nearly half of the country's forest revenue and 70 percent of export forest revenue comes from NTFPs. The export potential of NTFPs is growing as the scope of

globalisation increases and recognition of the health benefits of herbs becomes more widespread. NTFP provide subsistence and cash income to millions of tribal and forest dwellers in India, as a major source of fuel, fodder, food, medicines, construction materials, and livelihoods. Studies in Orissa, Madhya Pradesh, Himachal Pradesh, and Bihar show that more than 80 percent of forest dwellers depend entirely on NTFP; 17 percent of the landless depend on daily wage labour, mainly consisting of the collection of NTFPs; and 39 percent are engaged in NTFP collection as a subsidiary occupation. The collection of NTFPs is also a source of cash income, because of their increasing commercial importance. The proportion of household income earned by the sale of NTFPs varies from State to State and from one area to another: at a rough estimate, it ranges from 5.4 percent to 55 percent. In tribal areas of Orissa more than 60 percent of all households depend on forests for between 15 percent and 50 percent of their incomes every year.

Murali, Shankar, et al. (1996) studied on extraction of non-timber forest products in the forests of biligiri rangani hills, India. Sustainable extraction of non-timber forest products (NTFPs) has recently gained considerable attention as a means to enhance rural incomes and conserve tropical forests. There is little information on the amounts of products collected per unit area and the impact of extraction on forest structure and composition. In this paper we estimate the quantities of selected products gathered by the Soligas, the indigenous people in the Biligiri Rangaswamy Temple (BRT) sanctuary in Karnataka, India, and examine the effect of extraction on forest structure and composition. Two sites, distant (DS) and proximal (PS), were identified

based on the proximity to a Soliga settlement. The frequency of different size classes indicates that regeneration overall is poor in the area. The two sites show differences in species richness, basal area, and tree mortality. Furthermore, non timber forest product species show a greater deficit of small size classes than the timber forest species, suggesting that regeneration is affected by collection of seeds and fruits from non timber forest product species. Regeneration however, may also be affected by other anthropogenic pressures such as fire, grazing and competition with weeds.

wards, (1996) said that As part of the NTFP survey, a case study was made of the trade through the neighbouring road head towns of Hile and Basantpur in eastern Nepal. The Hile-Basantpur catchment includes approximately the four districts of the Koshi Hills and is a rural area of Middle Hills and High Mountains with relatively high economic prosperity. It has a population of 0.5 million and covers an area of 5,000 km². The produce was followed from various sources within the catchment, through trade intermediaries in Nepal and India, to the final raw material markets in Calcutta and Delhi. In Hile and Basantpur, 20 road head traders compete for the Koshi Hills trade which has an annual turnover of US \$427,000. Each road head trader has close business link with up to 15 of an estimated 100 village traders living throughout the catchment area. A few village traders operate independently, but the majority have at least a proportion of their trade mortgaged to specific road head traders by monetary advances. Despite this, competition is keen, and the income to harvesters is kept high. The relationship between village traders and their harvesters in the Koshi Hills can be particularly close; they

are often from the same community, and of the same ethnic group. Much of the trade is between ritual friends.

Das (1996) discussed that commercial importance of MFP has led the state to nationalise almost all the important MFP items. This has effectively cut down the number of legal buyers, and denied a fair price to the gatherers. However, contractors, who must now operate with higher margins to cover uncertainties with the government agencies, and underhand deals with the police and other authorities, still manage entry through the backdoor. On the other hand, a cross-the-border smuggling operations enable a higher pricing as these do not have to deal with state controls. This smuggling goes on unchecked and extensively in most border areas. The case of Mandibisi Mahila Mandal is not an isolated case. In numerous instances across the state, there is a persistent struggle of tribal and other indigenous communities to access and use their forest and land resources. Government policies and their misuse are increasingly denying the tribal the access to their livelihood needs. As a sequel, the government has been able to ensure neither the due revenue, nor the conservation and protection of the forest resources. All this amounts to a blatant violation of the human rights of these communities.

Parratt (1996) said NTFPs have traditionally played an important role in Botswana. The most important would include foods, medicines, building materials and fuel wood. Although certain types of NTFPs have been successfully exploited on a commercial basis, the full potential of many has still to be realised. Many NTFPs in Botswana tend to circulate through the local informal markets where no significant sums of money are generated. However, this does

not mean that these markets are not important; for many rural poor this is their only means of income. Evidence suggests that it is the rural poor and marginalised groups (especially women), who are most actively involved in the harvesting and trading of NTFPs. This can be illustrated by the case of *Harpagophytum procumbens* (sen gaparile). An interim report on the harvesting of *sengaparile* indicated that of the harvesters, 80% were female, 80% had never been to school and 64% had no other source of income.

Hegde & Suryaprakash, Achuth (1996) said that Processing of non-timber forest products by local people can enhance their cash income and provide an alternative to tropical deforestation. However, the degree to which such products actually or may potentially contribute to rural incomes is poorly documented. We present the results of a study that seeks to evaluate the reliance of an indigenous group on non-timber forest products for cash income. Furthermore, we examine the effect of household variables on the cash income derived from collection and the price appreciation of non-timber forest products.

Benavides (1996), claimed that Government NTFP policies and regulations have influenced labor demand and income. Policies that have decreased the Federal timber harvest also decrease the need for land to be reforested and thus the need for crews of reforestation workers, the large majority of whom are now Latinos, in the Pacific Northwest. With less demand for their labor these workers are searching for alternative sources of income. Government regulation of labor standards gives fruit growers and other employers' incentives - reduced paperwork and lower taxes - to hire workers for the short term. Since employers must show that

they are paying the minimum wage, but pay by the amount produced (piecework), they pay the worker the agreed-upon piecework rate but report fewer hours being worked than it may have taken to pick a given quantity. In doing so, they can show that they have paid the minimum wage or more, but unemployment benefits get curtailed because they are based on number of hours worked. It is not until applying that pickers find out that they may not be eligible for unemployment compensation or may receive benefits lower than they are entitled to. Having less income pushes more people to look for work that can be used to fill in periods of unemployment.

Kuipers (1997) claimed that Non-timber forest products obtained from plant resources, including seeds, flowers, fruits, leaves, roots, bark, latex, resins and other non-wood plant parts, have gained much attention in conservation circles. The growing commercial trade of natural products, in particular plant medicines and crafts, has resulted in the harvest of increasing volumes from wild plant populations and has therefore generated concern about over exploitation. For instance, of the 1543 medicinal plant species traded in Germany, 93-98% is harvested from wild populations. Similarly, more than 95% of the 400 plant species used in the production of medicine by the Indian herbal industry are harvested from wild populations. It is estimated that between 4000 and 6000 non-timber plant species are of commercial importance world-wide. Furthermore, hundreds of millions of people world-wide currently derive a significant portion of their subsistence needs and income from gathered plant and animal products. Moreover, those people who are most economically dependent on these resources tend to be the

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poorest members of the community. Sustainable harvesting is therefore not only essential for conservation of the plant species, but also for the livelihoods of many rural peoples. Indeed, promotion of the commercial extraction of NTFP as a conservation strategy is based on the argument that forest conservation must be able to offer economic incentives to local rural peoples in order to counter the threat from destructive land uses such as logging and cattle ranching. This strategy has gained wide acceptance as a conservation paradigm. The social, economic and political conditions necessary for sustainable extraction of NTFP have been debated widely and the greatest barriers to sustainable harvesting may fall within these domains. Although it is very often assumed that harvest of NTFP has little or no ecological impact, extraction of non-timber plant parts may alter biological processes at many levels. For instance, harvest may affect the physiology and vital rates of individuals, change demographic and genetic patterns of populations, and alter community- and ecosystem-level processes.

Hiremath (1997) said that, the collection and sale of NTFP, although an important economic activity of the rural poor, creates drudgery for women and children who fail to receive commensurate returns. The bulk of the profit is shared between middlemen and contractors and the collector continues to be exploited. According to a study on NTFP collection and sale in Orissa), in the case of hill brooms, where the state-owned tribal development cooperative corporation paid Rs. 3.00 per kg to the primary collectors, mainly tribal women, it paid Rs. 7.00 - 9.00 per kg as royalty to the forest department. Many state governments control the collection and sale of high value NTFPs such as tendu leaves. The

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nationalisation of NTFP had the stated objectives of ensuring the welfare of the poor NTFP gatherers through better remuneration. However, these objectives continue to be overlooked by the government appointed agents. Studies indicate that value additions at primary collectors' level could significantly enhance the return from the sale of the same amount of NTFP. Better incomes from NTFP collection, processing and marketing hold the key to the economic development of forest-dependent populations, particularly the women and children. NTFP market are by and large imperfect and the collectors do not get a fair return for their labour. Middlemen have a dominant position in the marketing of NTFPs at village level. The present marketing system can be altered through simple interventions that promise to substantially increase the returns to the people. Several links in the marketing chain can be eliminated by organising community groups and facilitating the value addition and marketing of NTFPs through these. The simplest value adding step is the grading of the produce. Equally important is storage capacity. Many NTFPs deteriorate fast in the absence of proper storage facilities, and the bargaining power of the collectors can be increased and their returns improved if proper storage is provided. Arranging such facilities is an important issue for management at the village level.

Prasad, et.al. (1999) conducted a study on Value addition options for non-timber forest products at primary collector's level. NTFP markets are by and large imperfect, and the collectors do not get a fair return for their labour. Middlemen have a dominant position in the marketing of NTFPs at village level. The present marketing system can be altered through simple interventions that promise to substantially increase

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Another option for adding value at the local level is through the establishment of small enterprises. For enterprises based on NTFPs, the technology should be simple, usable at the household level, safe, lead to reduced drudgery, yield quick returns and be gender sensitive in its design. It must use local raw materials and require little capital. Processing ensures quality and makes the product ready for sale at other times than during the peak production season. This point is illustrated from a case study in Nepal. There, villagers harvested various medicinal plants in summer when they took their animals to graze at high altitudes. As this occurred in the rainy season, even plants exposed to smoke over the fire place were not easily dried. This resulted in to wastage of material and poor prices. However, with investment in solar driers and renovation of storage facilities, the villagers received remunerative prices for the better quality material which was then sold at a time when the market was favourable. Community storage facilities coupled with the provisions for micro-credit may also be an important organisational intervention to prevent the chances of distress selling.

Perez, et al. (2000) refer to the spatial characterisation of non-timber forest products markets in the humid forest zone of Cameroon, The humid forest zone (HFZ) of Cameroon is part of the Central African Tropical Humid Forest that covers about 280 million ha, and constitutes the second largest humid forest in the world after the Amazon. The Cameroonian forest is considered the most diverse of all Central African forests. And this diversity has offered opportunities for the people to use a wide variety of resources both of plant and animal origin. The NTFP markets in the HFZ of Cameroon revolve around the buy and sell in their various categories. These tend to be women who may specialise in a few NTFP or may deal with a large variety of NTFP and agricultural commodities. They organise both the physical arrangement of the marketplace (through the 'market cheftaine' or traditional leader, normally a woman trader from the town where the market is located), as well as the informal financing (and sometimes market information) networks, called 'tontines' (a type of rotating credit ;) in francophone Cameroon. The buy and sell and play an intermediary (linking supply with demand) role and, in most cases, also do sorting, grading, and some degree of processing. The NTFP markets in the HFZ of Cameroon revolve around the buy and sell (literally buyers-sellers) in their various categories. These tend to be women who may specialise in a few NTFP or may deal with a large variety of NTFP and agricultural commodities. They organise both the physical arrangement of the marketplace (through the 'market cheftaine' or traditional leader, normally a woman trader from the town where the market is located), as well as the informal financing (and sometimes market information) networks, called 'tontines'

(a type of rotating credit) in francophone Cameroon. The buy and sell lay an intermediary (linking supply with demand) role and, in most cases, also do sorting, grading, and some degree of processing used for basketry and furniture, are sold through specialised market channels and do not pass through these types of markets. The same species can provide two different products treated separately at the market place (as in the case of *Garcinia kola* fruit and bark).

Shackleton (2001) Stated that the livelihoods of poor, rural communities are often insecure and vulnerable to adversity, consequently people adopt arrange of livelihood strategies including formal and informal employment, pensions, migrant remittances, the use of natural resources (for subsistence and sale), arable production, animal husbandry and claiming through social networks. Through the submultiples rate gasped opleaim to secure their livelihood sand achieve multiple and secure livelihood outcomes. A livelihood strategy comprises "capabilities, as sets and activities required fora means of living." (DFID,1999). Within the livelihoods approach these strategies cannot be considered in isolation but as a suite of activities that contribute to reducing a household's vulnerability. A sustainable livelihood is one that can recover from shocks and, maintain and improve it s assets without unsustainably impacting the available natural resource base. The use of natural resources and (NTFPs in particular) as a livelihood strategy has received increasing recognition however, further investigation is warranted particularly with respect to their daily role in sustaining livelihoods compared to their role as an insurance strategy or rural safety net. In terms of assets, people have access to combinations of assets, grouped as

natural, financial, human, social and physical capital. How they use these and what attempts the make to acquire further assets plays a fundamental role in their livelihood outcomes. In the case of communities who se access to certain assets is limited, how they combine and protect their existing assets is often crucial in ensuring survival. It has been argued that this diversity of assets and livelihoods strategiesca n help households cope with adversity by giving them arrange of possible insurance options or coping strategies, however, according to Ellis it is possible that this diversity can trapthe poor in poverty in the sense that one strategies developed to a point where it can significantly contribute to a household's livelihood outcomes.

Kumar, and Jain (2002) said that products of 30 species of plants were most commonly seen in weekly tribal markets of Surguja, of these nine species are sold for edible products, seven for medicinal use, four for extracting oil, three for dye, and 11 species for miscellaneous purposes such as basketry product, plates, toothbrush, brooms, Ranu tablets. Ranu is a small tablet about the size of 2-3 cm used for expediting fermentation and enhance strength (toxicity) of local drinks. It is made from several plants; the main being roots of *Elephantopus scaber* L. and pounded grain of *Oryza sativa* L. The other ingredients are roots of *Argyreia bella* (C.B. Clarke) Raizada and bark of *Symplocos racemosa* Roxb.

Health is another important aspect of rural life. NTFPs make a crucial contribution to health through the supply of plant medicines. The majority (56%) of the population surveyed in the study area relied on plant medicines for their healthcare. Fifty of 65 plants species identified by the respondents all have medicinal properties to cure various

ailments and diseases. Most species had more than a single therapeutic use. This was confirmed by the Ghana Centre for Scientific Research into Plant Medicine during consultations with stakeholders. The majority (67%) of the respondents had some knowledge/skill on how to prepare medicines from plant-parts. They were found not only to depend on the traditional healers for the remedies but they also prepared some medicine themselves. Ninety percent of the sampled population used these remedies to cure various ailments, including malaria, typhoid, fever, diarrhoea, arthritis, rheumatism, and snake-bite. (Abbiw et. al., 2002).

Ganguly and Chaudhary (2003) referred to Forest Products of Bastar: A Story of Tribal Exploitation. From this data it was found that, 1,434 villages in new Bastar. New Bastar, thus, has 39 per cent of villages, 36 per cent of the land and 46 per cent of the households of old Bastar and generally retains previous demographic features a predominantly ST population (72 percent), low literacy level (14 per cent) and a majority working population engaged in cultivation. Majority of the inhabited villages have upto 100 human populations, though one-fifth of Jagdalpur tehsil villages have over 250 each. For the unsuspecting tribals, the haat has also become a place of exploitation. Small traders, known as 'Koochiyas', moving from one weekly haat to another, take advantage of the innocence of the tribals, buy on their own terms and outwit them in pricing, grading, weighing and counting. To what extent the exchanges in a haat are monetised or based on barter, are a matter for separate research. The magnitude of the exchanges involved and the extent of exploitation is perhaps not fully realised. On a typical haat day, a tribal (many among them are women)

carries a head load of FPs from the village to the haat, sells these, buys her needs for the next week and carries them back home before dark. This pressure on her time facilitates foul play. Tribals are unaware how the LAMPS, van suraksha samiti is, etc, are different from each other or how these organisations benefit them. Their needs being limited, most tribals are happy to have a small sum on the haat days, to purchase domestic needs. The ones somewhat exposed to urban lifestyles, however, need a bigger sum to buy consumer durables like the bicycle or a wristwatch or a torch. Common occasions on which a tribal would also need large sums are more of a social origin fulfilling such obligations as payment of bride price or organising community feast on the death of a family member. This provides an opportunity to the trader to establish his foothold in tribal society. Also operating as moneylenders, the traders offer loans to the tribal in urgent need of cash at an interest rate which could be as high as 120 per cent annually, often with a lien on the future supply of FPs at a lower price.

Ticktin (2004) discussed the most direct ecological consequence of NTFP extraction is alteration of the rates of survival, growth and reproduction of harvested individuals. Changes in these vital rates can, in turn, affect the structure and dynamics of populations. More than three-quarters of the ecological research on NTFP was focused at the level of individuals and populations. Because sustainability of resource use requires, at the very least, that harvest rates do not exceed the capacity of populations to replace the individuals extracted, many of the studies have attempted

to derive harvest limits based on demographic data. The studies illustrate that the effects of harvest on both individuals and populations are highly variable and are mediated by different sources of variation.

Although most studies of NTFP have been focused at the population level, long-term population persistence by no means implies that harvest does not have major negative effects on other members of the ecological community. The few studies that have investigated the effects of NTFP harvest on communities or ecosystems suggest that ecological impacts at these levels may also be significant. The majority of forest fruits collected for sale are those eaten by large mammals and birds, but the effects of fruit, seed or flower harvest on frugivores and granivores remain largely unknown. One study suggests that high levels of NTFP harvest and enhancement plantings may alter the composition and diversity of bird populations. Moegenburg & Levey illustrated that high-intensity fruit harvest of acai palms *Euterpeoleracea* in the Brazilian Amazon reduces avian frugivores diversity. However, low-intensity harvest has no effect.

Muraleedharan et al. (2005) found that a total of 229 NTFP species, representing 73 plant families, were recorded of the total 194 genera, 173 were represented by single species and 38 species were common to all sites. Forty-one plant families were represented with more than one genus. The most species-rich families were Fabaceae (27 species), Asteraceae (12), Rubiaceae (12), Euphorbiaceae (9) and Verbenaceae (9). There were 68 trees, 35 shrubs, 85 herbs, 35 climbers and 6 epiphytes (including two parasites) and 3 bamboos. The total number of species presently reported for the northern parts of Western Ghats (219). Some of these

species were traded through the co-operative societies and the rest either through private traders or consumed locally. An attempt was made to examine the occurrence, regeneration and extraction patterns of non-timber forest products (NTFPs) at three locations in the Western Ghats of Peninsular India. NTFP yielding plants in the Western Ghats constituted about 40% of the flora. However, only less than 50% of the 229 NTFP species were commercially exploited. The rest were used by local people. Species richness was variable between sites but reflected disturbance regimes and/or the magnitude of NTFP extraction. During NTFP collection, often branches are lopped for harvesting fruits, fires are lit at the base of trees to stimulate resin flow and the bark is collected in a destructive manner. High extraction rates of some NTFPs resulted in poor density, sparse distribution of species and depletion of biodiversity. Yet herbaceous NTFP species, capable of regenerating through vegetative means, registered adequate regeneration, even when 95% of the plants were harvested. An understanding of the vital attributes of the NTFP species is, therefore, critical for sustainable NTFP management.

Vasundhara, et. al. (2005) defines the role of NTFPs in alleviating poverty, particularly for forest-dependent people, is now well recognised. They provide subsistence and cash income to millions of tribal and forest dwellers in India, as a major source of fuel, fodder, food, medicines, construction materials, and livelihoods. Studies in Orissa, Madhya Pradesh, Himachal Pradesh, and Bihar show that more than 80 per cent of forest dwellers depend entirely on NTFP; 17 per cent of the landless depend on daily wage labour, mainly consisting of the collection of NTFPs; and 39 per cent are engaged in

NTFP collection as a subsidiary occupation. The collection of NTFPs is also a source of cash income, because of their increasing commercial importance. The proportion of household income earned by the sale of NTFPs varies from State to State and from one area to another: at a rough estimate, it ranges from 5.4 per cent to 55 per cent. In tribal areas of Orissa more than 60 per cent of all households depend on forests for between 15 per cent and 50 per cent of their incomes every year. Average income derived from various NTFPs in the Sathy Forest Range of Western Tamil Nadu was found to be Rs. 9000 per household. As the market for natural products is growing, particularly for medicinal and aromatic plants and organic mountain products, the sustainable harvesting and management of these products offers an immense opportunity to improve livelihoods of local communities as well as conserving resources in India. Besides supporting livelihoods, the NTFP sector provides employment for the unskilled and semi-skilled rural poor. It is estimated that 1.6 million person-years of employment in India are derived from NTFPs, while the forestry sector in total provides 2.3 million person-years of employment. In certain seasons, when there are no regular work opportunities, the NTFP sector provides alternative sources of livelihoods. This sector also contributes heavily to the rural health-care system.

Pyhala et. al. (2006) claimed that Implications of Livelihood Dependence on Non-Timber Products in Peruvian Amazonia. Further analysis of resource commercialization and income generation reveals that, contrary to what might be expected from the results of Peters and others (1989), timber extraction and agriculture are the most important economic activities, accounting for an average of 47 percent and 32 percent of

total household incomes, respectively. NTFPs account for only 10 percent, hunting for eight percent, and fishing for three percent of the average household income, whereas temporary wage labour provides an insignificant contribution to local livelihoods. These results contrast with those in previous studies in the Iquitos area which indicate that, since the 1950s, agriculture has exceeded forest product extraction in economic importance. This is explained by the fact that the Reserve is distinct from the surrounding area of Loreto in terms of its poor soils that reduces agricultural productivity. In addition, few agricultural practices that foster the rehabilitation of degraded soils were observed, and complex agro-forestry methods and combinations are practiced only by a few elderly inhabitants. Although a considerable diversity of crops are cultivated (up to thirty-eight families of crops were identified, many of which have sub species) only eight are commercialized, in small quantities. Of these, manioc provides the greatest source of income, about half of which is sold in the form of roasted manioc flour. Pineapple, plantain, and coconut, a small cultivated seasonal fruit, rank amongst the top five agricultural products with regard to income generation in the Reserve, but ultimately, each of these contribute only five per cent or less to the total revenue entering the Reserve household economies. Due to the limited profitability of agriculture, the residents of the Reserve are forced to turn to other economic activities to provide income to meet even the most basic livelihood demands. Timber is the most important source of income for the residents of the Reserve, bringing in total revenue of US\$55,000 per year, primarily in the form of pulpwood and round wood.

Rasul et. al. (2008) conducted a study on "The role of non-timber forest products in poverty reduction in India: prospects and problems", this study proved that Livelihood improvement based on NTFPs primarily depends on strengthening marketing opportunities and resultant income and employment opportunities. It is expected that NTFPs will provide greater opportunities to poor and disadvantaged groups through increased value addition and higher prices. This expectation, however, has not been fulfilled, for several reasons. The key policy and institutional issues that hinder the achievement of the desired goal are - Tax and transit rules; Exploitation by traders; Access to trade licences; Processing and value addition; Quality and quantity of harvest and Restrictions on harvest and product movement.

Gubbi and MacMillan (2008) mentioned the role NTFPs to support local livelihoods and the national economy. Significant policy changes have taken place. The National Forest Policy, 1988, India, assigned the highest priority to the livelihood needs of the people and to the environmental functions of forests, and the lowest priority to the commercial production of timber. This policy for the first time recognised the significance of the role of the 'minor forest produce'. The MFPs have now been recognised as major economic assets and livelihood sources across rural India, with the new nomenclature of 'non-timber forest products' (NTFPs). Recent legislation (Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006) has granted more rights to scheduled tribes and other forest dwellers in the use of NTFPs. Communities living within protected areas were granted the legal right to collect NTFPs. In line with national policy shifts, new policy initiatives have been taken

in various States of India. Policies are being developed to enable NTFPs to promote India's social, economic, and ecological development. The enactment of State Bamboo Policies in North Eastern Region and the preparation of Bamboo Vision 2000 are positive steps, while the establishment of the National Bamboo Mission and the National Medicinal Plant Board are major policy landmarks. A few other policies and pieces of legislation are in the process of finalisation and enactment, such as the North East Forest Policy 2000 (draft), the National Biodiversity Act 2002 and Rules 2004, the draft National Biotechnology Development Strategy, the 1999 National Forestry Action Plan, and Panchayat Raj Acts, which include provisions for NTFPs.

Ahenkan and Boon (2009) explored the "Improving Nutrition and Health through Non-timber Forest Products in Ghana", from this study it was found that in the two districts as located in the western region of Ghana during April-July 2009, About 80% of the labour force in the two districts was involved in agriculture, particularly in cocoa, nutrition and health maize, oil-palm, cassava, cocoyam, and plantain production. However, agricultural productivity in these districts was quite low because of small farm holdings. Except cocoa, most farmers grow crops primarily for consumption in the home. From study it was also found that to the collection of a large variety of NTFPs from the wild, the respondents were mostly active in bee-keeping (44.4%), followed by grass-cutter production (39.8%) and snail rearing (29.3%) while 28.6% and 2.3% were engaged in production of mushrooms and medicinal plant.

Shit and Pati (2012) said that Non-Timber Forest Products for Livelihood Security of Tribal Communities: A Case Study in Paschim Medinipur District, West Bengal. Results of this study showed that the local tribal communities manage the forests by using a large number of NTFPs. Different NTFPs were used by local people, of which 113 derived from plant species and 76 from animal and bird species; of the 113 plant resources, 27 were used for commercial purposes, 39 were consumed at home as food, 47 used for medicinal purposes (both livestock and human). Considerable seasonal variation was noted in the availability of NTFPs. The most important commercial NTFPs were *sal* leaves, *sal* seeds, *kendu* leaves, *mahua* flowers and seeds, mushrooms, tubers etc.

Ghosal (2013) referred from the field survey, it was apparent that interior forest villagers (such as Bhuda village in Arsha range of Purulia district and Jamdaha village in Ranibandh range of Bankura district) use more NTFPs in their social life compared to forest fringe villagers (such as Sirkabad village in Arsha range of Purulia district and Barudi village in Ranibandh range of Bankura district). Forest and forest products have many uses in various social events. As villagers in Bhuda village, Arsha range, Purulia district described that, "during marriage ceremony we make a temporary shade with different types of plant parts. In native language this is called 'chamara'. Mainly branches and leaves of Sal trees are used but at the same time Mahua (*Madhuca indica*) and Sidha (*Lagerstoemia parviflora*) plants are also used for this purpose. We also use Amlaki (*Embluca officinalis*) and Bel (*Aegle marmelos*) leaves for ritual purposes in regular basis as they do have their particular uses. We use Tilai, Bhand (*Clerodendrum viscosum*), Jam (*Syzyguim cumini*) and Amlaki

flower for different other ritual, social and household uses all round the year". They celebrate quite a few ritual performances in which forest and forest products always play crucial role. The worship of forests, rivers, hills and wild animals is a longstanding practice among these tribal communities. This is because forest communities believe that their survival depends on the existence of forests, rivers, hills and wildlife. Forests are the main source of flowers, fruits and leaves for various social needs. Thus, before harvest, worshipping of that plant is a common practice.



RESEARCH METHODOLOGY

STUDY OBJECTIVES

1. To study the socio-economic condition of the Tribal families residing in forest areas;
2. To estimate the value of NTFPs in terms of households as well as commercial importance.
3. To assess the dependency of those Tribal communities on the forest for their livelihoods and other needs;

METHODOLOGY

The study was conducted with quantitative & qualitative approach. The study is descriptive in nature. Two districts namely, South Tripura and Dhalai district have been selected because of large concentration of Tribal population. The primary data were collected from the field survey through interview and questionnaire method.

STUDY AREA

The study had been conducted in South and Dhalai District in Tripura. The data were collected from Salema RD block, Durgachowmuhani RD block, Ambasa RD block, Santirbazar RD Block, Bokafa RD Block & Julai Bari RD Block.

Table 4.1: Study Location

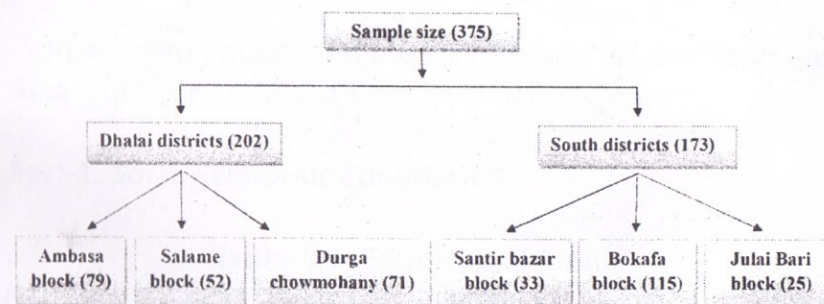
| District (2) | Sub division (3) | Block (6) | No. of para (30) |
|--------------|---------------------|---|---------------------------|
| South Triura | Santirbaza | 1. Santirbazar 2. Bokafa 3. Julai Bari | I. West patichari, |
| | | | II. Tuikarma, |
| | | | III. West manu, |
| | | | IV. Gangarai para, |
| | | | V. Ramprasad para, |
| | | | VI. Madhya kathalia para, |
| | | | VII. Adc para, |
| | | | VIII. Putraham para, |
| | | | IX. Bhaktiram para, |
| | | | X. East laxmi chara, |
| | | | XI. New tuikarma, |
| | | | XII. Brajamohan para, |
| | | | XIII. Takma chara, |
| | | | XIV. Khedachandra para, |
| | | | XV. Mongso mog para, |
| | | | XVI. South takma chara, |
| | | | XVII. Pitrai para, |
| | | | XVIII. Pumpaiha para. |
| Dhalai | Kamalpur Ambassa | 1. Salema 2. Durgachowmuhani 3. Ambassa | I. 2.5 mile para |
| | | | II. Eladhan para |
| | | | III. Jamibum para |
| | | | IV. Karapnchara |
| | | | V. Katalutma |
| | | | VI. Khedaban para |
| | | | VII. Madhya lambu chara |
| | | | VIII. Maharaniipur |
| | | | IX. Mog para |
| | | | X. Rajmani para |
| | | | XI. Srirampur |
| | | | XII. Surendra para |

Source: Field Survey

SAMPLING METHOD and SAMPLE SIZE

Purposive random sampling method was applied for primary data collection. Humale nearby forest area or Forest villages were selected for data collection.

The sample size was 375. In Dhalai districts 202 respondents- Ambasa block (79 respondents), Salame block (52 respondents), Durga chowmohany (71 respondents) and South Tripura districts 173 respondents- Santir bazar block (33 respondents), Bokafa block (115 respondents), Julai Bari block (25 respondents).



Data Analysis

The interview schedule were thoroughly checked and processed with the help of relevant software. The data was processed with the help of computers for drawing out results and conclusions.



5

Results and Discussion

In order to understand the socio economic development data had been collected from each respondent.

Part-1: Socio Economic Condition

Table-5.1: Educational Status

| Sl. No | Educational | South Tripura district | Dhalai district | Total |
|--------|------------------|------------------------|-----------------|----------------|
| 1 | Illiterate | 86 (49.71) | 26 (12.87) | 112 (29.86) |
| 2 | Primary | 31 (17.91) | 151 (74.75) | 182 (48.53) |
| 3 | Secondary | 48 (27.74) | 19 (9.40) | 67 (17.86) |
| 4 | Higher Secondary | 7 (4.04) | 6 (2.97) | 13 (3.46) |
| 5 | Graduate | 1 (0.5) | 0 | 1 (0.26) |
| 6 | Post Graduate | 0 | 0 | 0 |
| | Total | 173 (100) | 202 (100) | 375 (100) |

Source: Field Survey (Figure in paranthesis indicate Percentage)

The level of education as revealed that among the total respondents 29.86 percent and 17.86 percent had studied primary and upper primary respectively. It also revealed that among the total respondents a very large numbers i.e. 29.86 percent were illiterate. Comparison between South Tripura and Dhalai district it had been found that in South Tripura district maximum respondents were illiterate. In Dhalai district maximum respondents (74.75%) were completed their primary education.

Chart 1 - Educational Qualification

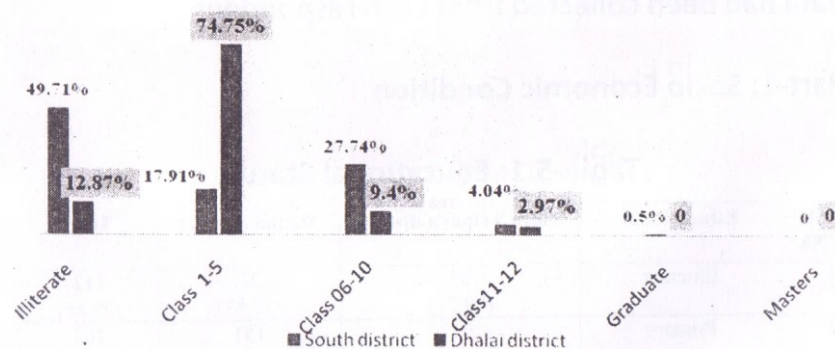


Table 5.2: Occupational pattern

| Sl. No. | Occupational category | South Tripura district | Dhalai District | Total |
|---------|-----------------------|------------------------|----------------------|----------------------|
| 1 | Daily labor | 97 (56.09) | 124 (61.38) | 221 (58.93) |
| 2 | Agriculture | 50 (28.90) | 62 (30.69) | 112 (29.86) |
| 3 | Housewife | 0 | 6 (2.97) | 6 (1.6) |
| 4 | Student | 3 (1.73) | 2 (0.99) | 5 (1.3) |
| 5 | Govt. job | 9 (5.20) | 5 (2.47) | 14 (3.73) |
| 6 | Mason | 1 (0.57) | 0 | 1 (0.26) |
| 7 | Driver | 4 (2.31) | 1 (0.49) | 5 (1.33) |
| 8 | Business | 5 (2.89) | 2 (0.99) | 7 (1.86) |
| 9 | NGO job | 1 (0.57) | 0 | 1 (0.26) |
| 10 | Carpenter | 2 (1.15) | 0 | 2 (0.53) |
| 11 | Mechanic | 1 (0.57) | 0 | 1 (0.26) |
| | Total | 173 (100) | 202 (100) | 375 (100) |

Source: Field Survey (Figure in paranthesis indicate Percentage)

Among the all respondents 58.93 percent were daily labor, which is really high compare to other occupation. From the above table it may been seen that in both district maximum respondents were engaged with agriculture and daily labor. Surprisingly out of total 3.73 percent respondents were government job holder. In Dhalai district 2.97 percent respondents were simply housewife whereas in South district the number was nil, every respondents were engaged with various livelihood activity.

Table 5.3: District-wise religion category

| Sl. no | Caste category | South Tripura district | Dhalai district | Total |
|--------|----------------|------------------------|-----------------|----------------|
| 1 | Christian | 15 (8.67) | 12 (5.94) | 27 (7.2) |
| 2 | Hindu | 134 (77.45) | 171 (84.65) | 305 (81.33) |
| 3 | Muslim | 1 (0.57) | 0 | 1 (0.26) |
| 4 | Bhuddhist | 23 (13.29) | 19 (9.4) | 42 (11.2) |
| | Total | 173 | 202 | 375 |

Source: Field Survey (Figure in paranthesis indicate Percentage)

Considering the religious status among the total respondents 81.3 percent were Hindu, 7.2 percent were Christian and remaining 11.2 percent were Buddhist. In South district 77.45 percent respondents were Hindu. Christian and Buddhist religion followers were 8.67 and 13.29 percent respectively. Similarly in Dhalai where as none representing Muslim religion was found, 84.65 percent were Hindu respondents, 9.4 percent respondents belong to Buddhist and rest were Christian.

Table 5.4: Manthly Family Income distribution

| Sl. No | Income range | South Tripura district | Dhalai district | Total |
|--------|----------------|------------------------|-----------------|---------------|
| 1 | Less than 5000 | 128 (73.98) | 166 (82.17) | 294 (78.4) |
| 2 | 5000- 10000 | 37 (21.38) | 31 (15.34) | 68 (18.13) |
| 3 | 10001-15000 | 4 (2.31) | 1 (0.49) | 5 (1.33) |
| 4 | 15001-20000 | 3 (1.73) | 3 (1.48) | 6 (1.6) |
| 5 | 20001-25000 | 1 (0.57) | 1 (0.49) | 2 (0.53) |
| 6 | 25001-30000 | 0 | 1 (0.49) | 1 (0.26) |
| | Total | 173 | 202 | 375 |

Source: Field Survey (Figure in paranthesis indicate Percentage)

After review the income distribution table it may be found that among all the respondents, 78.4 percent respondents monthly family income was below Rs. 5000. There were only 8.3 percent of them having an income group Rs. 5001-10000. In Dhalai district maximum respondents earned less than Rs 5000 i.e. 82.17 percent. 15.34 percent respondents' monthly family income was income category and only 1.48 percent respondents' monthly family income above Rs.15000.

Table 5.5: District-wise family type classification

| Sl. no | Family type | South Tripura district | Dhalai district | Total |
|--------|-------------|------------------------|-----------------|---------------|
| 1 | Single type | 111 (64.16) | 171 (84.65) | 282 (75.2) |
| 2 | Joint type | 62 (35.83) | 31 (15.34) | 93 (24.8) |
| 3 | Total | 173 (46.13) | 202 (53.86) | 375 (100) |

Source: Field Survey(Figure in paranthesis indicate Percentage)

From the above table it may be found that maximum respondents belong to nuclear family i.e. 75.2 percent. Compare to South Tripura in Dhalai district 84.65 percent respondents belong to nuclear family. Among the total respondents only 24.8 percent respondents belong to joint family.

Table 5.6: Classification of house

| Sl. no | House type | South Tripura district | Dhalai district | Total |
|--------|------------|------------------------|-----------------|----------------|
| 1 | Big | 2 (1.15) | 6 (2.97) | 8 (2.13) |
| 2 | Medium | 47 (27.16) | 111 (54.95) | 158 (42.13) |
| 3 | Small | 108 (62.42) | 82 (40.59) | 190 (50.66) |
| 4 | Very small | 16 (9.24) | 3 (1.48) | 19 (5.06) |
| 5 | Total | 173 (46.13) | 202 (53.86) | 375 (100) |

Source: Field Survey (Figure in paranthesis indicate Percentage)

Considering the classification of house among the total respondents 50.66 percent had small size of house and 42.13 percent had medium size of house. Very few respondents. (2.13%) had big houses. In Dhalai district maximum i.e. 54.95 percent had medium house whereas in South district maximum respondents. (62.42%) had small house.

Table 5.7: Roof wise classification

| Sl. No. | Roof type | South Tripura district | Dhalai district | Total |
|---------|-----------|------------------------|-----------------|----------------|
| 1 | Tin | 135 (78.03) | 161 (79.70) | 296 (78.93) |
| 2 | Tiles | 1 (0.57) | 2 (0.99) | 3 (0.8) |
| 3 | Thatch | 36 (20.80) | 39 (19.30) | 75 (20) |
| 4 | Brick | 1 (0.57) | 0 | 1 (0.26) |
| 5 | Total | 173 (46.13) | 202 (53.86) | 375 (100) |

Source: Field Survey (Figure in paranthesis indicate Percentage)

Among the all respondents 78.93 percent had tin made house roof. It had been seen that in both district maximum house was made by tin roof. It also noticeable that among total 20 percent respondent's house was made by thatch roof.

Table 5.8: House wall type wise classification

| Sl. no | Wall type | South Tripura district | Dhalai district | Total |
|--------|--------------|------------------------|-----------------|----------------|
| 1 | Brick cement | 3 (1.73) | 4 (1.98) | 7 (1.86) |
| 2 | Wood | 5 (2.89) | 54 (26.73) | 59 (15.73) |
| 3 | Bamboo | 67 (38.72) | 87 (43.06) | 154 (41.06) |
| 4 | Mud | 97 (56.06) | 51 (25.24) | 148 (39.46) |
| 5 | Other | 1 (0.57) | 0 | 1 (0.26) |
| 6 | Wood, bamboo | 0 | 5 (2.47) | 5 (1.33) |
| 7 | Bamboo, mud | 0 | 1 (0.49) | 1 (0.26) |
| 8 | Total | 173 (46.13) | 202 (53.86) | 375 (100) |

Source: Field Survey (Figure in paranthesis indicate Percentage)

From the above table it may seen that 41.06 percent houses wall was made by bamboo and 39.46 percent houses were made by mud. Very few percent i.e. 15.73 and 1.86 houses were made by wood and brick cement respectively. In Dhalai district maximum houses were made with bamboo, wood and mud.

Table 5.9: Sources of electricity

| Sl. no | Type of electricity | South Tripura district | Dhalai district | Total |
|--------|---------------------|------------------------|-----------------|----------------|
| 1 | Own | 92 (53.17) | 25 (12.37) | 117 (31.2) |
| 2 | Share | 13 (7.51) | 129 (63.86) | 142 (37.86) |
| 3 | Community | 13 (7.51) | 23 (11.38) | 36 (9.6) |
| 4 | None | 55 (31.79) | 25 (12.37) | 80 (21.33) |
| 5 | Total | 173 (46.13) | 202 (53.86) | 375 (100) |

Source: Field Survey (Figure in paranthesis indicate Percentage)

After review the table 5.9 it may found that 37.86 percent respondents used electricity by sharing with neighbourhoods because they were not financially rich enough. It was noticeable that in South district 31.79 percent houses were not electrified and 53.17 percent houses had their own electricity.

Table 5.10: Sources of Drinking water

| Sl. no | Water sources | South Tripura district | Dhalai district | Total |
|--------|---------------------|------------------------|-----------------|----------------|
| 1 | Own pump | 19 (10.98) | 3 (1.48) | 22 (5.86) |
| 2 | Pipe | 63 (36.41) | 20 (9.90) | 83 (22.13) |
| 3 | Tap | 11 (6.35) | 4 (1.98) | 15 (4) |
| 4 | Open well | 20 (11.56) | 152 (75.24) | 172 (45.86) |
| 5 | Tank | 11 (6.35) | 3 (1.48) | 14 (3.73) |
| 6 | Pond | 25 (14.45) | 2 (0.99) | 27 (7.2) |
| 7 | River | 24 (13.87) | 12 (5.94) | 36 (9.6) |
| 8 | Own pump, open well | 0 | 1 (0.49) | 1 (0.26) |
| 9 | Own pump, pond | 0 | 1 (0.49) | 1 (0.26) |
| 10 | Open well, tank | 0 | 1 (0.49) | 1 (0.26) |
| 11 | Open well, river | 0 | 2 (0.99) | 2 (0.53) |
| 12 | Tank, river | 0 | 1 (0.49) | 1 (0.26) |
| 13 | Total | 173 (46.13) | 202 (53.86) | 375 (100) |

Source: Field Survey (Figure in paranthesis indicate Percentage)

After review the table about sources of drinking water it may be found that among total respondents 9.6 percent were dependent on river for their drinking water source and only 5.86 percent respondent were able to install pump in their house premises. In Dhalai district maximum. (75.24%) respondent were dependent on open well for drinking water whereas in South district only 11.56 percent were dependent for drinking water. It was noticeable that in South district pipe line water facility was enough in compare to Dhalai district.

Table 5.11: Ownership wise house classification

| Sl. no | House type | South Tripura district | Dhalai district | Total |
|--------|------------|------------------------|-----------------|----------------|
| 1 | Own | 166 (95.95) | 202 | 368 (98.13) |
| 2 | Inherited | 4 (2.31) | 0 | 4 (1.06) |
| 3 | Shared | 3 (1.73) | 0 | 3 (0.8) |
| 4 | Rented | 0 | 0 | 0 |
| 5 | Total | 173 (46.13) | 202 (53.86) | 375 (100) |

Source: Field Survey(Figure in paranthesis indicate Percentage)

The above table depicts different house ownership status of respondents i.e. own, inherited, shared and rented. Out of total respondents almost all (98.13%) had their own house. Only few respondents i.e. 1.06 and 0.8 percent had their inherited and shared house respectively.

Table 5.12: Classification of Toilet Facility

| Sl. no | Toilet type | South Tripura district | Dhalai district | Total |
|--------|-------------|------------------------|-----------------|----------------|
| 1 | Sanitary | 103 (59.53) | 38 (18.81) | 141 (37.6) |
| 2 | Pit | 64 (36.99) | 133 (65.84) | 197 (52.53) |
| 3 | Open | 6 (3.46) | 31 (15.34) | 37 (9.86) |
| 4 | Total | 173 (46.13) | 202 (53.86) | 375 (100) |

Source: Field Survey (Figure in paranthesis indicate Percentage)

From the above table it may be noticed that in Dhalai district 15.34 percent respondents still practice open defecates whereas among total respondents 9.86 percent used open

toilet. May be due to lack of finance or unawareness they had not constructed any toilet. Maximum respondents of Dhalai district (65.84%) used pit sanitary toilet and 18.81 percent used sanitary toilet.

But in South district a good number of respondents (59.53%) used sanitary toilet, obviously it was a good practice.

Table 5.13: Cooking Arrangement Types

| Sl. no | Cooking type | South Tripura district | Dhalai district | Total |
|--------|----------------|------------------------|-----------------|----------------|
| 1 | Gas | 9 (5.20) | 7 (3.46) | 16 (4.26) |
| 2 | Charcoal | 1 (0.57) | 2 (0.99) | 3 (0.8) |
| 3 | Wood | 147 (84.97) | 191 (94.55) | 338 (90.13) |
| 4 | Other | 0 | 1 (0.49) | 1 (0.26) |
| 5 | Gas, wood | 1 (0.57) | 1 (0.49) | 2 (0.53) |
| 6 | Charcoal, wood | 15 (8.67) | 0 | 15 (4) |
| 7 | Total | 173 (46.13) | 202 (53.86) | 375 (100) |

Source: Field Survey(Figure in paranthesis indicate Percentage)

Above table provides information that among total respondents 90.13 percent were dependent on fire wood and a few percent i.e. 4.26 percent used LPG gas, for cooking. Compare to South in Dhalai district maximum respondents used fire wood for cooking. It had been seen that all the fire wood was collected from nearby forests or local markets.

Table 5.14: Classification of Bank Account

| Sl. no | Bank Account Activity | South Tripura district | Dhalai district | Total |
|--------|-----------------------|------------------------|-----------------|----------------|
| 1 | Have Bank Account | 144 (83.23) | 199 (98.51) | 343 (91.46) |
| 2 | No Bank Account | 29 (16.76) | 3 (1.48) | 32 (8.53) |
| 3 | Total | 173 (46.13) | 202 (53.86) | 375 (100) |

Source: Field Survey(Figure in paranthesis indicate Percentage)

From the above table it may be observed that maximum respondents (91.46%) had their own bank account. It was noticeable that in Dhalai district almost all (98.51%) respondent had their own bank account, which was mainly because of implemntater of MGNREGA in for Dhalai district which is know as most backward district in the State.

Table 5.15: Availability of vehicle

| Sl. No | Vehicles | South Tripura district | Dhalai district | Total |
|--------|-------------|------------------------|-----------------|----------------|
| 1 | Motor cycle | 13 (7.51) | 3 (1.48) | 16 (4.26) |
| 2 | Scoter | 0 | 2 (0.99) | 2 (0.53) |
| 3 | Bicycle | 39 (22.54) | 67 (33.16) | 106 (28.26) |
| 4 | none | 121 (69.94) | 130 (64.35) | 251 (66.93) |
| 5 | Total | 173 (46.13) | 202 (53.86) | 375 (100) |

Source: Field Survey(Figure in paranthesis indicate Percentage)

It may be found that total 66.93 percent respondent had no private vehicles but 28.26 percent respondent used their own bicycle as a vehicle. It was noticeable that in South district

7.51 percent respondent used motor cycle whereas in Dhalai district only 1.48 percent used motor cycle as a vehicle.

Table 5.16: Available electrical component among tribal people

| Sl. no | Electronic component | South Tripura district | Dhalai district | Total |
|--------|----------------------|------------------------|-----------------|----------------|
| 1 | Color TV | 62 (35.83) | 26 (12.87) | 88 (23.46) |
| 2 | Black & White TV | 2 (1.15) | 3 (1.48) | 5 (1.33) |
| 3 | New radio | 0 | 1 (0.49) | 1 (0.26) |
| 4 | Old radio | 0 | 4 (1.98) | 4 (1.06) |
| 5 | None | 109 (63.00) | 166 (82.17) | 275 (73.33) |
| 6 | Total | 173 (46.13) | 202 (53.86) | 375 (100) |

Source: Field Survey (Figure in paranthesis indicate Percentage)

From the above table 5.16 it may be seen that in South district 35.83 percent respondent used color TV and 63 percent did not use any electronic materials. But in Dhalai district color TV and radio was used by 12.87 and 1.98 percent respondent respectively. Maximum respondents of Dhalai district (82.17%) did not use any electronic materials, due to lack of money they were not able to purchase any electronic materials except electric bulbs.

Table 5.17: Availability of electronic component

| District | Mobile /cell phone | | Clock | | Torch light/charger light | |
|------------------------|--------------------|----------------|----------------|----------------|---------------------------|----------------|
| | Yes | No | Yes | No | Yes | No |
| South Tripura district | 103 (59.53) | 70 (40.46) | 96 (55.49) | 77 (44.50) | 39 (22.54) | 134 (77.45) |
| Dhalai district | 145 (71.78) | 57 (28.21) | 158 (78.21) | 44 (21.78) | 117 (57.92) | 85 (42.07) |
| Total | 248 (66.13) | 127 (33.86) | 254 (67.73) | 121 (32.26) | 146 (38.93) | 219 (61.06) |

Source: Field Survey (Figure in paranthesis indicate Percentage)

Above table shows that in Dhalai district 71.78 percent and among total respondents 66.13 percent used mobile phone. In South district 40.46 percent respondent did not use any mobile phone. It was noticeable that in Dhalai district maximum respondents (78.21%) used clock in their home, whereas in South district 55.49 percent used clock. Apart from that in Dhalai district 57.92 percent respondents used torch light/charger light which was quite his her compare to South district.

After review the above table it may found that in Dhalai district respondents used more electronic component compare to South district.

Table 5.18: Loan activity regarding cultivation

| District wise Number of loan taken | Loan for cultivation | | Total |
|------------------------------------|----------------------|----------------|--------------|
| | Yes | No | |
| South Tripura district | 36 (20.80) | 137 (79.19) | 173 |
| Dhalai district | 2 (0.99) | 200 (99.00) | 202 |
| Total | 38 (10.13) | 337 (89.86) | 375 (100) |

Source: Field Survey(Figure in paranthesis indicate Percentage)

It had been seen that in Dhalai district very few respondent had taken loan for their cultivation propose whereas in South district 20.8 percent respondent had taken loan. Maximum respondent had not taken any loan as it may be happened due to lack of awareness about loan or may be due to lack of support from banks.

Table 5.19: Sources of loan for cultivation

| Sl. no | Sources of loan | South Tripura district | Dhalai district | Total |
|--------|-----------------|------------------------|-----------------|---------------|
| 1 | Bank | 33 (91.66) | 2 (100) | 35 (92.10) |
| 2 | Relatives | 2 (5.55) | 0 | 2 (5.26) |
| 3 | Money lender | 1 (2.77) | 0 | 1 (2.63) |
| 4 | Total | 36 (94.73) | 2 (5.23) | 38 (100) |

Source: Field Survey(Figure in paranthesis indicate Percentage)

After analyzing the above table it may be found that minimum number of respondents had taken loan from various sources for their agricultural activities. It had been seen that those who had been taken loan among them 92.1 percent respondent had taken loan from bank and only 2.63 percent had taken loan from money lenders. It was a good sign that maximum respondent had been taken loan from bank rather than money lenders.

Table 5.20: No. of employment persons (govt. service)

| Sl. No | Employment persons | South Tripura district | Dhalai district | Total |
|--------|---------------------------|------------------------|-----------------|--------------|
| 1 | No. of employment persons | 13 (7.51) | 9 (4.45) | 22 (5.86) |
| 2 | Total | 173 | 202 | 375 |

Source: Field Survey (Figure in paranthesis indicate Percentage)

It had been seen that in Dhalai district only 4.45 percent respondents were Government employee whereas in South district 7.51 percent respondent were Government employee.

Table 5.21: Monthly expenditure

| Sl. no | Expenditure range | South Tripura district | Dhalai district | Total |
|--------|-------------------|------------------------|-----------------|----------------|
| 1 | 5000 | 152 (89.41) | 155 (90.11) | 304 (88.88) |
| 2 | 5001-10000 | 15 (8.82) | 12 (6.97) | 27 (7.89) |
| 3 | 10001-15000 | 6 (3.52) | 3 (1.74) | 9 (2.63) |
| 4 | 15001-20000 | 0 | 1 (0.58) | 1 (0.29) |
| 5 | 20001-25000 | 0 | 0 | 0 |
| 6 | 25001-30000 | 0 | 1 (0.58) | 1 (0.29) |
| 7 | Total | 170 (49.70) | 172 (50.29) | 342 (100) |

Source: Field Survey(Figure in paranthesis indicate Percentage)

After review table 5.21 it may found that all respondents spend their maximum portion of income in food, education and health related purpose. It was also shown that in some cases their expenditure higher than their income level. Maximum respondent's monthly expenditure was below Rs. 5000 and few respondent's (11.1%) monthly expenditure was above Rs. 5000.

Table 5.22: Indebtedness for cultivation

| Sl. no | Is any debenture for cultivation | South Tripura district | Dhalai district | Total |
|--------|----------------------------------|------------------------|-----------------|----------------|
| 1 | Yes | 21 (12.13) | 7 (3.46) | 28 (7.46) |
| 2 | No | 152 (87.86) | 195 (96.53) | 347 (92.53) |
| | Total | 173 (46.13) | 202 (53.86) | 375 (100) |

Source: Field Survey(Figure in paranthesis indicate Percentage)

From the above table it may found that, in South district 12.13 percent respondent had taken debt for cultivation purposes whereas in Dhalai district only 3.46 percent respondent were taken debentures. Among total respondents 92.53 percent respondents had not taken any debt for cultivation purposes.

Table 5.23: Saving status

| Sl. No | Saving | South Tripura district | Dhalai district | Total |
|--------|-------------------|------------------------|-----------------|---------------|
| 1 | Bank | 58 (71.60) | 13 (21.31) | 71 (50) |
| 2 | Post office | 12 (14.81) | 40 (65.57) | 52 (35.21) |
| 3 | SHG | 9 (11.11) | 7 (11.47) | 16 (11.26) |
| 4 | Bank, post office | 1 (1.23) | 0 | 1 (0.70) |
| 5 | Bank , SHG | 1 (1.23) | 1 (1.63) | 2 (1.40) |
| | Total | 81 (57.04) | 61 (42.95) | 142 (100) |

Source: Field Survey (Figure in paranthesis indicate Percentage)

From this study it had been found that among total respondents 37.86 percent used to save money in a regular monthly basis. The above table 5.23 discusses the saving pattern type where they save their money. Among total 50 percent and 35.21 percent respondent used to save their money at government institutions i.e. bank and post office respectively. Apart from that 11.26 percent respondents also used to save their money in various SHGs in monthly basis.

Table 5.24: Number of sick person/ disable person

| Sl. no | Sick/disable person | South Tripura district | Dhalai district | Total |
|--------|---------------------|------------------------|-----------------|---------------|
| 1 | No. of sick person | 101 (58.4) | 64 (31.7) | 165 (44.0) |

Source: Field Survey (Figure in paranthesis indicate Percentage)

Among total 375 surveyed sample, in South district 58.4 percent and in Dhalai district 31.7 percent of the respondents found sick last year.

Table 5.25: Scheme wise benefited people

| Sl. No | Name of the scheme | South Tripura District | | Dhalai district | |
|--------|--------------------------|------------------------|----------------|-----------------|----------------|
| | | Yes | No | Yes | No |
| 1 | Total sanitation program | 8 (4.62) | 165 (95.37) | 2 (0.99) | 200 (99.00) |
| 2 | IRDP | 4 (2.31) | 169 (97.68) | 4 (1.98) | 198 (98.01) |
| 3 | NREGA | 150 (86.70) | 23 (13.29) | 170 (84.15) | 32 (15.84) |
| 4 | IAY | 56 (32.36) | 117 (67.63) | 59 (29.20) | 143 (70.79) |
| 5 | SGSY/SHG | 16 (9.24) | 157 (90.75) | 22 (10.89) | 180 (89.10) |
| 6 | Old age pension scheme | 18 (10.40) | 155 (89.59) | 39 (19.30) | 163 (80.69) |
| 7 | Maternity benefit scheme | 2 (1.15) | 171 (98.84) | 1 (0.49) | 201 (99.50) |
| 8 | Annapurna | 3 (1.73) | 170 (98.26) | 1 (0.49) | 201 (99.50) |
| 9 | Antodaya | 20 (11.56) | 153 (88.43) | 22 (10.89) | 180 (89.10) |
| 10 | JFMC | 4 (2.3) | 169 (97.68) | 26 (12.87) | 173 (87.12) |
| 11 | Any other | 157 (90.75) | 16 (9.24) | 151 (74.75) | 51 (25.24) |

Source: Field Survey (Figure in paranthesis indicate Percentage)

After review of the scheme wise benefited person, it has been found that in both district maximum respondents were not benefited by total sanitation scheme, some of them made sanitation in their own investment and remaining were using open sanitation. In South district 86.7 percent respondents were benefited from MGNREGA scheme and in Dhalai district the percent was 84.15.

In case of IAY scheme the respondents of South district were more benefited compare to Dhalai district. In another way it had been found that in Dhalai district number of old age pension holder were more compare to South district. It may be indicate that in Dhalai district number of elderly person was higher compare to south district.

Apart from all those schemes the respondents of Dhalai district were more benefited by JFMC scheme in lampare South district, it may be JFMC scheme was well performed by Dhalai district. Another important thing was found that almost all respondent were well aware about various government schemes.

Part-II: Importance of Minor Forest Products

Table 5.26: Annual estimated quantity and Value of total collected Vegetables (Dhalai District)

| Vegetable | Dhalai District | | | | | | Total |
|------------------------------|------------------|--------------------|-----------------|-----------------|------------------|------------------|---------------------|
| | Debbarma | Reang | Jamatia | Halam | Mog | Tripuri | |
| Value of consumed item (Rs.) | 3555 (17.75) | 4950.5 (7.87) | 560 (21.09) | 360 (23.38) | 9665 (25.77) | 16480 (17.53) | 35570.5 (16.26) |
| Value of sold item (Rs.) | 16466 (82.25) | 57979.5 (92.13) | 2095 (78.90) | 1180 (76.62) | 27845 (74.23) | 77520 (82.47) | 183085.5 (83.74) |
| Total value (Rs.) | 20021 | 62930 | 2655 | 1540 | 37510 | 94000 | 218656 |
| Total respondent | 27 | 53 | 8 | 14 | 19 | 81 | 202 |
| Mean Yearly Dependency (Rs.) | 741.52 | 1187.36 | 331.88 | 110 | 1974.22 | 1160.49 | 1082.46 |

Source: Field Survey (Figure in paranthesis indicate Percentage)

Table-5.26 shows that in Dhalai district overall average earning (dependency) from collection of various vegetables from the forest was Rs. 1082 per family per year. While

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comparing community wise, it may found that the dependency were more among the Mog community (Rs. 1974) followed by Reang community (Rs. 1187) and Tripuri community (Rs.1160) and less among the Halam community (only Rs. 110). It was also found that Reang community used to sell around 93 percent of their collected vegetables at local market while other communities used to sell around 75 percent of vegetables collected from nearby forest.

Table 5.27: Annual estimated quantity and Value of total collected Vegetables (South Tripura district)

| Vegetable | South Tripura District | | | | | | | | |
|------------------------------|------------------------|-----------------|--------------------|-------------------|------------------|------------------|------------------|-----------------|---------------------|
| | Chakma | Debbarma | Reang | Jamatia | Mog | Tripuri | Murasing | Noatia | Total |
| Value of consumed Item (Rs.) | 15421 (25.27) | 2510 (28.70) | 53667.5 (26.89) | 4437.5 (39.32) | 5950 (28.05) | 5145 (23.01) | 23410 (21.96) | 970 (20.25) | 111511 (25.59) |
| Value of sold Item (Rs.) | 45604 (74.73) | 6235 (71.30) | 145935 (73.11) | 6847.5 (60.68) | 15260 (71.95) | 17220 (76.99) | 83200 (78.04) | 3820 (79.75) | 324121.5 (74.41) |
| Total value (Rs.) | 61025 | 8745 | 199602.5 | 11285 | 21210 | 22365 | 106610 | 4790 | 435632.5 |
| Total respondent | 20 | 8 | 87 | 9 | 12 | 4 | 32 | 1 | 173 |
| Mean Yearly Dependency (Rs.) | 3051.25 | 1093.13 | 2294.28 | 1253.89 | 1767.5 | 5591.25 | 3331.56 | 4790 | 2518.11 |

Source: Field Survey (Figure in paranthesis indicate Percentage)

Dependency on forest in terms of vegetable collection from forest in South Tripura district is discussed in Table-5.27. From the table, it may be found that average annual earning through vegetable collection from nearby forest by the tribal community was calculated as Rs. 2518 and it was quite higher than Dhalai district. Comparatively in South Tripura district domestic consumption was higher than Dhalai district.

RESULTS AND DISCUSSION

Community wise, it was found that Tripuri and Noatia community were more dependent on forest in terms of vegetable collection while dependency on forest for vegetable were comparatively less among Debbarma and Jamatia community.

Chart 2 - Total Value of vegetables (Yearly)

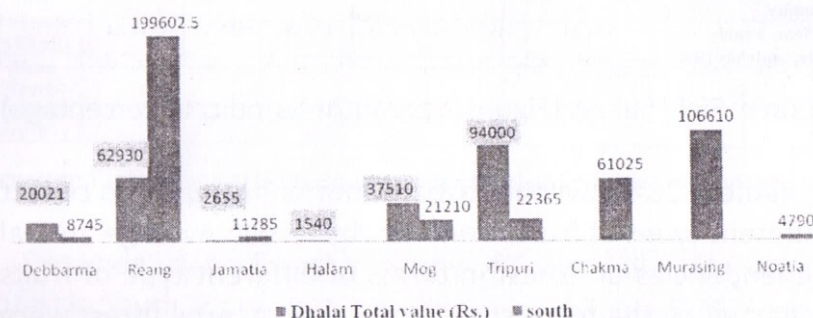


Chart 3 - Total dependency of vegetables (Yearly)

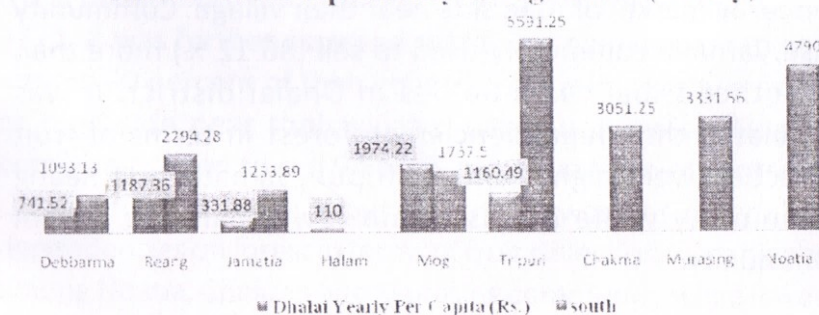


Table 5.28: Annual estimated quantity and Value of total collected Fruits (Dhalai district)

| Fruits | Dhalai District | | | | | | Total |
|------------------------------|-----------------|------------------|-----------------|-----------------|-----------------|--------------------|--------------------|
| | Debbarma | Reang | Jamatia | Halam | Mog | Tripuri | |
| Value of consumed Item (Rs.) | 7843 (28.17) | 14456 (18.27) | 1641 (13.88) | 1640 (18.30) | 5890 (26.78) | 27890.5 (21.69) | 59360.5 (21.32) |
| Value of sold Item (Rs.) | 19997 (71.83) | 64672 (81.73) | 10181 (86.12) | 7320 (81.70) | 16100 (73.22) | 100724.5 (78.31) | 218994.5 (78.68) |
| Total value (Rs.) | 27840 | 79128 | 11822 | 8960 | 21990 | 128615 | 278355 |
| Total surveyed family | 27 | 53 | 8 | 14 | 19 | 81 | 202 |
| Mean Yearly Dependency (Rs.) | 1031.11 | 1492.98 | 1477.75 | 471.58 | 1157.37 | 1587.84 | 1378 |

Source: Field Survey (Figure in paranthesis indicate Percentage)

Table-5.28 shows that tribal communities used to collect different types of fruits from nearby forest. Average annual dependencies on forest in terms of different type of fruits collected by the tribal community from nearby forest were calculated as Rs. 1378. It was further assessed that tribal people used to sell around 79 percent of their collected fruits in nearby market or road side near their village. Community wise, Jamatia community used to sell (86.12 %) more than the other tribal communities in Dhalai district. It was calculated that dependencies on forest in terms of fruit collection were higher among Tripuri, Jamatia and Reang community while it was found lowest among Halam community.

Table 5.29: Annual estimated quantity and Value of total collected Fruits (South Tripura district)

| Fruits | South Tripura District | | | | | | | Total | |
|------------------------------|------------------------|------------------|-------------------|------------------|------------------|-----------------|-------------------|-----------------|-------------------|
| | Chakma | Debbarma | Reang | Jamatia | Mog | Tripuri | Murasing | | Noatia |
| Value of consumed Item (Rs.) | 21429 (19.89) | 6030 (22.91) | 63041 (20.98) | 6196 (20.93) | 7170 (15.50) | 4740 (44.51) | 24088 (19.29) | 355 (5.39) | 133049 (20.39) |
| Value of sold Item (Rs.) | 86306 (80.11) | 20285 (77.08) | 237379 (79.02) | 23414 (79.07) | 39095 (84.50) | 5910 (55.49) | 100802 (80.71) | 6235 (94.61) | 519426 (79.61) |
| Total value (Rs.) | 107735 | 26315 | 300420 | 29610 | 46265 | 10650 | 124890 | 6590 | 652475 |
| Total respondents Family | 20 | 8 | 87 | 9 | 12 | 4 | 32 | 1 | 173 |
| Mean Yearly Dependency (Rs.) | 5386.75 | 3289.37 | 3453.11 | 3290 | 3855.42 | 2662.5 | 3902.81 | 6590 | 3771.5 |

Source: Field Survey (Figure in paranthesis indicate Percentage)

Dependency on forest in terms of Fruits collection from forest in South Tripura district is discussed in Table-5.29. From the table, it may be found that average annual dependencies on forest in terms of different type of fruits collected by the tribal community from nearby forest were calculated as Rs. 3771. It was further assessed that tribal people used to sell around 80 percent of their collected fruits in nearby market or road side near their village. Community wise, Noatia community used to sell 94.61 % more than the other tribal communities in South Tripura District. It was calculated that dependencies on forest in terms of fruit collection were higher among Noatia, Chakma and Murasing community while it was found lowest among Tripuri community.

Chart 4-Total value of Fruits(Yearly)

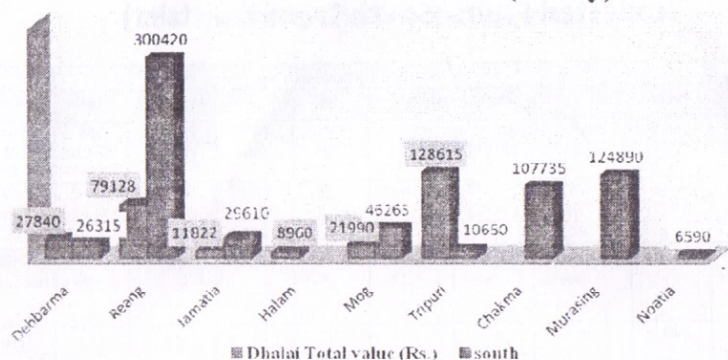


Chart 5-Total dependency of Fruits (Yearly)

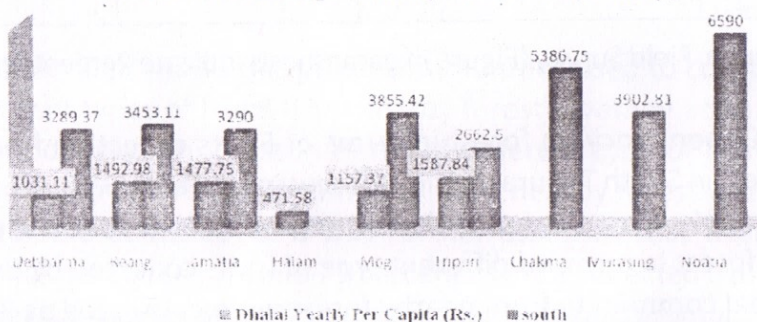


Table-5.30: Annual estimated quantity and Value of total collected Leafs (Dhalai district)

| Leafs | Dhalai District | | | | | | Total |
|------------------------------------|-------------------|-----------------|-------------|----------------|----------------|------------------|--------------------|
| | Debbarma | Reang | Jamatia | Halam | Mog | Tripuri | |
| Value of consumed Item (Rs.) | 2156.1 (27.60) | 3739 (33.12) | 150 (25) | 70 (15.91) | 135 (21.43) | 6070 (26.76) | 12320.1 (28.35) |
| Value of sold Item (Rs.) | 5656.9 (72.40) | 7550 (66.88) | 450 (75) | 370 (84.09) | 495 (78.57) | 16610 (73.24) | 31131.9 (71.65) |
| Total value (Rs.) | 7813 | 11289 | 600 | 440 | 630 | 22680 | 43452 |
| Total respondent | 27 | 53 | 8 | 14 | 19 | 81 | 202 |
| Yearly Per Capita Dependency (Rs.) | 289.37 | 213 | 75 | 31.428 | 33.15 | 280 | 215.20 |

Source: Field Survey (Figure in paranthesis indicate Percentage)

Table-5.30 shows that in Dhalai district overall average earning (dependency) from collection of various leafs from the forest was calculated as Rs. 215. It was also found that tribal peoples used to sell around 72 percent of their collected leaf in nearby market or road side in their village. Community wise, Halam community used to sell (84.09%) more than the other tribal communities in Dhalai district. Dependencies on forest in terms of leafs collection were higher among Debbarma, Tripuri and Reang community while it was found lowest among Halam community.

Table-5.31: Annual estimated quantity and Value of total collected Leafs (South Tripura district)

| Leafs | South Tripura District | | | | | | | Total | |
|------------------------------------|------------------------|-----------------|------------------|-----------------|-----------------|-----------------|------------------|----------------|-------------------|
| | Chakma | Debbarma | Reang | Jamatia | Mog | Tripuri | Murasing | | Noatia |
| Value of consumed Item (Rs.) | 4227 (17.3) | 1119 (15.72) | 13264 (17.60) | 1854 (18.27) | 1603 (15.64) | 698 (17.90) | 4538 (29.68) | 116 (32.22) | 27419 (18.67) |
| Value of sold Item (Rs.) | 20193 (82.69) | 6001 (84.28) | 62106 (82.40) | 8296 (81.73) | 8647 (84.36) | 3202 (82.10) | 10752 (70.32) | 244 (67.78) | 119441 (81.33) |
| Total value (Rs.) | 24420 | 7120 | 75370 | 10150 | 10250 | 3900 | 15290 | 360 | 146860 |
| Total respondent | 20 | 8 | 87 | 9 | 12 | 4 | 32 | 1 | 173 |
| Yearly Per Capita Dependency (Rs.) | 1221 | 890 | 866.32 | 1127.78 | 854.17 | 975 | 477.81 | 360 | 845 |

Source: Field Survey (Figure in paranthesis indicate Percentage)

From the Table-5.31 found that overall average earning (dependency) in Dhalai district from collection of various leafs from the forest was calculated Rs. 845 and also found that tribal peoples used to sell around 81 percent of their collected leaf in nearby market or road side in their village. Community wise, Mog community (84.36%) and Debbarma community (84.28%) used to sell more than the other tribal communities in South Tripura District.

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It was also calculated that dependencies on forest in terms of leaf collection were higher among Chakma and Jamatia community and lowest among Noatia community.

Chart 6-Total Value of Leafs (Yearly)

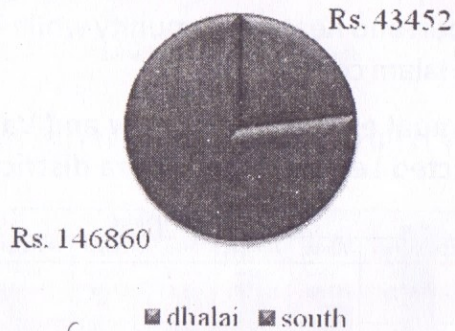
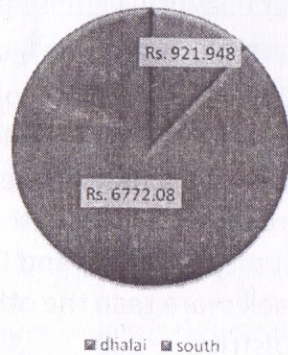


Chart 7-Total Dependency of Leafs (Yearly)



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Chart 8-Percentage of consumed item (leafs-Yearly)

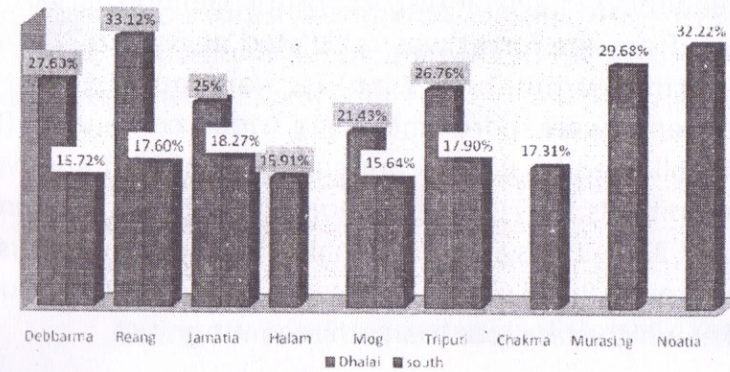


Chart 9 -Percentage of sold leafs (yearly)

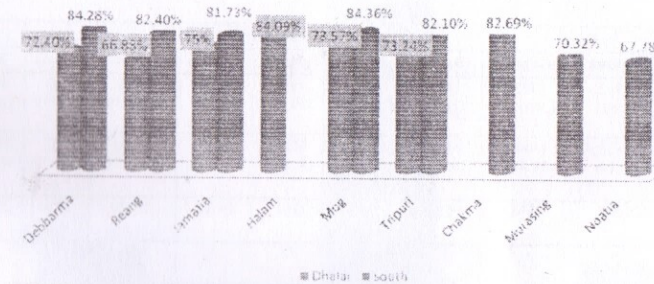


Table- 5.32: Annual estimated quantity and Value of total collected Flowers (Dhalai district)

| Flowers | Dhalai District | | | | | Total |
|------------------------------------|-----------------|---------------|--------------|---------------|---------------|----------------|
| | Debbarma | Reang | Jamatia | Mog | Tripuri | |
| Value of consumed Item (Rs.) | 3760 (16.08) | 9421 (15.82) | 210 (11.17) | 9410 (47.72) | 17521 (15.51) | 40322 (18.53) |
| Value of sold Item (Rs.) | 19630 (83.92) | 50119 (84.18) | 1670 (88.83) | 10310 (52.28) | 95459 (84.49) | 177188 (81.47) |
| Total value (Rs.) | 23390 | 59540 | 1880 | 19720 | 112980 | 217510 |
| Total respondent | 27 | 53 | 8 | 19 | 81 | 202 |
| Yearly Per Capita Dependency (Rs.) | 866.3 | 1123.39 | 235 | 1037.89 | 1394.81 | 1076.80 |

Source: Field Survey (Figure in paranthesis indicate Percentage)

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Table-5.32 shows that overall average earning (dependency) in Dhalai district from collection of various flowers from the forest was calculated as Rs. 1077. While comparing community wise, it may found that the dependency were more among the Tripuri community (Rs. 1394) followed by Reang community (Rs. 1123) and Mog community (Rs.1037) and less among the Jamatia community (only Rs. 235). It was also found that Jamatia community used to sell around 88.83 percent of their collected flowers at local market which was more than other communities.

Table- 5.33: Annual estimated quantity and Value of total collected Flowers (South Tripura district)

| Flowers | South Tripura District | | | | | | | | |
|------------------------------------|------------------------|-----------------|------------------|-----------------|------------------|------------------|------------------|----------------|-------------------|
| | Chakma | Debbarma | Reang | Jamatia | Mog | Tripuri | Murasing | Noatia | Total |
| Value of consumed Item (Rs.) | 13582 (18.86) | 1722 (20.60) | 14217 (14.93) | 1767 (15.76) | 1411 (10.36) | 863 (4.34) | 7119 (25.83) | 313 (27.95) | 40994 (16.31) |
| Value of sold Item (Rs.) | 58423 (81.14) | 6638 (79.40) | 81018 (85.07) | 9443 (84.24) | 12208 (89.64) | 19037 (95.66) | 22751 (76.17) | 807 (72.05) | 210325 (83.69) |
| Total value (Rs.) | 72005 | 8360 | 95235 | 11210 | 13619 | 19900 | 29870 | 1120 | 251319 |
| Total respondent | 20 | 8 | 87 | 9 | 12 | 4 | 32 | 1 | 173 |
| Yearly Per Capita Dependency (Rs.) | 3600.25 | 1045 | 1094.66 | 1245.56 | 1134.92 | 4975 | 933.44 | 1120 | 1452.70 |

Source: Field Survey (Figure in paranthesis indicate Percentage)

Table-5.33 shows that dependency on forest in terms of flower collection from forest in South Tripura district. From this table found that average annual earning through flower collection from nearby forest by the tribal community was calculated as Rs. 1452 and it was quite higher than Dhalai district. Community wise, Tripuri community (95.66%) are

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used to sell more than other communities. It also found that dependency on forest for flowers among the Tripuri and Chakma community and comparatively less among Murasing and Debbarma community.

Chart 10-Total dependency of flower (Yearly)

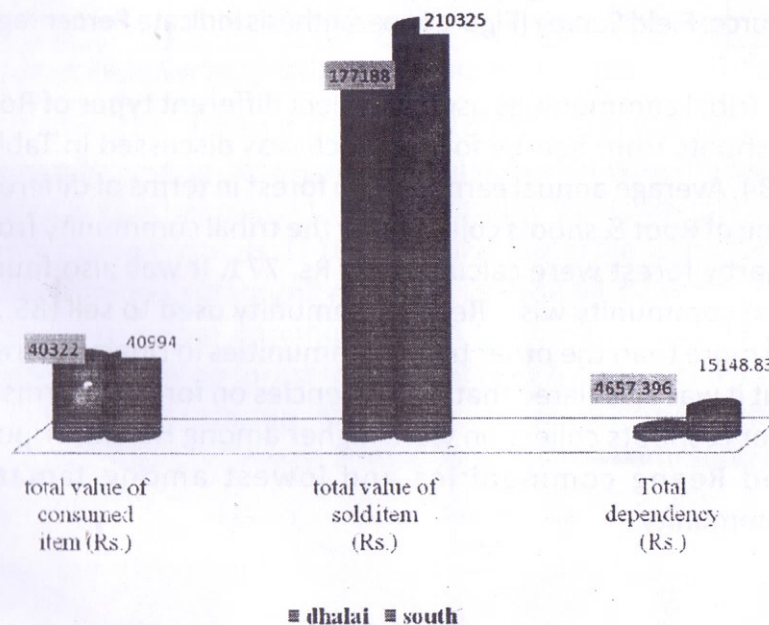


Table – 5.34: Annual estimated quantity and Value of total collected Root & shoots (Dhalai district)

| Root & shoots | Dhalai District | | | | | | Total |
|------------------------------------|------------------|--------------------|-----------------|-----------------|------------------|------------------|----------|
| | Debbarma | Reang | Jamatia | Mog | Halam | Tripuri | |
| Value of consumed Item (Rs.) | 3394 (20.01) | 5477.5 (14.76) | 390 (16.28) | 2670 (25.09) | 5630 (25.64) | 15937 (23.87) | 33498.5 |
| Value of sold Item (Rs.) | 13571 (79.99) | 31642.5 (85.24) | 2005 (83.72) | 7970 (74.91) | 16330 (74.36) | 50818 (76.13) | 122336.5 |
| Total value (Rs.) | 16965 | 37120 | 2395 | 10640 | 21960 | 66755 | 155835 |
| Total respondent | 27 | 53 | 8 | 19 | 14 | 81 | 202 |
| Yearly Per Capita Dependency (Rs.) | 628.33 | 700.38 | 299.37 | 560 | 1568.57 | 824.14 | 771.5 |

Source: Field Survey (Figure in paranthesis indicate Percentage)

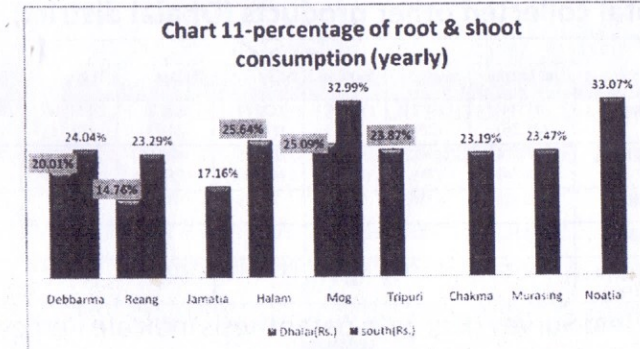
Tribal communities used to collect different types of Root & shoots from nearby forest which was discussed in Table-5.34. Average annual earning from forest in terms of different type of Root & shoots collected by the tribal community from nearby forest were calculated as Rs. 771. It was also found that community wise, Reang community used to sell (85.24 %) more than the other tribal communities in Dhalai district. But it was calculated that dependencies on forest in terms of root & shoots collection were higher among Halam, Tripuri, and Reang communities and lowest among Jamatia community.

Table - 5.35: Annual estimated quantity and Value of total collected Root & Shoots (South Tripura district)

| Root & shoots | South Tripura District | | | | | | | | Total |
|------------------------------------|------------------------|------------------|------------------|------------------|------------------|-----------------|------------------|----------------|----------|
| | Chakma | Debbarma | Reang | Jamatia | Mog | Tripuri | Murasing | Noatia | |
| Value of consumed Item (Rs.) | 9102.5 (23.19) | 3228 (24.04) | 26900 (23.29) | 2891 (17.16) | 5023 (32.99) | 1625 (21.35) | 15857 (23.47) | 420 (33.07) | 65046.5 |
| Value of sold Item (Rs.) | 30157.5 (76.81) | 10202 (75.96) | 88617 (76.71) | 13959 (82.84) | 10202 (67.01) | 5985 (78.65) | 51718 (76.53) | 850 (66.93) | 197731.5 |
| Total value (Rs.) | 39260 | 13430 | 115517 | 16850 | 15225 | 7610 | 67575 | 1270 | 262778 |
| Total respondent | 20 | 8 | 87 | 9 | 12 | 4 | 32 | 1 | 173 |
| Yearly Per Capita Dependency (Rs.) | 1963 | 1678.75 | 1327.78 | 1872.22 | 1268.75 | 1902.5 | 2111.72 | 1270 | 1519 |

Source: Field Survey (Figure in paranthesis indicate Percentage)

From the Table-5.35 found that Average annual dependencies on forest in terms of different type of Root & shoots collected by the tribal community from nearby forest were calculated as Rs. 1519. It was also found that community wise, Jamatia community used to sell (82.84 %) more than the other tribal communities in South Tripura District. Dependencies on forest in terms of root & shoots collection were higher among Murasing, Chakma, and Tripuri communities and lowest among Mog, Noatia community:



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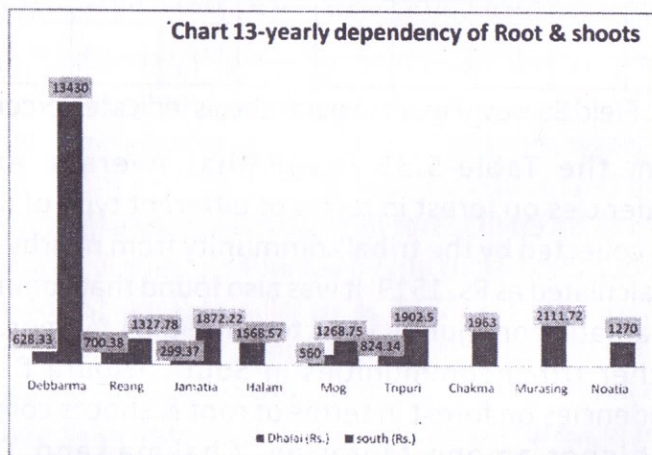
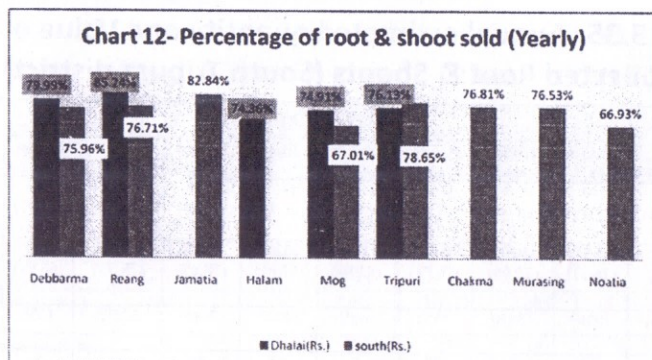


Table – 5.36: Annual estimated quantity and Value of total collected other products (Dhalai district)

| Any other | Dhalai District | | | | | | Total |
|------------------------------------|-------------------|------------------|------------------|------------------|-------------------|-------------------|----------|
| | Debbarma | Reang | Jamatia | Mog | Halam | Tripuri | |
| Value of consumed Item (Rs.) | 45511 (31.26) | 72302.5 (25) | 12390 (17.62) | 22210 (58.64) | 35020 (24.73) | 127566 (35.48) | 314999.5 |
| Value of sold Item (Rs.) | 100074 (68.74) | 216902.5 (75) | 57910 (82.38) | 15665 (41.36) | 106610 (75.27) | 231979 (64.52) | 729140.5 |
| Total value (Rs.) | 145585 | 289205 | 70300 | 37875 | 141630 | 359545 | 1044140 |
| Total respondent | 27 | 53 | 8 | 19 | 14 | 81 | 202 |
| Yearly Per Capita Dependency (Rs.) | 5392 | 5456.70 | 8787.5 | 1993.40 | 10116.43 | 4438.80 | 5169 |

Source: Field Survey (Figure in paranthesis indicate Percentage)

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The Table-5.36 said that in Dhalai district overall earning (dependency) from collection of any other items from nearby forest by the tribal community was calculated as Rs. 5169. Community wise, it was found that Jamatia community used to sell 82.38% more than others community. While dependency on forest for any other items were highest among Halam and Jamatia community and lowest in Mog community.

Table – 5.37: Annual estimated quantity and Value of total collected other products (South Tripura district)

| Any other | South Tripura District | | | | | | | Total | |
|------------------------------------|------------------------|------------------|-------------------|------------------|------------------|-----------------|-------------------|------------------|--------|
| | Chakma | Debbarma | Reang | Jamatia | Mog | Tripur i | Murasin g | | Noatia |
| Value of consumed Item (Rs.) | 36875 (27.11) | 7140 (15.89) | 80734 (37.05) | 5090 (27.66) | 9689 (30.55) | 2540 (22.82) | 60621 (30.27) | 4500 (14.71) | 207189 |
| Value of sold Item (Rs.) | 99168 (72.89) | 37780 (84.11) | 137186 (62.95) | 13310 (72.34) | 22026 (69.45) | 8590 (77.18) | 139629 (69.73) | 26100 (85.21) | 483789 |
| Total value (Rs.) | 136043 | 44920 | 217920 | 18400 | 31715 | 11130 | 200250 | 30600 | 690978 |
| Total respondent | 20 | 8 | 87 | 9 | 12 | 4 | 32 | 1 | 173 |
| Yearly Per Capita Dependency (Rs.) | 6802.15 | 5615 | 2504.82 | 2044.44 | 2642.91 | 2782.5 | 6258 | 30600 | 3994 |

Source: Field Survey (Figure in paranthesis indicate Percentage)

Dependency on forest in terms of any other items collection from forest in South Tripura district is discussed in Table-5.37. From the table, it may be found that average annual earning through any other items collection from nearby forest by the tribal community was calculated as Rs. 3994 and it was quite higher than Dhalai district. Community wise, it was found that Noatia and Debbarma community were more dependent on forest in terms of any other items collection and sell. While dependency on forest for any other items were highest among Noatia community and comparatively less among Jamatia and Reang community.

Chart 14- Value of any other forest product (Yearly)

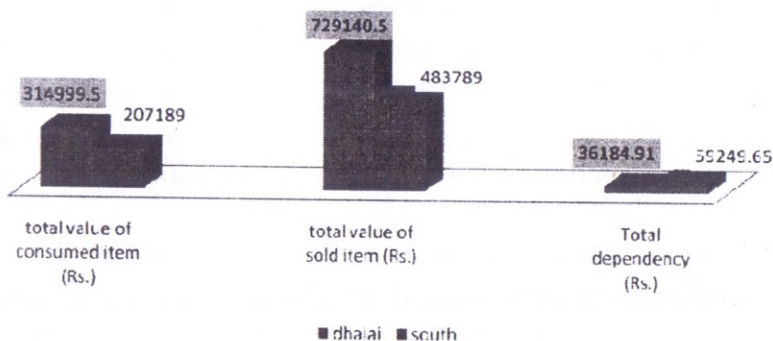


Table – 5.38: Yearly Total value of forest Products (Dhalai & South district)

| Forest Products | Dhalai district (Rs.) | South Tripura district (Rs.) |
|--------------------|-----------------------|------------------------------|
| Vegetables | 218656 | 435632.5 |
| Fruits | 278355 | 652475 |
| Leafs | 43452 | 146860 |
| Flowers | 217510 | 251319 |
| Root & shoots | 155835 | 262778 |
| Any other products | 1044140 | 690978 |
| Total | 19,57,948 | 24,40,042.5 |

Source: Field Survey

From the Table-5.38 found that in Dhalai district total value of forest products was calculated as Rs. 1957948. While total value of forest products in South Tripura District was calculated as Rs. 2440042.5. Values of vegetables, fruits, leafs, flowers, root & shoots were higher in South Tripura District.

Chart 15- Yearly total value of forest products

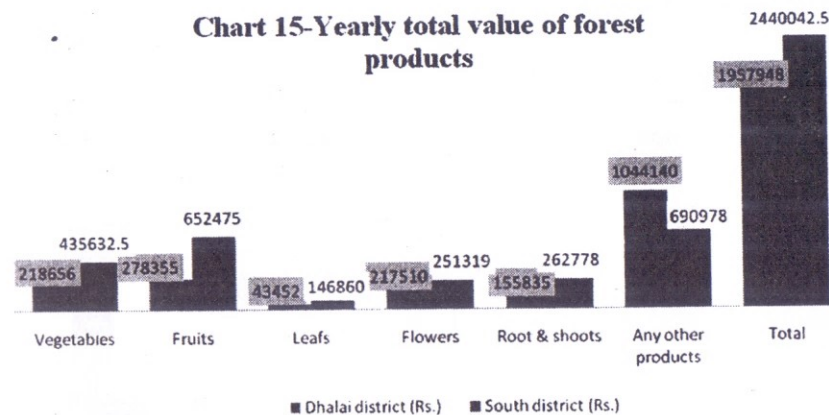


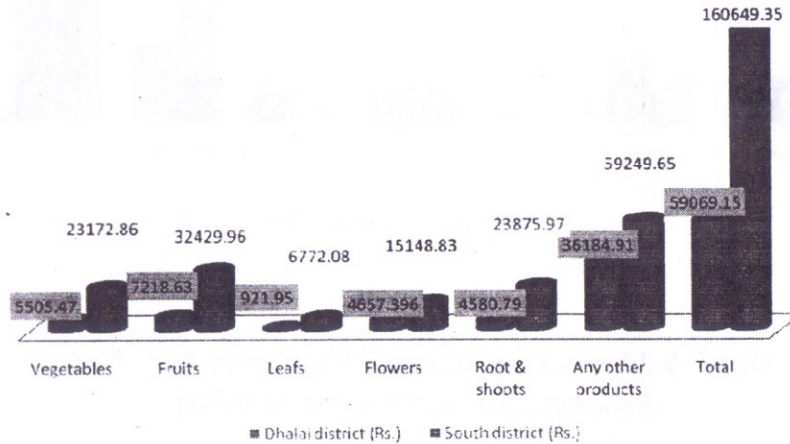
Table – 5.39: Average Yearly Dependency from forest Products (Dhalai & south district)

| Forest Products | Dhalai district (Rs.) | South Tripura district (Rs.) |
|-----------------|-----------------------|------------------------------|
| Vegetables | 1082.46 | 2518.11 |
| Fruits | 1378 | 3771.5 |
| Leafs | 215.20 | 845.0 |
| Flowers | 1076.80 | 1452.70 |
| Root & shoots | 771.5 | 1519 |
| Other products | 5169 | 3994 |
| Total | 9693 | 14100 |

Source: Field Survey

Table-5.39 said that in Dhalai district total value of forest products is calculated as Rs. 9693. While total value of forest products in South Tripura District is calculated as Rs. 14100. Value of vegetables, fruits, leafs, flowers, root & shoots was higher in South Tripura District.

Chart -16: Yearly per capita dependency



6

Major Finding, Summary, Recommendation

1. Among the total respondents 29.86 percent were illiterate. Comparison between South Tripura and Dhalai district it was found that in South Tripura district more respondents were illiterate.
2. In Dhalai district 54.95 percent had medium sized houses compare to the South Tripura (27.16 percent).
3. Maximum number household's (41.06 %) houses wall was made by bamboo. That means large numbers of households depend on forest for making their houses.
4. It has been found that 37.86 percent respondents used electricity by sharing with neighbourhoods.
5. In Dhalai district maximum (75.24%) respondents were dependent on open well as source of drinking water whereas in South Tripura district only 11.56 percent were dependent on well for drinking water.

6. In Dhalai district 15.34 percent respondents practiced open defecation whereas in South district 3.46 percent respondents were practicing the same.
7. Among total respondents 90.13 percent were dependent on fire wood for their cooking while only 4.26 percent respondents used LPG for cooking.
8. In Dhalai District and South Tripura District overall average earning (dependency) from collection of various vegetables from the forest was Rs. 1082 and Rs. 2518 per family per year respectively.
9. In Dhalai District yearly per family income was Rs. 1378 from forest through fruit collection while in South Tripura district yearly per family income was Rs. 3771 from fruits collection from nearby forest.
10. Yearly per family income in Dhalai District was Rs. 215 and yearly per family income was Rs. 845 in South Tripura District through collection of different types of leafs and leafy vegetables from the forest.
11. Yearly per family income from flower collection was Rs. 1076.80 in Dhalai District whereas Rs. 1452.70 their yearly per family income in South Tripura District.
12. In Dhalai Districts, among the respondents yearly per family income from root and shoots collection was Rs. 771.5 whereas in South Tripura District, yearly per capita income from forest through root and shoots per tribal family was Rs. 1519.
13. In Dhalai districts Mog respondents consumed 58.64% of other forest products i.e. fish, chicken, pig etc. whether Jamatia respondents consumed 17.62% of other forest products i.e. fish, chicken, pig etc.

14. All together respondents' earning was Rs. 1957948 and Rs. 2440042.50 in Dhalai district & South Tripura District respectively from forest.
15. Total value of dependency on forest products in Dhalai District was calculated as Rs. 9693 per family per year. While Total value of dependency on forest products in South Tripura District was calculated as Rs. 14100 per family per year.
16. Dependency among tribal communities on forest produces like vegetables, fruits, leafs, flowers, root & shoots was found higher in South Tripura District than Dhalai District.

Issues, Challenges and Policy Direction:

1. Due to unrestricted and unscientific collection, over use of products, and also rapid deforestation for non-forest use, the natural availability of NTFP producing trees are decreasing rapidly, and their regeneration in many forest areas has gone down. As a result the overall production of NTFP is decreasing whereas the demands have gone very high. Therefore conservation as well as regeneration of NTFP is highly required.
2. Reserach & Development is very much required to develop the NTFP sector, but there is very inadequate investment on the same. There are many high volume NTFPs that either remain unsold or sold at a meager price due to absence of better marketability options. Therefore research on value chain analysis, feasibility study, market research is very much nessary. Without

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- proper base line data, planning for improvement of livelihood of Tribal people through NTFP is not possible.
3. Minimum Support Price (MSP) for NTFP is required in the state. Procurement of collected products providing an uniform minimum assured price will immensely help the Tribal gatherers who are often exploited by the local level trader.
 4. Formation of SHG, activity cluster/ federation based on specific NTFP may be developed.

Conclusion :

From the study it was found that the Minor Forest Produce is very important in Tribal lives. It provides fuel, fodder, food, medicine, construction material and other necessary materials for their life and livelihood. Therefore proper management, support system, capacity building and marketing facility can provide ample opportunities for tribal livelihood through NTFP in the state of Tripura.

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Annexure -I
Forest Products – Common names of the Forest Products as addressed by different communities

| Sl No | Forest Products | Type of Products | Debbarma | mog | Reang | Halam | Chakma | jamatia |
|-------|--|------------------|--------------|----------------|--------------|-------------|---------------------------|---------------|
| 1. | Aanarasa | Fruits | Aanaras | Khayang Ahdung | Omotoi | Mortci | Anash | Anaroso |
| 2. | Ada leaf | Leafs | Hacing Bw/ai | | | Ithing Bon | Adapadha | Haichen Bw/ai |
| 3. | Admani (Centella asiatica) | Vegetable | Samsata | Adamani | Hai Cheing | Thankani | Minc Moni Shak | Shasita |
| 4. | Aslai | Fruits | Atokaslai | Aslai | Asli | Aslai | Aslai | Atika Bwslai |
| 5. | Ass gourd | Vegetable | | Ass gourd | Ass gourd | Ass gourd | | |
| 6. | Alengcha (Alternanthera philoxeroides) | Leaf | Alengcha | Alencha | Sam khakhoh | Alencha | Harmush Shak | Alancha |
| 7. | Amlak | Fish | Amlak | | Ah dalao | Nagta Rishi | Guri Mash | Annuwilok |
| 8. | Amla | Fruits | Amlai | Amlai | Amlai | Sullo | Hada Mola | Amlai |
| 9. | Amra | Fruits | Amra | Amra | Amra | Teito | Amra | Amra |
| 10. | Orai | Leaf | Orai bw/ai | | Thailih | | Lclon Padha | Orai Bw/ai |
| 11. | Aral sim | Vegetable | Mv imasing | Aral sim | Khaoh Kulong | Bitheng | Jumar Somi | Khakeleng |
| 12. | Arum | Vegetable | Arum | Arum | | Arum | | Arum |
| 13. | Arum leafs | leaf | Arumpata | | | | | |
| 14. | Bandha kopi | Vegetable | Bann Kapcc | | Bada Kapcc | Bada Kapcc | Bada Kapcc Banda Kapcc | Banda Kapcc |

| | | | | | | | | | |
|-----|---------------------------|-----------|--------|----------------|----------------|----------------------|------------------------------|--------------|----------------|
| 15. | Bak | | Flower | Bakbubar | Bakbubar | Bakbubar | Bakbubar | Bakful Bubar | Bakulbubar |
| 16. | Balanni thrang | Roots | | Balanni Thrang | Balanni Thrang | Balanni Thrang | Balanni Thrang | Jharoralu | Tha Bolong |
| 17. | Bamboo | Firewood | | Waa | Uaa | Row | Bash | | Waa |
| 18. | Bamboo (Bamboo sp) | Shoots | | Nahung | Moiya | Towy | Bamboo Baschouri (Bamboo sp) | | Miya |
| 19. | Banana (Musa paradisiaca) | Vegetable | | Thur | Thailih | Thur Moth | Banana (Musa Holarthur) | | Thalay |
| 20. | Banana | Fruits | | Kalah | Thailih | Kala | Hola | | Thalay |
| 21. | Banana Flower | Vegetable | | | Thailih Mthai | Tangbiji | Gol Thurar Full | | Thalay Mwikhun |
| 22. | Banana stem | Shoots | | Thalik Bophang | Thailih Mphang | Moth K'wng Changlong | Hola Gash | | Laifang |
| 23. | Banana leaf | Leafs | | | Thailih Bwlai | Mothna Mothbo | Hola Padha | | Lai |
| 24. | Banta | Vegetable | | Nungsi | Maira | Ningsers | Sabarang | | Badar |
| 25. | Bantola | Meat | | | Taohang (W) | | Bantola | | |
| 26. | Barai | Fruits | | Broi | Broi Kitting | Broi | Barai | | Baroy |
| 27. | Basak pata (W) | Leafs | | | basakpata | | Basak Padha | | Basok Bwlai |
| 28. | Bakul | Flower | | | Khum Takji | Bakul | Bakulfull | | Bakul |
| 29. | Baskurul | Shoots | | Baskurul | Mwya | Towy | Baschouri | | Miya |
| 30. | Bamboo | Wood | | Waa | Uaa | | Bass | | Waa |
| 31. | Bajra | Seeds | | Bajra Junari | | Bajra | | | Bajra |
| 32. | Batema | Root | | Batema | Kongsioyong | Chalkon | Batema | | Batema |

| | | | | | | | | |
|-----|------------------------------------|-----------|--|----------------|----------------|---------------|---------------|----------------|
| 33. | Batema bubar | Flower | | Batema bubar | Batema Ful | Chaikonpar | Batema Ful | Batema Bubar |
| 34. | Baiker | | | Baiker | Baiker | Baiker | | Baiker Baikang |
| 35. | Beans (Phaseolus Vulgaris) | Vegetable | | Pishi | Kohsoi | Avey | Beans Somi | Sobai |
| 36. | Bel | Fruits | | Bel | Beira | Beira | Bell | Bell |
| 37. | Beli | Flower | | Belibubar | Belibubar | Belibubar | Belifull | Belibubar |
| 38. | Betel-Nut | Fruits | | Kowai | | Kona | Subari | Kowai |
| 39. | Berry | Fruits | | Baroi | | | Tide Gola | |
| 40. | Bitter-Leaf | Leafs | | Bitterpata | | | Tide Shan | Ganula Bwlai |
| 41. | Biling Buthai | Roots | | Biling buthai | Biling Buthai | Biling Buthai | Biling Buthai | Biring Bwthai |
| 42. | Biring | Shoots | | Biring | Biring | | Biring | Biring |
| 43. | Bitter guard (Momordica Charantia) | Vegetable | | Gangla | Kangla Pachi | Changkha | Tide Gola | Gangla |
| 44. | Boar | Meat | | Balangni Wok | Balangni Wok | Wok | Sugarear | Wok |
| 45. | Brindaban | Flower | | Khum Brindaban | Khum Brindaban | | Brindaban ful | Brindaban |
| 46. | Broom | Roots | | Broom | Broom | Broom | Broom | Broom |
| 47. | Brinjal (Solanum Melongena) | Vegetable | | Phantok | Phantao | Manta | Begun | Phatok |

| | | | | | | | | | | |
|-----|--------------------------|-----------|----------------|--------------|---------------|---------------|---------------|-----------------------|-----------------|-----------------|
| 48. | Buidang | Meat | Buidang | Buidang | Buidang | Buidang | Buidang | Buidang | Buidang | Buidang |
| 49. | Bujalububar | Flower | Bujalububar | Bujalububar | Bujalububar | Bujalububar | Bujalububar | Bujalububar | Bujalububar | Bujalububar |
| 50. | Capaka Boare | Flower | Capaka Bobar | Capaka Boare | Capaka Boare | Capaka Boare | Kanithbal | Capaka Boare | Capaka Boare | Capak Bowar |
| 51. | Carrot | Vegetable | Molai | Molai chak | Mlai Steh | Molai | Molai | Mulo Shak | Molai | Molai |
| 52. | Cassia Leaf (N) | Leafs | Cassapata | Cassia | | | | Tejpata | Tejpata | Tejpata |
| 53. | Cassava (N) | Roots | Cassava | Cassava | Cassava | Cassava | Cassava | Cassava | Cassava | Thabochohok |
| 54. | Catak | Flower | Catakububar | Catakububar | Catakububar | Catakububar | Catakububar | Catalful | Catakububar | Catakububar |
| 55. | Cauliflower | Vegetable | Ful kopi | | Khum Kopi | Ful kape | Ful kape | Ful kopi | Ful kape | Ful kape |
| 56. | Centalla (N) | Vegetable | Centalla | | Centalla | | | | Sasota | Sasota |
| 57. | Chapa | Flower | Sampari ful | | | | | Champa ful | Sampari Bowap | Sampari Bowap |
| 58. | Chailta (Delinia Indica) | Fruit | Thaiplog | Dobrohi | Thai Phloih | | | Holo (Delinia indica) | Thaiplo | Thaiplo |
| 59. | Chakomora | Vegetable | Chakomora | Chakomora | Chakma | Maithung | Maithung | Sumori Gola | Chakomora | Chakomora |
| 60. | Chakumra Leaf | Leafs | Chakumra Basak | | Chakma Dalao | Mathum Don | Mathum Don | Sumori Shak | Chakomar Bwla | Chakomar Bwla |
| 61. | Chandramalika (N) | Flowers | Chandramalika | | Chandramalika | | | Chandramalika Ful | Chandra Mallika | Chandra Mallika |
| 62. | Chichiri | Leaf | Chichiri | Chichiri | Chichiri | Chichiri Sakh | Chichiri Sakh | Chichiri | Kichiri | Kichiri |

| | | | | | | | | |
|-----|-----------------------------------|-----------|----------------|-------------|---------------------|------------------|-------------------------------------|---------------|
| 63. | Chicken | Meat | Takkan | | Taohang | Armay | Thuroora | Tokha |
| 64. | Chicko | Fruits | Sabita | | Sabita | | Chicko | Sarapa |
| 65. | Chingri (Macrobachum Rosenbergii) | Fish | Aithouk | Pojoing | Aithouk | Ikong | Chingrije (Macrobachum Rosenbergii) | Aithouk |
| 66. | Chilli | Vegetable | Maso | | | Morcha | Marij | Maso |
| 67. | Chukagash | Fruits | Muichong | | Mkhoi Chichai mphan | Thing zor | Haju gash | Mukhui |
| 45. | Coconut | Fruits | Narikra | | Naringra | Narkla | Narikol | Narkra kwchak |
| 68. | Crab | Fish | Khangrai | | Khangrai | I (AY) | Hangapa | Khangrai |
| 69. | Cutbisc | Leafs | Cutbisc | | Cutbisc | Cutbisc | Cutbisc | Cutbisc |
| 70. | Cucumber | Vegetable | Sasa | Sasa | Sasa | Shakma | Mamara | Sasa |
| 71. | Dagardoma | Shoots | Muimarang | | Batema | Chalkon | Batema | Mwimorong |
| 72. | Dampata | Leaf | Dama Bwla | | Dainapata | Daina | Fuj Shkh | Dama Bwla |
| 73. | Dakadam | Leaf | Dalwls sogunag | | Mphan Kolsoi Blai | | Somi Padha | |
| 74. | Dalak | Vegetable | Dalok | | Dalao | Undrsasal Rachin | Sakh | Muiborok |
| 75. | Data leaf | Leafs | Denta | | Maira Dalao | | Mari Padha | Data Bwla |
| 76. | Danta | Vegetable | Maira | | Maira | Undradal | Mari Gash | Data |
| 77. | Darmai | Fruits | Darampai | Darmai | Dammai | Shakna | Mammara | Darmai |
| 78. | Dhaliabubar | Flower | Dhaliabubar | Dhaliabubar | Dhaliabubar | Dhaliabubar | Dhalia ful | Dhaliabubar |

IMPORTANCE OF MINOR FOREST PRODUCE IN TRIBAL LIFE

| | | | | | | | | |
|-----|-----------------------------------|-----------|------------------------------|---------------------|------------------|------------------|---------------------|------------------|
| 79. | Derasala | Vegetable | Derso | Dersa | Moi rimma | Kelraki | Derat | Dersa |
| 80. | Deer | Meat | Mwsoi | | | Sakhi | Oring | Mwswi |
| 81. | Dhummaikai Boare | Flower | Dhummaikai Doare | Dhummaikai Doare | Dhummaikai Boare | Dhummaikai Boare | Dhummaikai Boare | Dhummaikai Boare |
| 82. | Dhaniya Leaf | Leafs | Dania Bwla | Dannapata Dongyasee | Dannapata | Dania | Dannapata Fuji Sakh | Dhancapata |
| 83. | Dheki shag (Diplazium Esculentum) | Vegetable | Muikhunshak | Gangdowk | Moi blai | Kokodon | Dengi Sakw | Mwikhu Ooyswok |
| 84. | Drumstick | Leaves | Segwina | | Mphang Kohsoi | Sajna | Hejena | Sejna Bwla |
| 85. | Drumstick (Moringa Oleifera) | Vegetable | Drumstick (Moringa Oleifera) | Drumstick | Mphang kohsoi | Sajna Bow | Jcsna | Drumstick Sejna |
| 86. | Duldul | Vegetable | Fala | | | Porol | Forol | Foro |
| 87. | Dumur | Fruits | Khuichang | | Dumur | Thaishang | Dumur | Khuichang |
| 88. | Frog | Meat | Yongla | Yongla | Blong Tao | Edok | Beng | Yongla |
| 89. | Firewood | Wood | Bol | | | Thing | Darbo | Bol |
| 90. | Ful Kapec | Vegetable | Ful Kapec | | Ful Kapec | Fulkapec | Ful Kapec | Fulkapec |
| 91. | Gamai | Firewood | Gamai | | Kambaroi | Gamai | Gamai | Gamai |
| 92. | Gantha | Vegetable | Gantha | Gantha | Khantha | Kantha | Hathjemoro | Gantha |
| 93. | Ghandaki | Vegetable | Gandiri | Strakang | Kantha Mosuh | Kaman Tree | Gandaki | Gandru |

ANNEXURE -I

| | | | | | | | | | |
|------|--------------------------------|-----------|--------------------------------|--------------|-----------------|--------------|-----------------|-----------------|-----------------|
| 94. | Ganduroi (Homalomena Aromatic) | Vegetable | Ganduroi (Homalomena Aromatic) | Ganduroi | Kantha msouh | Ganduroi | Ganduroi | Ganduroi | Gangiya Bwla |
| 95. | Ganga Barok | Vegetable | Ganga barok | | Konga Brouh | Rambol | Ganga barok | Gangiya | Gangiya |
| 96. | Ganga Bulai | Leafs | Ganga bulai | Ganga bulai | Ganga bulai | Rambol Bow | Ganga bulai | Gangiya Bwla | Gangiya |
| 97. | Gangiya | Fish | Gangiya | Nereng | Koingya | Nabok | Ladi Mass | Gangiya | Gangiya |
| 98. | Gantha | Vegetable | Gantha | Charagang | Khantha | | Hathrojic muro | Gantha | Gantha |
| 99. | Gangla | Vegetable | Gangla | Grangsing | Gangla | Gangla | Thedegolo | Gangla | Gangla |
| 100. | Gandharaj | Flower | Gandabubar | | | Saipimali | | Gandra | Gandra |
| 101. | Gandus | Roots | Gandus | Gandus | Gandus | Gandus | Gandus | Gandus | Gandus |
| 102. | Garlic | Roots | Risum | Kraswingfru | | Phurongoy | Run | Risum | Risum |
| 103. | Gayam | Fruits | Gayam | Gayachi | Goiyang | Sabri | Ganjugola | Gayang | Gayang |
| 104. | Gendaful | Flower | Ganda khamm | Gourd | Gondora | Gourd | Gendaful | Satra bonga | Satra bonga |
| 105. | Gourd (N) | Vegetable | Gourd | Gourd | Gourd | Gourd | Gourd | Khakolu | Khakolu |
| 106. | Gogra | Insects | Kherambog | P roy | Yongphaoh | Khangbai | Gumuru | Khframbok | Khframbok |
| 107. | Golaap | Flowers | Golaap | Golaafu | Khum Ham | Golap | Golaapful | Atagola | Atagola |
| 108. | Green plaintain | Vegetable | Kwkharang Bolong | | Green plaintain | | Green plaintain | Green plaintain | Green plaintain |
| 109. | Ground nut | Root | Badam | Badamehi | badam | | Badam | Badam | Badam |
| 110. | Ginjer flower | Flower | Haicheng | Khcyangbw | Ada bubar | Itingpar | Adaful | Haichen Bowar | Haichen Bowar |
| 111. | Ginjer | Root | Haicheng | Khcyang | | Ithing | Ada | Haicheng | Haicheng |
| 112. | Haching | Flower | Hachingbubar | Hachingbubar | Hachingbubar | Hachingbubar | Hachingbubar | Hachingbubar | Hachingbubar |

| | | | | | | | | |
|------|-------------------------------|-----------|-----------------|-----------------|----------------|------------|--------------|-------------------|
| 113. | Haldi (Curcum longa) | Leaves | Satwi Bwtwisa | Kindhno | Bakhor Ktorma | Isel Bow | Aldd Padha | Satwi Bwlai |
| 114. | Haldi | Roots | Satwi | Knowkno | Satwi | Isel | Aldd | Satwi |
| 115. | Haldi Flower | Flower | Satwi bubar | Knowhnobw | Satwi bubar | Iselpar | Aloful | Satwi bubar |
| 116. | Hamthai | fruits | hamthai | hamtai | hamtai | Samtok | humtai | Samthai |
| 117. | Honey | vitamine | Piyabwtui | Peray | Poyabwtui | Khoimngtui | Madhu | Piya |
| 118. | Haney Bees | Insects | Piyaka | | Piyaka | Khothar | Haney Bees | Piyaga |
| 119. | Jaba (Hibiscus Rosa Sinensis) | Flowers | Jaba | Hwindrobai | Urii | Nudoipar | Jaba | Jaba |
| 120. | Jackfruit | Fruits | Thaipung | Penefie | Thaipun | Lawoy | Hathial | thaipung |
| 121. | Jackfruit Branch | Firewood | Thaipung Baydak | Penabong | Thaipun Baydak | Lawoy | Hathial Gash | Thaipong Bedek |
| 122. | Jalpai | Fruits | Jalpai | Jalpai | Thaistoi Pachi | Jalui | Jalpai | Jalpai |
| 123. | Jam (Syzygium Cumini) | Fruit | Jambok | Mushbiffe | Changbu | Romoy | Jam | Jambok |
| 124. | Jambura | Fruits | Jambura | Rofite | Jambra | Jamfura | Frumoja | Jambar |
| 125. | Jasmine | Flowers | Khum Mali | Cheshemalaiseng | Reang Mali Mba | Khum Jas | Champaful | Janatin Khum Mali |
| 126. | Jinga (Luffa acutangula) | Vegetable | Jinga | Kowesi | Chemga | Porol | Jinga | Jinga |
| 127. | Jimi | leafs | jimia | Gairoma | jima | | Dimisak | Bwkhatc |
| 128. | Jingathaktai | Roots | Jingathaktai | | Dinga Thaitoi | | Jingathaktai | Thakwtui waksa |
| 129. | Jinuk | Meat | Sindai | Sokhuwafie | | Kampored | Sindire | Sindai |

| | | | | | | | | |
|------|--------------------------------|-----------|----------------|-------------------|--------------------|--------------|--------------|---------------|
| 130. | Jui | Flower | Juibubar | Juibubar | Juibubar | Juibubar | Juibubar | Juibubar |
| 131. | Kabutar | Meat | Farok tok | Kha | | Tharbali | Hodar | Farok |
| 132. | Kach kala | Vegetable | Kachkala | Hanjanaipri | Thailih Kithung | Undfrsalmoth | Hajahola | Anajthalik |
| 133. | Kachha pape (Carica papaya) | Vegetable | Koiphal | Changpenechi | King Koiya Kithung | Koyfal | Disu Gola | Kakeya |
| 134. | Kachu (Colocasia Esculenta) | Root | Muito | Pengbring | Moikou | Kachu | Haju | Muito |
| 135. | Kachr babar | Flower | Moitu bubar | Pengbring | Moitu bubar | Kachr bow | Hajufol | Moitu bubar |
| 136. | Khakulu | Vegetable | Khakulu | Fromoychi | | Maipal | Humoro | khokulu |
| 137. | Kakrol (Momordica Dioica) | Vegetable | Kangrom Bwthai | Hangbochi | Raja Kngla | Maitamlok | Hargara Gola | Kangro |
| 138. | Kakra | Meat | Khangrai | Keneng | Khangrai | I (Ay) | Kaangra | Khangrai |
| 139. | Kala piach (Musa Paradisiacal) | Vegetable | Thailik Bwlai | Napiyuaro | Thailih blai | Modna bow | Hola Padha | Thali Bwlai |
| 140. | Kalar thor | Vegetable | Muikwm bwthai | Napiyufu | Thailih Mokhoing | | Halar thor | Muikhw Bwthai |
| 141. | Kamala | Fruits | Kamala | Kamalaachi | Komla | Serthum | Hamala | Kamala |
| 142. | Kamaka | Flower | Khamka | Pukhamiyalong chi | Kamaka | Kamaka | Beulbiji | Khangkha |

| | | | | | | | | | |
|------|------------------------|-----------|------------------|-------------|-------------------|-------------------|--------------|------------------------|-------------|
| 143. | Karabi (Nerium Odorum) | Flower | Kwsum | Kherembook | Kherembook | Khuma Rangzakh | Kherembook | Karabi (Nerium odorum) | Karabi |
| 144. | Kherembook | Meat | Kherembook | karamcha | Kherembook | Kherembook | Kherembook | Khangbai | Kherembook |
| 145. | Karamcha | Fruits | Kamecha | Swang | Mandaik | Mandaik | Thalei | Sonadha | karamcha |
| 146. | Kabirali | Meat | Mandar | Pichi | Kasai | Kasai | Bey | Homi | Madar |
| 147. | Kari leafs | Vegetable | Kasai | Nroma | Bakhor Ktorma | Kakla | Katla | Hadol mas | Kasai |
| 148. | Kasai | Leafs | Kastari | Grangkhonoy | Kakamwk | Raja Kangla Bwla | Changkha Bow | Tidesak | Daniakoor |
| 149. | Kastari | Leafs | Kasing masala | Zijang | Kakangwk | Kakangwk | Soksol | Hamok | Katla |
| 150. | Kasing masala | Leaves | Katla | Lwie | Kerang | Kerang | Satal | Dowr | Daniakoor |
| 151. | Katla (Catla Catla) | Fish | Gangla Bwla | Khamkabare | Khang kha Bowar | Khang kha | Samokpar | Khamkabare | Katla |
| 152. | Karala Leaf | Leafs | Kakambook | Khamkabare | Kerangmoithap Eik | Khanggarai | Khanggarai | Khanggarai | Gangla Bwla |
| 153. | Kakamwk | Fisf | Kerang | Lwie | Khang kha | Khanggarai | Keejur | Khuorbichi | Sikambkook |
| 154. | Kerang | Meat | Kerang | Khamkabare | Khalai | Khalai | Khalai | Khalai | Kerang |
| 155. | Khamkabare | Flower | Khamkabwbar | Khamkabare | Kujufie | Khajoroi | Khalai | Khalai | Khamkabare |
| 156. | Kerang Muthateng | Vegetable | Kerang Muthateng | Kerang | Kerang | Kerangmoithap Eik | Kerang | Muthateng | Kerang |
| 157. | Khamka | Vegetable | Khamka | Kwneai | Khanggarai | Khanggarai | Khanggarai | Khamka | Muthateng |
| 158. | Khanggarai | Fish | Khanggarai | Kujufie | Khalai | Khalai | Khalai | Khalai | Khamka |
| 159. | Khejur | Fruits | Khajwr | Khalai | Khalai | Khalai | Khalai | Khalai | Khanggarai |
| 160. | Khalai | Fish | Khalai | Khalai | Khalai | Khalai | Khalai | Khalai | Khanggarai |

| | | | | | | | | |
|------|---------------|-----------|---------------|------|----------------|----------------|---------------|---------------|
| 161. | Khamkaborok | Vegetable | Khamkaborok | Nake | Khangkha brook | Khangkha brook | Khamkaborok | Khangka Kotor |
| 162. | Khuicha | Fish | Khuicha | Nake | Kuichiya | Kuichiya | Kuicha mas | Kuchiya |
| 163. | Khuichang | Fruit | Khuichang | Nake | Khoichang | Khoichang | Theychang | Khuichang |
| 164. | Khumgas | Flowers | Khumgas | Nake | Khumgas | Khumgas | Khumgas | Khumgas |
| 165. | Khummaike | Flowers | Khummaike | Nake | Khummaike | Khummaike | Khummaike | Khummaike |
| 166. | Khumpui | Flowers | Khumpui | Nake | Khum Phoi | Khum Phoi | Khumpui | Khumpui |
| 167. | Khumtiya | Flowers | Khumtoya | Nake | Khum Toya | Khum Toya | Khumtiya | Khumtoya |
| 168. | Khumto | Fruit | Khumto | Nake | Tai tung | Tai tung | Nayja | Khumto |
| 169. | Khumtokha | Flowers | Khumtokha | Nake | Khum Taokha | Khum Taokha | Mayja | Khumtokha |
| 170. | kisib | Flowers | kisib | Nake | kisib | kisib | Mayja | Bijon |
| 171. | Khumtoktai | Flowers | Khumtoktai | Nake | Khum Taotai | Khum Taotai | Parbi | Khumtoktai |
| 172. | Khundurapai | Vegetable | Khundurapai | Nake | Khum Drop Phoi | Khum Drop Phoi | Parbi | Khwisar |
| 173. | Kecuri | Leafs | Kecuri | Nake | Chichiri | Chichiri | Chicri | Kucuri |
| 174. | Kulmi Leaf | Leaf | Kulmi Bwla | Nake | Kuiphal | Kuiphal | Kuiphal | Kucuri |
| 175. | Kuiphal | Fruits | Nofowja | Nake | Khuria mingma | Khuria mingma | Khuria Mingma | Kucuri |
| 176. | Khuria Mingma | Fish | Khuria mingma | Nake | Kuir boare | Kuir boare | Kuir boare | Kucuri |
| 177. | Kuir Boare | Flower | Kuir boare | Nake | Kuir boare | Kuir boare | Kuir boare | Kucuri |
| 178. | Kusumai | Fruits | Kusumai | Nake | Kshamai | Kshamai | Ifak | Kusumai |
| 179. | Kuwai | Meat | Kuwai | Nake | Kuwai | Kuwai | Kuwai | Supari |

IMPORTANCE OF MINOR FOREST PRODUCTS IN TRIBAL LIFE

| | Lady's Finger (Abelmoschus Esculentus) | Vegetable | Daarsa | Toungkha | Moi Rmima | Kelrakra | Daras | Dengraso |
|------|--|-----------|------------------|------------------|----------------|---------------|--------------------------|---------------|
| 181. | Lab lab beans | vegetable | | | Lab lab beans | | | Lab lab beans |
| 182. | Laitung | vegetable | Laitung | Too Naifowe Bang | Thailitt Mphan | Changlong | Hola Gach | Lai pang |
| 183. | Lai Pata | Leaves | Lai Bwlai | Lairi boorow | Lairi | Lairi | Hula Padha | Lai Pata |
| 184. | Laita (Channa Punctata) | Fish | Laita/ Laita Ahh | Gungba | Ah Thinthia | Latiya | Ladi Mash | Latiya |
| 185. | Laichok | Fish | Laichok | Nawfyu ahrow | Laichok | Laichok | Laichok | Laichok |
| 186. | Lalshak | Leafs | Lalasang | Lala Sankh | Dalaho Kwchak | Andadur Santi | Lalshak | |
| 187. | Lapluki | Fruits | Lapluki | Lapluki | Lairadam | Lairadam | Lairadam | Lapluki |
| 188. | Lairadam | Shoots | Lairadam | Lairadam | Lairadam | Lairadam | Lairadam | Lairadam |
| 189. | Latbag | fruits | Latbag | Latbag | Lagbag | Latbag | Latbag | Latbag |
| 190. | Lairo | Leaf | Lairo | Ohrow/Note | Lairo | Nathel | Lairo | Awan lai |
| 191. | Lati | Root | Lati | | | Kachu Jangjar | Hujuba | Lati Bwtui |
| 192. | Lauki | Vegetable | Milak: mwilak | | Moliao | Milok | Hudugola | Mulok |
| 193. | Lemon | Fruits | Lebo | Khaujusec | Jamir | Ser | Hagoji | Jambir |
| 194. | Lengrafal | Flowers | Hengra Bwbar | | Hingra Mba | Sefalika | Seralifal | Hingra bobar |
| 195. | Lichu (Litchi Chinensis) | Fruit | Lichu | Lechu | Lechu | Lechu | Lichu (Litchi chinensis) | Lechu |

ANNEXURE - I

| | | | | | | | | |
|------|--------------------------|-----------|-------------|-------------|-------------|-------------|---------------|-------------|
| 196. | Lobia | Vegetable | Lobia | | | Biloyna | | Lobia |
| 197. | Lotus | Flower | Paddhaful | | | Paddhaful | Paddhaful | Lobia |
| 198. | Lot Chai | Vegetable | Lochai | | Sobai | Bisaye | Sami | Sobai |
| 199. | Lotkan | Vegetable | Lotchan | Lotcon | Lotcan | lotkan | Lotkan | |
| 200. | Long Beans | Vegetable | Sabai | Sabai | Sobai | Sabai | Long Beans | Sabai |
| 201. | Lou | Vegetable | Milak | | | | | |
| 202. | Lily | Flower | Lilymithai | Lily | | | | Sapla |
| 203. | Madavi | Flowers | Madavi | | Madobi | | Madavi | Madavi |
| 204. | Magadam | Shoots | Magadam | | Mkonda | Makadan | Makke | Magodang |
| 205. | Manafu | Fruits | Manafu | Manofu | Manafi | Manafu | Manafi | Manafu |
| 206. | Magur Fish | Fish | Jagur Ahh | | Koi Phlch | Jagur | Jagur | Jagur Ahh |
| 207. | Mango (Mangifera Indica) | Fruit | Thaichuk | Sarawsig | Thaichu | Thayhai | Anun | Thaichuk |
| 208. | Manipurful | Flowers | Khumengroi | | Monpuri mba | | Manipurful | |
| 209. | Marigold | Flower | Ganda Khwm | | Satrobango | Thangroy | Gandaful | Satrobongo |
| 210. | Mustard flower | Flower | Sarsaful | Sarsaful | Sarsaful | Sererdar | Sarsaful | Surja Mckhi |
| 211. | Mania Butui/ Manai | Roots | Mania Butui | Mania Butui | Manai Butui | Mania Banai | Mania Butui | Manai Bwtui |
| 212. | Masa | Vegetable | Masa | Ghorowehi | Masa | Marcha | Masa | Masa |
| 213. | Masing | Fish | Masing | Chownung | Masing | Masing | Masing | Masing |
| 214. | Mascken | Meat | Mascken | Rawathow | Mascken | Mascken | Chikon Marich | Mascken |
| 215. | Maisaidui | Seeds | Maisui | Among Kheng | Masoi | Maisaidui | Maisaidui | Maiso |
| 216. | Masroom | Root | Mwikhumw | | | Swapan par | Owi | Mwikhumw |

IMPORTANCE OF MINOR FOREST PRODUCTS IN TRIBAL LIFE

| | | | | | | | | |
|------|------------------|-----------|------------------|-----------------|------------------|------------------|--------------|------------------|
| 217. | Maschiken | Vegetable | Masabariya | | Maschiken | Marchate | | Masa Chikon |
| 218. | Maichang | Fish | Maichang | Athow | Maichang | Maichang | Maichang | Maichang |
| 219. | Usandui | Roots | Usandui | Hanghisi | Mang Usandui | Ansa usandui | Ujan Sakh | Usandui |
| 220. | Mikhomo | Vegetable | Mikhomo | | Mukhoing | Swapan par | Owl | Mwikhmi |
| 221. | Milak | Vegetable | Milak | | Molao | | Milak | |
| 222. | Misti kumra | vegetable | Chakwara | | Chakma | Maithung | Swmoroy golo | Chakumara |
| 223. | Molai | Vegetable | Molai | | Mlai | Molai | Molo | |
| 224. | Monkey | Meat | Mwkhra | | Moukhra | Jong | Banar | Mokhara |
| 225. | Mucca | Fruits | Mogooam | Mucca | Mkonda | Mucca | Mucca | |
| 226. | Mufuk | Meat | Mufuk | Bizzi Faw | Mufuk | Oley | Mufuk | Mufuk |
| 227. | Muichuk | Fruits | Muicuk Thai bai | Hungatthow | Muichuk | Muichuk | Muichuk | Muichuk |
| 228. | Mukuikidak | | Mukuikidak | Mukuikidak | Mukuikidak | Mukuikidak | Mukuikidak | Mukuikidak |
| 229. | Muyahatale | | Muyaha kwui | Khowyang Nahung | Muyahatale | Toy | Muyahatale | Muyahaa Kwtoi |
| 230. | Muifungpata | Leafs | Muicheng ballai | Muifungpata | Muicheng Bwla | Muifungpata | Muifungpata | Muifungpata |
| 231. | Muifarak basak | Vegetable | Muifrai Basok | Khaw Mingsieai | Muifarak basak | Molnok | Fojagd Sakh | Muifrai Bosok |
| 232. | Muimarang butui. | Roots | Muimarang Butui. | Batema Bwtisi | Muimarang Butui. | Muimarang Butui. | Batema. | Muimarang Butui. |
| 233. | Mucing leaf. | Leaf | Mucing Bwla | Mucing | Mucing Bwla | Thingior | | Mucing Leaf. |
| 234. | Muimasing | Vegetable | Muimasing | Yangkorosee | Khaoh Khicing | Mvimasing | Oumur Somi | Muimasing |

ANNEXURE -I

| | | | | | | | | |
|------|------------------|-----------|------------------|--------------------|------------------|------------------|------------------|------------------|
| 235. | Muiphari | Vegetable | Muiphari | | Muiphwrai | Nolnok | Muiphari | |
| 236. | Muikhumw Haplow | Vegetable | Muikhumw Haplow | Tongbowmowc | Muimuhaplou | Muimuhaplou | Muimuhaplou | Muimuhaplou |
| 237. | Muifu rai | Leafs | Muifuta | Muifuta | Muifuta | Muifuta | Muifuta | Muifurai |
| 238. | Muisui | | Muisui | Khice | Muisui | Muisui | Arin | Muisui |
| 239. | Muito | Vegetable | Muito | Pengocree | Moikrou | Kachu | Joju | Muito |
| 240. | Muikhusu Haplong | Meat | Muikhusu Haplong | Muikhusu Haplong | Muikhusu Haplong | Muikhusu Haplong | Muikhusu Haplong | Muikhusu Haplong |
| 241. | Muito Batai | Roots | Muito Botwi | Pangbiritei Ahpong | Moikrou Bwtui | Kachu bal | Hoju golo | Muito Batai |
| 242. | Mulai | Vegetable | Mulai | Mula | Mamlai | Mula | Mulai | Mula |
| 243. | Muthapang | Vegetable | Muthapang | Mahung | Moi Thapeih | Toy | Muthapang | Muya |
| 244. | Muya | Vegetable | Muya | | Moiya | | Baith Chori | Muya |
| 245. | Night Angel | Flowers | Khumsari | | Khumsaroi | | Night Angel | Khum Sari |
| 246. | Night Queen | Flowers | Khum rani | | Khum rani | | Night Queen | |
| 247. | Nim | Leafs | Eim bwla | Nimpata | Nim | Nimkung | Necem | Nim |
| 248. | Nilkantha | Flower | Nilkantha | | | | | Aparajita |
| 249. | Onion leaf | Leafs | Payaj Bwla | | Payaj | Frontw | Piyas Padha | Piyaj bwla |
| 250. | Onion | Roots | Payaj | Karowisong | Payaj Bwla | Frun | Pijaj | Piyaj |
| 251. | Orai | Leaves | Orai Bwla | | Orai Blai | | Orai | Orai |
| 252. | Oliva | Vegetable | Wakre | | Oliva | Jangta | | Wakre |
| 253. | Okra | Vegetable | Wakre | | Okra | Pass | | |
| 254. | Osundwi | Leaves | Osundwi | | Osnoi | | Osundwi | |

| | | | | | | | | | | |
|-----|----------------------------------|-----------|-------------|-------------|--------|---------------|------------|--|--|---------------|
| 255 | Palm | Fruits | Palm | | | Katha Msmouh | | | | Palm |
| 256 | Pachak | Leaves | Pachak | | | Sikambok | | | | Pachak |
| 257 | Pila | Meat | Kakmok | | | Allgh | Saksol | | | Sakabok |
| 258 | Potato | Root | Allu | Morowiscaci | | Porcupine | Alubal | | | Allu |
| 259 | Porcupine | | Porcupine | Porcupine | | Porcupine | Porcupine | | | Porcupine |
| 260 | Python, | Meat | Muisle | | | Muisle | Rolpui | | | Ajagor |
| 261 | Pig | Meat | Wak | | | Wouk | Siok | | | Sukor |
| 262 | Pudina (Mentha Arvensis) | Leaves | Pudina | | | Pudina | Pudina | | | Pudina |
| 263 | Pumpkin (Cucurbita Maxima) | Vegetable | Chakomora | | | Chahkma | | | | Somoroy Golo |
| 264 | Puthi (Puntius Chola) | Fish | Puthi | | | Ah Bistrang | Puthima | | | Phudhi |
| 265 | Radish Leaf | Leafs | Mulai Bwlai | | | Mlai Bwlai | Mwlaibw | | | Mula Padha |
| 266 | Ridge Gourd | Vegetable | Jinga | Ridge gourd | | Cheinga | Jinga | | | Jinga |
| 267 | Radish Flower | Flower | Mulabobar | | | Mlai Bobar | Mwla Par | | | Mwla Bobar |
| 268 | Tuberoze | Flower | Rajanuganda | | | | Rajagandha | | | Rajani Gandha |
| 269 | Rose | Flower | Gulap khum | | | Khum Ham | Golappar | | | Golap ful |
| 270 | Sabai | Vegetable | Sobai | | | Spai | Pass | | | Sabai |
| 271 | Sabeda | Fruits | Sabeda | | | Segun | Segun gong | | | Sabeda |
| 272 | Sagun | Firewood | Sagun | | | Segun | Sajan | | | Sagun |
| 273 | Sajna Leaf | Leafs | Sena Bwlai | | | Sajaru | Sajan | | | Sajna Padha |
| 274 | Sajaru | Meat | Sejna Bowar | | Sajaru | Sajaru | Sajaru | | | Khudu Khadar |
| 275 | Sajneflower | Flower | Sena Bowar | | | Mphang Kohsot | Sajna par | | | Sasita |
| 276 | Samsata | Vegetable | Samsata | | | Samsota | Thalbat | | | Maimmond |
| 277 | Sara | Vegetable | Sara | | | Sosa | Nala | | | Hoju sara |
| 278 | Salik | Meat | Saroksa | | | Saroh | Sarwa | | | Tok sarok |
| 279 | Sakleng | Fish | Sakleng | | | Sakleng | Sakleng | | | Sakleng |
| 280 | Singhi (Heteropneustes Fossilis) | Fish | Aa Singhi | | | Aa Singhi | Singhi | | | Singmass |
| 281 | Sindai | Vegetable | Sindai | | | Sindai | Sindai | | | Sindai |
| 282 | Sikhumu | Fish | Sikhumu | | | Sikhumu | Sikhumu | | | Sikhumu |
| 283 | Sita Phal | Fruits | Sita Phal | | | Sita Phal | Sita Phal | | | Sita Phal |
| 284 | Sipping | Vegetable | Sipping | | | Siping | Ishi | | | Sepeng |
| 285 | Skangbuk | Fish | Sikangmok | | | Skangbuk | Skangbuk | | | Skangbuk |
| 286 | Small fish | Fish | Aa Basa | | | Aa Barsa | Nagta Rasi | | | Small fish |
| 287 | Snail | Fish | Sinkamok | | | Skang bok | Sinkambok | | | Snail |

| | | | | | | | | | | |
|-----|----------------------------------|-----------|------------|--|--|---------------|------------|--|--|------------|
| 275 | Sajneflower | Flower | Sena Bowar | | | Mphang Kohsot | Sajna par | | | Sasita |
| 276 | Samsata | Vegetable | Samsata | | | Samsota | Thalbat | | | Maimmond |
| 277 | Sara | Vegetable | Sara | | | Sosa | Nala | | | Hoju sara |
| 278 | Salik | Meat | Saroksa | | | Saroh | Sarwa | | | Tok sarok |
| 279 | Sakleng | Fish | Sakleng | | | Sakleng | Sakleng | | | Sakleng |
| 280 | Singhi (Heteropneustes Fossilis) | Fish | Aa Singhi | | | Aa Singhi | Singhi | | | Singmass |
| 281 | Sindai | Vegetable | Sindai | | | Sindai | Sindai | | | Sindai |
| 282 | Sikhumu | Fish | Sikhumu | | | Sikhumu | Sikhumu | | | Sikhumu |
| 283 | Sita Phal | Fruits | Sita Phal | | | Sita Phal | Sita Phal | | | Sita Phal |
| 284 | Sipping | Vegetable | Sipping | | | Siping | Ishi | | | Sepeng |
| 285 | Skangbuk | Fish | Sikangmok | | | Skangbuk | Skangbuk | | | Skangbuk |
| 286 | Small fish | Fish | Aa Basa | | | Aa Barsa | Nagta Rasi | | | Small fish |
| 287 | Snail | Fish | Sinkamok | | | Skang bok | Sinkambok | | | Snail |

IMPORTANCE OF MINOR FOREST PRODUCES IN TRIBAL LIFE

| | | | | | | | | | |
|------|-------------------------------------|-----------|-------------------|--------------|------------|--------------------|------------|------------|-------------|
| 288. | Sugarcane | Shoot | Kwrok | | | Kuro | | | Kwrok |
| 289. | Sponge gourd | Vegetable | | Sponge gourd | | | | | |
| 290. | Siuli | Flower | Hengra | Hengra | Siulibubar | Siulibubar | Siulibubar | Siulibubar | Siuli Bobar |
| 291. | Sweet Potato (Ipomoea Batatas) | Vegetable | Thakwtwi | | Thah kro | Thah kro | Kal Kai | Misti Alu | Tha Kwtoi |
| 292. | Supari | Fruits | Kowai | Supari | Supari | Kowai | Kuwa | Supari | Kowai |
| 293. | Sutui butui | Roots | Sutui Bwtui | Sutui Butui | | Bakhor Kotorima | I hisel | Alud | Satwi Bwti |
| 294. | Sunflower | Flower | Surjamuki Khum | | | | | | Surjamukhi |
| 295. | Tanturui/ Thentroy | Fruits | Thentroy | Tanturui | | Tintoi | Chantri | Tedoy | Thentroy |
| 296. | Tamarind (Tamarindus Indicus) | Fruits | Thentroi | | | Tintoi | | Tamarind | Tenturwi |
| 297. | Thabalong | Shoots | Thabalong | | | Blong tha | Rambal | Jaro alu | Tha bolong |
| 298. | Thabarchook | Roots | Thabarchook | | | Thabocho | Kan gbal | Thapla | Tha Borchor |
| 299. | Thabuchuk | Roots | Thabuchuk | Thabuchuk | | Thabuchuk | Thabuchuk | Thabuchuk | Thabuchuk |
| 300. | Thaganga | Roots | Thaganga | Thaganga | | Thaganga | Rambal roy | Thaganga | Thakong |
| 301. | Thalie | Fruits | Thalie | Thalie | | Thailih | Moth | | Thailik |
| 302. | Thaicumu | Fruits | Thaicumu | Thaicumu | | Thaicumu | Thaicumu | Chinoira | Thaicumu |
| 303. | Thaichwk | Fruits | Thaichwk | Thaichwk | | Thaichij | | Amm | Thaichwk |

ANNEXURE - I

| | | | | | | | | | | |
|------|-------------------------|------------|----------------|----------------|---------------|---------------|----------------|----------------------|----------------|----------------|
| 304. | Thaicing | Roots | Thaicing | Thaicing | Thaicing | Thaicing | Thaicing | Thaicing | Thaicing | Thaicing |
| 305. | Thaidrem | Fruits | Thaichrem | Thaidrem | Thaichu | Thaichu | Ribil | Thaidrem | Thaichrem | Thaichrem |
| 306. | Thaipalak | Fruits | Thaipalak | Thaipalak | Thaiphoth | Thaiphoth | Thaipalak | Oulu | Thaipalak | Thaipalak |
| 307. | Thaiplog | Fruits | Thaiplog | | | | Itang | Thaiplog | | |
| 308. | Thailiek bulai | Meat | Thailiek Bulai | Thailiek bulai | Thailih Bvlai | Thailih Bvlai | Thailiek Bulai | Thailiek Bulai | Thailiek Bulai | Thailiek Bulai |
| 309. | Thaiseram | Fruits | Thaiseram | Taiseram | Thaiseram | Thaiseram | Ribiz | Thaiseram Gogalic | Thaiseram | Thaiseram |
| 310. | Thacer | Roots | Thacer | Thacer | Thacer | Thacer | Thacer | Thacer | Thacer | Thacer |
| 311. | Thaper | Vegetables | Thaper | Thaper | Thapek | Thapek | Thaper | Thaper | Thapek | Thapek |
| 312. | Tapiyoca | Roots | Tapiyoca | Tapiyoca | Tapiyoca | Tapiyoca | Tapiyoca | Tapiyoca | Tapiyoca | Tapiyoca |
| 313. | Tharang | Roots | Tharang | Tharang | Tharang | Tharang | Tharang | Tharang | Tharang | Tharang |
| 314. | Thandeng | Roots | Thandeng | Thandeng | Thandeng | Thandeng | Thandeng | Thandeng | Thandeng | Thandeng |
| 315. | Thanaru | Shoots | Thanaru | Thanaru | Thanaru | Thanaru | Thanaru | Thanaru | Thanaru | Thanaru |
| 316. | Thaktui | Roots | Thaktui waksa | Thaktui | Thaktui | Thaktui | Thaktui | Misti Alu | Thaktui | Thaktui |
| 317. | Thakun | Roots | Thakun | Thakun | Thakun | Thakong | Rambal | Thakun | Thakun | Thakuna |
| 318. | Thorai Phantok Bring | Shoots | Thorai | Thorai | Bring | Bring | Arjang Kiti | | Thorai | Thorai |
| 319. | Thorai hadam | Shoots | Thorai | Thorai | Thorai Msouh | Thorai Msouh | | Thorai hadam | | |
| 320. | Tokmai | Firewood | Tokmai | Tokmai | Tokmai | Tokmai | | Thararang | | Thkumudna |

IMPORTANCE OF MINOR FOREST PRODUCES IN TRIBAL LIFE

| | | | | | | | | |
|------|-------------------------------|------------|--------------------------------|-------------------|-----------------|-------------------------|------------------------------|-------------------------|
| 321. | Tomato (Solanum Lycopersicum) | Vegetable | Phantok Mwkhiwi | Phantok Tameto | Phanthao Mukhoi | Blati Manta | Tomato | Bliali Baigon |
| 322. | Tokrung Boare | Flower | Tokrung Boare Tokkharung Bobar | Tokrung Boare | Tokrung Boare | Tokrung Boare | Tokrung Boare | Tokhardng Bowar |
| 323. | Tulshi | Leafs | Tulsi | Tulsi | Tulshi | Tulsi | Tulsi Binda | Tulshi |
| 324. | Usundui | Leaves | Usundui | | Osnoi | | Usundui Ujansakh | Usundui |
| 325. | Usandui Boare | Flower | Usandui Bobar | Hung puite Ahrowe | Osnoi boare | Usandui Boare | Usandui Boare Ujan Sagor Ful | Usundui Bowar |
| 326. | Watermelon | Fruits | Momial | Tarejce | Tarmoj | Momial | Tarmoj | Mophol |
| 327. | Yongchhap | Vegetables | | | | | Yongchhap | |
| 328. | Yakhung | Fish | Yakhung | Ahkiri | Yakhung | Jam Fred | Yakhung | Yakhung |
| 329. | Yanathak | Vegetables | Yanathak | Ahli Awe | | Yanathak | Yanathak | Yanathak |
| 330. | Yangla Karka/ Take | Meat | Yangla Take | Faa Meriri | Yangla | Yangla Karka Oythok Rar | Yangla Karka Beng | Yangla Karka Yonglatole |

Annexure-2

Provisions on NTFPs in different laws and schemes

- a. Ownership of NTFP, Rights and Concession –PESA, 1996; Forest Rights Act, 2006; Wildlife Protection Act, 1972 with amendments; Supply of Bamboos to Artisans Including Co-operative Societies (Orissa) Rules, 1980; JFM resolutions/directives
- b. Conservation and Production- NCA, 1976; NFP, 1988; JFM directives/resolutions; NAP, 2000; NMPB, 2001; BCA, 2002
- c. Role of Panchayat–PESA, 1996, JFM, 2002, FRA, 2006, Orissa Minor Forest Produce Administration Rules, 2002, NTFP Procurement and Trade Policy, 2000; JFM resolutions/directives

IMPORTANCE OF MINOR FOREST PRODUCTS IN TRIBAL LIFE

- d. Sustainable Harvest and Non-Destructive Harvest – NFP, 1988; JFM, 2002; MP State Forest Department spl. Order for non-destructive collection, 2005.
- e. Restriction on Negative Trade List – Biodiversity Act, 2002; Indian Forest Act, 1927; Forest Conservation Act, 1980; Wildlife Protection (Amendment) Bill, 2010
- f. Institutional Framework Strengthening – NCA, 1976; NFP, 1998; JFM, 2002
- g. Marketing Linkages – NCA, 1976; Formation of MP MFP Federation, 1984 ; JFM, 2000; JFM, 2002; NTFP Procurement and Trade Policy, 2000; GCC 1956
- h. Transit Policies – The Orissa Timber and Other Forest Produce Transit Rules 1980; NTFP Procurement and Trade Policy, 2000
- i. Pricing and Taxation– Sales Tax; VAT; Forest Development Tax; Education Cess; Royalty; Commercial Tax, NTFP Procurement and Trade Policy, 2000, Bihar Orissa Excise Act, 1915, Schedule of Rate of Forest Produce In Orissa Rules 1977,
- j. Processing and Value Addition – Available under various schemes of NMPB, Bamboo Mission, Horticulture Mission, FDA

Annexure-3

NTFP Policies

Non Timber Forest Products (NTFP) though an important resource that sustain millions of tribal, rural and forest dwelling communities livelihoods and along with these also facilitate to growth the rural economy in India, but till yet, not received the sustained and systematic support from policies in comparison to other sectors. Policies and operational management have squeezed such rights in many states. Though most of the policies of government highlight the restoration of forest-based livelihood of forest dwelling communities through proper management of NTFP, but still there is a dearth of guidelines and practices (with few exceptions). While policy-makers have tended to overestimate the employment benefits associated with timber harvests (Gillis, 1992), the significance of employment and income generation in the NTFP sector was underestimated and remains to a large extent obscure even today. In spite of strong dependency of tribal and forest

dwelling communities on NTFP, their access to these valuable resources has been unfortunately deteriorated due to several factors. Absence of proper regulatory framework, large forestland diversion to different developmental activities, nationalization of NTFP, exploitation by government owned agencies and contractors in marketing of NTFP are some of the major factors. Although there are some progressive central Acts like PESA and FRA, which clearly speak about the ownership of MFP to Gram Panchayats/ and Gram sabha, but some states still do not have any exclusive and comprehensive policy for management of NTFP. States have been exercising monopoly rights for procurement and trade of remunerative items like Kendu/ tendu leaf, sal seed, bamboo, etc for several years.

Central Policies

In India, since long time, forests have been traditionally utilized by tribals and other forest dwelling communities. They have used the forest products for their food, medicine, livelihood, etc. In the meantime, British rule introduced scientific management and commercial extraction of forest produce. These development processes were augmented by several laws and policies. The most important of these was to declare forest as state property with complete and exclusive rights of ownership as understood in Anglo-Saxon jurisprudence. Clear felling of trees, restriction of forest communities to specified areas, closure of forests to grazing and collection of forest produce was overseen by the Forest Department, which was created in 1868. The British forest regime empowered the state to declare all forests to be state property. Two mutually opposite trends were seen then. On

one hand, more & more areas were brought under the control of the forest department, and the area of Reserve Forests increased gradually, restricting access to such areas for timber and NTFP collection (etc.); and on the other hand, some feudal rulers supported reclamation of forest lands for agriculture which was the mainstay of economy. By the time of World War-I, the economic importance of forests had already increased manifold, and the revenue-oriented conservation & management approach for forests dominated. Monopoly rights over NTFPs of commercial importance (like, kendu leaves) were exercised by many feudal rulers. The fast growing colonial forest industry had immense requirement for labour and there was also a need to propagate varieties of commercially profitable trees. Migrant laborers from other parts of the country were brought into forest areas and settled into what have come to be known as 'forest villages' as distinguished from revenue villages.

The Indian Forest Act 1927 did not define minor forest produce or non-timber forest produce. Instead, it defined 'forest produce' as under (vide Section 2 of the Act with amendments):

- (a) The following whether found in, or brought from, a forest or not, that is to say,- timber, charcoal, caoutchouc, catechu, wood-oil, resin, natural varnish, bark, lac, mahua flowers, mahua seeds, [kuth], and myrabolans, and
- (b) The following when found in, or brought from a forest, that is to say,-
 - (i) Trees and leaves, flowers and fruits, and all other parts or produce not herein before mentioned, of trees,

IMPORTANCE OF MINOR FOREST PRODUCTS IN TRIBAL LIFE

- (ii) Plants not being trees (including grass, creepers, reeds and moss), and all parts or produce of such plants,
- (iii) Wild animals and skins, tusks, horns, bones, silk, cocoons, honey and wax, and all other parts or produce of animals, and
- (iv) Peat, surface soil, rock and minerals (including limestone, laterite, mineral oils, and all products of mines or quarries)

Section 2 further states the following

“Timber” includes trees, when they have fallen or have been felled, and all wood whether cut up or fashioned or hollowed out for any purpose or not; and

“Tree” includes palms, bamboos, stumps, brush-wood and canes. Evidently this provision put bamboo & cane at par with timber with adverse implications for the people. Though the ecological significance of these two species justifies to some extent the said provision as they can form good canopy cover, but scientifically neither bamboo (grass family) nor cane (palm family) can be called a tree.

Timber and few non-timber forest products of plant- and animal origin (like, ivory) were important those days. The British Forest Department was relatively liberal for other NTFPs, whereas feudal rulers were much more restrictive / oppressive in this matter as they believed all the produces belonged to them. People’s movements of 1930s and 1940s were triggered partly by such restrictive policies. Soon after independence, the feudal rulers gradually lost their ownership to the government, and people enjoyed their liberty. However, some injustice was done when the Indian government declared that reserve forests of erstwhile

ANNEXURE -III

princely states would retain the same status under the Indian Forest Act, 1927 although many of these forests were not reserved through the proper process of vesting local rights. The Forest Rights Act, 2006 is seen as an initiative to undo many such errors.

Panchayats (Extension to Scheduled Areas) Act, 1996

Panchayats (Extension to Scheduled Areas) Act, 1996 commonly known, as PESA is a historic move by the Union Government, which clearly endows gram sabha or Panchayats at appropriate level to own, control and manage MFP in Scheduled V areas. An expert committee constituted by MoEF made the following observations/conclusions to confine the term ‘minor forest produce’ to the scope available under the Indian Forest Act, 1927:

- Minor Forest Produce is the forest produce, other than timber, harvestable on a non-destructive basis. The term ‘forest produce’ and ‘timber’ will have the same meaning as in the Indian Forest Act, 1927.
- Although the 4th World Forest Congress held at Dehradun in 1954 recommended MFP should be called ‘forest produce other than wood’, and social scientists demand to recognize bamboo & khair wood as NTFP; Policy Analysis Paper IIFM 01/97 of IIFM, Bhopal says cellulose, which is a principal ingredient of woody biomass, is also found in bamboo. Further, khair wood is basically wood (timber). Regarding ‘ownership’ the Committee felt that in accordance with the spirit of the Act (PESA), the Gram sabhas/

Panchayat should be endowed with usufructory rights rather than ownership of MFPs available from all lands except wildlife sanctuaries and bio-sphere reserves, because ownership might create many complications (Gol: MoEF, 1998).

But states have their own interpretations and legislations. Andhra Pradesh gave ownership rights to the Van Suraksha Samitis (VSS, forest protection committees) with respect to all those non-wood forest products (NWFPs) for which Girijan Cooperative Corporation (GCC) did not hold the monopoly rights. The Orissa government entrusted the power to Gram Panchayats instead of giving it to Gram Sabha, but without clarifying how this ownership is different from the regulatory rights of Panchayats in non-PESA areas. Although the Central Act leaves no room for doubt that reserve forests should be considered community resources under the purview of PESA, the official assumption is that reserve forests are out of the PESA domain. For instance, the NTFP Policy of 2000 in Orissa restricts the Panchayat's control over minor forest produce in reserve forests. It says that the Gram Panchayats shall not have any control over minor forest produce collected from the reserve forests whereas the PESA, in its spirit, sought to extend ownership of minor forest produce to any forest located in the area of the village that the people had been traditionally accessing.

The policy-makers knew very well that it would be foolish to create such a distinction because it was almost impossible to differentiate between produce collected from reserve forests and that from others. Nevertheless, they went ahead with putting in place the provision that reserve forests cannot

come under the purview of PESA because the relevant laws laid down that no rights could exist in the reserve forest area.

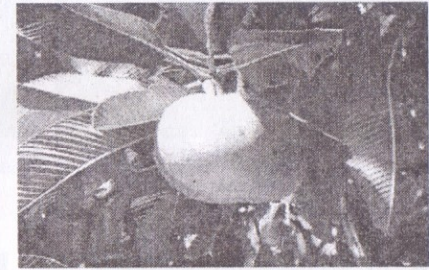
NTFP related Policies in Tripura

1. The Tripura forest (Establishment & regulation of saw mills & miles & other wood based industries) Third Amendment rule.
2. The Indian forest (Tripura second amendment) Act 1986.
3. Indian forest act 1927
4. The Tripura land revenue and land reforms (Tenth amendment) act 2013
5. Water (Prevention and control of pollution) Act 1974
6. The Air (Prevention and control of pollution) Act 1981
7. The Tripura Lokayukta (Amendment) Act 2012
8. The Environment (Protection) Act 1986.

Photo Galary : Minor Forest Products



Bantu Leaf (Ocimum basilicum)



Chalta (Delinia indica)



Deki Sakh (Diplazium esilentium)



Banana tree



Chapa kala

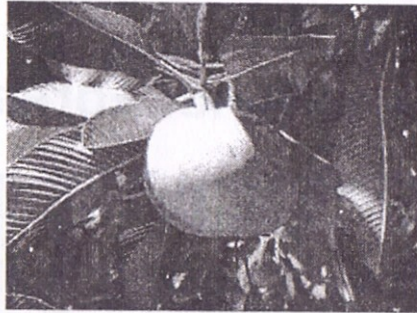


Sathkara (Citrus maxima)





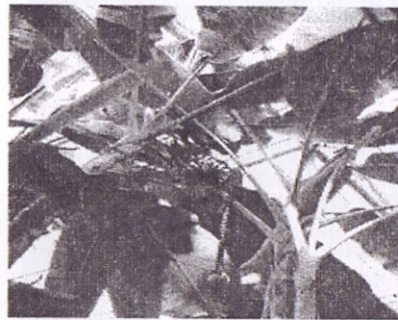
Banta Leaf (Ocimum basilicum)



Chalta (Delinia indica)



Deki Sakh (Diplazium esculentum)



Banana tree



Chapa kala



Sathkara (Citrus maxima)



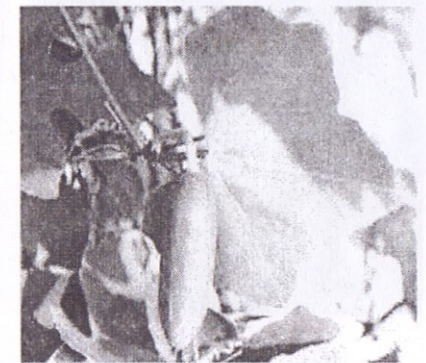
Kamranga (Avorhoea carombola)



Mango tree



Pui sakh (Basella alva)



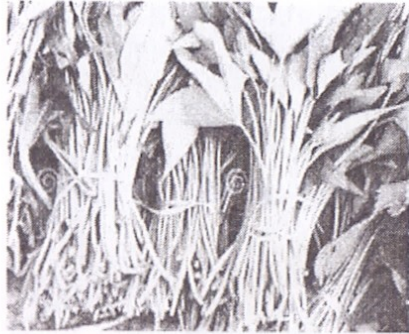
Naing chung chi (Coccinia cordifolia)



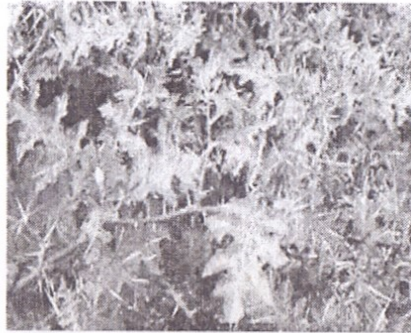
Thankuni pata (Centella asiatica)



Khargan pata (Typhonium trilobatum)



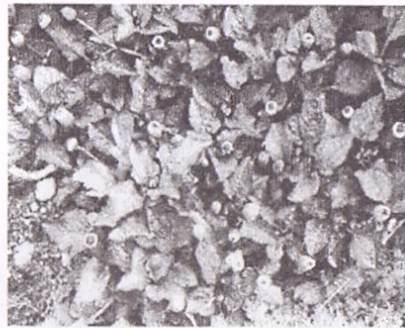
Potato leaf



Ban begun leaf (Solanum indicum)



Dhania pata (Erygium foetidum)



Jingina pata (Spilanthes paniculata)



Kachu shak



Phen kachu (Colocasia esculenta)



Tekroi (Flacoutia jungomas)



Mucha (Musa acuminata)



Tetul gach (Tamarindus indicus)



Chichiri (Monochornia hastate)



Sajne pata (Moringa oleifera)

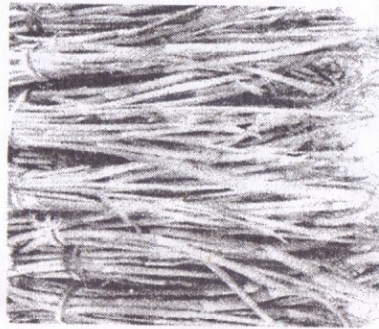


Muiching pata (Zanthoxylum panamense)

IMPORTANCE OF MINOR FOREST PRODUCTS IN TRIBAL LIFE



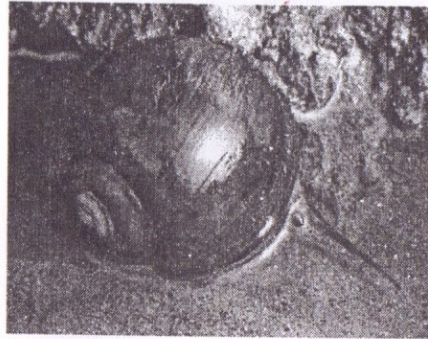
Khulekhera leaf



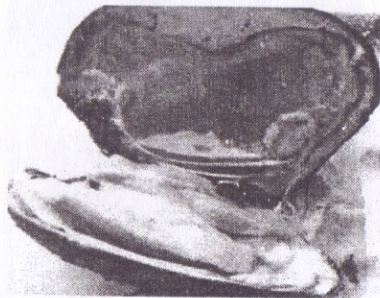
Lati (Colocasia esculenta)



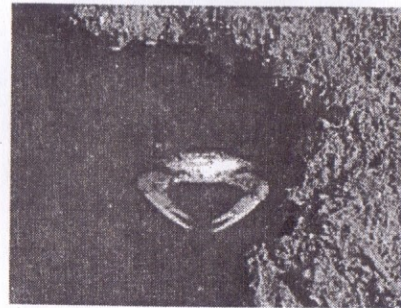
Chubui (Musa acuminata)



Shamuk (Pyla globosa)



Jhimuk (Lamellidens marginalis)

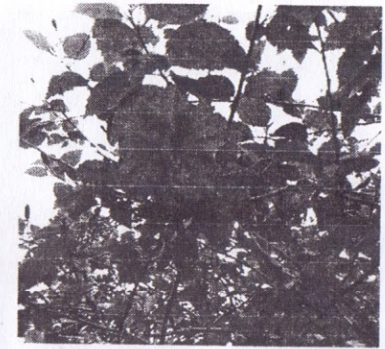


Kakra (Callinectes sapidus)

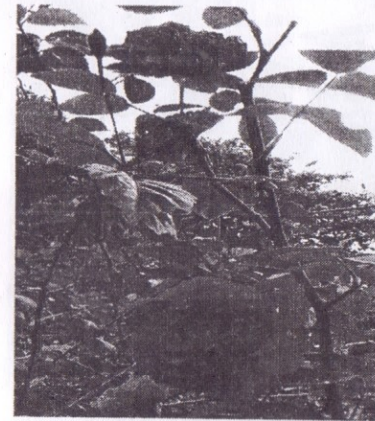
PHOTO GALARY



Supari tree



Jaba flower (Hibiscus rosa sinensis)



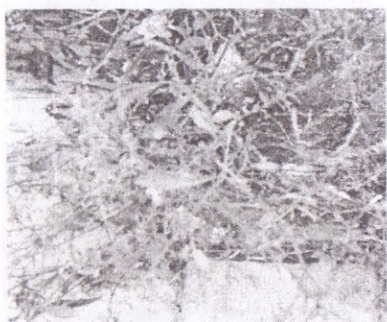
Rose



Jumka flower



Rangan flower



Kalamegh leaf



Neem pata



Patharkuchi leaf



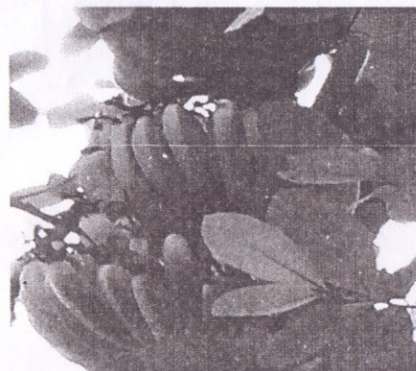
Barai Tree



Potato



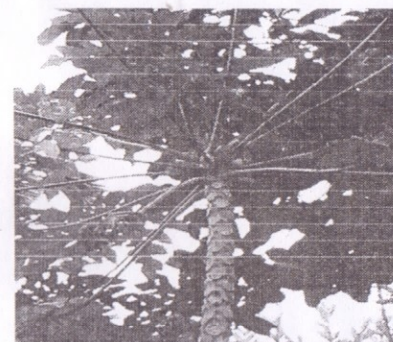
Jinjer (Zinjiber officinalis)



Kach kala



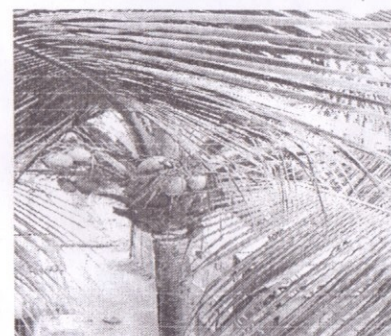
Lemon tree



Pape Tree



Payara tree



Coconut Tree



Chili