

A STUDY ON POLICY INFLUENCES ON
LIVELIHOOD OF FOREST VILLAGERS: A CASE
STUDY OF BUXA TIGER RESERVE

*Thesis Submitted to the University of North Bengal for the award of Degree
of Doctor of Philosophy (Commerce)*

Submitted By

BIJOY DEBNATH

Under the Supervision of

Dr. DEBASIS BHATTACHARYA
Associate Professor of Commerce
University of North Bengal

**DEPARTMENT OF COMMERCE
UNIVERSITY OF NORTH BENGAL**

Raja Rammohunpur, Siliguri, Dist: Darjeeling
West Bengal, India

MAY, 2017

Declaration

I hereby declare that the thesis, "A Study on Policy Influences on Livelihood of Forest Villagers: A Case Study of Buxa Tiger Reserve" is my own work and that, to the best of my knowledge and belief, it contains no material previously published or produced by another party in fulfillment, partial or otherwise, of any other degree or diploma at another University or Institute of higher learning, except where due acknowledgement is made in the text.

Bijoy Debnath 03-05-2017
Bijoy Debnath

Asst. Prof. in Commerce

Sabang Sajanikanta Mahavidyalaya

West Midnapur



DEPARTMENT OF COMMERCE
UNIVERSITY OF NORTH BENGAL

P.O. NORTH BENGAL UNIVERSITY,
Raja Rammohunpur, Dist. Darjeeling,
West Bengal, India, PIN - 734013
PHONE: (0353) 2699 474(O)
Fax: (0353) 2699 001

E-mail: debasishbu@gmail.com

Declaration

I hereby declare that the thesis, "A Study on Policy Influences on Livelihood of Forest Villagers: A Case Study of Buxa Tiger Reserve" submitted by Mr. Bijoy Debnath, is his own work and that, to the best of my knowledge and belief, it contains no material previously published or produced by another party in fulfillment, partial or otherwise, of any other degree or diploma at another University or Institute of higher learning, except where due acknowledgement is made in the text.

Debasis Bhattacharya 3/5/17

Dr. Debasis Bhattacharya

Associate Professor

Department of Commerce

University of North Bengal

Ph.D supervisor of Mr. Bijoy Debnath



*Associate Professor
Department of Commerce
University of North Bengal*

ABSTRACT

The British transformed the forests of India into many products which resulted in the endless use of wood. Development of railway network, war needs etc. increased the demand for forest resources many folds. A strict guideline on the traditional use of the forest resources was mandatory for unrestricted supply of timber. As a result, state's domination over forests was established. During this period the semi-nomadic forest communities of Dooars of eastern Himalaya received a bad deal from the colonial forest administration as their forest was declared an unoccupied wasteland.

Forestry practices and settlement policies initiated by the British entirely changed the natural features of the area by early 20th century. The plains of the area were covered with tall grasses, rich *sal* forests, and scattered land holdings. The Hills were covered by deep broadleaved forests and pastures. In these forests, there were a few *Jhumia* (shifting cultivators) settlements. These semi-nomadic communities and migrated workers settled in the forest villages to do the forestry works under forest department.

Ironically, the first independent forest policy i.e. the National Forest Policy, 1952 suggested to tightening up the privileges enjoyed by the forest dwellers during the colonial period. The policy also recommended for extensive research on forest resources to discover their commercial uses. The tiger census in the early 1970s astonished the policy makers, as a result, The Wildlife Protection Act, 1972 came into reality. The concept of Protected Area (PA) prescribed no human intervention in the forest. Some of the provisions of Wildlife sanctuary and National Park critically reduced the livelihoods of the forest dwellers.

Despite having few PAs, the overall culture regarding forest, even after the enactment of WPA, 1972 remained profit-making in nature. Clear felling coup (CFC) by FD became a familiar terminology where everything of a certain area of forest was felled and new plantation was formed. The system of CFC was so lucrative that the FD followed the practice up to 1980s. The era of conservation blocked the productive forestry and made the forest villagers irrelevant in the forest. The areas of north Bengal, which were subject to extensive commercial forestry operation, became the most badly affected places. Buxa Tiger Reserve (BTR) is one of such places.

In the above background the objectives of the study is to explore the changes in livelihood opportunities of forest villagers owing to policy interventions. The study

considered a sample size of 168 household drawn from 12 forest villages of BTR following a systematic random sampling technique. Keeping in view the major objectives of the study a few non parametric and parametric tests have been employed to arrive at meaningful conclusions.

The study revealed that the Panchayat requires a compulsory No Objection Certificate (NOC) from FD to carry out land based development as the land of forest villages legally belongs to FD. It hampered 35.58 percent of the total land based work undertaken as they got delayed due to non availability of NOC in time. A one-sample Kolmogorov-Smirnov test has been employed to explore the present livelihood pattern of the forest villagers. The results imply that the livelihoods do deviate among different families but their distribution is not significantly uniform. This is either due to the fact that earlier livelihoods have dried up or other factors influenced the villagers to adopt stray livelihoods. So far as works under FD is concerned, the thesis revealed that very little prospects are left. The Wilcoxon Signed Rank Test and McNemar Test justified that there is a significant change between the availability of livelihoods with respect to before and after the declaration of the tiger reserve.

The thesis also revealed that the forest villagers of BTR are suffering from two types of severe problems with regard to cultivation. The problems are (i) Lack of irrigation facilities and ii. crop-damage by the wildlife. Livestock rearing is a popular livelihood option in BTR, nearly 84 percent of the sample is engaged in this. However, only 6 percent of livestock keeper is found to be serious about milk production and sale. The problems of livestock deaths due to diseases and wildlife attack have taken a shape of menace in BTR. In the multiple regression analysis it is found that apart from the livestock rearing the traditional livelihoods have insignificantly explained the level of household expenditure. Among the new livelihood options service and skilled job are highly correlated with expenditure level. It is manifested from the regression analysis that the forest villagers are compelled to choose the low yielding unskilled jobs.

It may be concluded that the forest dependent community or forest villagers historically had suffered worst kind of social exclusion. This phenomenon has been accepted as “*historical injustice*” in Forest Rights Act 2006. In the present era of conservation, 50 odd Tiger Reserves, more than 500 sanctuaries, national parks etc. are the tools of it. In one hand the thesis suggests that the prevailing situation in BTR in terms of

its functioning of panchayat, institution building, educational and healthcare facilities there is probably a tacit threat to these communities to leave the forest. On the other hand it revealed that the traditional livelihoods have narrowed down significantly, villagers are forced to migrate or to accept works under panchayat and as daily labor. If one minutely observes the existing conservation practices in its totality than one can easily find that it is not actually devoid of human population. The new class of jeep borne safari riders has replaced the previous beneficiaries. The hard-core conservationist's philosophy accuses the forest dwellers, as the only obstruction in making the forest 'inviolable'. In this biased sight, the large portion of the problem like mining, forest de-reservation for big projects etc. remain grossly overlooked.

Keywords: Livelihood, Forest village, forest policy, forest acts, conservation, protected area, migration.

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P R E F A C E

The issues on conservationism, climate change and livelihoods of forest dependent communities are omnipresent in the world we live in. As a result, there has been a barrage of works that echoes on the explanations for and replies to the dilemmas on conservation policies. Forest policies and Acts in India are examples of such issues which have long-term impact on both forest ecology and forest dwellers livelihood. Forest policy interventions are of paramount importance on ensuring conservation of forest and wildlife as well as livelihood of forest dwellers. Reserves of different kinds always demanded a strict regulation on traditional use of the forest, regardless of its good or bad impact on the forest's ecology. Wildlife Protection Act, 1972 coined the concept of protected area, as a result, more and more forest areas are declared as wildlife sanctuaries and national parks. All these concepts of conservation are based on a presupposition that recognizing the rights of forest dwellers has a negative impact on the sustainability of forest in the long run. Hence, the concepts of conservation visa-a-visa forest dwellers' livelihood have attracted considerable interest of the researchers and the academicians during past few decades. It assumes further significance with the introduction of *Panchayat* (local Government) in the forest villages and the enactment of the Forest Rights Act, 2006, as the new institutions are supposed to generate alternative livelihood options for forest dwellers. It is critical for the forest villagers to accustom with those new developments and fine-tune the traditional livelihoods they practiced. This study is an honest attempt at investigating the forest policy intervention on the livelihood of forest villagers. For the purpose of the study, Buxa Tiger Reserve (BTR- A tiger reserve in North Bengal), has been selected as the field since it has witnessed commercial forestry as well as protected area management; and it is home to 37 forest villages. In this sense it is a comparative study on the available livelihood options before and after the declaration of the Tiger Reserve in Buxa. The emphasis is given on examining what kind of change has occurred in the traditional livelihood, rank of the new livelihood options, and the status of the incentivized programs (JFM) undertaken by the forest department in BTR. Since the concept of livelihood has a wider connotation which denotes not only the capabilities, assets and activities required for a means of living but also capacity to recover from stress and shocks, enhance capabilities, and access to material and social assets. Hence, the study examined the multidimensional phenomena like educational facilities, healthcare facilities, veterinary

facilities, telecommunication and electric facility etc. which in several ways encompass livelihood.

The results of this study provide the policy makers and activist groups (both wildlife & human rights) with useful information about the problems of livelihood of forest villagers, their role in forest conservation and the livelihoods that are strongly associated with their household expenditure level. The results of the study should be useful for Indian forest policy packers while developing forest and wildlife conservation strategies, the recommendations of the study may be fruitful in developing working plans.

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GLOSSARY OF WORDS IN INDIAN LANGUAGES

Anganwadis : Centers where children below the age six, are provided with nutritious food.

Baggery: to render labor without wage

bigha : Land measuring unit widely used in India. 3 *bighas* of land makes approximately one acre of land.

Boro: cultivation in dry season

fooljharu : Literally: broomsticks

Jots: cultivable land/settlement

kodo : a type of corn cultivated in the foot hills

Latka : One type of tropical fruit mainly found in forest

'Rastriya Ban-Jan Sramajibi Manch : Literally: National Federation of Forest People: A well-known organization of forest villagers of North Bengal.

Sal: A tropical hard-wood

Tendu: A kind of leave used for wrapping tobacco to make indigenous cigar.

Taungia: Literally: a type of forest village/plantation: It is a system of plantation practiced in Burma, where traditional way of shifting cultivation (i.e. slash and burn method of agriculture) was successfully used to raise teak plantation. This system was used in North Bengal During commercial forestry

tejpatta : Literally : bay leaf

Thela: Literally: handcart

ABBREVIATIONS

BTR - Buxa Tiger Reserve

DOTS - Directly Observed Treatment Short-course for treatment of TB

EDC - Eco-Development Committee

EG - expert group

FCA, 1980 - Forest Conservation Act 1980

FD - Forest Department

FD – Forest Department

FPC – forest Protection Committee

FRA, 2006 – Forest Rights Act, 2006

G.O.- Government Order

GoI - Government of India

GoWB - Government of West Bengal

IBRAD - Indian Institute for Bio-social Research and Development

IEDP - India Eco-Development Program

IFS - Indian Forest Service

India Eco-development Project or IEDP

IUCN – International Union for the Conservation of Nature

JFM – Joint Forest Management

LAMPS - Large Adivasi Multi-Purpose Society

MFP-Minor Forest Produce

Ministry of Tribal Affairs (MoTA)

NABARD- National Bank for Agriculture & Rural Development

NAEB - National Aforestation and Eco-Development Board

NESPON – North Eastern Society for Preservation of wildlife & Nature

NFFPFW – National Forum of Forest People & Forest Workers

NFP, 1988 - National Forest Policy, 1988

NGO – Non-Government Organisation

NGO- Non Governmental Organizations

NTFP - Non-Timber Forest Produce

PA – Protected Area

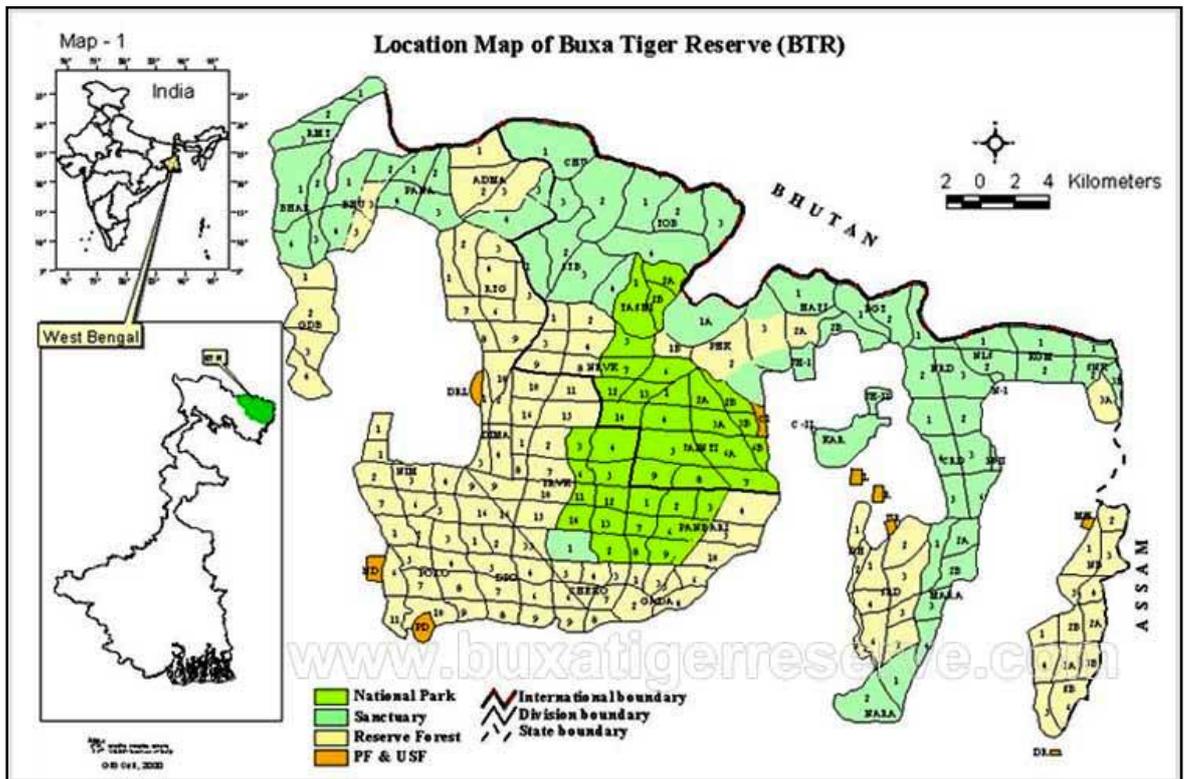
RKM- Ramakrishna Mission

SHG – Self Help Group

UNDP - United Nations Development Programme

WLPA 1972 - Wild Life Protection Act 1972

WWF - World Wildlife Fund for Nature



Source: www.buxatigerreserve.com

CHAPTER – I

ADVENT OF FOREST VILLAGE IN INDIAN FORESTS AND THEIR LIVELIHOOD PRACTICES: AN OVERVIEW

1.1 Introduction

It has been observed by the scientists that an ecological system confined to a small area may shift abruptly and irreversibly from one state to another. A recent study (Barnosky et al, 2012) reveals evidence that the global ecosystem as a whole can react in the same way and is approaching a planetary-scale critical alteration as a result of human influence. This transition is known as catastrophic change in any system. One of the main reasons for this shift in Earth's biosphere is off-course, human interference in nature in the form of deforestation. The study emphasizes the necessity to address the root causes of biological changes owing to human interventions. This is, however, not the first time that scientists warned regarding the danger of interfering too much in the field of biological environment. The most significant thing in this study is the scientific evidence that there could be a catastrophic change in the global ecosystem. This change is irreversible by nature and the time of the sudden jump that causes the system to cross the doorstep level is completely random. This situation is no doubt will demonstrate the extreme social conflict between man and nature. The great economist Carver, beautifully explained (more than a century ago) how the scarcity gave birth to a conflict between man and nature. He explained that the gift of nature varies with the change of environments; in any environment, however, plentiful it may be, there are two characteristics of human nature which will inevitably lead to scarcity. The two factors are boundless expansibility of human desires and the ever increasing growth in human population. He describes the scarcity of natural resources as a lack of synchronization, or a clash, between man and nature. (Carver, 1908)

Since then, however, people across the globe learned little as to how to preserve the nature to address the conflict mentioned above. The human being gave little emphasis in understanding how to harmonize the coexistence of man and nature. It is what has been amply proved by the study of Barnosky. This is why it is predicted that the globe is heading towards a situation, which is termed as a global environmental crisis. The situation advocates a top priority for conservation of forests. The environmentalist discourses strongly recommend forest conservation to arrest the global

environmental crisis, from becoming further critical. In most of the countries of Asia and Africa, strong legislative interventions are made to offer the conservation effort a legal framework. However, despite the legal backing, the destruction of forests continued on a regular basis. Some argue that this contradiction (between the advocated conservation policies and effectual destruction of the forest) is hidden in the legacy of British colonial forest policies (Ravi Kumar, 2010). This is particularly so, as most of the reserves were aimed at getting uninterrupted supply of forest resources, mainly timber. Declaring few selective areas of forest as reserved for wild inhabitants (Protected Area) and enacting several Acts and Policies to protect the ecosystem have always been viewed as the way of harmonizing the coexistence of man and nature. This attempt of harmonizing is effective to the extent the interest and livelihood of the people, traditionally dependent on forests are maintained or substituted. The fact is more pertinent for Indian perspective as millions of people depended on the forest for their livelihood, shelter and culture from prehistoric period (Rangarajan, 2012). However, regulation on this dependence started to surface during colonial period through different forest legislations or policies.

The colonial ruler viewed the forest as a spring of returns. With the establishment of Indian Forest Service (IFS) under the forest act of 1865, the British started recording forests under state's control. The 1865's Act, however, recognized the rights of pastoralist communities and local forest resource users. The Act suggested forest settlement officer and forest officers to deal with communities and their forest use practices, this brought dissatisfaction among the forest officials. As a result, new Act came up in 1878, which prescribed stricter control over the access of forest dependent people to forest (Guha, 1996). Clear guidance came up in Indian Forest Act, 1927. A process of creating reserve got going with the help of this Act. The Act gave the Forest Dept. immense power to take over any forest area and also to declare any further usage of the forests by traditional community illegal, if the rights ('concessions and privileges') were not recorded according to the Act (Ministry of Law, GOI., 1951).

Starting from colonial period to the decades after Independence, several forest management policies and acts were framed. In the colonial period, the aim of the ruler was to make maximum revenue out of forest. However, they did it, sometimes by taking into consideration the livelihood of local forest dwellers on a limited scale and sometimes simply ousting them from forest. After independence, it was seen that the

forest resources became a valuable part of reshaping nation's fledgling economy. The forest dependent people became an odd partner in the process of nation building, the erstwhile 'concessions and privileges' enjoyed by them were considered as overly generous in the 1952's National Forest Policy (MoEF, GOI, 1952). During the period 1960-80, a new class of traders and contractors join hands with the forest administration and an extensive commercial forestry operation continued with very little emphasis on regeneration and reforestation. This destroyed the forest, its ecology and the forest dependent people's livelihood [Poffenberger, McGean, & Khhare, 1996 : NFFPFW(a), 2001]. The Wild Life Protection Act 1972, aimed at conserving wild lives and forest, ironically, gave scant emphasis on making local forest dwellers as partners in conservation [NFFPFW(a), 2001]. This Act seriously regulated the traditional livelihoods of the forest dependent communities and the brunt of the restrictions is felt in those forest areas where commercial forestry was in full swing. The Forest Conservation Act, 1980 (WPSI; Justice Kuldip Singh, 1998) had aims like controlling logging operations, restricting conversion of forest land and creating of new livelihood options for local forest dependent people. It is observed by scholars that the Act succeeded in performing the first two aims but failed in creating livelihood options (Poffenberger, & Sing, 1996). However, the policies of 1988 (i.e. National Forest Policy 1988) and the Scheduled Tribe and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 (popularly known as FRA, 2006) have unequivocally accepted the fact of 'historical injustice' done to these communities. The policy of 1988 became successful in some places but failed in most of the places of the country due to its inherent weakness (Saxena, 1996). On the other hand, the Forest Right Act 2006 is yet to show its impact as it is in the process of execution. It is understood that right from 1865 to the age of Joint Forest Management (JFM); in the name of resource extraction, resource generation, resource utilization, conservation, and joint forest management the forest and the forest fringe villagers got gradual alienation from forest, and for that matter alienation from the traditional livelihood. This separation from the resource base is not studied adequately. The change in the livelihood pattern of forest villagers owing to the forest policy interventions is not studied empirically.

1.1.1 Forest dependent communities' livelihood

It is estimated that more than 1.5 billion inhabitants across the globe are depended on forests for their livelihood, though, the degree of dependence vary

considerably depending on the accessibility to forest resources and people's customary practices. A conservative approximation, reports that nearly 350 million forest dependent communities live in and around forests of India. These people are heavily reliant on the forests for livelihood. Moreover, around 60 million forest dwellers are found to be completely dependent on forest resources (Banerjee & Choudhury, 2013). The survival and income generating options of forest dwellers to a great extent depended on the resources available in the forest itself (Barbier, 1994; Peters, 1989). An early estimation by the researchers showed that forest resources like timber, Non-timber forest produce (NTFP) contributed almost US\$100 billion/year to the global economy for several years during the 20th century (Sharma, 1998). The contribution of NTFPs is found to be a major source of livelihood to the forest dwellers of the tropical countries (Larsen, 2000). It is well recognized by various authors pursuing research on the livelihood opportunities in the tropical regions that the resources of forests are used by the forest communities for their survival (Martin, 1995; Wollenberg, 2000; Wollenberg, 1998).

In recent times, it is also revealed by researchers that people living in the vicinity of forests extremely rely on various types of flora and fauna and the products made using them, for their own consumption and selling the same for commercial purposes (Sundriyal, 2004). The forest communities' livelihood is so heavily dependent on NTFP that researchers of the view that it causes harm to forest ecology. The academicians looked for alternative ways to support the livelihood options of the forest communities. They are of the opinion that the farming of NTFPs on a commercial basis may generate substantial income and also help to conserve the forest (Richards, 1993; Ruiz Pérez, 1996; Neumann, 2000). The reservation of forest caused a loss of livelihood and hardship to forest communities in the country. The Dooars of eastern Himalaya (foothills under Jalpaiguri and Alipurduoar districts of West Bengal) is not an exception to this. During Colonial period the forest communities of the Dooars of North Bengal got an unfavorable deal as the then forest department went ahead to reserve the forest of the area. The colonial state put forward a shoddy logic, that the reserves are created from the wasteland, so the question of prior rights of the forest community does not arise. It was done so to deny the legitimate forest rights to the very small population of forest communities (Choudhury, 2015). There existed different types of forest communities, practicing their traditional farming techniques. In this region of eastern Himalaya, the livelihood, of forest communities was primarily dependent on subsistence level

agriculture (shifting cultivation) which was again supplemented by the gathering of several food items, fodder, and fuel wood from the forest. So, access to these resource bases (assets) becomes imperative for the communities to continue with their livelihood. However, the enactment of different forest acts during the colonial period as well as during independent era prescribed curtailment of access to these resources. The forest communities of North Bengal got gradual alienation from the forest as one after another forest was declared as reserved with the help of the subsequent Acts. Rights enjoyed by the forest communities in those forests (customary rights) were either written off or converted to concessions/privileges.

1.1.2 Nature of forest use during colonial period

Forest resources of different parts of the world were indiscriminately used for British colonial expansion. The demand of timber for building ships to cater the need of the British imperialist power, for its naval force and merchant navy, was enormous. Initially, the timber required for the shipbuilding industry in Britain was mostly supplied by the North American continent, which was ceased after the American Revolution. This forced the Britain to look for another source of timber and India became an important hinterland for the supply of shipbuilding timber. Indian teak, in particular, became heavily in demand. The East Indian Company began to exploit south Indian forests to procure timber for shipbuilding. This process consumed an enormous quantum of accessible forests, soon leading to a shortage. Excessive exploitation of teak forests created a crisis especially from 1830 onwards (Ravi Kumar, 2010). Apart from the timber for shipbuilding, the forest became very important to British Colonial Ruler due to the general industrial expansion in England. An important aspect in the history of Indian forestry was the initiation of construction of railway network after 1850. In the year 1825, the first Railway running on the steam engine was launched in England. British industrialists felt the necessity to establish the same railroad connectivity in different Indian waterfronts having rich hinterlands of raw materials. Railway connectivity (railway track building) along with coach building was heavily dependent on timber. The enormity of this requirement and the extent of extraction of timber from the Indian forest may be amply clear from the following quote from the writing of a scholar. *“The construction of the railways required an enormous amount of timber because to build two kilometers of track almost 900 sleepers were needed. Indian trees, particular sal (Shorea robusta), deodar cedar (Cedrus deodara), and teak*

(Tectonagrandis) were much used as sleepers, because of their strength and perceived resistance against rotting. Already severely depleted by the clearance of forests for commercial purposes earlier in the century, India experienced a resource crunch, and the authorities realised that the intensive extraction of timber could not be sustained indefinitely” (Oosthoek, 2012). The network of railway tracks increased from 56 Km in 1853 to over 51,650 Km by the year 1910. This expansion activity in different parts of the country had a deep impact on forests in the following manner:

- (i) Railroad required the supply of the huge quantity of wooden sleepers made of grown-up trees; as a result, unexplored forests became accessible zones,
- (ii) This consequently required enormous extent of the felling of trees leading to deforestation,
- (iii) The requirement of labor supply in different remote forests made it imperative to have migrant settlements within the forest.

The prevailing situation at that time is vividly described by Hugh Cleghorn, the first Inspector General of Forests (He shared the post with Dr. Brandis) in India, in his address to the Royal Scottish Arboricultural Society, in 1874. He told the audience that “*the government in India began to be seriously embarrassed by the scarcity of timber; its attention was directed to the management of the indigenous forests*”. Timber resources in India were declining rapidly under the pressures of the high timber demand in the British Empire, local use for railroad construction and shipbuilding. Moreover, the rapid expansion of colonial agriculture which resulted in the loss of forestry cover in India during the first half of the 19th century was responsible for the rapid decline of forest resources (Stebbing, 1922).

1.1.3 The commercial forestry to conservation regime

Reserves in the British period were created primarily for the commercial gain of the state and its vested interest group. Sometimes reserves were created to provide the elite ruling class enough game species to hunt. The concept was popularly known as ‘Game Reserve’. However, both types of reserves greatly regulated the local uses of forest resources (Seberwal, 2001). The first three decades after independence witnessed a continuation of the earlier policies. In view of some scholars, the rate of destruction of the forest was more during this period as the industries (including public sector units like rail, electricity etc.) of the country received forest resources at throw away price

(Fernandes, 1996; Guha, 2000). The political environment of the time sacredly believed that the country needed foreign exchange, and the way forward is, heavily subsidized forest resources for industrialization. However, the 1970s saw a turnaround after the conference of IUCN in 1969, in Delhi. The country witnessed a new group of people called ‘conservationist’; ‘naturalist’; ‘wild-life activist’ etc. The concept of ‘protected area’ came into existence and conservation regime got going. (Rangarajan, 2012) The concept is greatly indebted to the philosophical writings of romanticists such as Thoreau, Goethe and John Muir who were in many ways regarded as the founder of the National Park movement in the USA. The writings prescribed a necessity of a fundamental relationship of an individual with the natural world to rejuvenate personality. The theoretical construct of these writings in support of protected area are based on two mythical concepts of the existence of pristine forest and human use of forest resources are detrimental to any ecosystem. They also recommended for setting aside such forests for the betterment of the spiritual health of present and future generations. The wildlife sanctuary and the national park are two types of such forests. However, there are scientists, ecologists who provided the counter-narrative of this theory. They proved that a limited degree of human interference in ecology is fruitful in gaining the diversity in the flora and fauna variety. In fact, they proved that the major bio-diversity hotspots of the globe are due to human intervention (Seberwal, 2000). The wildlife sanctuaries and the national parks that are witnessed today in North Bengal are also largely a contribution to the society by the 200 odd forest villages (NESPON, 2000).

1.1.4 Forest types and livelihood options

Until the enactment of the Wild Life Protection Act, 1972 Indian forests were categorized into three types namely (a) Reserve forest (b) Protected forest and (c) Unclassed State forest. Even today this categorization is very much present in different forest reports and documents. This classification is primarily based on the Indian Forest Act, 1927 and its various amendments thereafter. If a certain forest area is declared as a reserved or protected forest by the Government, it implies the imposition of a certain kind of restrictions or prohibitions on activities within the region. The section 20 of IFA, 1927 states that in a ‘reserve forest’ all activities are prohibited unless specifically permitted. However, ‘protected forests’ are those forests which have limited degree of protection. According to section 29 of IFA, 1927 ‘protected forests’ are those forests where all activities are permitted unless specifically prohibited. An area recorded as

forest but not included in either reserved or protected forest is called in different names like ‘Unclassed State Forest’, ‘Village Forest’ etc. (Directorate of Forests, GoWB, 2012). The enactment of Wild Life Protection Act, 1972 or WLPA, 1972 brought the concept of protected area management i.e. forest areas dedicated to particular wildlife for protection. Some protected area concepts are a) Wildlife Sanctuary, b) National Park, c) Biosphere Reserve, d) Tiger Reserve etc. However, in a tiger reserve both the concepts of wildlife sanctuary and national park may coexist. Usually, the areas under the core of a tiger reserve are governed by the concept of National Park, whereas the buffer zone of the reserve comes under the concept of Wildlife Sanctuary. (The WLPA 1972, as amended on 2006 had brought the concept of Critical Tiger Habitat or CTH in core area of tiger reserves)

Section 2(21) of WLPA, 1972 states “*Sanctuary*” means an area declared, whether under sec.26(A) or sec. 38, or deemed, under sub-section (3) of Sec. 66 to be declared as a wildlife sanctuary; and section 2(21) clarifies the meaning of National Parks as “*National Park*” means an area declared, whether under section 35. or sec.38 or deemed, under sub-section (3) of sec.66. to be declared, as a National Park (MoEF, 2012). If one notices the fundamentals of the provisions of the Act then finds the following major differences between the two concepts.

- (i) National Parks are created after the completion of settlement of human rights, whereas in Sanctuaries certain human rights may remain unsettled. In another word, a sanctuary may allow certain livelihood of people to go unhindered but in an NP everything is settled, so the question of carrying on with livelihood within the jurisdiction of the national park does not arise.
- (ii) Livelihood like livestock grazing may be allowed in a controlled way in a sanctuary but in a national park, it is prohibited.
- (iii) A sanctuary is upgraded to a national park but for a national park, the next step is not a sanctuary.

The above discussion suggests a prohibition or strict regulation of access to forest or forest resources for forest villagers in a tiger reserve. Now, it has been widely accepted that poverty trap is a spatially determined phenomenon. A study with a large sample drawing from developing countries (Farrington and Gill, 2002) identifies five spatial characteristics of the areas where rural poor are located. These are (i) low

agricultural potential, (ii) fragile ecology, (iii) weak infrastructure, (iv) poor connectivity and (v) weak functioning of markets. It does not require any empirical investigation to establish that three of these spatial characteristics (except first two) are present in the areas where forest villages are located in India. In another study by UNDP in this direction, states that nearly twenty-five percent of poor in Asia live in the mountainous area. They include forest dwellers along with indigenous people (UNDP, 1997). Shah and Guru (2005) specifically observed that regions with the significantly high proportion of rural poverty are found to be concentrated mainly in the forest region. Under these state of affairs, it is fathomed a predicament in the livelihoods of forest villagers as their livelihood to a great extent depend on forest resources. The present study is undertaken to enquire into the forest policy intervention on the livelihood of forest villagers. Buxa Tiger Reserve or BTR is chosen as the field of the study.

1.2 Forest Village

1.2.1 Forest Village in India

As per the previous discussion as noted in Chapter 1.1.3, it is easily explicable that the then developmental model required a steady flow of timber. In order to secure a continuous flow of timber, the forests had to be brought under control using a management institution that would protect the forests from local use and facilitate the production of timber (Guha, 1983). Brandis, a German botanist, and the first inspector general of the forest of India (share the position jointly with Hugh Cleghorn), had a detailed plan to save the forest of the British Empire (including Indian forest). His plan included large scale plantation of valuable timbers (commercial monoculture) following slash-burn-plant (taungia system of plantation) mechanism. This massive work of plantation and commercial harvesting needed a captive labor force. Thus, forest villages started to come up in colonial India during the second half of the 19th century as a settlement of labor colonies in remote places of the jungle. The Working Plans and Annual reports of forest department (FD) of British India make infrequent reference of these labor settlements but no systematic data on their date of establishment, geographic location, and the name of communities, are available. However, it appears from the documents of FD during the period of the late 19th century to early 20th century that the forest villages were established to execute the plan drawn by Diettrich Brandis.

From 1880 onward, the FD started to take full control of forest under the colonial state with the help of 1865's and 1878's Indian Forest Act. Many argued that the State had effectively used the mechanism of fire fighting in the process of annexation of the forest. In their opinion, as the majority of forest communities of India were Jhumias i.e. shifting cultivators, who used to burn grasslands to get cultivable land and new grasses for cattle, the controlling of fire in effect denied those people to continue with their traditional practices of livelihood. This ultimately displaced the forest people from their resource base. (NESPON, DISA, NFFPFW, 2005). Labor colonies settled for the purposes of fire fighting, plantation, and maintenance of forest was termed as 'Forest village'. Some of the people, who were once thrown out of the forest, denied traditional practices of livelihood became the first settlers in the earliest forest villages. Sometimes, old villages that had existed even before the enactment of Indian Forest Act of 1865 were also declared as 'forest villages'. This kind of forest villages are common mainly in Madhya Pradesh, the then central province and Maharashtra (Garg, 2000).

Another type of forest village that emerged during the late 19th century and continued even after the independence of the Country was known as 'Taungya'. 'Taungya' is a system of plantation practiced in Burma, where the traditional way of shifting cultivation (i.e. slash and burn method of agriculture) was successfully used to raise teak plantation. The 'Taungya' system of forestry is an important incident in Indian forestry sector. After the frequent failure to restore the Sal forest in the Indian terai, by the end of 19th century the Jhumias i.e. the shifting cultivators whom the British threw away from the forest, incidentally managed a comeback in the forested tracts. To plant the Sal and Teak forest the 'Taungya' system fetched back the fire element into the forest. The Jhumias were asked to clear fell and burn the forest and plant trees, in exchange, they were given a portion of forest land to cultivate for a couple of years. After the plantation work is over, the villagers had to move to a different place and follow the same process of slash – burn – plant trees. In this tremendous job, their only remuneration was cultivation opportunity for 3 to 4 years and some usufruct benefits like firewood, non-timber forest produces (NTFP), construction timber for building shelter etc. They had to offer mandatory free labor (*begar*) in the plantation. Sometimes, FD established permanent forest villages also, where it needed a continuous flow of labors for plantation and harvesting of timbers. With the permanent forest villagers, the FD struck an agreement where rights and duties were clearly spelled out. The British

allotted land to these forest villagers for their residence and cultivation under a periodic agreement. Agreements had conditions such as i) Villagers will be allowed free access to non-timber forest produce (NTFP) ii) They will have to render a free of cost service of 90 days in plantation works iii) After 90 days of free service they were given remuneration for their work. (Choudhury, 2015; Jha, 2010, NESPON, 2005).

Available studies of different activist groups suggest that there are approximately 7000 forest villages in the country. The independence did not bring respite in the lives of the forest villagers as the practice of establishing forest villages continued until the late 70s of the 20th century and the terms and conditions lay down by the FD remained more or less same. But the concept of free compulsory labor i.e. *begar* was abolished from the late 1960s. Though, the statutory minimum wage provision was not maintained anywhere, nevertheless, the forest villagers started to get some wages in cash (Ghosh, 2001; Jha, 2010). In the case of West Bengal, the concept of *begar* continued up to 1969.

1.2.2 Forest Villages in North Bengal

The North Bengal's *Dooars* (the land along the foothills of the Darjeeling and Bhutan Himalayas) was among the earliest areas in India, where wide-ranging work was done under the colonial forest management system. Forestry practices and settlement policies introduced by the British completely changed the natural features and vegetation of the area by early 20th century. It appears that up to late nineteenth century there were no regular villages in the region. The area was thinly populated. The plains were covered with tall grasses, rich *sal* forests, and scattered land holdings or *jots*. The Hills were covered by deep broadleaved forests and pastures. In the grasslands and the forests, there were a few human settlements. Semi-nomadic groups like the Mech, Rava, Metch in the plains and the Lepcha, Limbu, Rai and Dukpas in the Hills inhabited these settlements (Sundar, 1895; Shebbeare 1920; Homfray, 1931). All these communities practiced shifting agriculture and supplemented that with hunting/food-gathering.

Like other Indian forest dwellers, majority of North Bengal's forest dwellers also regularly burnt grasslands and scrub forests for getting the grazing field and various food items like tubers. The banning of fire from forest brought a complete tragedy for these people; as their survival base was destroyed. The self-sustaining independent communities were de-linked from their forest habitats and became refugees as the

forester threw them out of the forest. However, ironically the colonial forest department recruited these refugees as first settlers in the early forest villages in North Bengal. Massive works like creating tea gardens, raising cinchona plantation, laying railway tracks, building roads, labor intensive forestry work all needed a huge workforce, which was not present at that moment in Dooars. As a result, people from the Chottonagpore area and from neighboring countries were forcefully migrated to this place. This migrated workforce was settled mainly in tea gardens and in some forest villages (Sundar, 1895). Today North Bengal has 168 officially recognized forest villages (Govt. of West Bengal, 1997). However, there is doubt on the exact number of forest villages, activist groups suggest the number (including unrecognized forest hamlets) to be in and around 250.

'*Taungya*' system of plantation became very popular in this part of the country. *Taungya* villages created a massive resource for the state, in North Bengal. The system was so profitable that the FD followed the practice up to 1980. The era of conservation (the enactment of WLPA, 1972 & FCA, 1980) put a halt to the commercial forestry and at the same time made the forest villagers irrelevant in the forest. The areas of north Bengal, which were subject to extensive commercial forestry operation, became the most badly affected places. Buxa Tiger Reserve (BTR) is one of such places.

1.2.3. Forest Villages in Buxa Tiger Reserve

The Buxa forest was declared a tiger reserve in the year 1983. At present, BTR is one of the 48 such Tiger Reserves in India. According to the latest Review of Tiger Reserve Assessment Reports prepared by International Union for Conservation of Nature and Natural Resources (MoEF, 2005), Buxa Tiger Reserve belongs to the management cluster "doing well" along with ten others. BTR is situated in the district of Alipurduar (erstwhile district of Jalpaiguri), in the northern part of West Bengal. The population of BTR consists of aboriginals like Rava, Bhutia, Ducpa, Bodo and settled Nepalese; Santhals and Bengalis. By the start of 20th century, the Buxa region's landscape was completely changed by the British forestry practices and settlement policies. Successive acts and policies of independent India also brought about significant changes in the life and livelihood of the forest villagers in BTR.

Today, BTR has 37 forest villages amongst the 168 of such villages in North Bengal and several fixed demand holdings i.e. the areas leased out to timber merchants.

(NESPON, DISHA & NFFPFW, 2005) The BTR has 44 revenue villages surrounding the reserve and 34 tea gardens in its proximity. A population of nearly 250000 depends on this forest for fuel wood, non-timber forest produce (NTFP), grazing, and timber. The principal activity in the villages adjoining the protected area (PA) is agriculture. (Sinha & Das, 2002)

BTR has 41 forest protection committees (unit of JFM) and 20 Eco-development committees. These committees altogether protect 59370 ha. area of the reserve. Present checklist shows Buxa support 352 species of trees, 133 species of shrubs 189 species of herbs, 154 species of orchids, 6 species of cane & 4 species of bamboos. Faunal diversity of BTR shows that it supports 68 species of mammals, 41 of reptiles, 246 species of birds etc Main carnivores in BTR are Indian Tiger, Leopard, Clouded Leopard, Civet Cat, Jackal, Fox etc. & main herbivores are elephant, chital, Barking deer, Wild Pig etc. (Ibid.) . However, other available studies do not agree with the official version, they state that more than 50% of BTR's forest is degraded or semi-degraded and most of its mammalian species have vanished. As far as forest protection committees (FPC) & eco-development committees (EDC) are concerned they only exist on paper. (Karlsson, 1999.; NESPON, DISA & NFFPFW, 2005).

After the declaration of Tiger Reserve, the Buxa forest came under the jurisdiction the Wild Life Protection Act 1972 (WLPA 1972, MoEF) as BTR became a sanctuary as well as a national park. Under section 18 of WLPA 1972, The State Government may declare any forest as a sanctuary if it considers that such area is of adequate ecological, faunal, floral, natural or zoological significance, for the purpose of protecting, propagating or developing wildlife or its environment. In this connection, it must be mentioned that the definition of 'wildlife' under section 2(37) of WLPA 1972 is not only wild animals but every single thing of the forest. According to the definition grass, NTFPs, fuel-woods all fall under the category of 'wildlife' as they form a 'part of any habitat'. Apart from the above provisions the section 27(2) of the Act makes the forest villagers duty bound – (a) to prevent the commission, in the sanctuary, or an offence against this Act; (b) to help in discovering and arresting the offenders; (c) to report death of any wild animal; (d) to extinguish fire in the sanctuary; (e) to assist any forest officer in the investigation.

Further, Section 33(d) of the Act empowers the forest officials to regulate or prohibit grazing in the sanctuary. Under section 35(7) no grazing of livestock is allowed

in National Parks (Ibid.). These provisions of the Act have the potentiality to influence on the livelihood of forest villagers. The Act also prohibits extraction of minor minerals like boulders, sand etc. from the riverbeds if river bed is in a national park or in a wildlife sanctuary. It is evident a sizeable population of forest villages of BTR was engaged in boulder, stone chips and sand lifting from various streams (riverbed) flowing through BTR. The provision of the Act allegedly created complexities on these professions. The present study makes an attempt to look into the declaration of protected area (Tiger Reserve) and the outcome of that on the livelihood opportunities of forest villagers living in BTR.

1.3 Problem of the study

There is no doubt that conservation of the forest and wild lives are of immense importance. From nearly 40 percent of country's land mass as tree cover in 1952, it came down to around 22 percent in 1996. According to researchers the forest area with tree cover had gone down to around 10% by 1980 (Fernandes, 1996). However, the satellite images of 2005 (Forest Survey of India, 2009) showed that the total tree cover of the country was around 12.25% (including very dense forest and moderately dense forest). Although, there may be some disputes over the actual percentage of forest cover as estimated by Fernandes, in no way it prevents us to imagine where the country is heading. In this grim situation also, the country handed over sizeable amount of forest land including dense forest to different corporate houses for non-forestry activities. The impacts of denuded forest covers are surfacing every day in the form of drought, soil erosion, flash flood, landslide, decreased ground-water level, the rapid increment in the number of endangered species etc. The wounds of massive destructions of the past have not been healed due to the lack gestation period. Government wishes to save the forest and its inhabitants and declares plans accordingly. This effort of conservation of forest gives complete emphasis to flora, fauna, and scant reference to the livelihood problems of forest villagers. This fact also to some extent jeopardizes the effort of conservation in one hand and brings miseries to the villagers' life on the other. Nevertheless, the currently constituted Tiger Tusk Force and newly passed Forest Rights Act, 2006 implicitly express the seriousness of policy makers. In this situation, where conservation of forest and of forest villagers' livelihood becomes synonymous, the importance or the rationale of the study reaches its pinnacle.

In spite of different attempt to arrest the gradual deforestation process since independence, the erosion of forest cover could not be stopped. The mere declaration of newer and newer forest as different categories of 'reserve' could not achieve the desired objective. One has to understand the very dynamics where forest conservation and forest dwellers' livelihood options are intertwined. The present study tries to reveal this particular aspect through the assessment of livelihood options loss or gain due to the policy interventions.

1.4 Justifying Selection of Buxa Tiger Reserve (BTR) as the field of the study

BTR has been selected as the study area because this forest has experienced virtually every forest policy and Acts; right from *commercial forestry* practices to the present day's protected area management.

Secondly, before the 1980s, employment in Forest Department (FD) was the most important source of livelihood for the majority of the forest villagers of BTR. Other supplementary sources of livelihood along with subsistence level of agriculture were NTFP (non-timber forest produce) collection, livestock rearing etc. The declaration of 'tiger reserve' supposed to regulate these livelihood options. The situation provides a scope to compare two periods i.e. before the declaration of tiger reserve and after the declaration of the tiger reserve.

Thirdly, this forest has the relatively higher concentration of forest villages than other forest areas of North Bengal. Out of 168 officially declared forest villages, 37 are situated in BTR.

Fourthly, the BTR has forest villages consisting of traditional forest tribes as well as consisting of mixed population. This heterogeneity across the villages and sometime within the village will make BTR true representative of forest villages and will also show the level of dependence on the forest for livelihood amongst different communities.

Lastly, BTR is a part of the flagship program of 'Project Tiger' in India and among the earliest in the country to come under the project, 'India Eco-Development Program' (IEDP). IEDP was launched in BTR in 1996 with much enthusiasm with the intention to reduce the dependence of the local people on the forest for livelihood. To achieve this objective, 58 micro plans in 58 villages including forest villages were

prepared to generate alternative income opportunities. Here one can understand the changes in livelihood pattern owing to this intervention.

1.5 Objectives of the study

It can be distinguished from the discussion in the previous section that a significant change has taken place after the BTR was formed. In this context, an endeavor has been made to understand the occupational shifts that the villagers had to undergo to maintain their livelihood. The forest communities have very little technical knowledge and market connectivity, a precondition for diverting one's livelihood. In view of these developments, the thesis focuses on the available livelihood options of forest villagers in BTR and how they have attuned themselves with the provisions of Tiger Reserve. In this backdrop the objectives of this thesis are:

- I) to explore the changes in livelihood opportunities of forest villagers from a historical perspective,
- II) to scrutinize the problems faced by Panchayat to undertake land-based development in the forest villages of BTR
- III) to investigate the present pattern and the problems associated with the occupations of forest villagers in BTR
- IV) to examine the comparison between the available options of livelihood before the declaration of tiger reserve and after the declaration of tiger reserve
- V) to look into the relationship between the household expenditure and the varied livelihood options of forest villagers in BTR
- VI) to investigate the present status of the Joint Forest Management (JFM) especially with respect to the capacity of generating new livelihood options as well as perceptions of forest villagers regarding JFM in BTR
- VII) to integrate the objectives mentioned above and to suggest policy implications.

1.6 Hypotheses of the study

Forest villages were established, chiefly to carry out works under forest department. Before the declaration of tiger reserve the villagers' main livelihood options floated around cultivation, livestock rearing, NTFP collection and forestry work (Sinha & Yadav, 2002). It is imperative to study whether the forest villagers have drifted to

other occupations, due to the narrowing down of traditional livelihood opportunities (Poffenberger, McGean, & Khhare, 1996; Gadgil, 2000). In view of this, the following hypothesis has been framed

- I. The present occupations of the forest villagers of BTR are not uniformly distributed.
- II. During the colonial period the forests were seized by the state in the name of creating reserves but they soon became degraded as they handed over them for producing timber. The forest dependent people's requirement of forest resources were dubbed as 'biotic pressure'. (Guha, 2000). After the independence (since 1970) outlook regarding forest resources changed drastically, people started to talk more on wildlife conservation than on commercial forestry. The policy interventions brought stringent acts to protect the wild lives and their habitats (Seberwal, Rangarajan & Kothari, 2004; Rangarajan, 2012). In view of this the null hypothesis is set as:

After the declaration of the tiger reserve the livelihood options under the forest department in comparison to the situation of before the declaration of tiger reserve do not vary for the set of paired data.

- III. It is documented that the standard of living (consumption) is not associated with the reduction in forest dependence. Consumption level or standard of living do depend on the assets possessed, primary education, more nonfarm employment and business assets by the communities but not significantly on the shadow of time that a family spent on collecting forest resources (Jean-Marie, 2003). In this backdrop the null hypothesis is set as:

The level of household expenditure cannot be predicted from the type of livelihoods the villagers have adopted.

- IV. JFM, the first policy intervention in Indian forestry history which welcomed the local community's participation in conservation. The concept of conservation took the centre stage; a people's movement in this direction was initiated. The policy was supposed to establish an equivalent partnership between forest department and the communities. It got serious criticism on, the quality of partnership between department and the communities, as to what extent people's role in forest management should be respected (Bandhyapadhyay, 2005). Some scholars opined that JFM as a policy of managing forest jointly came into being because forest

department had no other way but to accept the cooperation of the communities (Chhatre, 1996.; Roy, 1992). In view of this the null hypothesis is set as:

The perception of forest villagers on the quality of partnership with forest department is not uniform.

1.7 Survey methodology

A descriptive research methodology has been followed to process the data as revealed by the respondents. A considerable effort has been made almost for one year to collect the responses from the forest villagers to identify the livelihood opportunities available to the villagers of BTR backed by evidential reasoning. The methodology involved fact finding and gathering of knowledge through continuous understanding of their occupational habits as well as opportunities. Structured questionnaires were designed to gather relevant data by mostly employing nominal scales to address the issues mentioned in the objectives. Considering the background of the respondents, multiple item scales have not been administered because they require comprehension of the scales before providing responses. Keeping in view the major objective of the study a few non parametric tests have been employed to process the data. Tests suitable for nominal scale data have also been employed to arrive at meaningful conclusions. In addition to non-parametric tests, multiple regression have been employed using a set of dummy explanatory variables to predict the expenditure pattern from various available livelihood avenues.

The study considered a sample size of 168 household drawn from 12 villages of BTR following a random sampling method discussed as bellow. The total number of registered households of forest villagers is 1011 in BTR and these households are spread over a vast area of difficult terrain in 37 remote villages. Regarding the random sample size of households, the following assumptions are considered:

- a) Population follows the Normal distribution
- b) Response distribution is 50 percent. This assumption ensures the largest sample size.
- c) Confidence level is 99 percent

Out of the finite population of 1011 registered households, the study randomly selected 168 households. Then the confidence interval of the sample size at 99 percent confidence level is calculated with the following formula as shown below:

$$E = \text{sqrt}\left[\frac{(N - n) * Z\left(\frac{c}{100}\right)^2 * r(100 - r)}{n(N - 1)}\right], \text{ where } Z\left(\frac{c}{100}\right) \text{ is the critical value for the}$$

confidence level c, r is the response distribution, n is the sample size and N is the population size. The confidence interval is found to be 9.09 percent which is reasonably satisfactory for the survey of the thesis. This confidence interval at 99 percent confidence level justifies the sample size. Computations are given in a table below:

	N (Population)	1011
	n (Size of the sample selected randomly)	168
	Z (Critical vale at 99 percent confidence level)	2.58
	r (Response distribution 50 percent)	0.5
	N-n	843
	$(N - n) * Z\left(\frac{c}{100}\right)^2 * r(100 - r) - - (1)$	1402.836
	$n(N-1) - - (2)$	169680
	Ratio (1)/(2)	0.008267
	E (Confidence Interval)	0.090923

(Hamburg,1985 : Zacks, 1981)

Since the works under the panchayat is an important alternative livelihood options and most of the works undertaken by Panchayat are land based, it is imperative to look into the functioning of Panchayat. In view of this, a separate structured questionnaire is developed to interview the Panchayat members of the concerned villages to focus on the functioning of Panchayat (Local Government) in forest villages.

Secondary data are used as and when needed from sources like Census, publications of MOEF & MoTA, Various departmental reports, working plans of FD, Annual Reports of FD, various Forest Acts and policies, and other relevant policy documents.

1.8. The reason behind preferring the concept of Livelihood

The reason behind preferring Livelihood as a tool for measuring the qualitative changes in the socio-economic condition of forest villagers due to the emergence of new forest policies and Acts is subdivided into three parts, part one discusses the definitions

of livelihood provided by several pundits, part two discusses the links between sustainable livelihood approach and other poverty eradication approaches and part three discusses the rationale behind choosing the livelihood concept as a tool of measurement.

1.8.1 Emergence of the concept of Livelihood

Since the study emphasizes on the policy influences on the livelihood of forest villagers it becomes mandatory to define livelihood and put forward the rationality behind selecting ‘Livelihood’ as a tool to examine the socio-economic condition of forest villagers of BTR after the declaration of Tiger Reserve. The concept of ‘Livelihood’ or ‘Sustainable Livelihood’ champions people’s capacity to work and access to assets (resource base) as the two focal points which decide a community’s capacity to survive and prosper. It also theorizes the protection of the means of livelihood for the future generation while continuing with the livelihood of the current generation. It has been articulated by several pundits in the following manner.

The notion of sustainable development approach (SLA) is lengthily acknowledged to Robert Chambers and Gordon Conway at the Institute of Development Studies (IDS). The term ‘livelihood’ was eloquently described by the great economists as: *“A livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base.”* (Chambers, 1992)

Here livelihoods are not merely ‘means of living’ but also the entitlements the community has over resources which generate livelihoods and their capability to use such resources. The other salient point in Chamber’s definition is inter-generational sustainability, at the same time strength to withstand risks. The definition articulated by DFID - the UK-based Department For International Development (DFID) is actually adopted from the definition given by Chambers, R and G. Conway (DFID, 1999).

Krishnaraj M. (2006) provides an explanation of livelihood which is assumed to be more comprehensive as it emphasizes on the process of institution building and makes the institution a part of the development program. The author pointed out that *“a more realistic assessment of poor peoples’ livelihoods and the factors that shape them; building a policy and institutional environment that support poor peoples’ livelihoods;*

support for development that builds on the strengths of poor people and provides them with opportunities to improve their livelihoods.” This is a vital and important aspect of livelihood. It indicates that the livelihood issue is not a static, one-time subject but a dynamic process. Thus it identifies how the question of sustainability is to be addressed. By doing so the author emphasizes on the formation of policy, creation of institutional environment and chalks out the concept of development that encompasses the poor people’s livelihood as one of the important factors (Krishnaraj, 2006).

The definition of ‘sustainable livelihood’ is articulated by International Fund for Agricultural Development (IFAD) in the following manner, *“the sustainable livelihood approach (SLA) is a way to improve understanding of the livelihoods of poor people. It draws on the main factors that affect poor people’s livelihoods and the typical relationships between these factors. It can be used in planning new development activities and in assessing the contribution that existing activities have made to sustaining livelihoods”*

In this definition, two components immerge as most vital – (a) a structure that enables to understand the complexities of poverty and (b) a set of principles to guide plans, programs to address and overcome poverty. SLA has 7 guiding principles. They do not prescribe any uniform solution and method but looks for a solution that is flexible and adaptable to the diverse local conditions. The guiding principles are-

- Be people-centric.
- Be holistic.
- Be dynamic. SLA builds on peoples’ dynamic nature of livelihoods and what influences them.
- Build on strength. SLA builds on peoples’ strengths and opportunities instead of focusing on the problems and need. It supports existing livelihood strategies.
- Promote micro-macro links. SLA examines the influence of policies and institutions on livelihood options and highlights the need for policies to be informed by insights from the local level and by the priorities of the poor.
- Encourage broad partnerships. SLA counts on broad partnerships drawing on both the public and the private sector.
- Aim for sustainability. Sustainability is important if poverty reduction is to be long-term.

In the SLA framework, closest to the people at the center are resources and livelihood assets on which they have access. These may include natural resources, technologies, skills, knowledge and capacity, health, access to education, sources of credit, or their networks of social support. The extent of these accesses is determined by the vulnerability context of the people. The access to these resources is also influenced by the prevailing social, institutional, and political environment (IFAD-International Fund for Agricultural Development).

The Bruntland Commission Report 1987, published by The World Commission on Environment and Development threw a new light on policy debates which materialized as a Sustainable Livelihood Approach (SLA). The report decisively placed the concept of sustainable development on the global political agenda. It defines sustainable development as: *“development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts: the concept of ‘needs’, in particular, the essential needs of the world’s poor, to which overriding priority should be given; and the idea of limitations imposed by the environment’s ability to meet present and future needs.”* The much of the analysis of the report were well accepted in the first Human Development Report of the United Nations Development Program, 1990. This and subsequent reports addressed development in terms of individual or household health, education and well-being, thus shifting the focus away from the macroeconomic bias of earlier development thinking. Many of the points that subsequently came into the analysis of SLA were present in Bruntland’s Report. The focus on poor and their needs; importance to citizen’s participation, the emphasis on self-reliance and sustainability; the ecological constraint all became powerful terms in the lexicon of international development policy and politics, particularly in the works of the UN’s 1992 Environment Conference in Rio, the 1995 World Summit for Social Development and the World Food Summit 1996 (Solesbury, 2003)

1.8.2 Comparative analysis of Sustainable Livelihoods Approaches (SLA) with other approaches

Right-based Approaches and SLA: The aim of right-based approach (RBA) to development is to ensure human rights for all. The rights may be classified as civil, political, economic, social and cultural rights (e.g. the right to health, education, shelter, land, and livelihood). A rights perspective loosely links between political eccentricity

and poverty and values the issues of social differentiations and social exclusion. RBAs are concerned with entitlements to basic services and livelihood for individual as well as for the community. Thus, entitlements represent claims or demand that an individual or group can make to the state. RBAs emphasizes on the political empowerment which teaches the community to claim their legitimate rights.

There is a natural closeness between RBAs and SLAs because both are concerned with the inequality of access to rights and resources. The essential components of both the approaches are of promoting empowerment, participation, and accountability. RBA ensures that the poor can enjoy their rights and SLAs emphasizes on the formulation of livelihood strategies. SLA can identify which rights are important for peoples' livelihoods. It encourages a holistic analysis of the social and political context in which the rights are present or absent. SLA can help identifying or prioritizing entry point of the rights execution. SLA can suggest ways for improving all rights incrementally, rather than prioritizing one right over others (DFID, 1999).

Participatory Poverty Assessments (PPAs) & SLAs: there are strong links between PPAs and SLAs. PPAs have been instrumental in counting the concern of the poor in the analysis of the poverty and developing strategies to tackle it. PPAs in early days were mostly used to prepare particular broader documents like World Bank Country Poverty Assessment, UN Country Human Development Report. Like livelihood analysis, PPAs follow the traditions of participatory research and action. The two approaches share many things in common like importance on vulnerability to shocks and trends and on various kinds of assets. However, since both vary by context, it would be wise not to link the two in any given case. (Ibid, 1999)

Sector-wide approaches and livelihoods approaches: livelihood and Sector-wide approaches are complementary to each other. Livelihood analysis gives heavy importance on understanding the structures and processes that govern peoples' access to assets and their choice of livelihood strategies. Whereas Sector-wide support programs become appropriate when the major constraint is the bad performance by a particular govt. agency or department. (Ibid, 1999)

Integrated Rural Development (IRD) and livelihood approach: livelihood approach had been criticized for its close links with the allegedly failed integrated rural development approaches of the 1970s. Though the two approaches share common things

but the SLA endeavors to build upon the strength of IRD. Like IRD, SLA also recognizes the need of a broad-based support in rural areas. SLA gives emphasis on all poverty reduction factors but targets just a few core areas after thorough, analysis of existing livelihoods. The livelihoods approach does not have the objective of creating integrated programs in rural areas. The livelihoods approach gives a high degree of importance to a macro level and institutional factors where there are major constraints. Whereas IRD was compelled to function in a holistic macroeconomic and institutional environment.(Ibid, 1999)

The livelihood approach is an idea emerged over less than a decade between 1987 and 1997, from researchers who conceptualized both emergent theories and practice. The development of the approach is contributed by researchers, practitioners and policy makers. Sometimes they worked alone within their ambit of research or within the boundary of a village or community; sometimes they crossed the barrier and engaged with others through writings, discussions, and collaborations. Important interactions seemed to have occurred in different time which gave a new impetus to the development of Sustainable Livelihoods Approach. 4 such key interactions are:

- The emergence of SLA as a new paradigm in the early 1990s.
- Its subsequent adoption by some development and research agencies.
- Its political endorsement in the 1997 White Paper.
- The operationalisation of SLA within DFID in the late 1990s. (dfid, 1999)

1.8.3 Rationale behind choosing livelihood approach

The paper presented by Chambers and Conway in Institute of Development Studies (IDS) in 1992, explicitly recognized that the concept of livelihood was both reacting against and building on earlier thoughts. It reacted against many previous analyses on production, employment and income as a misfit to the complex and diverse realities of most rural life. It argued that sustainable livelihoods provide links between the concepts of capability, equity, and sustainability. The paper also offered a framework for development thinking that was both normative and practical. Their concluding policy prescription was presented by three headings: Enhancing Capability, Improving Equity, and Increasing Social Sustainability. Finally, they described their purpose of the paper and acknowledged that they have tried to open up and explore concepts, correlations, and relationships to fit future needs (Chambers,1992).

The Livelihood approach is seen as more people centric than the notion of 'employment' and 'poverty eradication'. It is important to possess means of living tested over time. This does not mean a particular way of earning livings but the availability of alternatives even in changing environments. The alternatives may appear sound today but might bring vulnerabilities to future livelihoods. The glaring examples of the cotton farmers of our country who are committing suicide due to excessive loans, repeated crop failure and fall in market price. It is understood that the poverty is not a static destiny; it is an episodic phenomenon, people fall into it and comes out of it. The scholars think that the income measure of poverty is one dimensional and there are serious limitations and misgivings in the concept of the poverty line. This approach often ignores the overall development perspective that would enhance peoples' power to manage their livelihoods (Krishnaraj, 2006). In the present thesis, the search for alternatives in the wake of new forest policies and Acts is one of the main objectives of the study.

Calorie requirement approach is based on many methodological assumptions (Saith 2005; Agarwal, 2004). The large regional variation of India negates the meaningfulness of any national poverty line. Using 17 indicators Shaban and Bhole (2000) inferred that social transformation of rural India is possible through planned development by improvement in health, education, income, safe drinking water, sanitation, energy, housing, transport, and communication. The regions that are developed had a high degree of co-linearity among the 17 indicators than others (Shaban & Bhole, 2000).

A future orientation to livelihoods research paves the ways of delicate differences as compared to economic calculations of farm viability. This future orientation to livelihoods also provides a more nuanced picture as compared to economic calculations of the ability and willingness of different household groupings to invest in agriculture. By employing this approach, the probability of identifying the groups that will suffer chronic poverty is enhanced. Finally, a future orientation to livelihoods helps to identify those institutional and structural conditions that adversely shape livelihoods, and as a result, proper treatment can be provided (Jakimow, Williams, & Tllaprogada, 2013).

Social vulnerability is more important parameter than only income or food deficiency. The ambiguity involved even in the interpretation of changes in consumption pattern is well debated. Considering all these shortcomings of different poverty

eradication approaches, a livelihood based approach is adopted to study the influence of policy intervention on forest villagers' life.

1.9 Plan of the Study

The thesis spans over six chapters including, the present one as Chapter I on the title "Advent of forest village in Indian forests and peoples livelihood: An Overview". "The Review of literature" is presented in Chapter II. It is divided into three parts to understand the perspectives placed by the different sections of people of the society who opine, write, love and agitate for the rights of wild animals as well as for human being.

Chapter III contains a discussion on the policy interventions at different point of time under the head "Policy Interventions on Forest Villagers Livelihood: A chronological review". The chapter IV contains, "A specific discussion on the provisions of livelihood for forest villagers under different forest policies and Acts."

The chapter V shows the results of the survey in different tables. This Chapter also investigates the results with the help of different statistical tools. A significant portion of the chapter is dedicated on the examination of the performance of Panchayat and The Forest Rights Act, 2006. Chapter VI provides summary conclusion and policy recommendations.

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CHAPTER – II

AN OVERVIEW OF LITERATURE

2.1 Introduction

The overview of literature is divided into three parts to understand the perspectives placed by the different sections of people of the society who opine, write, love and agitate for the rights of wild animals as well as of human. Some of them frame policies for forest and some act as pressure group in policy framing and altering existing policies and Acts. It is witnessed that wildlife activists as well as human right activists are often entrusted with the duty of framing the drafts of Acts and policies on forest; so there is a possibility of overlapping of thoughts between these groups while representing a particular group. Other than the activists the academicians influence the process of opinion making. In this chapter opinion of the academicians are sub-divided according to their present theoretical content in the mentioned paper. Sometimes the foresters (i.e. the forest bueorocrate) are also assigned with the duty of framing forest Acts. However, the custodian of any policy or Act is ultimately the State and also the implementing agency of the said Act is also the State. So the State's views and observations expressed through different literatures are vital in this discussion.

2.2 Policy makers and planners view

The study by Barnosky (2012) argues that unexpected change in local level ecological environment is not rare, but the same unforeseen change of radical nature may happen to the whole planet. This transition or change is described by him as catastrophic change in any system and he emphasized that it happens due to human intervention. One of the main interferences is of course, deforestation that forced the Earth to its present probability. The study emphasizes the necessity to address root causes of how humans are forcing biological changes. This is, however, not the first time that scientists warned the human being regarding the danger of too much interference in the sphere of biological environment (Barnosky, 2012). The study compels the society to seriously ponder over the human interference on the eco-system in the form of green house gas emissions, pollutions of different kinds and deforestation.

During the annexation of forest into state's fold the British viewed the traditional uses of forest by the communities as wasteful and detrimental for forest's ecology. The early writings of British foresters suggest that they probably failed to understand the

traditional livelihood of the forest dependent communities and for that matter the symbiotic relationship between the communities and nature. They prescribed creation of reserves for uninterrupted supply of timber to the whole of British Empire. The level of extraction of timber was so enormous that even the British foresters expressed their shocks during the colonial period (Stebbing, 1922). However, in this connection it must be mentioned here that the same commercial extraction of forest resources helped the forest dependent communities to stage a comeback to the forest to do different types of forestry works. The concept of establishing forest villages got going in Indian forests.

The National Forest Policy 1952, (APFD, forest.ap.nic.in) the first independent forest policy of the country; started with an introduction, which explains the causes of destruction of forests. The causes are enlisted in the following manner; (i) the needs of the two world wars and (ii) heavy dependence of industries on forest. However, instead of addressing the causes of forest destruction the policy presented a special thought on the traditional forest use of the forest dependent communities and prescribed several regulations on their livelihoods which were believed by the policy makers as to be detrimental to forest's ecosystem. The policy pronounced that the forest, is '*a national asset*', so it cannot be left to free ride for the local forest dependent communities. As a result, the policy suggested a stricter approach on the erstwhile privileges and concessions (during British period) enjoyed by the local communities. The rights and privileges were respected where commercial value and ecological importance of the forest was less. The policy also recommended allowing the rights and privileges wherever the forest has the carrying capacity; and it should be calculated on the basis of scientific knowledge of forest. However, the policy forgot to control low-priced supply of forest raw materials to industry which it accuses as one of the main reasons behind destruction of forest. Ironically, it emphasized on the uninterrupted supply of timber to industry, defense, and transportation departments. The National Forest Policy 1952, recommended ban on all sort of shifting cultivation (heavily practiced in North Eastern India including North Bengal) and suggested to use the technique of shifting cultivation in forest plantation. The policy seriously regulated the age old profession of cattle rearing by forest dwellers as it laid down a stricture on grazing, restricting it to rotational grazing, charging a fee and banning or minimizing grazing in Protected Forests.

With the enactment of Wildlife protection Act, 1972 the conservationists in India put a firm step forward. It took roughly two decades to make the political environment

favorable for the legislative intervention in this direction. Among the pioneer top brass whose name deserved to be mentioned here are S.P. Shahi of the state of Bihar and Saroj Raj Chaudhury of the state of Orissa, both these officers were powerless until the ban on tiger shooting on July 1970. Among the politicians, the then Prime Minister Indira Gandhi's name comes in the fore-front. She had a personal relationship with several conservationists and wildlife enthusiast bureaucrats of the era. Among the bureaucrats one was M.K. Ranjit Sinha an officer of the Indian Administrative Service and the other was Kailash Sankhala, a forester who was a strong critic of hunters and commercial forestry. Mr. Sankhala presided over the nationwide effort to assess the number of tigers in the forest and preserve it in the wild. And Ranjit Sinha played a very crucial role in drafting the new law, the Wildlife Protection Act of 1972 (Rangarajan, 2012) A new conservation effort came into being with the launch of 'Project Tiger' in the year 1973, at that time it was the leading wildlife conservation Project in the World. It took another ten years to declare Buxa forest as a Tiger Reserve in the year 1983. Researchers across the country viewed this conservation effort i.e. project tiger as an appropriate one as it calls to save the top predator of the jungle. The logic put forwarded by them is, if one aims to save the top predator automatically saves the other wild lives. However, this conservation philosophy discourages productive forestry i.e. a forestry activity which focuses on plantation and harvesting of commercially valuable timber. As a result of this the forest villagers whose primary work was plantation and harvesting of timber became redundant in the forest. The new conservation philosophy became popular across the country, nearly 5 percent of the country's land mass (quality forest) falls under this category of forest. The protected area network is increasing at good speed in India (ibid.)

The Wild Life (Protection) Act, 1972 came into force with the objective of effective controlling of poaching and illegal trading of animal body parts. In order to save the wild lives this Act brought such stringent provisions that it virtually stopped one of the main economic activities of the forest villagers. The Act has borrowed many processes of settlement of land rights and forest use rights which were pronounced in the Indian Forest Act, 1927. It also brought two new concepts in the Indian forestry policies, the Wildlife Sanctuary and National Park. The sections 18-24 of the Act state that the state government by notification can declare any forest as wildlife sanctuary if it considers that the area is ecologically rich and need to be conserved. Notification is also done to register whatever rights (land or customary) local people have on that forest. It is

a complex process of determination of rights (MoEF, 2012). As a result many forest dependent communities including forest villagers got separated from the resource base they depended upon (for detail see chapter III).

At the beginning of the 20th century, the tiger population in India was roughly 40000, which dwindled down to 1827 in 1972. This report forced to bring the concept of 'project tiger' in 1973. Presently there are 48 tiger projects in the country. The tiger reserves were designed in core and buffer strategy. The core areas were freed from all types of human activities and the buffer areas were subjected to "*conservation-oriented land use*". Management plans were drawn keeping in mind that all form of human exploitation and biotic pressure are eliminated from the core area and standardization of activities are done in the buffer area. This approach is thought to provide a support system to wildlife protection, with the help of the systems like wireless communication, outstation petrol etc. It is also believed that the voluntary village rehabilitation from protected areas will be possible by a mutual understanding between forest villagers and forest department and it will improve the carrying capacity of the reserves. There are other plans like the introduction of high-tech information system, establishment of tiger tusk force with improvised weapons, surveillance from sky etc. (MoEF.GOI, 2012). The conservation concept beginning to face serious criticism since early twenty first century both in the hands of conservationists and human right activists. The last nail on the coffin came in the form of the incident in Sariska, Rajasthan. The Sariska is a famed tiger reserve having 1213 sq.km of area under its territory, came into limelight in 2005, when it was exposed that tiger has vanished from the forest despite all the efforts of tiger conservation. A Tiger task force was created to look into the crisis which in turn instituted National Tiger Conservation Authority or NTCA. The NTCA suggested many steps to revitalize the condition (Shahabuddin, 2007). One of the main suggestions revised the earlier norm of 300 sq. km. of 'inviolable' area to an area ranging from 1000 to 3000 sq. km. and an extra area of 800 to 1200 sq. km. as buffer zone for 20 breeding tigresses. This suggestion enhanced the possibility of increasing the area under tiger reserves many fold, as most of the tiger reserves were of smaller in sizes. Only 10 reserves out of the 48 have more than 1000 sq. km in their core area, whereas BTR has only 760.87 km² area comprising core and buffer together (NTCA, 2012). The suggestion of the NTCA unwrapped a probability of increasing the core area of BTR from merely 390.58 sq. km (Buxa National Park 117.23 sq. km and 273.35 sq. km Buxa

Wildlife Sanctuary) (Buxa Tiger Reserve, 2015) to a upper limit and thus increasing the vulnerability in maintaining the present livelihood of forest villagers of BTR in the buffer zone.

The official data suggest 79 percent of the tiger reserves have less than the viable population of tiger. The NTCA believes that forest dwellers in the protected area are detrimental for wildlife as a result; priority has been given to relocation ('millennium goal') of forest dwellers from the tiger reserves to make the reserves 'inviolable'. On this pretext, relocation of forest dwellers of 27 hamlets spread across core and buffer of Sariska was started after 2005 on the basis of 'mutual understanding'. However, available study suggests neither the relocation was mutual nor the forest dwellers' happily accepted the rehabilitation package (Shahabuddin, 2007).

Forest Conservation Act, 1980 was enacted primarily to stop the diversion of forestland for non-forestry purposes. It spells out that diversion of forestland for non-forestry purpose requires approval of Central Government, cultivation of fruit bearing trees or oil-bearing plants or medicinal plants would also require prior approval of Central Government. Boulders, sand etc. in the riverbeds, located within forest area would constitute a part of the forest and their removal would require prior approval of the Central Government. Clearing of naturally grown trees in any forest area, including for the purpose of reforestation would also require a prior approval of Central Government (WPSI, 1998). One of the primary occupations of forest villagers in North Bengal and particularly in BTR was works under the forest department or under contractors engaged in commercial forestry. The enactment of the Forest Conservation Act brought to a virtual end to these productive activities, as a result forest villagers became uncalled-for in the forest (Gupta, 2005).

National Forest Policy's (1988) stated aim has been to restore environmental stability and maintenance of ecological balance. The policy acknowledged the symbiotic relationship of tribal people with forest. It gave emphasis on the protection and improvement in production of MFP (minor forest produce /NTFP) which provides sustenance to tribal population and other communities residing in and around the forest. It also suggested that a massive need-based and time-bound program of afforestation with particular emphasize on fuel wood and fodder development on all degraded and denuded lands in the country, irrespective of forest or non-forestland. The policy reversed the 1952's position and adopted strong policy resolutions for protecting the

rights and concessions enjoyed by the forest dependent tribal. It recommended for giving emphasis on the requirements of fuel wood, fodder, NTFP and construction timber of forest dependent communities. It also said that the Development of forest villages should be at par with revenue villages and the central government, the state governments should frame appropriate legislation to implement the policy. With this guideline in mind, the policy makers introduced joint forest management (JFM) and later on eco-development committees in the villages of protected areas (i.e. in sanctuaries and national parks) (WPSI,1998).

According to National Conservation Strategy and Policy Statement on Environment and Development, only the consciousness about the environment can reverse the problem of environmental degradation. It thinks that the environmental problems are arising out of two causes; firstly, ill effects of development secondly, negative impacts of poverty and under development. The report suggested establishing a direct relationship between local people and industries for transferring of industrial raw materials but at the same time, it cautioned the local farmers not to use their prime farmland for the purpose of producing forest products like pulp woods, plywood, bamboo etc. In order to address the negative impact of population growth and under development the report suggested remedies such as; (i) population control, (ii.) Reduction in livestock numbers, (iii) Creation of protected area network by giving full and appropriate rehabilitation, (iv) Plant fuel-wood species in village common lands and regenerate degraded forest,(v) Regenerate wasteland with the help of private partners (National Conservation Strategy and Policy Statement on Environment and Development, 1992).

The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 unambiguously states that in the time of recording forest in state's control during the colonial period as well as during independent India, the local peoples' land and customary rights were not recognized. The Act termed this injustice as a 'historical injustice' to the forest dwellers and asserted that the local forest dependent communities are an integral part of the forest ecosystem. This Act grants a right to frame an institution called '*Gram Sabha*' to manage natural resources, to collect non- timber forest produce, to do land-based development, to frame own rules & regulations to control and manage forest etc. The rights that are furnished in the Act to the forest

dwelling ST and other traditional forest dwellers can be enumerated in the following fashion.

- Right to hold and live in the forest land under individual or common occupation for habitation or for self-cultivation for livelihood;
- Right to own, access to collect, use, and dispose of minor forest produce (MFP);
- Community rights of use or entitlements of fish and other products of water bodies, grazing and traditional collection of seasonal forest products;
- Right in or over disputed lands under any nomenclature;
- Rights for conversion of *Pattas* or leases or grants issued by any local authority or State Government on forest lands to titles;
- Rights of settlement and conversion of all forest villages, old habitation, unsurveyed villages and other villages in forests, whether recorded, notified or not into revenue villages
- Rights which are recognized under any State Law or Laws of any Autonomous District Council or Autonomous Regional Council will be treated as rights;
- Any other traditional customary rights enjoyed by the communities except hunting, trapping or extracting a part of the body of any species of wild animal;
- Right to in situ rehabilitation including alternative land in cases where the communities have been illegally evicted from forest land of any type without receiving their legal entitlement to rehabilitation prior to the 13th December 2005;
- Central Government shall provide for diversion of forest land for schools, hospital, *anganwadis*, electric and telecommunication lines, fair price shops, drinking water facilities, minor irrigation canals, roads and community centers etc. provided managed by the Government and involve felling of trees not exceeding seventy-five per hectare; (The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006). The Rules of the Act was passed in the year 2008, it is in the process of implementation in the forest villages of North Bengal and yet to show results on the ground. According to Ministry of Tribal Affairs (MoTA) 16524 title deeds have been distributed and 15285 title deeds are ready to be distributed in West Bengal, till 31 May 2014.

Conversion rate of claims into delivery or ready to delivery of title deeds in the state is 23 per cent, which is below the national average of 38 per cent. However, in the month of April 2014, there is not a single claim received or title deeds delivered in West Bengal (MoTA, 2014). The official report points to that the execution level is below expectation and, the process of implementation of FRA 2006 has slowed down considerably.

The official records of forest department suggest that the forests of Buxa Tiger Reserve face the problem of grazing, illicit felling of trees, gathering of NTFPs, hunting, uncontrolled fires, monoculture plantations, and diversion of forest land for development activities. The records also admit that the transition from the commercial forestry to the conservation era has created unemployment in the forest villages and in the forest fringe villages of BTR. However, the records believe that the India Eco-Development Project (a project to popularize JFM) has taken care of the unemployment problem. The official documents suggest that the Forest Protection Committees (FPC) and the Eco Development Committees (EDC) are functioning almost like a political entity. The records believe that the institutions of conservation i.e. FPC and EDC are functioning in such a way that they are removing the stigma of ‘timber thief’ that has been leveled on them by the popular media. The committees are functioning against illicit grazing in the forest, resolving different types of problems through collective decisions. Over Rs. 23 corers were spent to generate alternative income opportunities. It is observed that 292 self-help groups have been formed in the forest villages and forest fringe villages of BTR. Women are emerging as entrepreneurs and adopting new skills for generating an alternative livelihood. The forest officials are working as facilitators in arranging finance, training, and marketing of the finished product (Sinha & Yadav, 2002). The official records suggest that in order to pave the way of conservation, the forest villagers are adequately compensated through JFM (here IEDP project). The institutions under JFM are emerging as strong entities.

It is observed that the conservation lobby including the political fraternity showed unqualified support in favor of the Acts which suggested strong conservation regime. In an interview with a popular news magazine, country’s Minister of Environment and Forest uttered that the Conservation Act, 1980 is sacrosanct to him and for that matter he would maintain its sanctity in totality. Ironically, in the same interview while putting forward another argument he suggested that his ministry would not be an unnecessary

dragging authoritarian obstacle to economic growth. The self-contradiction is observable from the two statements. He put forward his 6-point conservation agenda, which mostly include bringing sophistications in wildlife protection like starting a new special tiger protection force, patrolling by micro light aircraft etc. (Bindra, 2009).

In a keynote address on a national workshop on JFM, Mr. M.K. Nandi, the then P.C.C.F. (West Bengal), told that the demands of the urban population and the organized industries played vital roles in deciding the management practices of the forest. He further opined that the recommendation to curb the rights and privileges of rural poor and the large-scale plantation of commercial trees changed and reduced the dependence of forest people on the forest. However, he regarded the National Forest Policy, 1988 as a paradigm shift and concluded that it as a swing from conflict to collaboration with regard to the grassroots level democratization of forestry policies [Nandi(b), 2002].

2.3 Human rights activist and conservation activist's view

National Forum of Forest People and Forest Workers is an umbrella organization of the several movements of forest rights in the country. It has its' constituent organization named '*Rastriya Ban-Jan Sramajibi Manch*' in North Bengal. Most of the forest movements that are witnessed in North Bengal are spearheaded by this organization. A document of NFFPFW, 2001 titled '*Struggle of Forest Workers and Contemporary Socio-political Realities*' noted that an extensive commercial forestry operation was in full swing during 1950 to 1970s. The Industries got raw materials from the forests at a heavily subsidized rate. The policies and the forestry practices of the period destroyed the forest, its ecology, and the forest dependent peoples' livelihood. There is always an implied target from the part of policymakers to project the local forest user or the forest dependent communities as the destroyer of forest [NFFPFW(a), 2001]. The theme paper of the NFFPFW'S National Conference on Forest Villages/Taungya Villages 2001 emphasizes that the main problem of forest villagers is the status of the land they live in and cultivate. Due to the absence of land rights, forest villagers are denied with just and equitable development. The 1980's Conservation Act opposes any kind of conversion of forestland even if it is for the development of the forest villages. Though the *Panchayati raj* is extended to forest villages still it requires No-objection Certificate from the Forest Department for any kind of land- based development. This barred the forest villagers from obtaining basic amenities that are easily available to a revenue villager [NFFPFW(b), 2001].

A recent study by a group of NGOs amply demonstrated that the forest villagers of BTR lost their employment opportunities and access to forest since 1980 in a phased manner. Atrocities on villagers by FD officials have increased. Deaths of forest villagers caused by forest department's firing are common. People and their livestock get killed by wildlife regularly. Destruction of houses and crops by elephants are rampant. Forest villagers are not compensated or meagerly compensated for the damages done to their lives, crops and houses by wild lives. One plausible explanation might be that they live in the forest. Age-old economic activities like maintaining of orange orchards, lifting of stone from riverbeds etc. are stopped (NESPON, DISA, NFFPFW, 2005).

Some scholars view the National Forest Policy, 1988 as a most progressive forest policy ever framed to solve the livelihood problems of the forest dependent tribal and other traditional forest-dependent dwellers. However, they felt the urgent need for amending the Indian Forest Act, 1927 (the backbone of most of the Indian Forest Acts) and Conservation Act, 1980 so that the policy of 1988 can function smoothly. They further opined that unless the policy and the Acts have the same purpose to serve, the confusion regarding duties and rights in the forest department as well as forest communities will remain confused (www.legalserviceindia.com). However, the Forest Rights Act, 2006 is considered as a radical shift from the traditional way of forest management and provision of several fundamental rights. Ironically, the acceptance of rights in the Act does not mean the silky transfer of rights in the hands of forest villagers.

The aim of the Forest Rights Act, 2006 has been stated as undoing the 'historic injustice' faced by the forest dwellers through different policy interventions in the past. The manner in which the FRA, 2006 is implemented in North Bengal is questioned by academicians, raising their voices whether the very aim of the Act is defeated. In a recent study, it is found that the implementation process of the Act started with a flawed interpretation by the state government. The Government of West Bengal issued an order (GO) to DMs with the directives: (i) Forest Rights Committee should be constituted at the level of *Gram Sansad*, (ii) Forest Rights Committee shall act as a functional committee under *Gram Unnayan Samiti*, and (iii) the chairperson and the secretary of *Gram Unnayan Samiti* shall act as the Chairperson and the secretary of the Forest Rights Committee (GoWB, 2008). The concept of *Gram Sansad* is there in the Panchayat Act and it varies with the idea of *Gram Sabha* in character and substance as has been envisaged in FRA, 2006. The GO also breaches the provision under section 3(1) of FRA

Rules, 2007. It is amply clear in the section that “*The Gram Sabhas shall be convened by the Gram Panchayat and in its first meeting it shall elect from amongst its members, a committee of not less than ten but not exceeding fifteen persons as members of the Forest Rights Committee,*”. The difficulty associated with making a ‘Gram Sansad’ identical to Gram Sabha is that ‘Gram Sansad’ is a political institution, it requires the certain number of voters in order to be a Sansad and, frequently quite a few villages are added jointly to reach the stipulated number of voters. Since the forest villages are widely scattered in Forest, it becomes difficult for several villages to frame one gram shabha for several hamlets. The GO violates the democratic setup of the Gram Sabha by proposing that the Forest Rights Committee shall operate as a functional committee under Gram Unnayan Samiti and the president and the secretary of Gram Unnayan Samiti shall execute as the Chairperson and the secretary of the Forest Rights Committee. The GO infringes on the grass root democratic arrangements of the institution i.e. Gram Sabha, empowered by the Act to function as an independent forest resource management authority. However, the state government was forced to withdraw this GO, owing to fierce movement by the forest villagers of North Bengal. But the GO left behind a scratch mark which suggests a total indifference of the bureaucracy and political fraternity to understand the spirit of the Act (Debnath, 2016).

Since the starting of implementation of FRA 2006 in North Bengal grievances from forest villagers are emerging in the form of protest movements (CSD, 2013). Some of the protest movements in North Bengal faced police atrocities, one of the movements against departmental felling in community forest resource (CFR) went to the court. Surprisingly, the honorable ACJM-in-Charge JM, 1st Court, Alipurduar granted bail to the Gram Sabha members and pronounced that the members acted according to the Law (Justice Mukhapadhyay, 2013). The incidents of these atrocities reached to the Central Government also, in a letter to the then Chief Minister, country’s Minister of MoTA&PR mentioned it and requested to implement the Act keeping in mind the spirit of it (MoTA&PR, 2013)

The main accusation against the implementation process of the Act is that it has become unsuccessful in presenting the proposed benefits to the majority of forest communities. Some scholars opined that the implementing agency of the Act is Tribal Welfare Department at the State level, but they depend heavily on Forest Department for records of land and FD’s role in supporting the process is not appreciable (Kumar, 2012).

Moreover, the forest department viewed the Act as a challenge to their authority in forest administration.

The state governments of the country make substantial revenue from the clear felling operations; these areas are common with community forest resource areas. The Forest Development Corporations (FDC) of the country are mainly involved in commercial forestry in these areas of forest. As a result of this, the news of several confrontations is emerging frequently. (MoEF & MoTA, 2010). The provision under section 5 of FRA 2006 which crafts community forest resource zone and its management option is in direct conflict with the concept of FDC. It is observed that most of the litigants against the Act are ex-forest officials (MoTA, 2014). If one believes that there is a similarity in the thought process of ex-foresters and the present foresters then one may argue that the FD is against the FRA, 2006.

A renowned conservationist while talking on the new Forest Rights Act, 2006, in an interview said that the new law would destroy all the national parks and sanctuaries, in other words, will destroy the habitats of wild lives. This will increase the man-animal conflict to many folds. He further opined that lot of disputes will emerge on the questions of rights on forest land and forest resources. According to him, courts will be snowed under various litigations. While expressing his disappointment about the Act he opined that most countries preserve their valuable resources under lock and key and we are keeping our prized resource i.e. forest resources open (Thapar, 2007). This opinion expresses a radical frame of mind possessed by most of the conservationists against the FRA, 2006.

Recently, in an RTI inquiry by PTI, it is revealed that there are widespread irregularities in Tiger Reserves. The concept of core/buffer, tiger task force, surveillance by GPS etc. all sounds well but faced no results. The inquiry exposed that 335 tigers have lost their lives in the last decade in the hands of poachers and diseases. Poaching has increased at an alarming rate despite all the efforts. As many as 13 tigers were poached in 2009, 14 in 2010 and 11 in 2011 suggest the condition of tiger reserves (The Statesman, 2012). Some academicians cum activists questioned the achievements of tiger projects in India. The most obvious logic is the diminishing number of the tiger population in the tiger reserves. They opined that the campaign of making 'inviolable' habitat is a conspiracy against the forest dwellers as it propagates a concept which suggests that 'Tiger and people cannot co-exist' (Bijoy, 2011).

2.4 Social scientist, anthropologist and economist's view

The traditional forest dwellers of India had no difficulty in living in forest, pursue their livelihoods until the British came, and started profitable removal of forest products. The British enacted several acts and framed policies to bring the forest in the State's control, previously used and managed by different forest communities. The colonial rulers named this process as creation of reserves and it continued until India's Independence, as a result, the tribal and other traditional forest dwellers got gradual alienation from the forest resource base. However, the concept of reserves did not save the forests rather degrade it. After the independence, forest resources mainly timber was supplied to various developmental works at heavily subsidized rate for nearly thirty years. During late 1970s after the enactment of the Wild Life Protection Act, 1972, planners realized that nearly half of the recorded forests were degraded, and conversion of the forests was a routine exercise. They were worried with the shrinking forest cover, rising population, and increasing demand for timber. These concerns forced the planners to bring the Forest Conservation Act, 1980. The Act calls attention to the reduction of felling operations, curbing conversion of forestland, and looking for livelihood generation for forest dependent communities. It is observed by scholars that the act could stop forest conversion but could not generate alternative livelihood options for forest people (Poffenberger, McGean, & Khare, 1996).

One of the prominent ecologists of the country, Gadgil (2000) inferred that before the advent of British, the Indian rural society had consistency and steadiness in forest resource management and allocation mechanism despite, having differences amongst caste and creed. This foresight, created a long-term sustainability in forest resource management. The earlier rulers like Mughals did not try to split this social fabric of resource allocation mechanism. They were more attracted in those places from where revenue earning possibility was maximum e.g. fertile agricultural lands, populous towns etc. Mr. Gadgil revealed that commoditization of forest resources by the British completely altered the harvesting pattern and the consumption pattern of forest resources. The indiscriminate knocking down of forest resulted in intervention by the state in the everyday life of the forest communities and emergence of a new narrative on the property right. A stringent directive on the conventional use of the forest resources was a compulsory order for market oriented production. Certain concessions were allowed and other customary forestry practices of the past were banned under 1878's

forest act. The forest policy of 1894 dictated the absolute state control over forest resources. Commercial value of forest resources became the guiding principle behind declaring a forest as reserved. Thus, forests of Garhwal and Kumaun got reserved in the year 1912 after it was discovered that *chir* and pine timber can be used in railway sleepers. The performance of the foresters of the period was assessed on the basis of their revenue earning capacity as a result they went ahead with commercial monoculture of valuable trees. The commercial forestry not only destroyed the forest and its ecology but it propagated plantation of those species which had little relevance on forest dwellers' livelihood. Another, chaos on the forest and forest dwellers' livelihood came with the introduction of tea and coffee plantation. The plantation of tea and coffee changed the forest's diversity and formed an ordered landscape. Apart from the conversion of forest land the plantation industry was heavily dependent on timber for fuel and packaging of finished products.

The ecological historian Guha R. portrayed the picture of reserves as lands either given to generate revenue or were left to become open-access lands. He refused to call it reservation for conservation but termed it as mere 'confiscation' of forest land. He cited the following reasons behind creating reserves during colonial period (i) to establish exclusive hunting ground, (ii) to ensure uninterrupted supply of timber and (iii) to ensure environmental stability. After the independence, the industrialists came in the forefront, as the nation chose the path of rapid industrialization. The passion for this move was so strong that forest resources were granted to industrial houses at casual prices. He opined that consumption habits of the elites, urban middle and upper class, and the current developmental models are the main causes of destruction of forests; on the contrary, the artistic wisdom of conservationists decides precedence of forest management. Sandwiched between these two processes of obliteration and protection are the local forest dependent people, who has little stake either in commercial forestry or in protected areas as are presently managed (Guha, 2000). Developmental models are sacrosanct, apparent differences between policies are sorted out to pave the way for developmental projects. Researchers found that there was parity between the stated policy and legislative interventions up to 1980. But the policies shifted focus towards sustainable development since late 1980s which were not backed by fitting legislative interventions. However, even the progressive policies and acts did not raise the issue of access to forest resources which allows the forest dependent communities to continue with their

livelihood. Moreover, Well- intended policies and laws get diluted in course of time mainly because of the developmental priorities (Menon, 2006).

Prior to the IUCN meeting in 1969 in Delhi, Indian forests were known for pleasure hunting. The union government also projected the forests as hunters' paradise in order to attract foreign exchange. The erstwhile royal prestige of hunting became easily available to the new breed of top brass of government administration and big traders after the independence. The development in communication and the large hydro projects brought the remotest forests closer to these new hunters. On the other hand, the consciousness on conservation after the enactment of Wildlife Protection Act 1972 was increasing in some quarters of the society. However, the overall commercial philosophy of restructuring forest (commercial plantation and harvesting) to maximize return remained the same. Even some sanctuaries were subjected to commercial monoculture to meet the needs of the industries (Rangarajan, 2012).

The conservation model, the country presently pursuing is primarily based on two arguments: (i) forests to be made pristine and (ii) human use of forest threaten ecological balance. However, several studies found that the finest forests of the today's world were once inhabited by human being and the diversity of the forests was shaped by human interventions at different levels. Indian forests were inhabited by several tribes since prehistoric periods. The two epics (Ramayana and Mahabharata) have mentioned several examples of this fact. Even in the Veda (Rig Veda) the wars between *arany* and *savyata* (forest and civilization) epitomizes the same truth. It is found that a moderate level of climatic and anthropogenic disturbance in any forest increases the bi-diversity of it. Several examples of this phenomenon can be cited in India, where forest dependent people are driven out of the forest on the pretext that their forest use pattern destabilizes eco-system, later on, it is established that the very forest use practice was behind ecological vibrancy in that particular forest (Seberwal, Rangarajan, & Kothari, 2001). Not only forest use practices that enhanced the ecological variety in forests, it is also found that the traditional forest dwellers established institutions to judiciously use and protect the forest resources. These institutions were systematically eliminated by the colonial forest department. However, some snap shots are found in the writings of the British foresters. Examples are found where customary restrictions were declared on over-use of forest produces, separate maintenance of grazing grounds and fuel reserves were common (Kothari, 1996. Guha, 2000).

Drawing knowledge from the past and realizing the symbiotic relationship between forest and forest dwellers the policy makers brought the 1988's National Forest Policy. For the first time any forest document (the policy) acknowledged the necessity of involving the forest dependent communities in the scheme of things of forest. The policy adopted the concept of Joint Forest Management (JFM) and recommended to spread it all over the country. However, the concept of JFM allegedly failed in most of the states as it hardly shared any real management control with the forest community. The forest Acts that were governing forests were not amended to offer a legal space to JFM, as a result, it was not legally binding to anybody (Saxena, 2003). JFM also failed to show equality in respect of framing policy for a certain forest area, preparing duty chart for patrolling in the forest, deciding on intermediate or final harvesting. Power and authority to frame and execute local level plans solely remained with the forest department (Bandhopadhyay, Soumya, & Shah, 2005).

Another study (Karlson, 1999) on the functioning on JFM (India Eco-Development Program) found that it has failed to generate alternative livelihood options for the Rava community of Buxa Tiger Reserve. In the concept of JFM the very idea of partnership (meaning of joint) between forest department and the forest community is badly missing. The author found that people are suffering because the regular forestry works have stopped and the access to forest resources like NTFP has reduced drastically.

So far as nature of poverty is concerned it is well-documented that poverty traps are spatially determined phenomenon. A study by Farrington and Gill (2002) identifies five spatial characteristics of the poverty ridden areas and they are: (i) low agricultural potential, (ii) fragile ecology, (iii) weak infrastructure, (iv) poor connectivity and (v) weak functioning of markets. A cursory observation suggests that the forest villagers are not free from these traps. Again a study by UNDP found that nearly 25 percent of poor in Asia live in mountainous area and these populations includes forest dweller and native people. In case of BTR it is known that several forest villages are situated in hillocks or mountainous regions. (UNDP, 1997). Another study observed that high proportion of rural poverty is concentrated mainly in forest region (Shah and Guru, 2005). The popular notion that the dependence on forest reduces the consumption level, it is said because of the opportunity cost of the time, i.e. the time that a family uses to gather forest products is much higher in compared to the value of the products. However, the notion was negated by the study of Jean-Marie Baland (2003) which suggested that the standard of

living (consumption) is not linked with the reduction in forest dependence but it depends on the productive assets possessed by the community, education, and more nonfarm employment. It is also observed that the socioeconomic inequalities affect the carrying capacity of a common property resource. However, if the local governance and collective action plays a vital role then the negative effects of inequalities on the outcomes of commons can be reduced considerably (Andersson and Agrawal, 2010). These studies on nature of poverty suggest that forest villagers' livelihood are vulnerable for its spatial characteristics, if other drawbacks like restricted access to forest resources or lack of effective institution of local governance are added to it, the possible situation is worth studying.

In the above studies the concept of forest village, its role in forest regeneration and struggle for livelihood found very little reference. None of the above studies adequately addresses the forest people's response to the changes in forest policies and acts. In other words, the studies lack the empirical analysis on the pattern of change in livelihood of forest villagers owing to policy interventions. Most of the studies examined a broad based macro state of the forest and forest communities in the wake of policy intervention. The studies lacked to mention the relationship of forest villagers with forest department and the livelihood practices of the past (before the declaration of tiger reserve) as well as of the present. The studies also did not focus on the problems of these livelihood options. They did not investigate the uniformity in the occupational pattern of the forest villagers that they are currently engaged in along with other occupations, to understand the significance of the traditional works in their livelihood. They also failed to investigate the status of the different occupations (in forest) after the declaration of tiger reserve that the forest villagers used to do under the forest administration before the declaration of tiger reserve. They did not look into the present pattern of livelihoods of the forest villagers and whether the livelihoods can predict the level of household expenditure. JFM is a major event in the Indian forestry practices, most of the studies critically evaluated it in terms of its capacity to generate alternative livelihood options and the exhibition of democratic essence in its organization but the studies failed to portray the perception of the forest villagers regarding the concept of JFM and the quality of partnership with FD.

The studies also did not focus on the basic amenities that the forest villagers are supposed to get, level of education, functioning of panchayat etc. The studies have

revealed several fundamental questions regarding the status and the problems in implementation of the latest legislative intervention (FRA, 2006), but they did not focus on the status of the Act on the ground, people's awareness and perception about the Act. Moreover, apart from some papers on the forest quality of BTR and JFM of BTR, no study has enquired into the livelihood problems of the forest villagers of BTR.

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CHAPTER – III

POLICY INTERVENTIONS ON FOREST VILLAGERS' LIVELIHOOD: A CHRONOLOGICAL REVIEW

3.1 Introduction

Joint forest Management (JFM) sought the cooperation of the forest dependent community to save and regenerate the forest. The practice of JFM emerged from the experience of local level experiment in forests of South-West Bengal in late 70's and got echoed in the National Forest Policy 1988. The Forest Policy 1988 is radically different to the earlier policy of 1952, in the sense that it unequivocally argues that rights of forest dwellers be protected and states '*The rights and concessions enjoyed by them should be fully protected.*' In the year 1990 the Central Government brought a Government Order (GO) on JFM with the aim to implement the policy of 1988. Though the concept of JFM was officially agreed upon and practiced in West Bengal long before this GO of 1990. The policy (1988) encouraged the replication of the model of JFM throughout India. It's a major shift from the earlier stand where forest peoples' livelihood and role in forest management was not discussed at length. Hence, while discussing on forest villagers' livelihood, role and scope of participation in the forest management to claim their legitimate rights the chapter divided the era into two viz. pre JFM and Post JFM period with a view to have relative understanding of the situation.

3.2 Pre JFM Periods

The Pre- JFM period may be subdivided into four distinct phases; namely (I) Early history and forest villagers' livelihood, (II) Colonial period and forest villagers' livelihood, (III) Independent India's forest policy and forest villagers' livelihood till the emergence of Protected Area Management and (IV) The Protected Area Management in India and forest villagers' livelihood options.

3.2.1 Early history and forest villagers' livelihood

The early Indian society before the advent of the British had a considerable degree of consistency and stability despite the feuds in the society on the basis of class and caste. A system of production evolved on the basis of a discreet and strong caste based institutions which guaranteed sustainable use of resources. The Mughals were unable or perhaps not interested in radically altering the existing patterns of resource use

and the social fabrics in which they were weaved. (Gadgil, 2000). The major empires like the Gupta and Mughal were more interested in fertile agricultural lands, populous towns, and cities.

3.2.1.a. Mairya period

The concept of reserve forest can be traced back to Mairya period, Kautilya advised to reserve the forests rich in fish, game and elephant. Elephant forest was of great importance, this was because elephant had permanent importance for army not only in the battle but also for heavy transport and building bridges. Elephants had prestige value as well. The practice suggests anything precious (grown in a forest) for the then regime, that particular forest got reserved. There have been little discussions in the existing literature regarding the effects of the resource extraction and creation of reserves on the livelihood of forest tribes. Some scholars mentioned migration to remotest forests might be the one of the several impacts. Forest dwellers were also socially excluded. The forest tribes were considered some kind of threat to the throne because of their fighting skill. Kautilya (the mentor of the Mairya regime) clearly pointed out to spy on the remote forest dwellers. He compared them as more dangerous than the robbers and thieves. Evidence suggests separation of forest communities and civilized society was a fundamental norm during that regime. The forest tribes were called by different derogatory terms, like '*milakkha*' or barbarians, *Arthasastra* (the great book written by Kautilya) used a composite term *mlechajati* (untouchable) as reference to the forest tribes. Kautilya advised that in conquered territory the chief of the group should be separated from his army and other people (Sen, 2012). The process of dismantling their institutions of governance and resource use was part of a wider policy to establish control over newly conquered territories.

3.2.1.b. Mughal period

Mughal Empire heavily depended on the growth of cultivation. Peasants acquired more and more lands felling trees. Newly acquired lands used to get a tax relief for first few years. This policy was placed to encourage more lands under plough and finally more revenue from cultivation. Other than war booties and tributes, taking of the excess grains in the form of *ria'yya* were the popular forms of tax. The *peshkash* or gifts given as tribute makes one understand the healthiness of the forest of the time. Elephant as *peshkash* was most common in nature, musk used to come from north eastern states.

Certain forests were made game reserves for the Emperor's hunting. Unlike the Elephant reserves of the Mouriya period Mughal's reserves were clearly mapped. Edward Terry, an English traveler and merchant found that though the reserves put certain restrictions but the concept of property rights over jungle was not absolute. Access to reserves was open but the kind of animals that to be hunted by locals were regulated. (Rangarajan, 2012)

Royal hunt in Mughal India: The forest of the Mughal period would be best understood if one ventured around the tales of royal hunts of the period. The court poets as well as historians and painters of that period immensely recorded the heroic ventures of the emperors. In-numerable examples can be cited of royal hunts of that period. Mughal writings gave a vivid description of the past ecologies as well. Emperor Babar wrote about the enormous number of rhinos between the Indus River and the city of Bhira. He also mentioned about the thriving business of rhino horns which was believed to have the capacity of detecting poison. Elephants were caught from parts of central and north eastern India. Emperor Jahangir and his *nowabs* (nobles) had 12000 elephants in their army in 1628. In North Bengal, there was presence of plenty of wild buffaloes in grass lands along riverside. Mughals successfully used cheetah in their hunts. Akbar had over thousand cheetahs in his confinement; these animals were used to capture antelope, dazbles and deer. Tiger and lion were valued highly. The lion figured in the flag of the Mughal Empire. Lion was commonly found across much of the scrub forest and grassland of North India (Ibid.).

Padshaha Shaha Jahan, in the year 1634 went for a hunt, at Palan (the present day New Delhi's airport), for four days the emperor enjoyed the pleasure of hunting and hunted many animals. In one day, he himself shot forty black antelope. To shot 40 antelopes on a single day, clearly states the number of such animals present in the area and the richness of the forest to provide habitat to that number of animals. Hunting, in Mughal period was regarded as a skillful art, same as killing an enemy and an act of sacred excellence. Success and failure of hunting was considered as a good or bad sign on the eve of a war. Sometime hunts were simply organized to disguise attack. Mughals also used hunts to collect important intelligence about other states.

Mughals gladly accepted the hunting techniques from the tribes and modified them with their own features. Records and portraits of the era indicate vast areas of woody, scrub jungles, sparsely populated by people, huge numbers of antelope, gazelles

and lions. Fire, plough and axe were reforming the landscape, vegetation pattern. Elephant, cheetah were trapped in great numbers than before. Habitat of large herbivores like elephants and rhinos were vanishing fast. Denudation was a common practice during war. Army often walked with sawyer, woodcutters and road builders to deny cover to enemies and assist advancement of army. (Ibid.)

3.2.1.c. Pre-Colonial history of North Bengal's forested tracts

Before the advent of British in the Dooars and Terai of West Bengal (forested tracts of North Bengal), there were no methodical records on settlement practices and for that matter on any revenue collection mechanism (Roy, 2002). The region was thinly populated by shifting cultivators (*jhumia*) scattered in dense forests. Small scattered *jots* (settlements) perhaps did not allow any permanent land policy. The aggressors from neighboring countries like Nepal and Bhutan regularly raided this area to loot the valuables from forest communities like Mech, Rava and other agrarian communities who inhabited this place. The ancient history of the Dooars suggests that the place belonged to the Kamrup kingdom and continued until mid-seventh century (Nath, 1989). After the Kamrup kingdom the area of Dooars were governed by the Kamtapur kingdom and in early sixteenth century, the region came under the rule of Koch kingdom (ibid, 1989). The Bhutanese army conquered this territory from the Koch in the year 1760. They recruited two army generals with governorship of eastern and western Dooars. A detailed system of revenue collection under these two Governors was chalked out. Revenue collector Dooar Deo (Bhutanise revenue officer) was in the charge of the area of the Buxa forest area, presently known as Buxa Tiger Reserve. He introduced the system of chieftains and through the chiefs (*mandol*), used to collect revenues (Roy, 2002). The Bhutanese supremacy came to an end with the advent of the British and Annexation of the Buxa forest under the control of the State. The colonial state took over the forest resources of the region, converted many forest areas as tea gardens and enacted the Bhutan-Dooars Act in 1869 to declare the vast area of the forest as 'wasteland'. It helped the State to seize the rights that the forest community enjoyed in these forests. (Choudhury, 2015)

3.2.2 Colonial period and forest villagers' livelihood

In the sixteenth century, India came into contact with Europe, particularly Britain. At that time Europe was going through an industrial revolution. The revolution

brought a radical change in the pattern of resource use. Technologies of transforming resources from one form to other and transporting them to large distances enhanced the types of resource use in a big way. For example, wood was used as domestic fuel, in the construction of shelters and for agricultural apparatus in a subsistence economy on a limited scale. However, it could now be used for producing paper, could be used in steam engines of ship and train, resulting in immeasurable use of wood.

3.2.2.a Commoditization of forest, and forest villagers' livelihood

Way back in 1874, Hugh Cleghorn, the first Inspector General of Forests in India (he shared the post with Dietrich Brandis), told that timber resources in India were declining rapidly under the pressures of the high timber demand in the British Empire, local use for railroad construction and shipbuilding (Stebbing, 1922). Development of railway network in the 1850s witnessed a major change in Indian forestry policies and practices. The expansion of railroads in different parts of India had a deep impact on forests in many ways (Oosthoek, 2012). During the World War I. timber and bamboo were supplied to the war zone for building bridges, buildings, ships etc. From April 1917 to October 1918 over a period of one and, half year 228076 tons of timber (excluding sleepers) were supplied by the newly created 'Timber Branch'. Approximately 1.7 million cubic feet timbers were exported annually (Gadgil, 2000).

A strict regulation on the traditional use of the forest resources was a necessary condition for commercial timber production. The erstwhile right holders were given a certain amount of timber and fuel, while the sale or exchange of the same was banned in 1878's Forest Act. State monopoly over forest produce was the main emphasis of the forest policy statement of 1894 (Gadgil, 2000). The purpose creating such monopoly may be clearly understood from the following commercial interest of the State.

(i) An extensive research to find out the commercial uses of forest resources was going on after 1878. (ii). By twentieth century some NTFP (Non-Timber Forest Produce) figured in the list of revenue earning forest products. (iii). A Timber Directorate was created in Delhi in the early 1940s to facilitate the supply of forest produce during the World War II. (iv). Indian Forest Department became the sole supplier of timber in the Middle East and in the Persian Gulf. War need exposed the remotest forests of the Himalaya and the Western Ghats. (v). The most approachable forests of Bombay region

got felled to meet the demand of the war, the margin of profit there in some cases rose to as many as 400% (Ibid.).

3.2.2.b Creation of reserves and loss of forest villagers' livelihood – With a special reference to North Bengal

Reasons for creating reserves in the British period has been described by Indian ecologists as (I) a concern for the reduction in large mammals (for hunting) (II) to enhance the production of timber and ensuring the stability of hydrological cycles (Saberwal, Rangarajan & Kothari, 2001). The 1878 forest act provided an superb launching pad for creating reserves. The Indian Forest Act, 1927 incorporated almost all the provisions of 1878's Act and brought more conclusive and detailed arrangements for creating and maintaining reserves. It enumerates all the past practices of the Forest Department in the Act. Some experts described this phenomenon as, "*It prescribed manner and limits within which forest resources could be exposed to industrial and commercial exploitation within the framework of an overall forest management. ...several provinces made their own laws to regulate forests within the framework laid down in the 1927 Act.*" (Garbyal, 1998)The act is relevant till today and foundational framework for many newly framed forest acts in Independent India.

Reserves in North Bengal: Scholars indicated that the reservation of forest caused a loss of livelihood and hardship to forest communities in the Dooars of eastern Himalaya (foothills under Jalpaiguri and Alipurdoar districts of West Bengal), as the inhabitants of this region mainly depended on forest resources for various livelihoods. In the Dooars of North Bengal, a shoddy logic is put forward to deny the forest rights to forest dwellers, the argument spells out that the reserves are created from the wasteland, so the question of prior rights of the forest community does not arise. Many argued that "reserving from waste" is a colonial style of function. However, there existed few forest communities, practicing their traditional farming practices. In this region of the eastern Himalaya, the livelihoods of forest communities were primarily dependent on agriculture but it was supplemented by the gathering of several food items, fodder and, fuel-wood from the forest. The Livelihood of the tribal community depends on the land, forest resources and, water. So, access to these assets becomes imperative for the tribal to continue with their livelihood. However, since the enactment of the Forest Act 1865 the access to these resources has been curtailed. The forest communities of North Bengal particularly of the Dooars got alienated from the forest as one after another forest was

declared as reserved with the implementations of the subsequent Acts. Rights enjoyed by the forest communities in those forests (customary rights) were either written off or converted to concessions and or privileges (Choudhury, 2015).

A special endeavor was undertaken by the forest department in North Bengal to demarcate forest land during the period 1864-1878. In this direction, the first step was the creation of the reserve of the forests of Jalpaiguri District in 1879 with the help of the Forest Act 1878. In the Gazette notification (January 23, 1879) the forest that was first reserved was shown as unoccupied wastes (Forest Department - GoWB, 1971). However, later on, the forest settlement officers issued revised notification in 1895 for settlement of rights of local communities what so ever they had in the forest. The first survey of the forest of the region was carried out in 1890-1 by the then Forest Survey Department, these surveys culminated into several maps and they were further improved by the Surveyor General of India during the early twentieth century (a collection of the maps was published in 1918-9). The maps played a vital role in making reserves in North Bengal. (Directorate of Forests - GoWB, 2001). Much of the quality forests (i.e. commercially valuable) were reserved during this period. As much as 7 forests of Jalpaiguri were declared as reserved during this period. Buxa forest was also declared as a reserve during this period (1879). The creation of reserves and the continuous depletion of forest in this part of Bengal went hand in hand. The beginning of the new century witnessed a widespread destruction of forest for timber (Revenue Department - GoB, 1928).

Dr. Brandis (first IG of forest in India) visited North Bengal several times in the 1870s. He gave special attention to fire protection, road building, cultural operation and timber operation as primary steps towards scientific forest management. He was one of the earliest advocates of the teak plantation in North Bengal and taungya system of forest plantation. However, taungya system of the plantation was disregarded by the then forest authorities; it spread its roots in early twentieth century. Induction of the local people in forestry work for fire fighting, felling, plantation etc. forced the FD to reach out to the communities in North Bengal. Indigenous communities like Rava settled in the early taungya villages. The FD engaged with these communities in some kind of a loose agreement where the community had to offer a free labor in exchange for cultivable land, house and, rudimentary amenities. They did not have rights over the land, house and, other basic amenities. The life of the forest dwellers was dependent at the mercy of the

forest officials. Community rights over forest resources became limited to the privileges that depended on heavily at the mercy of forest bureaucrats. These privileges often remained partial in nature and were guided by the urgency of the circumstances from the FD's point of view (Bandhyopadhyay, 2010).

The legal and institutional structure helped the state to acquire as many as 99000 square miles of forest land under forest administration by 1947. The reserves were handed over for producing timber or were allowed to become open-access lands that resulted in excessive use and degradation. According to historian Ram Chandra Guha, the reserved forest lands, under the control of the state is nothing but snatching of forests from forest people for commercial use. The author opined that the FD viewed the needs of the 'ecosystem people' as the burden, 'biotic pressure'. In fact, several working plans of the FD termed 'man' as the 'enemies' of the forest. Some lands were set aside as revenue 'wastelands' to meet the daily necessities of these people. However, the forest people had no longer any rights in these lands, only 'privileges' of using them were entrusted to them (Guha, 2000).

3.2.2.c Choice of species and forest villagers' livelihood

During the colonial era different government committees asked for more and more revenue from the forest. Revenue mainly comes from large timber forest as a result of this; the FD was forced to neglect shrubs and grasslands. Ironically these two types of land used to provide varieties of livelihoods to the local forest dependent communities. The species promoted by the colonial ruler were teak, pine and, deodar in different areas. Ironically, these species had very little use for the rural population, whereas the species they replaced were extensively used by the locals for fuel, fodder, leaf manure and small timber.

Plantation of tea, coffee and, rubber brought a major change in forest ecology. Much of the forest land was converted into these plantations before 1864 i.e. before the formation of the forest department (FD). But the FD got thousands of application for more forest land for new plantations even after 1864. The desire to commercialize forest made the planters group a good friend of FD. Moreover, development of road and railway connectivity to facilitate export of tea, coffee and, rubber further increased the speed of forest felling. Plantation economy itself required a high level of timber demand

for fuel and packaging. Thus expansion of plantation resulted in shrinking in forest areas by multiple ways (Gadgil, 2000).

The experience in North Bengal: The lease of forest land for the purpose of establishing tea estates in North Bengal was started around 1850 and the first reservation of forest was done in 1879. The beginning of Reserve creation did not stop the foresters to hand over forest land for the purpose of creating tea estate. Tea gardens continued to come up in forest lands till 1933 (Datta, 2001). More and more tea estates meant more and more organized use of woods. Moreover, in the year 1891-92, the Bengal Dooars Railways got a free grant of *sal* sleepers from the forests of this area; this took a heavy toll on the forests of dooars. (Forest Department GoWB, 1957). The systematic extraction of timber, commercial plantation (plantation of valuable timbers) and maximum revenue generation from them demanded planning. As a result of this, the concept of Working Plans emerged in the forestry sector.

3.2.2.d Abolition of Community Institution of Managing Forest in colonial period

The community managed forest systems that once existed throughout India were systematically abolished during the annexation of forests in 19th century. The Indian Forest Act, 1878 empowered the Government to take over forest lands into its hand. Over the years the forest annexed by the state keep on increasing until it reached to the extent of 20% of the country's total land mass. Some glimpses of the community institutions were obtained from the writings of the British foresters. An officer posted in Garhwal Himalaya wrote in 1920s about customary restrictions imposed by the community on over-use of forest produce, about how they maintained their grazing grounds, how they guarded fuel and fodder reserves etc. (Guha, 2000) Another ecologist mentions that there is enough evidence of conservation by forest dependent communities in India. There were numerous sites of forest patches conserved by traditional people marked as 'no-use' zones, sacred groves etc. (Kothari, 1996)

More clear evidence may be obtained from the records of G.F.S. Collins, a British revenue officer assigned to look into the availability of lands for community use in Uttara Kannada District in the state of Karnataka. Though, most of the community managed forests of the district were converted to reserved forest in between 1860 to 1890. Even in the remaining community managed forests, many restrictions were imposed. These forest tracts were treated as open access lands as a result became

denuded soon. In this process, the extent of such community land reduced to 353.3 square. km from 7185.9 between 1890 and 1920.

Mr. Collins reported that he had found 3 villages where community managed their forests. The names of the villages are Chitrangi, Kallabbe and Halakar in the coastal Kumta district. He recorded that the village council maintained a strict regulation on resource use, they even recruited watchman on their own. He also mentioned that he found very good quality biomass stock in these forests (Guha, 2000).

3.2.2.f The massacre of the wildlife in British India

Since the study deals with forest policy interventions on forest villagers' livelihood and also as the field is a Tiger Reserve, it is imperative to shed light on the policy regarding wildlife during the colonial era as well as independent India. It is important because today's conservation policy heavily depend on the concept of the 'pristine' (inviolable) forest where no anthropogenic interferences are allowed. Human presence is thought to be detrimental to wildlife; this understanding is based on one of the presumption that the forest dwellers are the cause behind wildlife's extinction from the country. In this context, it becomes a duty to look for the causes of extinctions of different species from our country. Today's conservation messiahs allegedly have a history of carrying out mayhem to wildlife by their ancestors. In this background, it becomes more important to look into the past because the seed of destruction was sown in the past.

Paid killer or bounty killing: The proponents of scientific forest management took a heavy toll on the forest and wild lives of the country. The massacre that they carried out only can be described as an all-out war against the forests and its habitats. Major Tweedie in a debate on controlling the dangerous animals suggested benefits of employing paid animal killer. Surprisingly, that logic was accepted by the house and the country witnessed the concept of paid wildlife killer in India and the legacy continued for nearly 50 years. It is documented that the British rulers heavily depended on farm tax in its initial days as a result of this, they could not allow the conflicts between cultivators and animals which were a common feature in those days. Despite the conflict people traditionally coexisted with wildlife in their villages for generations; the British brought this idea of all-out war against wildlife very much in the line of their tradition in England. Within two decades of conquering Bengal, the British rulers declared reward

for killing tigers and big herbivores that raid on cultivable land. British officers are often asked to eliminate tigers, thieves and, bandits from their locality (Rangarajan, 2012).

1770's famine and killings of tiger : After the Plassey war, Bengal witnessed a great famine in 1770, which took one-third lives of its population. As a result of high mortality and peoples' flight from villages, the farmland remained uncultivated. The situation helped jungle to recoup territory in these farmlands. The secondary growth of forest is good for animals like deer, wild boar and, their main predator tiger. To make the field safe from tiger and to get more land under cultivation special offers are given, larger rewards are announced to the killer of the tigress and, the special prize for killing the cubs. The British needed more land revenue from Bengal, where they already failed due to the famine. As a result of this, they had to declare an all out war against tiger to pave the way for safe cultivation (Ibid-23-25).

Effects of protective killing in Bengal: A massive intervention in the jungle by the British initiated a new level of conflict between man and animal. Initially, the bounty killings of animals showed some results in large part of Bengal Presidency by bringing down the loss of peoples' life. However, in the medium-term, the situations turn for the worse. The animals that are termed vermin probably had taken shelter at the edge of the grasslands and mature tree forest. The growth of plantation crops (tea) in the hills of Assam and North Bengal badly reduced the habitat available to the animals and increased the scope of conflict between man and animal. At the same time, the expansion of cultivation further reduced the habitat of the wildlife and hence increased the scope of more conflict. The slaughter of deer, boar by the local officers and local people aggravated the situation; the loss in prey numbers attracted the predators towards villages. The rhino and wild buffaloes vanished from the North Bengal's forest by 1850 and *nilgai* became rare. The change in faunal distribution shows the change in ecological varieties. The entire landscape became divided into an ordered form of plantation crop and forest. (Ibid)

Increase in human-wildlife conflict, reasons and, remedies after 1850: The 1850's, the time of political turmoil – the great rebellion of 1857 (mutiny of 1857) lead to the disarming of the peasants and left them without any effective means of self-defense against wildlife. The colonial restrictions against the annual hunts of the Santhal tribes also helped the wild lives to increase their numbers. Above all thousands of wild creatures mainly tigers that were left wounded by hunters looked for easy prey like cattle

and sometimes human. All the above reasons intensified the conflict between wildlife and human being. The new regime looked for various local systems to resolve the issue conclusively. (I) a common injunction was issued to follow up and finish off a wounded predator. (II) In the 1870s the GOI (British-ruled territories) assessed the best method of killing wild animals. Once again bounties for killing emerged as an effective tool. Over 20,000 (twenty thousand) animals were killed annually for bounties in British India (Ibid.)

Hunting by the Princes: The native kings were forced to stay away from war; (according to agreement) as a result, they spent the time and energy against the wild lives. Often princely states invited the high officials of the British Empire for sports. There was competition among the princes to display their hunting career. Rajkumar Sadul Sing of Bikaner had recorded all the hunts that he carried out in 25 years of his hunting career. His diary mentions, 50000 head of animals, among these, were 33 tigers, 30 great Indian bustards, over 20000 sand grouse and one lion. Ramanuj Saran Shing Deo of Sarguja was to hold the all-time record of over 1100 tigers in his lifetime. By the time he stopped hunting in the 1950s, he had another little-discussed record of killing over 2000 leopards. The native rulers regarded the hunting as a ritual to entering into adulthood especially manhood. Even today many landed elites of the central India follows the same ritual in their family. These examples are the tip of the iceberg. There are countless such examples, which made some of the species on the verge of extinction in India. (Ibid.)

Policies and practices regarding wildlife in Independent India: After the independence sport became available to top officials and traders - newly build roads and big projects brought the hitherto remote forested tracts closer to these new hunters. The Indian *shikar* operators followed the path laid down by the British hunters in the same fashion and claimed the credit of saving the cattle of poor villagers by hunting predators. Despite the creation of few sanctuaries and parks and conservation sermons by some pioneer people, the overall culture towards forest remained to the level of commercial forestry. The ethos towards forest may be best understood from the recordings of the IUCN meeting held on 1969 in Delhi, where a senior minister raised a question whether India can effort a loss of Rs. 30000 of foreign exchange that a foreign hunter spent on one tiger hunt. The mindset towards wildlife is amply clear from the above concern. This is the period when the prime target of the hunters, tiger, became the symbol of

preservation of wildlife. Though, in 1968 alone, over fifty commercial hunting parties spent over Rs 20 lakhs in search of tiger. The Lucknow-based Carlton Company offered a tiger per fortnight per client with hundred beaters and 12 buffalo's meat as enticement. In many occasions, the Government of India (GOI) also advertised the country as a haven for those with gun and fishing rod. Only a decade ago before the historic event of 1969, the famous American travel writer and hunter Jack Denton Scott visited India as a state guest to take the pleasure of hunting and advertise them overseas (Ibid.).

Today's conservationists skillfully hid this history of all out war against wildlife. Tribal activists argue that in a drama, one needs an antagonist, from whose ill motive something precious has to be saved. Forest dwellers have become the perfect antagonist to manage the stage. Their dependence on forest made it easier for people at large to believe the role to be real. The primary concern is that this helps in formulating policies which alienate forest people from the forest and for that matter from livelihood.

3.2.3 Independent India's forest policy and forest people till the emergence of Protected Area Management

3.2.3.a Independent India's first forest policy (National Forest policy 1952)

The National Forest Policy of 1952 is a continuation of the British policy with even more straight argument of more raw materials for Industry. The policy in its introduction states that it learned the need of conserving forest for betterment of the physical condition of the country. From the introduction of the policy it seemed that the policy makers understood the reasons behind the rapid loss of country's forest. It states *"The country has passed through two World-wars which disclose unsuspected dependence of defense on forests. The reconstruction schemes, such as river valley projects, development of industries and communications, lean heavily on the produce of forests."* But in the policy prescription the study found not a single policy statement either on the effort to find out the alternative of forest produce for the above sectors such as river valley projects, industry and communications or any recommendation on sustainable and judicious use of the forest resources for those sectors. What is found is that the policy is recommending for more scientific research in the direction to find out more uses of forest. However, it clearly tells the forest dwellers and forest dependent communities that mere accident of being near to forest resources does not give them a priority right to use it. If the forest has no value or has little value, (i.e. shrubs, bushes

etc. in wasteland) such forests can be given for local people's use. In fact the policy made a provision of this kind, talks about setting aside 'village forest' to serve the needs of the surrounding villagers (APFD website).

The policy also prescribed to handover 'village forests' to local Panchayats (local government) with certain restrictions. The main reason for this arrangement is also mentioned in the policy document, it argues that that the maintenance and development cost of such forests should not go from the national exchequer rather it should come from the village itself. (APFD website) However, this policy prescription lost its relevance after 1980s at the advent of the conservation regime.

3.2.3.b Forest resources - industry vs. peoples' livelihood

The notion of a restructuring forest to maximize commercial gain already strong in the colonial era got even stronger after the independence. The monoculture of commercially valuable trees were planted uprooting the natural vegetation, even many sanctuaries got commercial plantation to meet the demand of the paper and pulp industries. (Rangarajan, 2012) According to available estimates the country had a tree cover of 40% of its land mass in 1894 by 1952 it dwindled down to 22%. Thus, showing an annual net deforestation of 0.18%, but by 1980 country's forest cover went further down to 10%, measuring an annual deforestation of 0.4% which is much higher than in the colonial India. However, INSAT image of 1991 shows a forest cover of 13% in the country. (Fernandes, 1996. 5) The zeal of industrialization after independence was so intense that forest resources were given to industrial houses at throwaway prices. One example may be cited here to understand the amount of incentives/subsidies given to the industry. In 1960s bamboos were supplied to industry at Rs.1.50/tone, when the prevailing market price was Rs.3000/tone. After much pressure the price of bamboo was increased to Rs. 600/tone, when the prevailing market price was Rs. 12000/tone (Guha, 1998).

3.2.3.c Wildlife Protection Act 1972 and forest dwellers

With the purpose of saving the endangered species and providing adequate habitat to different endangered wild lives of the forests, the Union Government brought a new Act, Wild Life Protection Act 1972, the concept of protected area (PA) management came into existence and it started to increase its net throughout the country. Once a forest is declared as Protected Area (PA) i.e. wildlife sanctuary, national park etc. under the

Act, everything in the forest becomes wildlife and hence need to be protected (WLP Act 1972). The Section 17A(a) of the Act states that “ *..no person shall willfully pick, uproot, damage, destroy, acquire or collect any specified plant from any forest managed under W.L.P.A.72*”. Several such provisions of the said Act imposed restriction on collection of timber as well as non-timber forest products or NTFP. Entering or residing within the area of sanctuary or carrying a weapon is subject to the permission of the Chief Wild Life Worden (CWLW). Here “weapon” includes traditional bows and arrows, knives also. Recently in a public hearing in BTR (Public Hearing 2005), so many cases of alleged violence and atrocities on forest villagers by FD authority came up. The above-mentioned sections of the Act might have excessively empowered the FD officials to prosecute them. Section 18 to section 24 of the W.L.P.A.72 states that the State Government by notification can declare any forest as wildlife sanctuary; if it considers that the area is ecologically rich and need to be conserved. Notification is done to register whatever rights (land or customary) local people have on that forest. It is a complex process of determination of rights; starting from declaration by collector to enquiry of claimed rights by Collector etc.; moreover, the Collector is also empowered with the land acquisition Act of 1894. This complex process might have restricted thousands of illiterate forest villagers in registering their rights what-so-ever they had.

3.2.3.d Forest Conservation Act 1980 and forest dwellers

By 1980 where the ¼th of the countries land mass (approx) was under the designated forest, nearly half of that had good forest. Planners were concerned with the rampant conversion of forest land for developmental projects, shrinking forest cover, growing population, and demand for timber. The concerns led to the conclusion that the forest of the country has to be conserved at any cost as a result, the Forest Conservation Act 1980 (FCA 1980, WPSI) came into existence. The Act emphasized on the controlling of logging operations, restricting conversion of forestland, and providing livelihood options to the local community. However, according to few studies, the Act performed its first two duties considerably well but failed measurably in restoring communities’ livelihood options. Further, the studies revealed that it not only merely failed to generate livelihood options but also brought miseries to the people who live in and around protected areas (Poffenberger 1996). Diversion of forestlands for non-forestry purpose requires approval of Central Govt. This clause in many occasions have

become a stumbling block for panchayat in forest villages to undertake land based development as the land officially belongs to the forest department.

3.2.4 The Protected Area Management in India and forest dwellers

Before writing on the WLPA, 1972 and FCA, 1980 it would have been judicious to look back to the theoretical context on which these Acts depended heavily. The genesis of the present conservation approach might help in understanding the issues related to forest policy.

3.2.4.a Conservationist's discourse on forest

The conservationists of the post independent India put forward the following two arguments for keeping people out from the reserves. (I) pristine forest and (II) human land-use practices destabilizes ecosystem. The philosophical writings of romanticists of early 20th century activate much of the current national as well as international conservation talks. The writings are based on the assumption of the existence of the 'pristine', natural areas devoid of human presence. However, some ecologists claimed that both climatic and anthropogenic disturbances have been instrumental behind biological diversity in various ecosystems. Fire, drought, flooding, hurricanes etc. all have helped in increasing diversity in ecosystems and bringing various habitat types and faunal varieties. The human uses of an ecosystem like grazing, intentional burning and traditional farming practices etc. bring heterogeneities across habitats and for that matter amongst their inhabitants (Seberwal, 2001). Authors concluded that an image of 'pristine' wilderness is created by the writings of the naturalists, travel writers and to some extent by the television programs, in the minds of policy makers and common people. Pristine wildernesses of East Africa especially the great journey of millions of herbivores crossing the Serengeti plains and the ecosystems associated with this migration give us an idea of no human intervention in them. The same is true for Amazon forest, usually an image is created as if the anchor of the program himself is the only person who has entered into that forest. In reality, the Masai herder and the Indians played a vital role in shaping these varied ecologies (Ibid).

3.2.4.b Emergence of new generation of conservationists in India

It took over 2 decades after independence for the new generation conservationists to come at the fore-front of policy making. The attitudinal shift in political leaders helped the situation to become conducive. Among the politician Mrs. Indira Gandhi's name

comes first, she was also associated with several NGOs like the Delhi Bird watchers' Society. Her personal links with many conservationists and close contacts with wildlife enthusiasts among bureaucracy made an environment to talk about wildlife conservation. A nationwide census on tiger population was conducted in the summer of 1972 and the figure found to be at 1800, much below the earlier estimates of 2500. The first count on tiger suggested more detailed proposal to conserve it in its natural state, the proposal included (I) to select few sites having tiger's habitat- each with a core area of at least 300 sq. km., the core area should be free from any kind of human intervention. (II) A large surrounding of buffer zone would be created, where limited access of local peoples would be entertained. However, these areas will be repopulated by the growing numbers of tigers in the core area.

Non Governmental Organizations (NGO) also played a vital role in creating awareness towards wildlife conservation. Major international NGO like World Wildlife Fund or WWF entered in India's conservation effort, it spent over a million dollar to finance the effort. These groups even helped the FD with their expertise in framing policies. WWF established in the early 1960s played a role of catalyst for government action in forestry sector in India, where Prime Minister herself readily accepted to supervise the progress of the scheme. The new generation politicians like the forest minister of Karnataka, K.H. Patil; Chief Minister of Uttar Pradesh, Charan Shing was responsive to both the aesthetic and scientific concerns. The project tiger was heavily dependent on the state governments, the then ruling party (Congress), had a considerable degree of control over the state governments also (Rangarajan, 2012).

3.2.4.c Launch of Project Tiger –a firm step towards conservation regime

The Project Tiger was launched in the month of April of 1973 in nine other forests across the country, among them some newly declared tiger reserves were old princely hunting grounds and others had been reserved forests since British period. The tiger reserves gave protection to other species too because to keep tiger safe the whole of jungle's lives needs protection as tiger tops the position in the food chain. In the short run the results were very satisfactory. The Project Tiger played a valuable role in broadening ecological perspectives. The concept of 'do nothing' in the jungle to let the nature take its own course through natural regeneration, came into being. The concept of total conservation spread into new forests beyond those of the tiger (Ibid).

3.2.4.d Indian experiences with the conservationist's discourse on forest

Restriction on livestock grazing in PAs may be considered as an example of this model in India. The competition between wild herbivores and cattle becomes a factor when grass stock is limiting. Too often it is seen that the PA managers assume this to be the case, though without examining that grass is indeed limiting. Often causes of diminishing number of wild lives are said to be due to hunting, parasitism etc., if these are to be the cause than how prohibiting grazing can increase the numbers in wild lives. One example may be cited here: in May 1999, the grazing of domestic goats and sheep in the Great Himalayan National Park in Himachal Pradesh was banned. Here the assumption is that the low number of Himalayan goats (wild goat and sheep) is due to the excessive hunting by grazers and forage consumption by domestic cattle. In this connection one has to remember that the exclusion of cattle grazing could initiate a decline in plant diversity as happened in the Valley of Flowers National Park in Uttar Pradesh. Moreover, it antagonizes the local grazers and thereby risks the important intelligence on poachers that the FD gets from them. (Seberwal, 2004)

Resource use by human population in protected areas is neither always gracious nor devastating. In certain cases the eviction or ban on resource use in protected areas has resulted in a negative way. For example the Keoladeo Ghana National Park, in Rajasthan, India, a World Heritage site is home to one of the most spectacular gatherings of birds from across the world. From a sanctuary it was upgraded to a national park in the year 1981. Until 1981 a large number of buffalos of the pastoralist communities around the park used to graze in the park's grassland. Local people used to collect firewood and fodder from the forest. In 1981, with the change of the status, grazing was banned; the decision faced a stiff resistance from the local community (9 villagers died in collusion with police). In the absence of the buffaloes two types of weeds covered the surface of the water bodies. These weeds were good fodder for buffaloes. The ecological impacts were immediate, the diving birds find it impossible to dive into water, resulting in decrease in diversity in birds variety. A long term study on the park ecosystem has recommended lifting the ban on buffalo grazing. (Ibid)

Valley of Flowers National Park, Kumaon is famous for its variety of flowers. Sheep and cattle grazing is an age old practice of Bhutia community there, this was banned in 1982 with the ambition of conserving the ecosystem. Result was a reverse one, different variety of weeds and more woody plants surfaced and defeated the feeble

flower species. There are countless examples of locals being removed from sanctuaries, National Parks. The ostensible reason always had been to save the ecosystem, to make the forest 'pristine'. There is also a general understanding that human presence in PAs is detrimental for conservation. Though there is hardly any study which documents the impact of such human resource use on park before and after the removal of human presence from the area (Ibid).

3.3. Post JFM Era

3.3.1 Joint Forest Management (JFM), National Forest Policy 1988 and forest dwellers

The National Forest Policy 1988 admitted the necessity of involving forest communities in the management of forest and acknowledged their historical dependence on forest. The policy replicated the concept of 'Participatory management' or 'joint forest management' (JFM) all over the country. (Saxena, 2003). JFM is the first policy statement in the 150 years of FD's history where the rights of the local people is upgraded instead of curtailed.

3.3.1.a Early days of JFM

In early 1970s, an enthused DFO of South Division of East Midnapur, West Bengal, informally engaged local communities of 11 villages to regenerate denuded Sal forest of their locality (Arabari). The officer went into a loose agreement with locals pronouncing benefits like employment in the FD, fuel wood and other usufructs. After several meetings and awareness programs the mission was a successful one. The project could recover 1250 hectares of denuded sal forest with the help of 618 families from the forest dependent communities. This successful model was replicated in several other villages of the area. The model gained popularity among the foresters, academicians, conservationists and policy makers. Till 1986, the project continued to function on good faith and personal relationship between forest officials and villagers. In the year 1987, the state government officially agreed to share 25% of the net profit earned from the sale proceed of timber (Net Profit is calculated after deducting every cost from revenue earned through final harvest) with the communities of the locality. However, there were no clear guidelines on peoples' rights or entitlements, responsibilities, organizational structures. FD was also not confident to spell out the modalities. The World Bank and Ford Foundation stepped in during this crucial juncture. They engaged two NGOs

namely Indian Institute for Bio-social Research and Development (IBRAD) and Ramkrishna Mission (RKM) to study the ground realities and suggest formal arrangements to replicate the model across the state. The first G.O. to form forest protection committees (FPC) with proper guidelines on the structure, duties and rights of the organization (here FPC) was issued for the state of West Bengal on July 12, 1989 (Roy, 1992).

3.3.1.b JFM and forest dwellers - a critical evaluation

JFM brought significant change in the thinking of foresters. Peoples' participation in forest management became a pertinent question as it highlights grass root level democratization of resource management. It is worth mentioning here that participatory approach reduced the cost of maintaining forest. At the same time the practice of JFM increased peoples' expectation towards forest department. As a result, changes are witnessed; more social issues are incorporated in training manuals of foresters. It became more people friendly, foresters are asked to learn the art of working with locals to regenerate and conserve forest (Directorate of Forest, GoWB, 2012).

However, there is a strong criticism of JFM on the question of peoples' participation in forest management. *Samaj Parivartan Samudaya*, (an organization to bring change in society) Dharwad, Pune, viewed JFM as a tool to serve commercial and industrial interests (Bandhyapadhyay, 2010). Some viewed that JFM is a result of forest people's prolonged struggle. It came into existence because of people's movement not because of FD's generosity. Forest communities adopted every possible ways to extract forest resources to get their livelihood going. The communities exploited the forest with their own defense mechanism while other powerful groups did it with sheer force. In both the cases the ultimate victim is forest. Finally the forest degradation in many places reached to its all time high, thus making it untenable. The school of 'scientific forest management' failed to keep both the groups away from forest. In this ground realities, when it is seen that people themselves have started regenerating *sal* forest in south west Bengal. The FD grabbed the opportunity, the response had been, '*all else having failed, JFM.*' (Khatre, 1996).

JFM is also criticized by scholars on other grounds also. The majority of the criticisms are:

(i) It failed in its aim to utilize forest resources to generate livelihood of forest dependent communities. Earning from the final harvest of timber and bamboo for the committee members is calculated after deducting operating cost which consists of basic cost of harvesting, other benefits to staff and office, maintenance cost, other ancillary cost etc. The expert group (EG) under National Aforestation and Eco-Development Board (NAEB) raised objections on the transparency of such costing methodology. E.G. suggested, “*Whenever monetary benefits are intended for the FPCs, the computation should be based on gross income and not net income.*” (Sarker, 2009)

World Bank in its report XVIII, 2006 raised the following objections on the calculation of cost.

(a) Costs are administered Forest Department Averages, not actual costs.

(b) Costs are after deducting government production and marketing expenditure which are usually inefficient and hence charge more.

(c) Joint Forest Management Committees (JFMC) are not allowed to produce and market directly.

(d) Such system provides very little benefits to the JFMC members.

(e) Forest products having good market values are controlled by FD with restrictive legal and regulatory framework. NTFP such as *Tendu* leave which has a good market value is marketed by state corporations or licensed traders or societies under state FD. The JFMC members are mere collectors (price takers). What they get from the marketer is often less than minimum wage per day. In West Bengal a society named Large Adivasi Multi-Purpose Society (LAMPS) under the West Bengal Tribal Development Corporation pays the *tendu* leaf collectors according to the rate fixed by the government. Many instances are found where the LAMP agents earned a profit of 100 percent or more on the collection price offered to the community. (W.B. Report XVIII, 2006. in Sarker, 2009)

(ii) The structure of the JFM is tilted in favor of forest department. Rights and opportunities are not identical for two partners (community and FD) in the crusade of conservation.

(iii) JFM has failed to understand the needs of forest dependent communities mainly of tribal.

(iv) NTFPs continue to hold a low profile in scheme of things. JFMC members are treated as mere NTFP collectors.

(iv) The implementation of the National Forest Policy 1988 was started with the G.O. on JFM by Central Government on June, 1990; but the G.O. has no legal back up. (Sarker, 2009)

(v) If one minutely goes through the GO of 1st June 1990 of Central Government (which urges state governments to form FPCs) and subsequent State Government's orders, can realize that the process encourages only individual rights. The community control is notional in nature, exercised through an executive body of individuals, nominated/selected along with many ex-officio members. One simple analogy used by a scholar cum activist to portray the true connotation of the word 'joint' in the Joint Forest Management (JFM), may be fitting here. He compares the relationship of forest dependent community with FD that of a small tenant to a big landlord (Khatre, 1996).

Apart from the above broad criticisms, some view the success and failure of JFM, as the consequence of difference in geographical locations, socio-economic background of the people of the locality, forest condition, people's organization etc. (Nandi, 2002) Mr. M.K. Nandi the then Principal Chief Conservator of Forests, West Bengal was of the opinion that JFM failed in the northern part of West Bengal. According to the author 60% of the FPCs of south west Bengal are functioning well to very well while the same amounts to 30% in case of North Bengal. The author also cited the following factors behind this varying degree of success of JFM in two geographical locations of West Bengal.

- Forest dependent communities of south west Bengal had passed through a crisis of acute degradation of forest resources during 70s and 80s. They felt the need of regenerating and conserving forest for their daily needs and they found the JFM as an effective tool to accomplish that. Whereas the forests of North Bengal are still rich, have a commercial value. Communities can earn a considerable amount through illicit felling.
- The socio-cultural homogeneity of the communities of forested tracts of south west of West Bengal helped in spreading the concept of JFM (i.e. participatory process). The socio-cultural heterogeneity among the forest dependent communities of North Bengal made it hard to spread JFM across communities.

- The forest of the south west Bengal provides a unique scope of intermediate yield as well as final yield in a very short period of time. The quick benefits of this nature helped organizations of JFM to provide something tangible to their members.
- The large areas of forest in North Bengal falls under the category of ‘Protected Area’, where felling and seasonal shoots cutting are not permitted under Wild Life Protection Act 1972. As a result of this the JFMC members could not find noticeable benefits. Moreover the forests of this region are not rich in NTFPs in compared to South Bengal.
- The Supreme Court’s order restricts the FD to go for intermediate yields in the forest of hills. Forests of hills as well as some part of planes are mono-culture of Dhupi and teak which produces no or very little underground vegetation resulting in a scarcity of fuel wood and fodder. These types of forests fail to develop a relationship between people and forest. As the mono-culture itself is a commercial plantation the relationship that emerges between communities and forest is also commercial.

Besides all the above reasons the JFM became successful in South West Bengal because of an all round participation of different agencies like NABARD, NGOs etc. The NABARD came forward to offer assistance in promoting Self Help Groups (SHG) among the communities especially among the women. It also facilitated the groups with Micro-credit linkage. SHGs to some extent succeeded in generating alternative livelihood options for forest dependent communities. NGOs such as Ramkrishna Mission Lokshiksha Parsad also came forward with innovative savings scheme like ‘*Musti Sanchay*’. The NGO also facilitated the FPCs with storage-facilities and marketing linkages for NTFPs.

3.3.1.c JFM in BTR

Like other forest areas of the country Buxa forests too experienced extensive commercial felling and hunting of wildlife. Before the declaration of Tiger Reserve the forest was subject to excessive felling both in British period as well as in independent India, clear felling coup (CFC) was a very common idea in those days. The forest villagers as well as forest fringe villagers were heavily employed in the forestry works under the direct control of FD as well as under the contractors. In the year 1983 a part of

the Buxa forests were brought under the Project Tiger and the Buxa Tiger Reserve came into existence. JFM was introduced in this forest after the formal notification in 1989, unlike south West Bengal the concept of JFM had not evolved from within the communities; rather it was pushed among the communities. The concept of JFM was introduced in the fringe villages of the Protected Area (PA) as forest protection committees (FPC) and inside the PA with a new name 'Eco-development' communities or EDC. The EDCs are slightly different from that of FPC in terms of rights and duties for committee members. The stated objectives of an EDC had been to protect the ecologically sound areas from the unsustainable use of forest resources by the forest dependent communities. In this direction eco-development scheme proposes to generate alternative livelihood options for forest dependent communities to reduce the pressure on PA. The collaborative programs that were thought out were (i) crop protection measures (ii) land development (iii) fuel wood plantation (iv) energy conservation efforts and (v) educational programs (Sinha & Yadav, 2002).

3.3.1.d India Eco-development Project (IEDP) and BTR

In the year 1997-98 International Development Association and Global Environment Trust came forward to financially assist 7 PAs of the country (including BTR) for effective implementation of Eco-development plans. The initiative came to be known as India Eco-development Project or IEDP. IEDP pronounced its main objectives as, *“(a) To improve the capacity of PA management to conserve biodiversity and increase opportunities for the local participation in PA management activities and decisions. (b) To reduce negative impacts of the local people on biodiversity, reduce negative impacts of PAs on the local people, and increase collaboration of the local people in conservation efforts. (c) To develop more effective and extensive support for eco-development. (d) To ensure effective management of this project and using lessons learned in replicating in other protected areas and forest areas.”* (Sinha & Yadav, 2002) With the help of FPCs, EDCs, forest staffs, other Government agencies, NGOs and technical experts, a participatory rural appraisal technique was introduced to make Micro-plans in the villages in and around BTR. In 58 villages, Micro-plans were prepared; people willingly accepted new livelihood options. A feasibility analysis of the livelihoods were conducted to test the socio-economical and ecological impacts, a memorandum of understanding was signed between the people and PA to ensure biodiversity conservation, and implementation of the projects.

3.3.1.e The experience of IEDP in BTR

The implementation of the Micro-plans started from 1999-2000. Villagers started to conserve the forest with much enthusiasm; they perceived that the project will solve the problem of livelihood. The numerous awareness programs; frequent meetings by FD, NGOs and other departments created an atmosphere of trust worthiness among the groups. Concerns for conservation were witnessed in many actions of the committees. Many examples were found where committee members are seen participating in raids on trains and sawmills; acting as a shield to FD officials from timber mafias; helping FD in combating fire by making fire lines; raising nurseries and plantations; undertaking cultural operations and road constructions etc. Even official records of forest department enlisted the following protection work undertaken by the FPC and EDC members of the BTR in the year 2001.

Contribution of FPCs and EDCs towards protection in BTR (2001)

No. of patrolling inside forests	6048
No. of raids outside forests	98
Quantity of timber recovered	300 Cu.M.
No. of culprits apprehended	30
No. of vehicles seized	2
No. of Carts seized	40 handcart (thela)

The committees also undertook some qualitative measures like imposing self regulation on collection of fire-wood, arranged meetings to resolve conflicts, excluded inactive members from the committee, implemented and monitored eco-development activities, and formed Self Help Groups (SHG) etc.(Sinha & Yadav, 2002).

3.3.2 Forest Rights Act, 2006 and forest villagers

It has been pointed out by many that the Acts and administrative policies of the British remained implemented even in independent India with some cosmetic changes. Many of these critics are of the opinion that the colonial ruler left the country on 1947 but handed over their tools to govern to the current ruling class. The Land Acquisition Act of 1894 may be cited as one of such glaring examples. The Act got amended in the year 2013 after a nationwide protest against land acquisition and the new act came to be

known as 'Land Acquisition, Rehabilitation and Resettlement Act, 2013' (LARR). It may be inferred that the same legacy is very much present in case of forest Acts also. Several Acts related to forest (enacted so far) and policies declared time to time in independent India, barring few exceptions (National Forest Policy 1988), all got very little changes from the originals that are inherited from the British rulers. With respect to right to access to forest resources for the forest dependent communities, stringent provisions in the Laws made by the colonial ruler may be somewhat expected. But, surprisingly it appears that post-independent Indian bureaucracy and ruling political class also preferred to continue with the legacy of maintaining stringency in provisions of several enactments related with the interest of forest dependent communities.

One major difference in independent India with that of British period has been the rapid growth of forest-based industries in independent India (Guha, 2000). Many felt that it indirectly paved the way for rampant destruction of forest and natural resources on the pretense of development. This resulted in loss of livelihood options and further marginalization of the forest dependent communities. So far, the policies adopted in independent India, they either directly or indirectly encroached upon the rights of such communities. All acts such as the Forest Act of 1864, 1878 and 1927, the National Forest Policy of 1894 or 1952, the Forest Conservation Act of 1980, the Wild Life Protection Act of 1972 and its amendments in 1991, 2006 etc. would corroborate the essence that these enactments provide the necessary legal basis for depriving forest dwellers of their user rights to forest resources [*NFFPFW(a)*, 2001; *Poffenberger, McGean & Khare, 1996*; Narayan, 2012].

Matters worsened when Ministry of Environment and Forest (MoEF) brought a circular on May 3, 2002 asking all the states and union territories (UTs) to remove all forest 'encroachers' within 5 months. The MoEF cited the Supreme Court's concern over growing forest encroachments in its order dated 23.11.2001. The forced displacement of the tribal and other conventional forest dwellers across the country, led to a nationwide angry protests (Sarin, 2010). The nationwide agitations gained such an impetus that the government was forced to come up with a new enactment which has a resemblance to the values of democratic set up. This new Act came into force on January 1, 2008 with the notification of its administrative rules. The name of the Act is The Scheduled Tribes and Other Traditional Forest Dwellers Act (or simply Forest Rights Act - FRA), which was originally passed on 18 December 2006 in the Country's Parliament.

3.3.2.a Forest Right Act, (2006) – a Paradigm Shift

The FRA, 2006 apparently brought a radical change both in the old beliefs based on prejudices and also narrative relating to conservation of forest. The narrative that was constructed on the suppositions that accepting the rights of forest dwelling people eventually have ill-effect on sustainability of forest resources was discarded by this Act. The present Act starts with the requirement of acceptance of numerous rights of the forest people. This paradigm shift in the official approach and attitude for forest management and functioning of forest department (FD) is amply indicative in the statement made in the first chapter of the said Act. The Act states that it is framed to undo the injustices done to the forest communities during the Annexation of forest in to the hand of the State. It unequivocally, accepted that recording of rights of forest dwellers on forest resources and land were not properly carried out in the past. As a result of this, the Act aims to undo the past discrepancies (The Gazette of India, Part II, 2007). The Act clearly spelt out entitlement on farmland and homestead (so far recorded as forest land), customary rights on forest produce, community forest rights etc. The rights which are included in section 3(1) of the Act are of four categories:

- i. Title rights - i.e. ownership right on land that is being cultivated by forest dwellers. (subject to a maximum of 4 hectares).
- ii. Use rights to minor forest produce, to grazing areas and to pastoralist routes.
- iii. Relief and development rights to rehabilitation in case of illegal eviction or forced displacement and to basic amenities.
- iv. Community Forest Rights (CFR) to manage and protect forests, wildlife.

3.3.2.b Implementation of FRA 2006

The Act is yet to show performance on the ground i.e.in the forest villages of North Bengal. Complaints regarding the manner in which the Forest Rights Act, 2006 has been implemented are surfacing day by day (CSD, 2013). On Dec 3, 2012 at the National Meeting on FRA 2006, organized by the Union Ministry of Tribal Affairs, the tribal welfare officials of almost all the states promised that they would rectify the past mistakes. The confession tells the story prevailing on the ground. Till June 2012, more than half of the 2.8 million right claims (total claims up to the date) of the forest dwellers have been rejected by the States and only 0.5 per cent of the approved claims constitute community forest rights (MoTA & UNDP, 2012).

In West Bengal, up to 31 May 2014, 16524 title deeds have been distributed and 15285 title deeds are ready to be distributed. Conversion rate of claims into delivery or ready to delivery of title deeds in the state is 22.944%, which is well below the national average of 38.155 percent (MoTA, 2014).

3.3.2.c The Process of Implementation of FRA 2006 in North Bengal

Just after the Gazette notification of the FRA 2006 (on 2nd January 2007) the National Forum of Forest People and Forest Workers or NFFPFW (NFFPFW is an organization of the forest dwellers, having pan-India presence) initiated a special drive to frame Gram Shava (an institution under FRA 2006) throughout the country. North Bengal Regional Committee of the organization also undertook the same program. The committee demanded: i) all existing FPC and EDCs (committees of JFM) be banned, ii) all the development schemes be implemented through Gram shava, iii) immediate settlement of their land, iv) settlement on Community Forest Rights, v) right of the NTFPs be settled in their favor (Non Timber Forest Produce) etc. The key slogan of the campaign was '*Gramshava banao. Odhikar dakhhal karo.*' i.e. create 'Gram Shava' and snatch rights. (NFFPFW, 2007) However, this special drive had limited impact as the organization did not have presence in most of the forest villages and had to spare a considerable amount of time on awareness programs on the new Act. Moreover, the rules of the FRA 2006, was yet to pass in the parliament, and it came in January 2008.

The forest villagers of North Bengal were taken aback when the state Govt. came up with an order on 17-03-2008 (issued by the Department of Panchayats and Rural Development -DPRD) which stated that the '*forest rights committee should be form at the level of Gram samsad*' (GoWB, 2008). This Government order (GO) was addressed to the Districts Magistrates (DM) of the concerning districts. Following the GO, the DM of Jalpaiguri District issued a letter on 19-03-2008 to the Sub-divisional Officers, asking them to form Forest Rights Committees (FRC) within the month of March, 2008. FRC according to FRA, 2006 is supposed to be formed by the Gram Sabha selecting members amongst themselves. The SDOs of different Sub-divisions with the help of the forest officials started the process of creating FRCs in different forest villages. The forest villagers saw it as a gross violation of the FRA, 2006 they resisted the move under the leadership of NFFPFW- Regional Committee, stopped forest officials and sub-divisional officers to create illegal FRCs & Gram Sabhas, distributed leaflets describing the whole initiative as illegal and so unacceptable (NFFPFW, 2008). The villagers also questioned

why the District Administration & the Forest officials were so hurried in their approach in implementing the Act? It is a new Act, villagers know little about it, and even the bureaucrats' knowledge about the Act was also not at the desired level. Still the State Govt. went ahead with the process of implementation, the forest villagers' organization NFFPFW alleged that the forthcoming Panchayat election compelled the government to take this hasty decision of implementing the Act within a period of 11 days (from 17th to 28th March 2008). As a result of these anomalies, the villagers opposed the initiative vehemently. The State Government was forced to withdraw the G.O. (Jha S. 2010)

In some forest tracts of North Bengal this movement gained momentum. Villagers started to create their Gram Shabha on their own. In some forests like in Coochbihar Division, forest villagers declared their community Forest Resource (CFR) zone and even stopped the FD from felling trees from their CFR. A case of such exhibition of authority and conservation consciousness came into limelight during the months of February and March, 2013 in Mantharam beat, under Kodalbasti Range of Coochbihar Division. Here people stopped FD from felling trees in their CFR zone. The incident went up to court. The members of the Gram Sabha surrendered before the court of the Addl. Chief Judicial Magistrate, Alipurduar on the 3rd April, 2013 and moved a bail petition on the 17th of April, 2013. The honourable court, citing relevant provisions of the FRA 2006, addressed villagers as '*members of Gram Sabha*' and proclaimed the actions on the part of the members of the Gram Sabha were quite proportionate with the rights vested on them in the provisions of the FRA, 2006. The honourable judge granted them bail in spite of one of the sections under which the case was lodged against them was non – bailable. (Order-sheet-Justice Mukhapadhyay, 2013)

The incidents and news of the court case reached to the notice of the Central Government. In a letter to the Chief Minister of West Bengal, the Ministry of Tribal Affairs and Panchayati Raj told that it is not an encouraging situation where local people faces police atrocities while trying to save their CFR. The letter also emphasised on the section 5 of the Act and pointed out that the communities have the right to save their community forests even from departmental felling. (MoTA&PR, 2013).

3.3.2.d Recommendation of MoTA to improve the process of implementation

According to statutory provision, the Ministry of Tribal Affairs (MoTA) should play the role of the nodal agency in implementing the FRA 2006. In a national review-

cum-orientation meeting on the Forest Rights Act, 2006 organized by the ministry in collaboration with UNDP the following issues were discussed and reviewed.

(i) Reviewing the progress on the implementation of the Act by the States and

(ii) Discussing the final Action Plans prepared by the State Governments for streamlining the implementation of the Act in accordance with the Amended Rules.

This appraisal meeting resolved to make few recommendations and specify few action points for the States. A brief account of their recommendations and specific action points are as follows:

- a) The Gram Sabha is the key authority under the Act, and therefore, constitution of village level Gram Sabhas and their empowerment is fundamental.
- b) The Act does not provide for Gram Sabha meetings to be held at the Panchayat level. Such meetings should be held at the level of actual villages or hamlets. The procedure for identification of these villages/hamlets is provided in the amended Rule 2B.
- c) High priority should be given to recognition of community rights, including the right to protect and manage Community Forest Resources (CFRs) under section 3(1)(i) of the Act. It should also be ensured that all community claims are disposed of in a time-bound manner.
- d) The District Level Committee (DLC) and the State Level Monitoring Committee (SLMC) need to ensure that Forest Rights Committees are formed at the Gram Sabha level and as per the Act, the Gram Sabha is held at the village or habitation level and not at the Panchayat level. After recognition of rights, States need to ensure the formation of a Committee under Rule 4(1)(e) for protection and management of CFR areas (MoTA & UNDP, 2012).

The above ground realities and the recommendations of the MoTA signifies that grass root democratization of forest governance and the recognition of forest rights for forest villagers have to walk a long path before they are experienced on the field. Theoretically forest villagers' options of livelihood, role and scope of participation in forest management has increased many folds since the inception of JFM. However, the practical situation prescribes a position of utter confusion where stated objectives of the

policies do not match with the ground realities. Under these circumstances it is required to conduct of an empirical study to reach nearest to the fact.

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CHAPTER – IV

THE PROVISIONS OF LIVELIHOOD OF FOREST VILLAGERS UNDER DIFFERENT FOREST POLICIES AND ACTS

4.1 Introduction

The chapter contains a discussion on the provisions approving or restraining livelihood of forest villagers under different forest policies and Acts. It focuses on the different sections of the Acts that might have a provision of altering the available livelihood options of the forest villages of BTR. The chapter also looks into the thoughts that the policies and Acts furnished towards generating alternative livelihood options for forest villagers in BTR.

Forest dwellers dependence on forest for different kinds of livelihood is amply clear from the discussion in the chapter III. The British's policy viewed the age-old livelihood options based on forest and forest resources as detrimental to forest and hence prescribed to ban such uses or regulate them, in several legislatures. E.P. Stebbing opined that forests in India were free ride for everybody, the British brought significant change by bringing policies and Acts. The author put forward the following arguments in favor of initiating forest policy in his book, 'The Forests of India' (1922), where he articulates, *"No forest policy was initiated when we commenced to govern India, nor was it realized that any such policy was necessary. With the exception of a few royal trees such as teak, sandal-wood, etc., the felling of which was retained, and only nominally retained the forest were free to all to take what they required, to hack and burn down; or to fire annually, in order to obtain a fresh crop of young grass with the arrival of the monsoon for the grazing requirements of their cattle."* It is clear from the above extract that the British viewed the traditional livelihood of shifting cultivators, pastoralist communities and other forest based livelihood of forest communities as detrimental to existence of forest. Perhaps, the perceptions were not built on sound scientific observations. Prejudices of different kinds are believed to be the driving force behind these insights. However, the problem with such prejudices is that they often play a vital role in framing forest policies and Acts. This happened both in colonial era and independent era. The present chapter of the thesis identifies the livelihood practices that were permitted as well as regulated under the provisions of various forest Acts and policies.

4.2 The Livelihood Provisions of Forest People and Indian Forest Act, 1927

Indian forest dwellers or forest dependent people lived and used the forest for their livelihood for generations. This fact has not been adequately documented as the usage was customary in nature. British's concept of property rights did not match with the concept of informal customary rights or the traditional forestry practices. If one goes through the Act, one will find this mismatch in many chapters and sections. In section 3 of the Act it is said "*The State Government may constitute any forest-land or waste-land which is the property of the Government or over which the Government has property rights, or to the whole or any part of the forest-produce of which the Government is entitlement, a reserved forest in the manner hereinafter provided.*" The Government is considering the *forest-land or waste-land* as its property before the declaration of reserved forest. Here, the customary rights of people are overlooked. How the Government has gained the property rights over any forest is not clearly spelt out either. Section 4(1) of the same Act states "*whenever it has been decided to constitute any land a reserved forest, the state government shall issue a notification in the Official Gazette-* (a) *declaring that it has been decided to constitute such land a reserved forest;... (c) appointing an officer (hereinafter called the forest settlement officer) to inquire into and determine the existence, nature and extent of any rights alleged to exist in favour of any person in or over any land comprised within such limits or in or over any forest produce, and to deal with the same as provided in this chapter.*" (Ministry of Law, GOI, 1951) Section 4(1) clearly suggests declaration of reserves were done arbitrarily, forest dwellers or forest dependent people remained at the receiving end. The people got a chance to register their rights on that forest, forest produce etc. but, the end result of that provision of 'registering rights' is evident in the admission ('historical injustice') in 2006's Forest Rights Act.

Under section 6 of the 1927's Act a announcement is published by the Forest Settlement Officer in local language, asking the forest dependent people to produce written proof of rights. The section 6(c) states "*fixing a period of not less than three months from the date of such proclamation, and requiring every person claiming any right mentioned in section 4 or section 5 within such period either to present to the Forest Settlement-officer a written notice specifying or to appear before him and state, the nature of such right and the amount and particulars of the compensation (if any) claimed in respect thereof.*" The forest dwellers might have found this process

cumbersome to register their rights, first they might not have noticed the announcement as almost all of them were illiterate at that time, and second to claim the rights which were customary in nature in written form was quite impossible by the illiterate villagers. Thirdly, to explain their rights in front of an officer who enjoys the powers of a Civil Court under section 8(b)), in their mother tongue, a colloquial language which is not even the dominant local vernacular (here Bengali), narrates the frailness of the process. The process of declaring reserves, recording rights and the arbitrary power in the hand of Forest Settlement Officer under Forest Act 1927 gives an indication on how the forest dependent communities lost their rights over forest and its resources. This is more so, when the section 9 of the Act gradually stops every possible option of reclaiming rights in due course of time. The section 9 states, *“Rights in respect of which no claim has been preferred under section 6, and of the existence of the which no knowledge has been acquired by enquiry under section 7, shall be extinguished.”* (Ibid.)

Even if a person manages to register his or her right over any forest land or produce, the Forest Settlement Officer can discard that right with the help of the Land Acquisition Act 1894 as the officer is empowered by this Act also and can act in the capacity of a Collector as provisioned under the Act. According to section 11 of Indian Forest Act 1927, the Forest Settlement Officer also has the power to acquire land over which right is claimed. From the above discussions one may argue that the forest communities got no legal back up under The Indian Forest Act 1927, they were totally left on the mercy of forest department after the finalization of the settlement and on the Forest Settlement Officer during the process of settlement.

4.2.1 Forest dwellers' livelihood and provisions in the Indian Forest Act 1927

Shifting cultivation: The colonial rulers had an understanding that shifting cultivation was harmful for the forest as it is believed to be the main source of forest fire. Though, this understanding is not adequately backed by scientific studies (Kothari, 1996). Nevertheless, the shifting cultivation became one of the main concerns for the forest policy makers. In section 10(1) of Indian Forest Act 1927 it is said, *“In the case of a claim relating to the practice of shifting cultivation, the Forest Settlement Officer shall record a statement setting forth the particulars of the claim and of any local rule or order under which the practice is allowed or regulated, and submit the statement to the State Government, together with his opinion as to whether the practice should be permitted or prohibited wholly or in part.”* (Ministry of Law, GOI, 1951) The section

provides a random power to the Settlement Officer to express his opinion based on personal experience. The British always asked for proof of rights, it might be a tactic as they knew that the Indian society particularly the forest dependent communities followed informal (unwritten) arrangements (customary rights). Property rights in forest in Mughal period were never been a written document, it is the practices of the people, resource extraction pattern of the people which decided the policies barring some Royal interventions (Rangarajan, 2012). Asking for proof or documents of rights automatically makes the person the owner of the property who asks for the 'ownership proof'. It suggests that this ploy was deliberately used by the British.

In North Bengal and the North Eastern States (7states) shifting cultivation was an ancient practice. The Act interfered in this practice and stopped it in many areas as a result; the Jhumias (shifting cultivators) left forest. The than Government was determined to stop shifting cultivation, it may be clear from section 10(5) of the Indian Forest Act, 1927 where it spells out, "*the practice of shifting cultivation shall in all cases be deemed a privilege subject to control, restriction and abolition by the State Government.*" Moreover the section 26(1)(b), (d),(h) of the said Act prohibits use of fire, trespasses or pastures cattle, clears or breaks up any land for cultivation or any other purpose in the reserved forest. As fire was an important component in shifting cultivation; the technique also required clearing and break up from main forest land, it seems the colonial administration keenly observed the processes involved in shifting cultivation and framed laws accordingly to stop it (Ministry of Law, GOI, 1951).

4.2.2. Cattle Rearing & NTFP Collection

Forest dwellers' the most important livelihood after agriculture had been cattle rearing and collection of non timber forest produce (NTFP- mainly food items like wild fruits, tubers and fish). These livelihood options were very important to run their subsistence level agriculture based economy. The Act intervened in these two livelihood options also. Section 12 of the Act states, "*In case of a claim to rights of pasture or to forest produce, the Forest Settlement Officer shall pass an order admitting or rejecting the same in whole or in part.*" In section 14, the above issue is dealt more specifically, it even prescribes to record the details (including numbers) of cattle, quantity of NTFP to be allowed to collect from the reserved forest and in which season the collection will be allowed.

However, agreements were also done with the forest villagers regarding amount of land to be allowed to plough, number of livestock to be allowed to rear and days of free labor to be rendered in forestry works of FD etc. The colonial forest policy brought the concept of forest village (ref. chapter I) in Indian forest during the early 20th century. Most of the Jhumia communities (shifting cultivators) came back in such villages. Initially, there were no rules and regulations to regulate their livelihood. In 1912 rules were made and the then forest department started to write an agreement with these forest villagers. Apart from mandatory free of cost labor (*beggary*) the terms and conditions also spells out the following i. each family will get cultivable and homestead land of 2.5 acres in plains and 1.5 acres in hills ii. Each household will be allowed to keep 2 plough cattle, 2 milch cow and 4 calves; 2 goats or sheep etc. (www.buxatigerreserve.com & Choudhury, 2015)

4.3 The National Forest Policy 1952 and Forest Dwellers' Livelihood

The national Forest Policy of 1952 recommends the States and the Union Territories which have no forest Act, to bring legislation in tune of the Forest Act of 1927. It prescribes to stop shifting cultivation and suggested to use this skill of forest dwellers in forest plantation. The policy suggested Taungya system of plantation in forest, exactly in the line of Dietrich Brandis. The policy viewed the system as a 'win win' situation for the forest dwellers as well as forest department or government. Technically, country's first forest policy after independence recommended a system of plantation based on exploitative and undemocratic system of production. Since the shifting cultivators in many cases were not ousted from the forest instead they were employed in forest department to follow their technical expertise (shifting cultivation) of slash and burn agriculture in a different format suitable for forest plantation, it is thought to be a 'win win' situation (APFD website)

The policy also states that '*all grazing in forests, particularly unlimited or uncontrolled grazing, is incompatible with scientific forestry.*' It also strongly opined that efficient forest management needs regulated grazing and control over number of cattle. It mentions that cheap forest grazing '*leads to reckless increase in the numbers of cattle which decreases their quality*'. As a result of free and indiscriminate forest grazing, the forest dwellers never bothered about number and quality of the cattle.

However, the policy also thought of the welfare of the forest dwellers it recommended for establishing forest workers cooperatives to mitigate the exploitation of the timber merchants. It seemed that the policy believed that the denudation of forest is being done by the forest dependent people. The policy hoped that one day the local forest dependent people would learn the importance of forest and look upon the forest as a means of their livelihood. It suggested that a great step forward will be achieved if that awareness comes to them. The policy seems to suggest that the forest dwellers are not aware of the value of forest in their life even though the forest dwellers' livelihood traditionally depended on forest and forest produce (Ibid.).

4.4 Wildlife Protection Act, 1972

The International Union for the Conservation of Nature or IUCN held its tenth General Assembly in Delhi in 1969. In this historic event experts from all over the World elected to put Indian tiger in the endangered list against much protest from the safari tour operators and the old-time hunters. However, the inaugural address delivered by the then Prime Minister, Indira Gandhi cleared the Government's intention. She said, *“When forests are cut down, wildlife is naturally threatened. Some beautiful and interesting species have become extinct. The rate at which secret poaching and shooting are taking place, the rhinoceros, the famous Bengal tiger, and even the elephant, might disappear unless we take vigilant and drastic steps to preserve them. We have a Wildlife Board, which has put a ban on the export of tiger and leopard skins. We do need foreign exchange but not at the cost of the life and liberty of some of the most beautiful inhabitants of this continent.”* (Rangarajan, 2012) This event of 1969 set a new tune in the forest bureaucracy and among political leaders. It becomes amply clear if one follows the steps taken by the Central Government following the General assembly of 1969. The steps are listed below chronologically:

- I. Nationwide tiger census - in the summer of 1972
- II. Enactment of Wildlife Protection Act 1972 – September 1972
- III. Declaration of Project Tiger – April 1973.

The backdrop in which the Wildlife Protection Act 1972 (WPA 1972) was enacted is easily understandable from the above discussion. The Act wholly concentrated on wildlife and radically changed hitherto approaches practiced in forests. The Act was

passed in the Parliament in 9th September, 1972 and was made applicable in West Bengal from 1st May 1973; vide G.S.R. 224(E).

The Act is heavily indebted to the Indian Forest Act, 1927 for several provisions. It provides scope for declaring any forest as Sanctuary and National Park. It also provides provision for settlement of rights of local people much in the line of Indian Forest Act 1927. This chapter will be focusing on the provisions related to settlement of rights and on provisions of the Act which might have adverse affect on the livelihood of forest villagers.

4.4.1 Sections of WPA 1972 which dealt with settlement of rights

The section 18 of WPA 1972 spells, *“The State Government may, by notification declare its intention to constitute any area other than any area comprised with any reserve forest or the territorial waters as a sanctuary if it considers that such area is of adequate ecological, faunal, floral, geomorphological, natural or zoological significance, for the purpose of protecting, propagating or developing wildlife or its environment.”* However, the State Government, may also declare any area comprised within any reserve forest as a sanctuary under section 26A(1)(b) of WPA 1972. In this connection it must be mentioned that the definition of ‘wildlife’ under the WPA 1972, is not only wild-animals but every single thing of the forest. The section 2(37) defines wildlife as, *“‘wildlife’ includes any animal, bees, butterflies, crustacean, fish and moths; and aquatic or land vegetation which form part of any habitat.”* According to this definition grass, NTFPs, fuel-woods all fall under the category of ‘wildlife’ since they ‘form a part of any habitat’. So, to extract all these from the Sanctuary is a punishable offence under WPA 1972. Forest villagers are traditionally dependent on different types of minor forest produces for nutrient supplement and selling fuel wood to nearby rural markets. This definition of ‘wildlife’ might have created impediments in their livelihood.

Like the Indian Forest Act 1927, this Act has provided some procedures to follow to settle the rights of local people on land and forest products. For example, under section 19 *“The collector shall inquire into, and determine the existence, nature and extent of the rights of any person in or over the land comprised within the limits of the sanctuary.”*(WPSI & Justice Singh, 1998) The WPA 1972 also publishes a proclamation for the local forest dependent community of the locality where the forest is situated. Within two months of the publication of the proclamation any claimant of rights under

section 19 has to produce documents. According to section 22, the collector will inquire into the rights, though it is also mentioned that the records may be ascertainable from the records of the state government. During the period of survey of forest land and other forest rights the Collector enjoys the power of a civil court. Section 23(b) of the Act says, “*the same powers as are vested in a civil court for the trial of suits*”. Moreover, it is important to notice that under section 24, the collector has the absolute power to either admit or reject the rights of the claimant in whole or in part. Here it is also crucial to mention that the collector may proceed to acquire such land and extinguish rights in exchange of compensation as is provided in Land Acquisition Act 1894. However, in the section 24(2)(c) of the same Act it is mentioned, “*Collector may allow, in Consultation with the chief Wildlife Warden, the continuance of any right of any person in, or over any land within the limits of the sanctuary.*” This provision is not allowed while determining the limits of a National Park. The process of declaring a national park is more or less common with the processes involved in declaring a sanctuary. All the sections between 19 to 26-A except the section 24(2)(c), are also applied for various purposes like investigation and determination of claims and extinguishment of rights, in relation to declaring a National Park. (Ibid)

The above mention mechanisms are a complex process of determination of rights, proclamation by collector, and enquiry by Collector etc. This complex process might have restricted thousands of illiterate forest villagers in registering their rights what so ever they had.

4.4.2 Provisions of the WLA 1972 and the livelihood of forest villagers

The section 17A of the Act states “*..no person shall willfully pick, uproot, damage, destroy, acquire or collect any specified plant from any forest land and area specified,.. no person shall possess, sell,.. or transfer by way of gift or otherwise, or transport any specified plant, whether alive or dead, or part of derivative thereof: from any forest managed under W.L.P.A.72*” (Ibid. 1998). A Tiger Reserve is governed by the WPA 1972 as National Park as well as Sanctuary is created within the territory of the reserve. Forestry activities like felling and plantation that went on up to late 1980s in BTR got halted after the declaration of Tiger Reserve in 1983. The forest villagers who were the labor under forest department and contractors became idle. They are forced to look for alternative sources of livelihood. Government also took several steps to generate alternate livelihood for the forest villagers.

Section 27(2) of the Act makes the forest villagers duty bound – (a) to prevent the commission, in the sanctuary, or an offence against this Act; (b) to help in discovering and arresting the offenders; (c) to report death of any wild animal; (d) to extinguish fire in the sanctuary; (e) to assist any forest officer in the investigation.

Section 33(d) of the Act gives power to the forest officials to regulate or prohibit grazing in sanctuary. Under section 35(7) no grazing of livestock is allowed in National Parks (WPSI & Justice Singh, 1998).

Several provisions of the said Act also imposed restriction on collection of non-timber forest products as well. Entering or residing within the area of sanctuary or carrying a weapon is subject to the permission of Chief Wild Life Worden (CWLW). Where definition of ‘weapon’ also includes bows and arrows, hooks, knives, nets. Forest villagers are mostly tribal (Rava, Metch, Ducpa, Jharkhandi e.t.c.) and Nepali. All these communities are culturally and occupationally dependent on the above mentioned weapons for various livelihoods. The above discussions make it interesting to look into the livelihood of the forest villagers of the BTR to assess the consequences of the policy interventions.

4.5 Conservation Act, 1980 and forest people’s livelihood

The commercial use of forest resources took a heavy toll on the Indian forest. Heavily subsidized forest product for industry and conversion of forest land for big development projects made the half of country’s recorded forest either denuded or degraded. Conversion of forest for various developmental projects became a routine affair. Policy makers were clueless, how to mitigate the impact of this development model on forest and became seriously concerned about the conversion of forest without alternative plantation or regeneration. Conservation consciousness in India was creeping in after the tiger census of 1972; the policy makers felt the urgency of a rigid law against conversion of forest land. And thus the Forest Conservation Act, 1980 was enacted. The Act paid emphasis mainly on three issues viz. controlling of logging operations, restricting conversion of forestland, and providing livelihood options to the local community. It is opined by many scholars that the Act performed considerably well so far as first two issues are concerned but failed badly in generating alternative livelihood options for forest communities (Poffenberger, 1996). And often, the provisions that were

supposed to stop conversion of forest land ended up being a hindrance on the forest villagers' livelihood.

Section 2(ii) and 2(iv) of the Forest (Conservation) Act, 1980 (as amended in 1988) states, "*No State Government or other authority shall make, except with the prior approval of the Central Government, any order directing – (i) that any forest land or any portion thereof may be used for any non-forestry purpose; (ii) that any forest land or any portion thereof may be cleared of trees which have grown naturally in that land or portion, for the purpose of using it for reafforestation.*" In the Application of Forest (Conservation) Act 1980 it is said in point no. 1.4(i) & (ii) that cultivation of tea, coffee, spices, rubber and palm is a non-forestry activity. Cultivation of fruit bearing trees or medicinal plants would also require prior approval of Central Govt. except when such plants are indigenous in nature. These clauses of the Act, (mainly the explanation of 1.4(ii)) have potentiality to influence on the livelihood of forest villagers. The above clause restricts the state government from clearing any forest even for the purpose of reforestation.

Explanation on point no 4.6(i) states "*Extraction of minor minerals like boulders, bajri, stone, shell etc. from the riverbeds shall not be permitted if river bed is in a national park or a wildlife sanctuary unless such extraction is for the benefit of the forest or wildlife.*" It is evident a sizeable population of forest villages of BTR was engaged in boulder, bajri and sand lifting from various streams (riverbed) flowing through BTR. The provision of the Act allegedly created complexities.

While giving an explanation to section 2(iv) of the Act in point no. 1.8(i) it is said, "*Sub-clause 2(iv) of the Act prohibits clearing of naturally grown trees in the forest land for the purpose of using it for reforestation..... irrespective of their size, for harvesting existing crop and/or raising plantation through artificial regeneration techniques, which may include coppicing, pollarding or any other mode of vegetative propagation.*" The clarification of the clause also states in point no. 1.8(iii) that, "*..Also prior clearance would be required when the proposal is for clear felling of an area of size more than 20 ha. in the plains and 10 ha. in the hilly region, irrespective of density.*" (WPSI & Justice Singh, 1998). The one of the main occupations of the forest villagers of BTR had been to engage in forestry works under the forest department. The above explanations suggest the difficulties in carrying on with the productive forestry activities which provide livelihoods to forest villagers. The commercial forestry of clear felling

coupe (CFC) got replaced with a halt on conversion of forest for non-forestry purposes. The ban on CFC means ban on soil preparation, cleaning, thinning, fire fighting, fires line making, final harvesting, nursery work etc. (Gupta, 2005).

4.6 National Forest Policy, 1988 and forest people's livelihood

The National Forest Policy, 1988 acknowledged that the forest has suffered serious depletion since the last National Forest policy of 1952. It enlisted the reasons of this depletion to (a) ever increasing demand for fodder, fuel-wood and timber, (b) inadequacy of protection measures, (c) diversion of forest lands to non forest uses without ensuring compensatory afforestation, (d) and the tendency to look upon forests as revenue earning resources.

The policy adequately tried to address all the above mentioned reasons for depletion of forest and gave a guideline that may be adopted to undo the mistakes of the past. The chapter will be focusing on the guidelines which might have long term ramifications on the livelihood of forest villagers as well as condition of forest. In the 'Basic Objectives' of the policy, emphasis is given to the following matters:

- (i) restoration of the ecological balance that has been adversely disturbed,
- (ii) preservation of the remaining natural forest,
- (iii) increasing forest/tree cover through massive afforestation and social forestry programmes,
- (iv) meeting the requirements of fuel wood, fodder, minor forest produce and small timber of the rural and tribal population,
- (v) increasing the productivity of forests to meet essential national needs,
- (vi) maximizing substitution of wood,
- (vii) creating massive people's movement for achieving these objectives.

In the preamble of the policy, rural needs, diversion of forest land and the mindset to view forest as revenue earning sector were held responsible for depletion of the forest. However, it is observed that in the stated objectives, the concern of diversion of forest land and the mindset has not been taken into consideration. Need of the industries which primarily see the forest as a revenue generating sector had been included in the objective, where it proposed to increase the productivity of the forests to

meet essential national needs. It is clear from the stated objectives, the policy wholly depended on the rural population for fulfilling its aims, it prescribed for a people's movement (emphasizes on women participation) much in the line of the Joint Forest Management.

In the sub-head "Essential of Forest Management" the policy emphasized on afforestation of such species which produces fuel wood and fodder, protection and improvement of minor forest produce as it gives sustenance to tribal and to other communities living in and around the forest. However, the policy also emphasized biosphere reserve, national parks etc.) throughout the country.

The policy set a target of 1/3rd of the plain land under forest cover and for the hills the target raised to 2/3rd of the land. In its 'Strategy', emphasis was given on a massive 'need-based and time bound programme of afforestation' on all degraded lands 'whether forest or non forest land'. The policy encouraged all forms of plantations, be it on alongside of roads or on village and community lands. It is clear that the policy highly valued the success of social forestry program of 1970s. The same types of programs are envisaged that is why the call for a people's movement is given. It is also witnessed that just after the adaptation of the policy of 1988, massive programs on different type of plantation works like social forestry, JFM etc are undertaken or spread across the country. Surprisingly, all these programs promoted species like eucalyptus, pulp producing trees which provide very little fuel wood or fodder. This is excellent raw materials for pulp industry and mine-pit props. However the policy unequivocally states that "*The practice of supply of forest produce to industry at concessional prices should cease.*"

The National Forest Policy 1988 reversed the narrative drawn in 1952's policy regarding the rights of the forest dependent community and went on to state – "*The life of tribals and other poor living within and near forests revolves around forests. The rights and concessions enjoyed by them should be fully protected. Their domestic requirements of fuel wood, fodder, minor forest produce and construction timber should be the first charge on forest produce.*" (WPSI & Justice Singh, 1998). The policy also reminded the forest department about the symbiotic relationship of tribals with forest and advised it to engage with them to make them partners of conservation. It recommended 'development of forest villages at par with revenue villages'.

The policy picked the concept of Joint Forest Management (JFM) which was showing miracles in the south western part of west Bengal. An informal system among forest dependent communities and forest department was successfully regenerating the heavily degraded *sal* forests of the district of Medinipur. The concept spread like wild-fire, soon it took a shape of a people's movement, the National Forest Policy adopted this concept of JFM during implementation of the policy and spread it in whole of the country without taking into consideration the variances in socio-economic condition of communities and the ecologies.

However, it failed to generate livelihood for forest dependent communities as the share of 25 percent from final harvest (after deducting costs) could not motivate the communities. Moreover, the communities had to wait at least 5 years before they can enjoy the returns. In some geographical locations 5 years is not enough for getting intermediate yield from regenerated forests. In North Bengal the most of the forest villagers did not take it seriously because of this reason. Nearly 48 percent of North Bengal's forested tracts (here two Districts of Darjeeling and undivided Jalpaiguri) is home to 5 National Parks and 5 Wildlife Sanctuaries which comprises exactly 47.64% of the total forest area of the districts (Directorate of Forest, GoWB, 2012). In these protected areas harvesting as well as plantation (except for wild lives) is prohibited under the Wildlife Protection Act, 1972, this cause made JFM irrelevant in protected areas as it predominantly depended on intermediate harvesting and final harvesting of trees. However, protected areas came under another concept of JFM called Eco-Development Committee or EDC. EDC had the opportunity of getting revenue from tourist entry in forest; this provision could not encourage the forest villagers (Sarker, 2009 and Nandi, 2002). The forest villagers in North Bengal also perhaps could not believe the forest department as their partner in conservation crusade as the memory of *beggary* days was still alive in their minds.

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CHAPTER – V

LIVELIHOOD OPTIONS IN FOREST VILLAGES OF BTR: A DESCRIPTIVE EXPLORATION

5.1. The Performance of the Local Government in BTR

Introduction: The survey is conducted on two types of respondents. The first sample comprises of the panchayat members of the forest villages of BTR and the second sample comprises of the registered villagers of the forest villages. The purpose of the first survey is to find out the performance of the panchayat in forest villages as an institution of local government, challenges faced by it, and, its role in augmenting livelihood options. It also focuses on the awareness of the panchayat member on Forest Rights Act, 2006. The second survey primarily aimed at finding out the present livelihood options, livelihood strategy, and the relation between the livelihood options with the level of household expenditure. The survey also tried to examine whether there is presence of basic amenities in forest villages of BTR.

In this respect it must be mentioned that though the institution of *Panchayati Raj* was introduced in the state of West Bengal in the year 1973 in its current form i.e. with 3 tier system of local governance, however, the West Bengal Panchayat Act 1973 came under radical change with the 73rd Constitutional amendment which brought effective institutions of local self government. It reached its pinnacle of success and earned considerable fame and respect throughout the country (Mitra, 2015). However, two areas of the state remained out of this realm; they are (i) tea garden and (ii) forest village. The forest village and tea garden came under the sphere of *Panchayati Raj* Institution much later in the year 1998 (Choudhury, 2003).

In the survey precisely the following issues are inquired into to understand the type of functioning of panchayat in the forest villages.

1. The structure of panchayat bodies in forest villages
2. The status of the schemes that panchayat undertook other than land based development
3. Problems with different kinds of land based developments that were undertaken by the Panchayat. Here the survey enquired whether the provision of no objection certificate (NOC) from forest department is bringing serious problems in the functioning of Panchayat in forest village.

4. Health care facilities in the villages as well as in areas of close proximity
5. The educational facilities in the forest villages
6. Facilities of animal husbandry in the forest villages
7. General awareness of panchayat regarding the latest policy intervention i.e. the newly enacted FRA 2006, in this respect it is significant to mention that the role of the Panchayat is vital as the first meeting in which 'Gram Sabha' (a new institution under the provision of FRA 2006) is formed, is called by the panchayat. The survey also enquired about the awareness of the Panchayat on the different rights that the Act has provisioned for forest villages and their present status.

For the purpose of the survey 12 villages are chosen out of the 37 forest villages of BTR following a simple random technique. The selected villages are distributed across 11 Beats and 8 Ranges of BTR. The sample of 12 villages is distributed at a ratio of 2:1 between the BTR (E) and BTR (W) division. However, administratively all the villages fall in 2 blocks of Kumargram and Kalchini of the district of Alipurduar at a ratio of 1:1 (ref. Table 1.1 & Table No. 1.2 in Appendix 1). After the selection of the villages concerned panchayat members are interviewed with a structured questionnaire.

5.1.1. Structure of panchayat bodies in forest villages

The survey reveals that 58.33 percent villages are there in the sample wherein the constituency of one Panchayat member itself has 3 villages (either comprising 3 FVs or attached with revenue villages or tea gardens-TG). This phenomenon creates a problem of absentee member in certain forest villages. Some members are also accused of preferential treatment in favor of his own village. In the *Gram Panchayat* (GP) composition, the ratio between FV and RV plus TG is as low as 2.19:10 i.e. every GP has Panchayat members of 10 either from revenue village or tea gardens while forest village's representative on the same GP comprises only to a portion of 2.19. It is amply clear that the forest villagers are minority in the GP's composition. Who so ever wants to control the GP does not have to depend on the support of the panchayat members of forest villages. Surprisingly, there are 25 percent GP which has single representative from forest village (Ref. Table No. 2 in Appendix 1). This situation perhaps makes the forest villages politically vulnerable. The prevailing unfavorable condition in the composition of the GP makes the forest villages politically excluded. It is alleged by the forest villagers that their developmental activities also get unfavorably maneuvered due

to the skewed composition in the GP. The allegation is not misplaced, especially when a sizable work in rural West Bengal is done through Panchayat {Jha(a), 2010} . On several occasions it is found that villagers are being killed by forest department’s firing for alleged violation of forest laws. These incidents get hardly any political attention, and the toughest stand taken by the forest villagers is found to be a negotiation for few thousand rupees as compensation (NESPON, 2005). It is alleged that the political vulnerability has lead to an economic as well as social isolation for the forest villagers in BTR.

5.1.2. Performance of panchayat schemes & pensions

The Mahatma Gandhi National Rural Employment Guarantee Scheme or MGNREGS was started in the year 2005 in India, with the aims to improve livelihood security in rural areas, to create durable assets and to stop rural urban migration. Gradually it gained popularity among rural folks. During the year 2012-13 the scheme generated 214.28 lakh person days in the state of West Bengal (MoRD, 2005). The number of man days under the MGNREGS is increasing gradually, for instance, during the year 2014-15 the nationwide average man days created stood to 40 days the same data increased to 49 days in the year 2015-16 (<https://community.data.gov.in>, 20016).

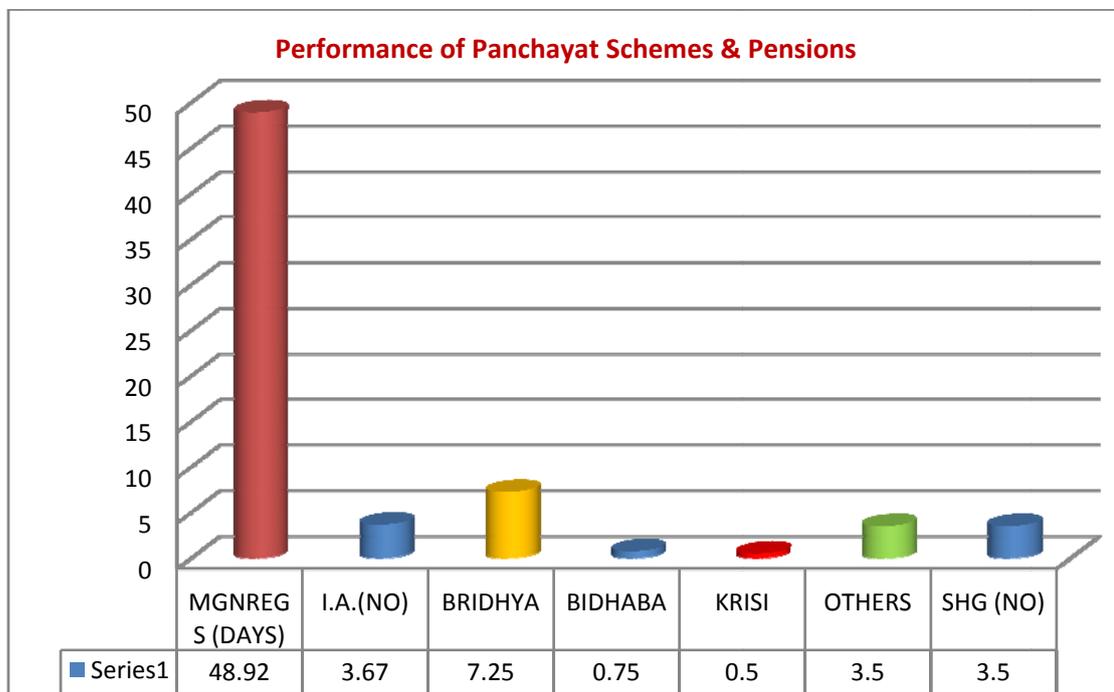


Figure No: 1.1 (Field Survey 1)

It is found from the survey that forest villagers of BTR on an average received 48.92 days of work/family under MGNREGS during 2014-15. However, it was also

learnt that among the total man days of 48.92 there was a payment of 18-24 days pending due in different forest villages. Among other benefits from panchayat it is found that on an average yearly allotment of *Indira Awas* to the villagers figured to 3.67 families/year in each village. However, 1/3rd of the villages in the sample did not get a single allotment of *Indira Awas* during the period 2014-15. The forest villagers of BTR wittily opined that the number of houses destroyed by elephant each year is much higher than the number of houses built by the *panchayat*. So far as allotment of different pensions are concerned, only *Bridhya Vata* i.e. old age pension seems to be a significant contributor to elderly people's livelihood, on an average 7.25 families/village have received this pension. Other pensions like *Bidhabha Vata*, *Krishi Vata* etc. are nominal in nature (ref. Figure 1.1 & Table No.3.2 in Appendix 1). The institutions of micro finance i.e. the self help groups (SHG) started to emerge in BTR since 1998. These groups got the financial support and guidance from NABARD (National Bank for Agriculture and Rural Development) and SIDBI (Small Industries Development Bank of India). Several NGOs like IBRAD, Basundhara, CARE etc. came forward to offer the technical assistance to form SHGs in the forest villages of BTR during that period. By the end of 2001 there were more than 50 women SHGs engaged in various economic activities in BTR (Das and Sinha, 2002). The survey reveals that on an average 3.5 SHGs/village is operational in the forest villages of BTR. The groups predominantly comprising of women and most of them are using the banking facility (SHG) as a sheer means of savings, instead of developing entrepreneurship, as very few of them got the credit linkage from banks.

5.1.3. Status of MGNREGS & ICDS work under Panchayat

Works under MGNREGS and the services of Integrated Child Development Services or ICDS centers are visible in every forest villages of BTR. Over the years these services have emerged as an inalienable part of forest villagers' life and livelihood. The number of persons having Job Card is fairly high in forest villages; precisely 2/3rd villages in the sample registered 100 percent coverage in job card distribution, however, on an average it stood to 94 percent per village. The ICDS centers played a pivotal role in improving the health of children in rural areas for more than four decades. It was started during 1975 with the aim to solve the nutrient deficiency of children below six years and to offer anti-natal, post-natal services to mothers. There are 91372 *Anganwadi* centers (ICDS centers) in West Bengal according to a survey in 2006. These centers

serve 40 lakh children and 4.8 lakh mothers (Rana and Sen). The present survey revealed that all the villages except one have ICDS centre in the forest villages. The average intake of children in each center is on an average 28. However, 4 such centers are found to be over crowded with more than 40 children in each center (centers' intake crossing 40 children/center are assumed to be over crowded, as according to *Anganwadi* workers they can provide good services to nearly 40 children) (ref. Table No. 4 in Appendix 1). The survey makes it crystal clear that peoples' dependence on government sponsored schemes in forest villages is considerably high.

5.1.4. Land based developmental works of panchayat and problem of no objection certificate (NOC)

Figure No. I.2 demonstrates the number of land based development carried out by the panchayats and the problems faced by them while seeking No Objection Certificate (NOC) from the forest department. In this respect it must be mentioned that since the forest villages are situated within the jurisdiction of forest, technically the land belongs to the forest department, and panchayat members of forest villages need an NOC to undertake land based developmental works. This phenomenon sometimes creates a reluctant attitude in the minds of panchayats to undertake such works. However, the panchayat members having influence in the political parties do the works without an NOC or with a verbal permission from the Range Officer or the Divisional Forest Officer (DFO).

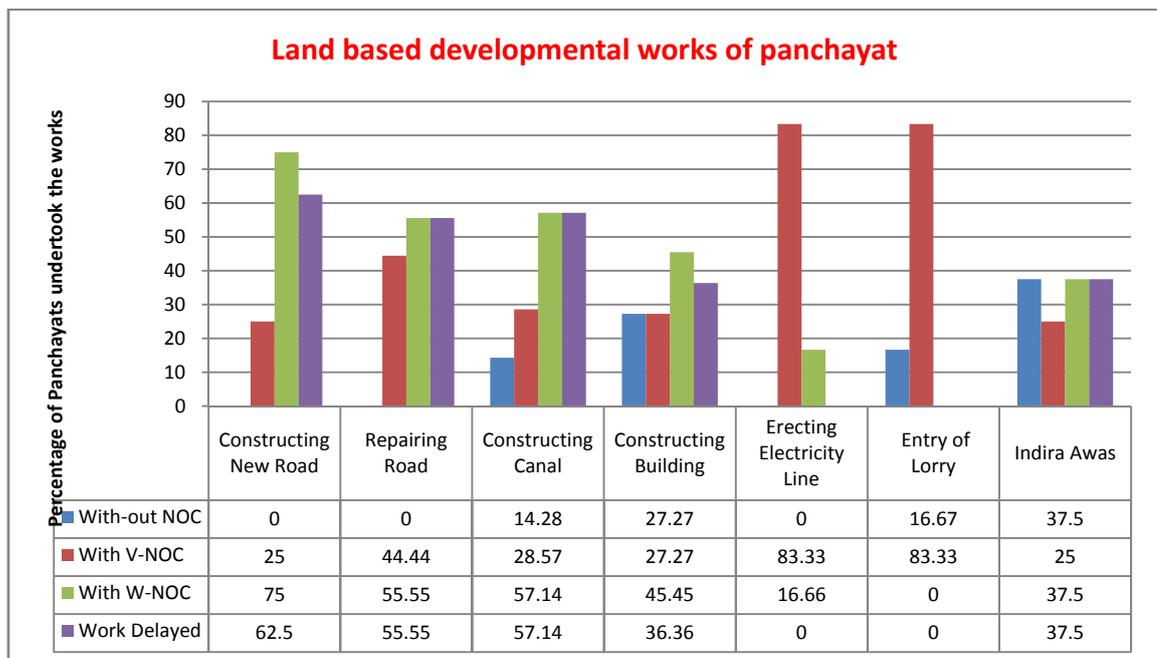


Figure No. 1.2 (Field Survey 1) (Data related to the year- 2014-15)
V-NOC stands for verbal NOC, W-NOC=Written NOC,

It is found that on an average 13.67 percent and 45.27 percent of the total land based works undertaken were completed without NOC and with a verbal permission from the FD respectively (ref. Table No. 3.1 in Appendix 1). All works does not fall under these categories as all panchayat members are not influential in their respective parties and some of the panchayat members of the forest villages also find it hard to negotiate with the forest department. It is found, on an average 41.04 percent of works undertaken had to go for an NOC and 35.58% of works got delayed due to lack of timely availability of NOC (ref. Table No. 3.1 in Appendix 1). Works like constructing new roads, repairing roads, constructing canals are of great importance in forest villagers' life. Every year these *Kacha* roads (non-metal roads), canals are either rebuilt or repaired before monsoon; if these works get delayed the village remains almost unapproachable from nearby markets or block offices. Sometimes after the monsoon also roads and canals becomes dilapidated if they are not repaired in a time bound manner it affects the forest villagers' livelihood in several ways. It is found that the works of this paramount importance got delayed due to lack of NOC in as much as 62.5 percent, 55.55 percent and 57.14 percent cases respectively (Figure No. 1.2). The situation suggests that disadvantages of different kinds operate to circumscribe the facilities like health, education, animal husbandry and livelihood.

5.1.5. Healthcare facilities and prevailing diseases in the forest villages of BTR

Primary health care services in rural Bengal are almost wholly carried out by the public sector health facilities. The structure of the public healthcare facilities in rural West Bengal comprise of Sub-Centers (SC), the Primary Health Centers (PHC) and the Block Primary Health Centers (BPHC). If there are at least 30 beds in a BPHC then it is called a Rural Hospital (RH). A sub-center is a rudimentary level of health care service. In a sub-center an Auxiliary Nurse-cum-Midwife (ANM) and one male Health Workers (known as Multi-Purpose Worker (Male) or simply MPW) are supposed to be posted to provide the bare minimum services of anti- natal care, post natal care and services related to family planning, immunization and treatment of minor ailments. The sub-centers also perform the duty of DOTS center (Directly Observed Treatment Short-course for treatment of TB) and of a watchdog to communicable diseases (Govt. of West Bengal, H&FWD, 2012). Considering the services that a sub-center supposed to offer, its importance in rural life is easily understandable. The survey enquired regarding these facilities in forest villages through panchayat members. It is well documented that the

forest villages are situated in far flung areas of the forest, and so, it is challenging to create large healthcare facilities in those villages. In this regard, it is assumed that a sub-center within 10 km from the village is a bare minimum and may be regarded as if the sub-center is situated in the village. The results are not encouraging, only 25 percent of the villages have a sub-center with an average 8km distance, and 75 percent of villages don't have any sub-center within the ambit of 10 km from the villages (ref. Table no. 5.1 in Appendix 1 & Figure No.3.2 in Appendix 3).

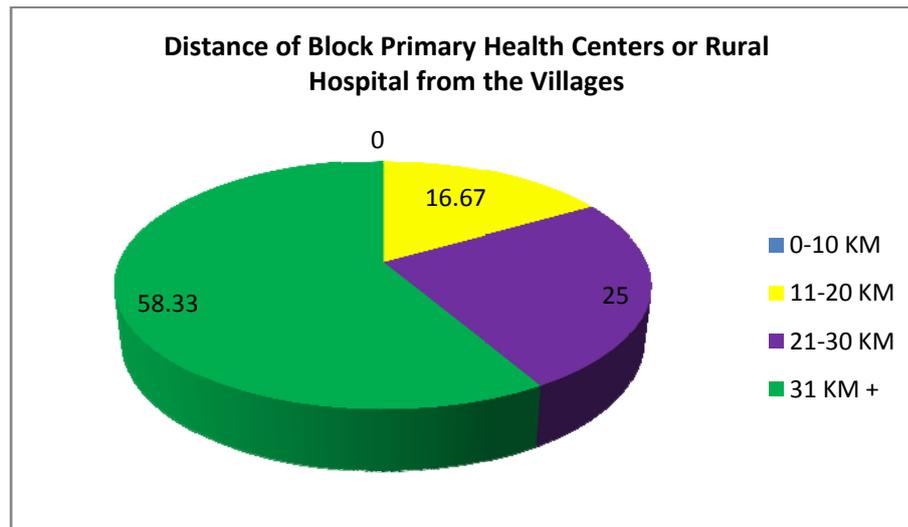


Figure No. 1.3 (Field Survey 1)

So far as access to the secondary level of healthcare facilities is concerned, only 16.67 percent villages have access to a Block Primary Health Centers or Rural Hospital within 11-20 Km from their villages, whereas the 58.33 percent of the villages have to cover a distance of more than 30 Kms to avail the services of a rural hospital (ref. Figure No. 1.3 & Table no. 5.2 in Appendix 1). The data speaks for itself, a virtual nonexistence of public healthcare facilities for majority of forest villagers in BTR.

During the survey it is learnt from the panchayat members that BTR was once a notorious place for its deadly malaria and TB. However, the study revealed that during 2014-15, there are 25 and 8.33 percent of villages who have completely eradicated malaria and TB respectively. The survey also indicates a presence (where 1 to 10 persons were hospitalized) of Malaria and TB in 50 percent and 66.67 percent villages respectively. Villages having 11 to 20 cases of hospitalization for malaria and TB accounted for 16.67 percent and 25 percent villages respectively, which may be considered as deplorably high (ref. Figure No. 3.3 in appendix 3 & Table no. 5.3 in Appendix 1). However, people are of the opinion that the severity of malaria has

vanished for the reasons not known to them and TB is still omnipresent in forest villages with its deadly venom. So far as jaundice is concerned it's not a problem in BTR as a whole, nevertheless, 16.66 per cent (i.e. 2 villages) villages are found where jaundice has taken a shape of an epidemic.

5.1.6. Educational Facilities

The survey revealed that every forest village in BTR has a primary school with an average of 2.75 teachers teaching there. The number of teachers includes both permanent and part time. It is also found that 83.33 per cent of villages have government primary schools which impart knowledge in languages other than mother tongue. The indigenous communities like Rava, Mech, Dukpa follow a language which has a lineage to Tibeto-Burmese languages (Matisoff, 2017). According to the panchayat members, the adults understand and speak the Bengali language as they go outside the village and mingle with the Bengali community but it is quite difficult for a kid to follow Bengali language in the school. Result of this difficulty may be noticed in the number of students pursuing higher education. It is found 50 per cent of the villages do not have a single graduate; and only 8.33 per cent villages have one graduate in their village. Most striking feature of the survey is that only one (8.33 percent) village has a lone post graduate (ref. Figure No. 3.4, Figure No. 3.5 in Appendix 3 & Table no. 6.1 in Appendix 1). However, the above mentioned phenomenon may be countered with the fact that wherever the forest villagers get the option of English medium school they are shifting their kids to those schools. This new trend is mostly common in Nepali speaking villages. While investigating the travelling cost incurred by the villagers to send their children to high school and college it is found, most of the students have bicycle to reach to high schools. It appears that the policy of distribution bicycle to village students has shown a good result in forest villages. However, to send their children to colleges they are incurring enough money. The figures are considerably high for families of forest villages who have hardly any regular earnings (ref. Figure No. 3.6 in Appendix 3 & Table no. 6.2 in Appendix 1).

5.1.7. Prevailing Diseases of Livestock and Loss of Cattle's Life Due to The Diseases

Forest villages, like other rural peasants depend heavily on livestock rearing, it provides them the much needed nutrition supplements and also adds considerably to their livelihood options. Live stock also acts as a recurring deposit or insurance policy to a

forest villager as they utilize the sale proceeds of the animal in their extreme needs. So, to keep the livestock free from diseases is a matter of supreme importance to forest villagers.

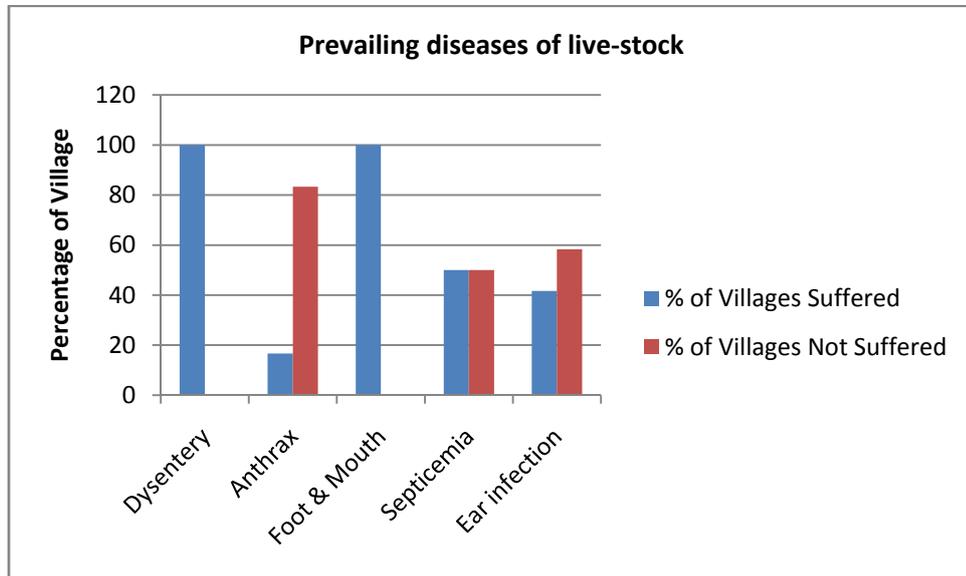


Figure No. 1.4 (Field Survey 1)

The Figure No.1.4 shows that 4 types of diseases to live stock are common in forest villages of BTR. Dysentery and ‘foot & mouth’ (a type of infection in foot and mouth) diseases are found to be the most common of diseases. While, septicemia (blood infection) and ear infection are found in 50 and 41.67 percent villages respectively (ref. Table no. 7.1 in Appendix 1)

The study also reveals that veterinary doctors visit the forest villages, mainly to treat the contaminating diseases like anthrax. During the discussion with the members it is known that FD arranges the visit mainly once in a year. It is found that the doctors have visited 58.33 percent villages once in a year however, in 25 percent villages the doctors did not turn up. Since the veterinary hospitals are far from the villages the visits of vet. doctors are important. The study reveals that 58.67 percent villages are situated 6-10 Km away from the nearest veterinary hospital and 25 per cent villages are situated 11-15 Km away (ref. Table no. 7.2 in Appendix 1). To bring an animal to the hospital is quite a difficult task that too, if it is 10 Km of hard terrain or path then the difficulties is multiplied. If the deaths of live-stock (mainly cattle) due to the above mentioned diseases are noticed then one perhaps get an idea how distance of a vet hospital can impact the fate of live-stocks and for that matter the livelihood of forest villagers.

The study finds that 21-30 cattle died in last one year in 16.67 per cent villages and another 16.67 percent villages witnessed 41-50 cattle death during the same period. This figure is fairly high for small hamlets like forest villages. However, 25 per cent villages are also found where no death of cattle has been registered (ref. Table no. 7.3 in Appendix 1). In this respect it must be mentioned that forest department arranges visit of veterinary doctors to forest villages for the purpose of controlling contaminating diseases that may transmit to wildlife from domestic animals. The FD's focus predominantly remains to Anthrax, but the study suggests it's a nonissue today in forest village or it may be inferred that the consistent focus to eradicate anthrax from BTR, has shown result.

5.1.8. Awareness of Panchayat Members Regarding the Latest Policy Intervention, Forest Rights Act 2006

The Forest Rights Act, 2006 apparently brought a sweeping change both in the century long underlying beliefs and also theoretical understanding relating to conservation of forest. The theoretical understanding, which was erected on the ideas that accepting the rights of forest dwelling people ultimately have ill-effect on sustainability of forest resources received a serious thrashing. The present Act starts with the necessity of acceptance of several rights of the forest dwelling people. This paradigm shift in the official approach and attitude for forest management and functioning of forest department (FD) is amply indicative in the statement made in the first chapter of the said Act, *“An Act to recognize and vest the forest rights and occupation in forest land in forest dwelling scheduled tribes and other traditional forest dwellers who have been residing in such forests for generations but whose rights could not be recorded; to provide for a framework for recording the forest rights so vested....”*The Act also acknowledges the injustice done to the forest dependent communities and states, *“And whereas the forest rights on ancestral land and their habitat were not adequately recognized in the consolidation of the state forests during the colonial period as well as independent India resulting in historical injustice to the forest dwelling scheduled tribes and other traditional forest dwellers who are integral to the very survival and sustainability of the forest ecosystem...”* (The Gazette of India, 2007)

The important aspect to be noted in this context is that the Act brings a new institution called 'Gram Sabha' which means assembly of the adult population of the

village. The Act visualizes Gram Sabha as the sole representative and authority to take decisions related to use of forest resources to the extent it has been conferred on villagers as their rights. The one of the most important sections of the FRA, 2006 is section 3(1) where it states thirteen types of rights of the forest dwellers. The rights can be classified into four categories:

- i. Title rights - i.e. ownership right on land that is being occupied by forest dwellers prior to 13 December 2005 (subject to a maximum of 4 hectares);
- ii. Right to own, access to collect, use, and dispose of minor forest produce (MFP); grazing and traditional seasonal resource access to nomadic or pastoralist communities;
- iii. Relief and development rights, rehabilitation in case of eviction;
- iv. Forest management rights to protect forests and wildlife.

The *panchayat's* role in the Act has been clearly mentioned in the section 3(1) of FRA Rules 2007 which states, “*The Gram Sabha shall be convened by the Gram Panchayat and in its first meeting it shall elect from amongst its members, a committee of not less than ten but not exceeding fifteen persons as members of the Forest Rights Committee,..*”. With this legislative provision we can infer that panchayat has certainly a vital role to play in creation of Gram Sabha. Since the first meeting shall be called by the panchayat it can be presumed that he/she will have at least an elementary level of knowledge about the Act and its implementation process and present status. Further, since panchayat is supposed to be associated with forest villages’ welfare and as FRA 2006 give that scope, one can assume that panchayat will have concern about FRA 2006. The study discloses some gloomy facts, nearly 42 percent of *panchayat's* member have not heard of FRA 2006, however, surprisingly, 66.67% *panchayat's* member know that the forest villagers will get land right (ref. Table no. 8 in Appendix 1). While enquiring into the other important rights excluding land right it is depicted that more than 90 percent of members do not have any clue about the rights on minor forest produce (MFP or NTFP), regarding community forest resource and its management and controlling power on forest management etc.

So far as implementation part is concerned the Act was passed in 2006 and its Rules came out in the December of 2007, from early 2008 the implementation started

throughout the country. In West Bengal formal notification for implementation of the Act was given on 17-03-2008. After a gap of nearly 7 years 50 percent of the *panchayat's* members reported that the process of implementation of the Act is going on, one disturbing aspect of the findings is that 33.33 percent members know nothing regarding the status of the land right distribution. Panchayat members do not have the idea whether Gram Sabha has been created in the village, 2/3rd panchayat members fall under this category (ref. Table no. 8 in Appendix 1). Moreover, the same number of panchayat members no nothing about the functionality of the Gram Sabha. The data suggest that the panchayat is indifferent regarding the FRA 2006, its implementation and the rights there on.

5.2. Findings from the survey of forest villagers

5.2.1. Demographic profile

In this study the second field survey is conducted covering 168 registered or agreement holder families out of 1011 such families in 37 forest villages of BTR (www.buxatiger.com). The survey is conducted in 12 forest villages of BTR selected using a systematic random technique. Out of 168 families 62.5 per cent constituted to Scheduled Tribes (ST) and 28.57 percent to general category. Though, the percentage of S.C. and S.T. population in the District of Jalpaiguri (undivided) stands to 37.65% and 18.89% respectively according to census (2011). Since some of the forest villages in east BTR have predominantly Nepali upper caste populations and other villages of west BTR mainly have S.T. population hence S.C. population in the sample figured to only 1.79 percent in the sample (ref. Figure No. 2.1).

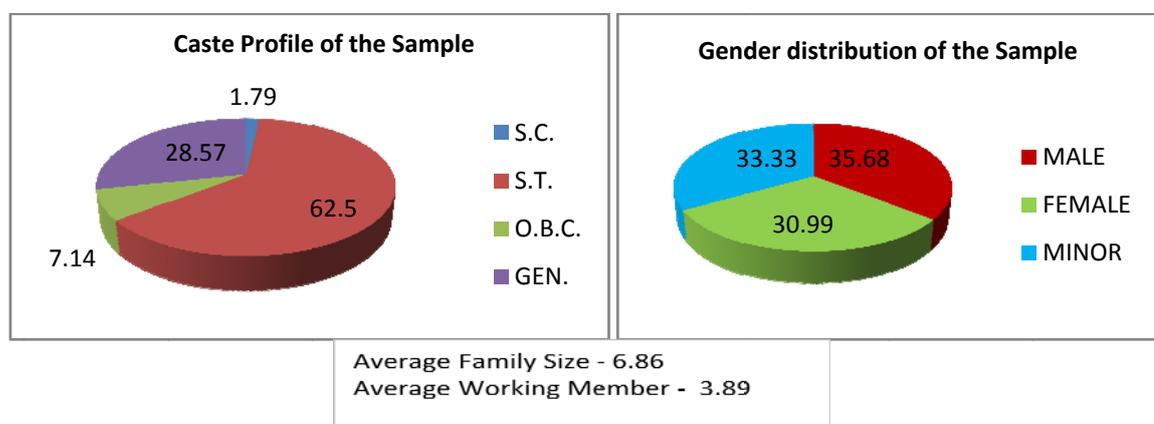


Figure No. 2.1

The Figure No. 2.1 illustrates that forest villages in BTR have a very negligible portion of Scheduled Caste (SC) populations (1.79%). Average family size of the sample is 6.86 persons per family. Very few joint families have been found in the survey as the families have fragmented into many parts. The number of families that are shown in the forest department's document is the number of agreement holder families who went into a formal agreement with the department at the time of their establishment. The agreement holders used to do a new agreement with forest department (FD) after every twenty years of gap, the new families that came out of the joint family were termed *faltu* or extra (here it, may be termed as unregistered families). However, the practice of writing down an agreement was negated since 1970s. The villages now roughly have a total families numbering 6 times of registered families. The sample revealed that each family has 3.89 persons as working members. It is evident from the data that on an average 56.77 percent of the total members of the surveyed families are engaged in different livelihood activities (ref. Table No. 1.2, Appendix 2). The census data of total workers comprising of main and marginal stand to 39.06 percent in the District of Jalpaiguri (Census, 2011). It is clear that the percentage of employable workers in forest villagers of BTR is relatively higher in comparison to the census data of the district of Jalpaiguri. It may be because of the fact that forest villagers engage themselves in several livelihood generating activities at an early age.

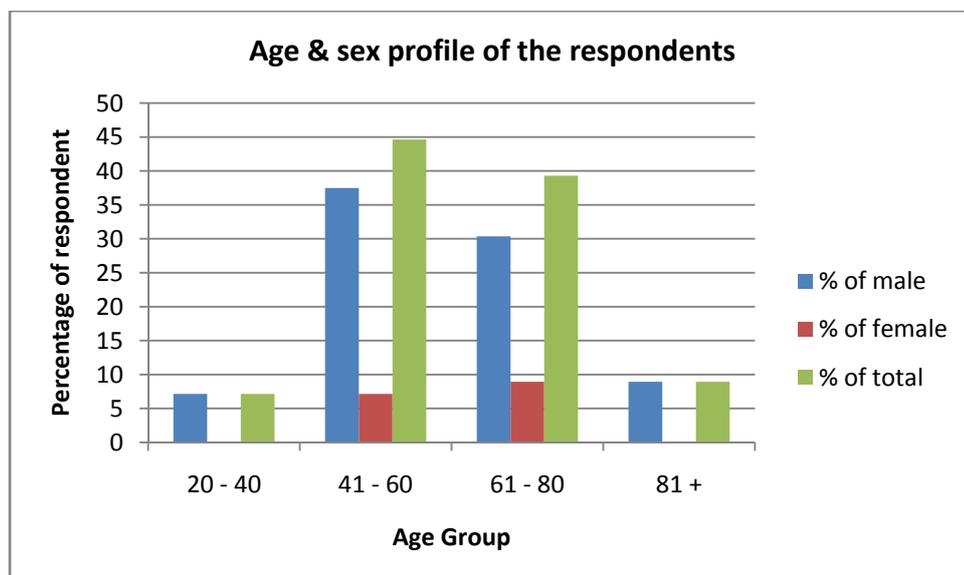


Figure No. 2.2 (field survey 2)

The sample consists of 83.93 percent male and 16.07 percent female respondents. The study revealed that 48.22 percent of the respondents are aged more than 61 years

and 44.64 percent are aged between 41-60 years (Figure No. 2.2). In this study the age of the respondents is an important issue since respondents had to recall the experiences of the period of before the declaration of Tiger Reserve (i.e. experiences of pre-1983). An important part of the study depends on the experience of the commercial forestry; hence purposefully the head of the (elderly person of the family) family is interviewed. Though there are 7.14 percent of the respondents whose age is in between 20 to 40 years, (ref. Table No. 1.1 in Appendix 2) however, they could tell about the days of commercial forestry as the incidents of the past figured in their dinner time anecdotes. Moreover, they took help from the seniors present at the time of the interview.

Educational Profile: It is found that 82.14 per cent of families have minors (i.e. children bellow 18 years of age) and on an average of 1.04 and 1.11 minors are in primary and high school respectively. The no. of family having a class ten pass and a graduate in the families are 32.14 per cent and 5.35 percent of the sample respectively (ref. Table No. 1.3 in Appendix 2). Level of education is relatively high in Nepali speaking forest villages. Out of the 54 class ten pass 42 are found in forest villages having predominantly Nepali population. Level of education among the Rava and other indigenous communities is very poor.

5.2.2. Livelihood Options in Forest Villages of BTR

Working members of the sample families are engaged in 10 types of livelihood. It is evident from the figure bellow (Figure No. 2.3) that 96.43 percent of the families are involved in agriculture. Only 3.57 percent of families are found to be landless. Agriculture is a major source of livelihood till date. Though, Panchayat started functioning in Forest Villages since 1998, it has emerged as the 2nd most important employer in the forest villages.

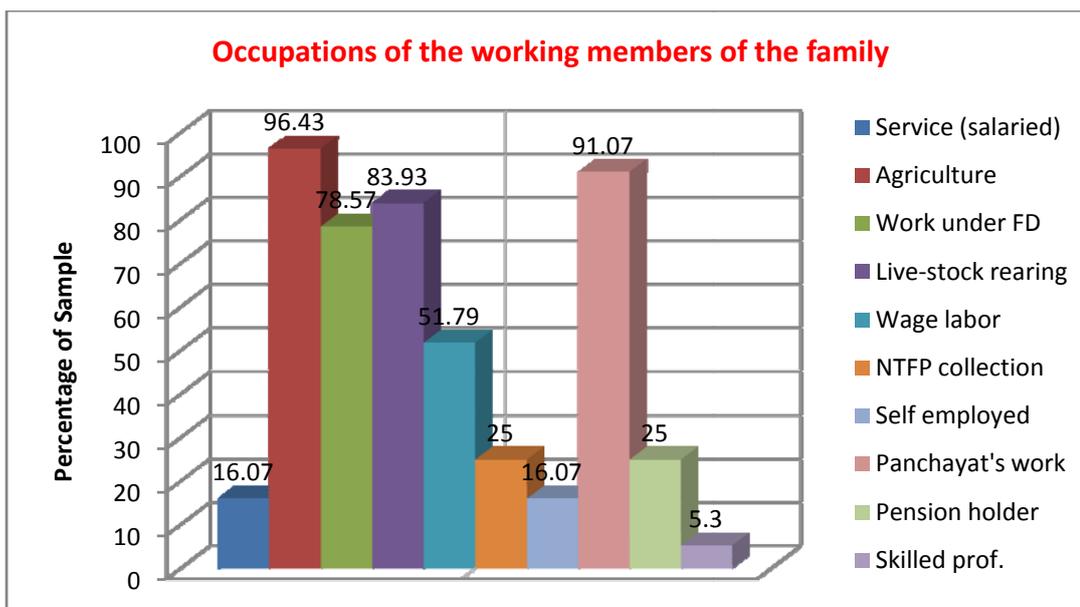


Figure No. 2.3 (survey 2) **Kolmogorov-Smirnov Z: 0.790, p<0.561**

Note 1: In the occupation there is no exclusivity i.e. a particular family member is not only involved in one occupation. Often it was found that the same member of the family is involved in 2 to 4 occupations depending on the availability & seasonality of works.

Note 2: While assessing NTFP collection as a profession fuel wood collection is not included here.

It is evident from the above figure that the types of occupation are many and varied, and overlapping in nature i.e. the same member of the family is involved in different occupations. A one-sample Kolmogorov-Smirnov test has been employed to investigate the uniformity in the occupational pattern of the forest villagers. In this case, the null hypothesis could not be rejected since the Z value falls in the acceptance region and $p < 0.561$ implying that the occupations are not uniformly distributed. In other words, all the present livelihood options do not carry the same level of significance in forest villagers' life. The study reveals that the livelihood opportunities have been confined to few activities even after the declaration of Tiger Reserve. This necessarily substantiates that the forest villagers had searched for alternate livelihoods but it remained limited to few options. The heavy dependence on cultivation (96.43 percent) suggests the lack of strength in the new livelihood options and loss of relevance in the other traditional options. The revelation of the survey that nearly 56 percent of the forest villagers can sustain more than 6 months from the land's produce (Table 2.3 in Appendix 2) is reflected in the above figure. Though, the villagers have drifted to several other occupations to augment livelihood, but they are insignificant in nature except for the options under wage labor (daily labor) and the Panchayat. These new livelihood options are manual works

under private individuals and Panchayat. Forest villages were established, primarily to carry out forestry works. However, the villagers' main livelihood options hovered around cultivation, livestock rearing, NTFP collection and the forestry work before the declaration of tiger reserve. The forest policy, 1952 recommended to regulate cattle rearing, Wildlife Protection Act, 1972 suggests to minimize cattle rearing in forest villages. Despite all these, it is found that livestock rearing in BTR is the 3rd preferred occupation of the forest villagers, 83.93 percent of the families' rear livestock. However, it is evident that villagers have drifted to other occupations including skilled jobs like 'self employed' and 'skilled profession'. It's perhaps due to the narrowing down of traditional livelihood opportunities. It is significant to find that presently, 23.22 percent of the families don't work under forest department and only 25 percent of the forest villagers collect NTFP. The new sources of livelihood are daily (wage) labor, service, self employment, pension and skilled profession.

5.2.3. Agriculture as a source of livelihood

Agriculture is one of the most popular occupations of the forest villagers of the BTR. It is evident from the earlier discussions that 96.43 percent of the forest villagers in BTR have cultivable land and do cultivation on subsistence basis. During the period of their settlement in forest villages most of them were traditional cultivators (shifting cultivators). The offer of land for cultivation as a terms and condition for settlement was a significant motivating factor. Form the survey of literature it is known that agriculture is one of the important livelihood options in BTR before the declaration of Tiger.

Paddy is the most important crop of the forest villagers in BTR, 77.78 percent of the farmer families of 162, produce paddy. Rice is their chief food. The 2nd favorite crop is vegetables of different kinds. Wheat is not produced at all in BTR as people don't like to eat wheat (Ref. Table No. 2.1 in Appendix 2).

Details of land: The Figure No. 2.4 explains that the forest villages of BTR have a very negligible portion of irrigated land; only 11.1 percent of land holders have land under irrigation. The villagers find it hard to arrange irrigation facilities of their own as the ground water level in this region is low and thus makes it a costly affair. The region of BTR falls under the category of alluvial soil, the water level of these areas lay at a level of nearly 11.75 meters below surface (Ray and Shekhar 2009). The survey finds that a significant number (46.30% , ref. Table no. 2.3 in Appendix 2) of the families don't

cultivate the *boro* crop i.e. cultivation done from November to May. The finding of the survey is also corroborated by the census data. It is found that in the blocks of Kalchini and Kumargram (the entire sample is drawn from this two blocks of the erstwhile undivided district of Jalpaiguri) only 5441.3 and 5863.7 hectares land are irrigated which is 12.9 and 11.3 percent of the total area of the two blocks (census, 2011).

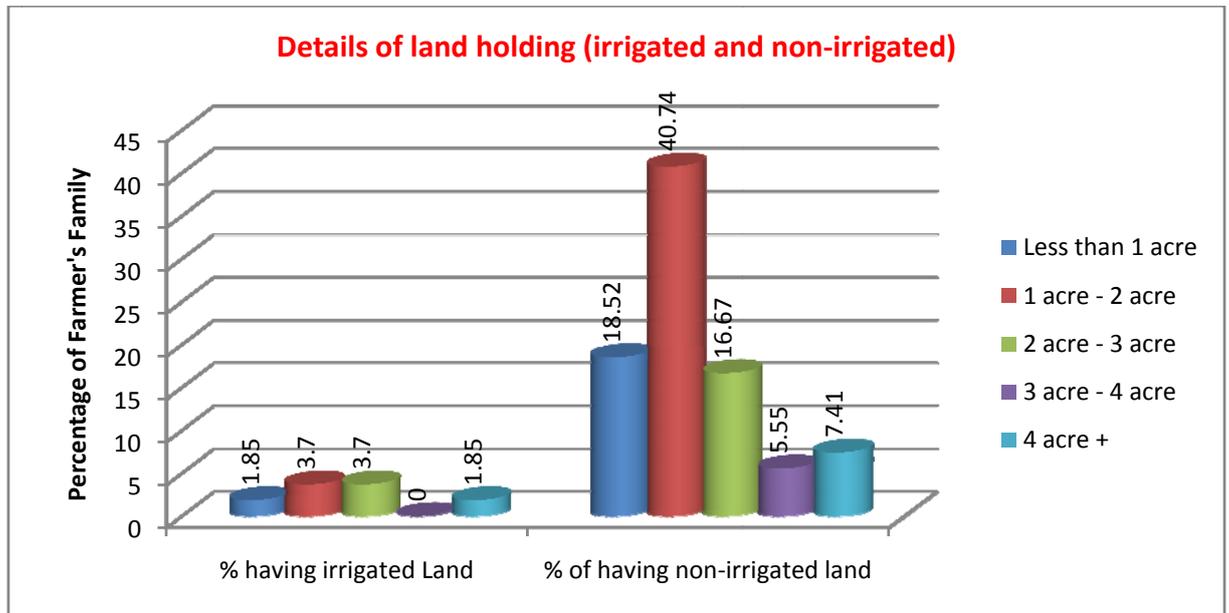


Figure No. 2.4 (survey 2)

It is also significant that even after segmentation of land the forest villagers have fair amount of land in their possession, 44.44 per cent of families have 1 to 2 acres of land under their plough. While 35.18 per cent of the land holders' family in the sample has land more than 2 acres under their possession which is quite high in comparison to the State's average of 1.93 acre or 0.77 hectare according to Agricultural census 2010-11 (NABARD, 2014). The high ratio of landholding is also because of the fact that the survey took only the registered villagers i.e. the families who entered into an agreement with the forest department at the time of the establishment of the forest villages. These families got forest land for cultivation in exchange of providing their labor in the forestry works. The survey shows that there are only 3.57 percent of the families are landless (ref. Table No. 2 in Appendix 2) which is much less than the State's average of rural landless population of 70 percent (Damodaran, 2015).

Inter-cropping –a different form of agriculture practiced by forest villagers

Before the declaration of the Tiger Reserve, one of the main forestry works in BTR used to be Plantation. Between the two lines of saplings forest villagers were

allowed to cultivate different types of vegetables, this cultivation was popularly known as inter-cropping. Same type of cultivation was also carried out under the MFP Division of forest (MFP-Minor Forest Produce). It is alleged that FD allowed the forest villagers to cultivate in between lines of plantation to save the planted saplings/seedlings from being nibbled by wild lives or livestock. It was believed that while saving their own crops villagers would automatically save the planted saplings (Jha, 2010. : Choudhury, 2015). The inter-cropping, that is practiced now-a-days by forest villagers is not the type they used to practice earlier. Since there is hardly any plantation work in BTR after the declaration of Tiger Reserve, the question of doing inter-cropping does not arise.

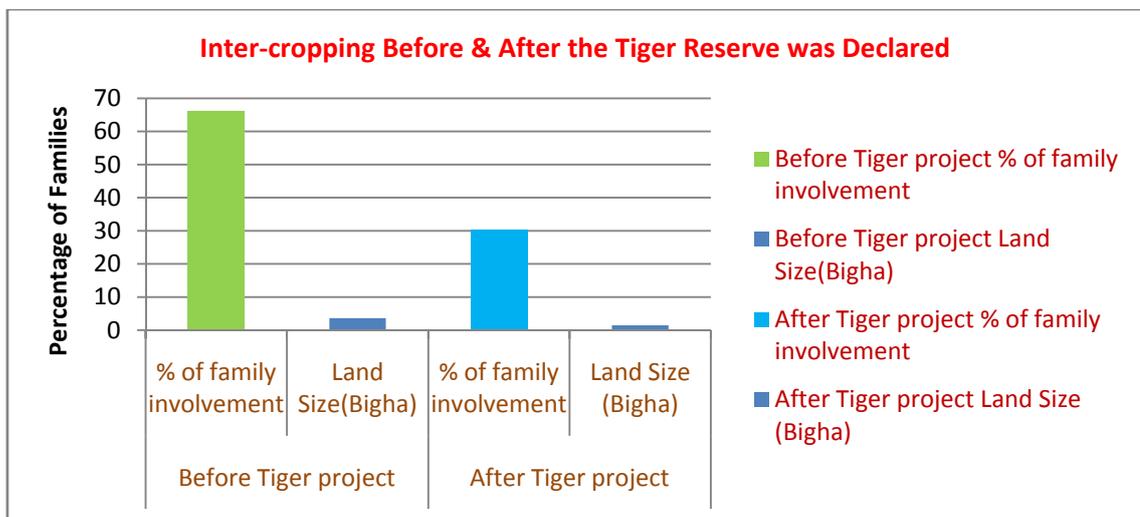


Figure No. 2.4-A (Field Survey 2)

Around 30.36 percent villagers engaged themselves for cultivating in vacant forest land, mainly in degraded forest. If one recalls the history of the forest villagers of BTR then one would recognize that most of them were shifting cultivators (*Jhumias*). Cultivation in the forest perhaps gives back the flavor which once they enjoyed. Though this type of cultivation is not permissible under the Wild Life Protection Act, 1972 and Forest Conservation Act 1980, still the villagers are continuing with this practice simply by keeping a personal rapport with forest officials. However, the survey found that villagers continuing with ‘inter-cropping’ (i.e. the present form of inter-cropping) have reduced from 66.07 percent to 30.36 per cent. A very good livelihood option has become void for more that 50 percent of forest villagers who once practiced this livelihood. The present type of ‘inter-cropping’ is providing a new option of livelihood to some forest villagers of BTR. It is found that 9 respondents who earlier were not inter-cropper but presently adopted this profession. In this new type of ‘inter-cropping’ the villagers

mainly cultivate cash crops like chili, arum etc. Per capita land under inter-cropping has reduced considerably from an average of 3.62 *bigha* to 1.47 *bigha* (ref. Table No. 2.2 in Appendix 2).

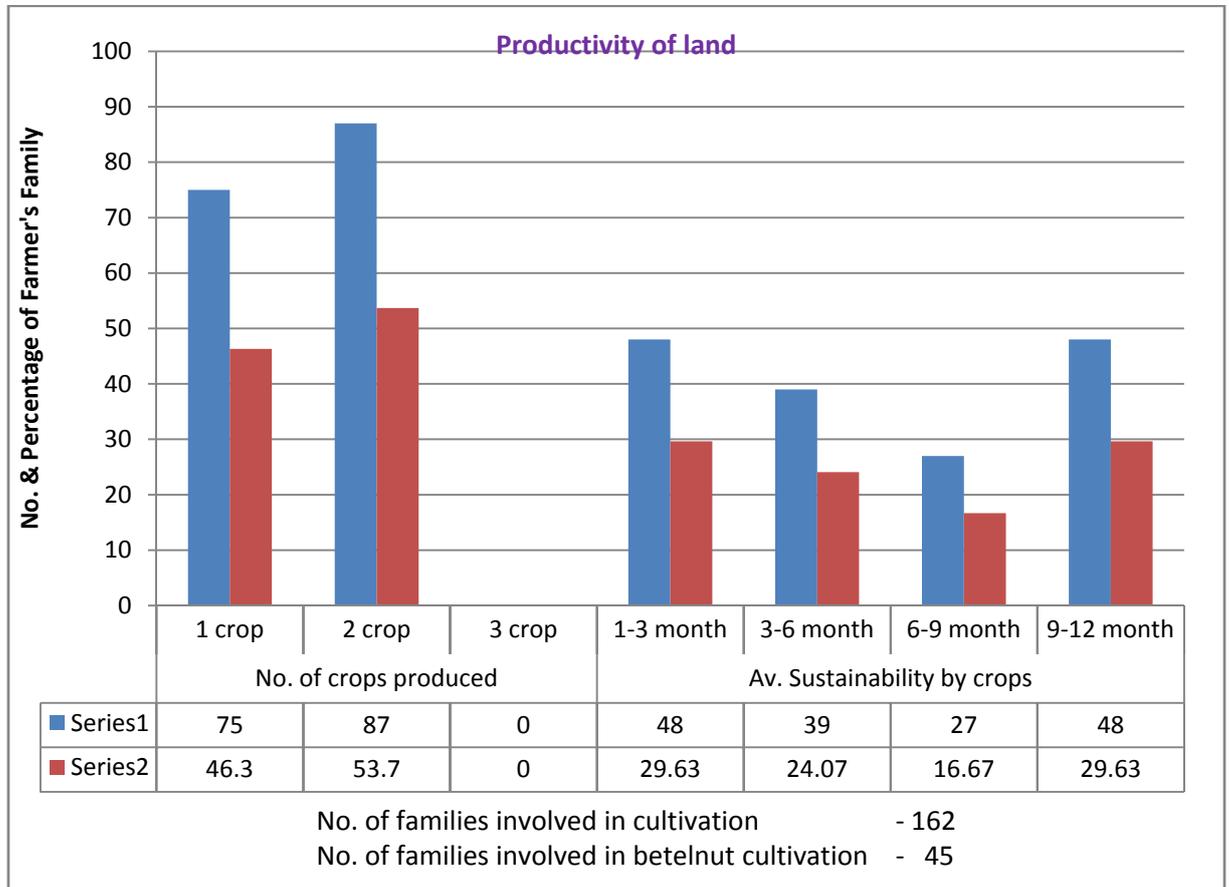


Figure No. 2.5 (Field Survey 2)

Note 1. No. of families who used to maintain orange orchards: 3

Note 2: Beatle nut orchard is a major source of cash in East BTR. Families earn from Rs. 5000 to the tune of Rs. 200000 per year. Families earning Rs. 5000 or more from yearly sale of Beatle nut have been recorded here.

Productivity of land: The productivity of the land of the forest villagers is fairly well. Despite being mostly non irrigated land there is 53.7 percent of total land which produces two crops. Nearly 30 percent of the land owners can sustain 9 months to whole year by lands' produce. The farmers whose land holding is less than 2 acre and who form nearly 59 percent of the total land owners (ref. Table No. 2 in appendix 2) can sustain only 1 to 6 months from the productivity of the land. Major problems related to agriculture in forest villages are lack of irrigation, crop damage by wildlife (mainly elephant) and lack of capital (to purchase modern equipment). The forest villages of the districts of Jalpaiguri and Alipurduar fall in foothills of Himalaya (alluvial region) where

the ground water level is very low compared to the other plains of the State (11.75 Meter). As a result of this, to arrange irrigation facility is very difficult as it requires substantial capital (Ray and Shekhar, 2009). Cultivation of *boro* crops (cultivation during dry season) becomes impossible for those farmers who don't have water source. A sizeable portion of farmers depend heavily on the cultivation of beetle nut. The survey has recorded those families who earn more than Rs. 5000/year by selling beetle nuts. It is found that 27.78% of the respondent families earn more than Rs. 5000/year by selling beetle nut (ref. Table No. 2.3 in Appendix 2). The practice of cultivating beetle nuts is more in East BTR than West BTR.

Crop damaged by wild lives: Crop damaged by the wild lives mainly elephants is a menace in BTR. Out of 162 farmer families in the sample 94.44 percent experienced some level of pain due to crop damaged by wild lives in the year 2014-15. It has become a common phenomenon; villagers are angry at the same time helpless with this problem, especially when the compensation given by the FD is too little to be compared with the actual loss. Moreover, the process of getting the compensation is too cumbersome and time consuming that the forest villagers feel less interested in claiming it. Table no. 2.4 (Appendix 2) reveals that out of 153 farmer families (whose crop was damaged) only 102 i.e. 66.67 percent of them applied for compensation. The survey also states that only 44.12 percent of families ultimately got the compensation among the 102 applicant families (ref. Table No. 2.4, Appendix 2). The rate of compensation hovers around Rs. 300 to 500, it's an average calculation not based on any actual lose of crop. However, a recent government order of the state of West Bengal dated 30-01-2015 increased the compensation for crop damage to Rs. 15000/ hector (Dept. of Forest. GoWB, 2015). One major problem with the GO is that the compensation is directly transferred to the bank accounts of the villagers; this new arrangement automatically excludes those who don't have bank accounts. In the sample only 87 i.e. 51.79% families have Bank Accounts (ref. Table no 13 in Appendix 2). Moreover, the new GO has not been implemented in every forest region; the survey did not find a single recipient of compensation at the new rate. A dangerous trend is quickly emerging in East BTR where forest villagers are gradually losing interest in cultivation; they are fed up with the frequent raid by elephants on crops. Village like Chifra in East BTR has almost completely stopped cultivating (ref. Table No. 2.4, appendix 2). This undesirable trend is quickly spreading across forest villages despite the fact that the farmers of BTR are self reliant; more than 50 percent of the

farmers spent not a single penny on seed, manure, labor and irrigation. Nearly 56 percent of the farmers don't depend on seeds supplied through market network; they preserve their final harvest for seed. There are only 35 percent of farmers who spent up to Rs. 6000 for purchasing chemical fertilizers from the market, rest of them are dependent on compost and cow dung. Only close to 15 percent of the farmers spend up to Rs. 6000 on labor charge and irrigation (ref. Table No. 2.5, appendix 2). The cultivation in BTR is less costly mainly because of the facts that they don't depend on expensive irrigation facilities, chemical fertilizers and pesticides. Cultivation in BTR is largely dependent on rain water. The small streams from the hills help the farmers to get water for cultivation in many cases.

2. Forestry work under FD before and after Tiger Reserve:

Forestry works under the Forest Department was the most important work for forest villagers. After completing 90 days of mandatory *baggery* (work without wage) they used to get wages on the remaining days of work. However, from 1969 they started to get wages for their entire work under forest department. The survey approached the respondents with a structured questionnaire mentioning the works (listed in Figure No. 2.6) in two segments one before the Tiger Reserve was declared and another, after the Tiger Reserve was declared, the respondents answered what type of work they did and how many days of work they used to get and how many days of work presently (in the year 2014-15) they have got under FD. The respondents reported that only 132 i.e. 78.57 percent of their families now work under FD (ref. Table No.1.4 in Appendix 2). Pattern of work has changed noticeably, before the declaration of the TR the 92.86 percent of the villagers used to do harvesting work (mainly works under clear felling coupe or CFC) which has dwindled down to 4.5 percent after the declaration of TR. Average man days of work that the villagers get now under FD have come down considerably to 15 from 185. If two villages are excluded from the sample than the average no. of days of work under FD in a year would stand to 6 days in a year. The present available works under forest department suggest that pattern of livelihood of forest villagers in BTR has changed very significantly. The villagers stated that they had their best times during 1970s and early 1980s because at that time there was lot of works in the forest, as well as wages for the work. Moreover, they used to cultivate vegetables in between rows of sapling in plantation (i.e. inter-cropping).

A Comparative Analysis of Forestry Works Before & After The Declaration of TR

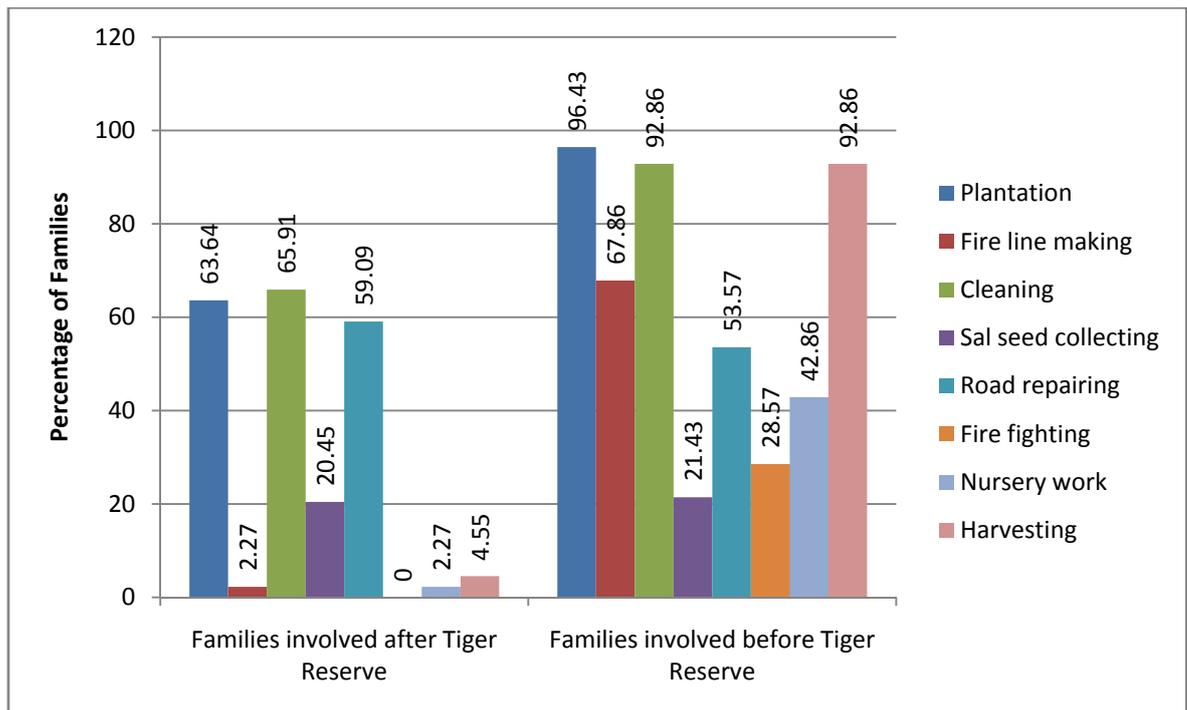


Figure No. 2.6 (Field Survey 2)

1. In some villages like Uttar Poro and Dakshin Poro, works under FD in the year 2014-2015 are extremely high as compared to other villages because of the works under MGNREGA have been clubbed with FD's work.
2. No. of families involved in forestry work under FD at present is 132, based on this the average present man days are calculated.

Wilcoxon Signed Ranks Test

Types of Occupations Under Forest Department	N	Mean	Std. Deviation
Before	8	103.38	51.250
After	8	33.75	37.036

Test Statistics 1

Test Statistic	After - Before
Z	-2.521 ^b
Asymp. Sig. (2-tailed)	.012

Sign Test

Test Statistics 1.A

	After - Before
Exact Sig. (2-tailed)	.008 ^b

The Wilcoxon Signed Rank Test is a non-parametric or distribution free test. The Wilcoxon Signed Rank Test is employed to test the null hypothesis that the median of a distribution varies for a set of paired data. In this particular situation, the signs have been found to be all negative while considering the differences in livelihood opportunities. Various works under the forest department before and after the declaration of tiger reserve have been considered for this test. The test simply suggests that the median values differ significantly justifying very less opportunity left for the villagers to work under the forest department. The $|Z|$ value is found to be 2.521 which is significant beyond $p < 0.012$. Further the sign test also corroborates the findings of the Wilcoxon Signed Rank Test. Moreover, a cursory observation of the table simply reveals that the opportunity of getting employment under the forest department has nosedived after the declaration of tiger reserve. However, plantation and cleaning as a form of forestry work still holds a strong position even after the declaration of tiger reserve, this is particularly due to the provision of grass plantation for wildlife and some patch of tree plantation in the Buffer Zone of the reserve. Surprisingly, presently the forest villagers are not involved in nursery work and fire fighting.

Test Statistics 2
Results of McNemar Test

	PLANT & PLANTI	FLM & FLM1	CLEANING & CLEANING1	SEEDCOLL & SEEDCOLL1	RDREP & RDREPI	FFIGHT & FFIGHT1	NURWORK & NURWORK1	HARVEST & HARVEST1
N	168	168	168	168	168	168	168	168
Chi-Square ^b	79.012	107.009	65.407	1.730	3.705	46.021	65.015	147.007
Asymp. Sig.	.000	.000	.000	.188	.054	.000	.000	.000

a. McNemar Test

b. Continuity Corrected

The McNemar Test is a substitute for parametric paired 't' test where the researcher is interested to test certain phenomenon under two situations. In this case the conditions of livelihood opportunities of forest villagers of BTR before and after the declaration of tiger reserve are taken into consideration. The results of McNemar test reveals that the null hypothesis of no difference with regard to works under forest department before and after the declaration of tiger reserve is rejected in most of the cases. However, the work like seed collection and road repairing still has relevance in

forest villagers' life. The reasons of this aberration are: i. the BTR still has a significant patches of old *sal (soreo robasta)* forest which produces considerable quantity of *sal* seeds; ii. Roads are needed inside the tiger reserve to carry tourists and forest officials, and to repair a *kachha* (non-metal) road the forest villagers are used as ready labor deep inside the forest.

3. NTFP collection: Non-Timber Forest Produce (NTFP) collection has been an important source of livelihood for forest villagers of BTR. The villagers used to collect different food items like tubers, vegetables, fruits, mushrooms etc; as well as decorative items. It has reduced considerably for many reasons after the declaration of the TR. The study has looked into the matter.

The survey demonstrates that presently there are 25 percent of the families involved in collecting NTFP. Cent percent of them suggest that they used to do it on a high scale before the declaration of the TR. There are 75 percent of the families presently don't collect NTFP (ref. Table No. 3.1., Appendix 2), though it doesn't mean that 100 percent of them used to collect NTFP. The collection of NTFP had been a major source of livelihood for a sizeable number of forest villagers, and the survey suggest it is losing its attraction, the study looked into the plausible reasons.

TABLE No. I
Reasons for not collecting NTFP

Reasons for not collecting NTFP	No. Of families	% of families (out of 141)
Never been a NTFP collector	42	29.79
Restrictions from BTR authority	3	2.13
Non availability of NTFP	45	31.91
Lack of buyer of NTFP	15	10.64
Low price of NTFP	6	4.26
Other viable works than NTFP coll.	18	12.76
NTFP collection hazardous	12	8.51
Other reasons	0	0.00
Total responses	141	100

Note: Respondents sometimes have mentioned more than one reason for not collecting NTFP. That is why the total responses are more than the total families not collecting NTFP. Ideally the number should have been 84. (i.e.168-42-42)

Several researchers opined that livelihood question of forest dependent people is strongly associated with collection of NTFP (Larsen, Olsen, & Boon, 2000.; Wollenberg, & Ingles, 1998). However, in BTR presently there are only 42 families (i.e. 25 percent of the sample) are involved in collecting NTFP from forest, 75 percent of them are not engaged in this profession. The survey tried to enquire into this phenomenon and found that 42 families i.e. 25 percent of the sample were never been a NTFP collectors. So the

families who were involved in this profession before the declaration of the tiger reserve stand to 126 i.e. 75 percent of the sample. Out of the 126 families, 42 families are still engaged in this profession, so the number of families who have left this profession after the declaration of the tiger reserve stands to 84 families i.e. 50 percent of the sample. While looking for reasons for not collecting NTFP, the study got 141 responses instead of getting 84 responses. The main reason behind this phenomenon is respondents mentioned more than one reasons for not collecting NTFP. Interestingly, the most important answer that emerged from the enquiry is non availability of NTFP in the forest. Nearly 32 percent responses blamed non availability of NTFP; it may be inferred from this result that there is a gradual deterioration of forest quality after the declaration of TR. Surprisingly only 2.13 percent responses accused the restriction from the BTR authority as the reason behind not collecting NTFP. This suggests that so far as NTFP collection is concerned there is no restriction from BTR authority. The survey explains that nearly 95 percent of the families use fuel wood as the only source of energy for domestic use. Among the fuel wood collectors 86.79 percent of them collect it during November to April i.e. in the dry season. It is a common practice among the forest villagers to maintain a stock of fuel wood under their planking house. The stock is piled in dry season for the long rainy season. The study also revealed that 94.64% of the families in BTR collect fuel wood from forest. Out of the total collectors 73.58% do it for own consumption while the rest sale it in the market as well as to the traders. Among other items only 18.86 and 16.98 percent of NTFP collector families collect decorative items and food items and they do it more in rainy season. Broom-stick is collected in winter. Decorative items, spices and broom stick are collected solely for market. Fishes are caught for market as well as for own consumption (ref. Table No. 3.3., Appendix 2).

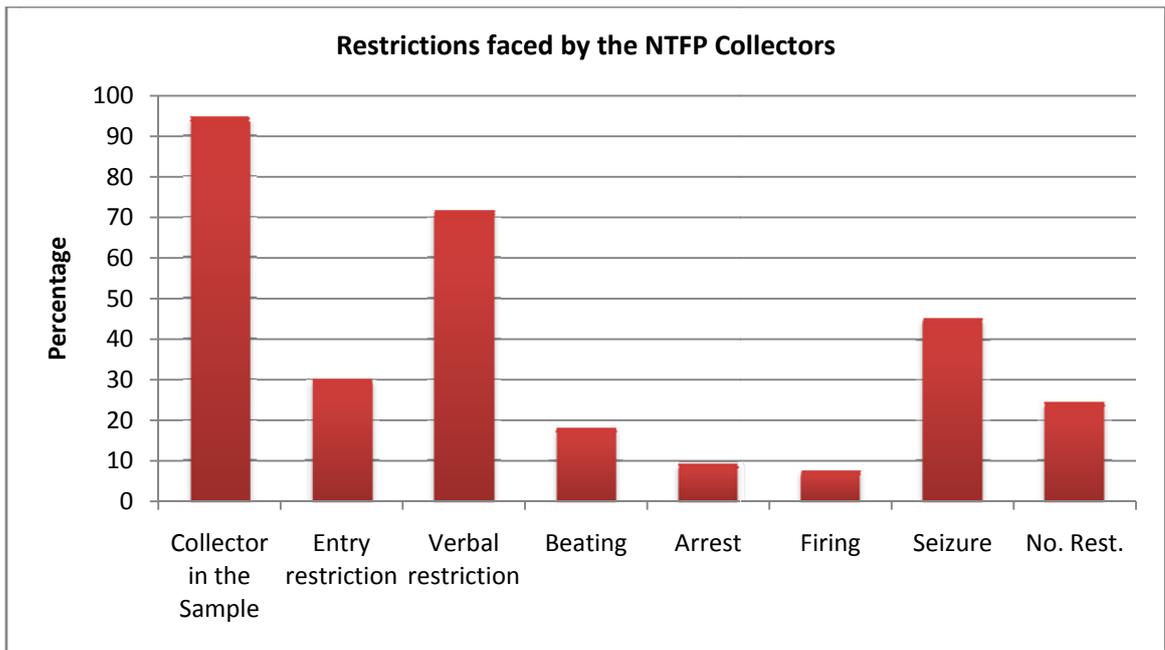


Figure No. 2.7 (Field Survey 2)

Note 1. Fuel wood has been included into NTFP here. 2. Summation of different types of restrictions is more than the total NTFP collectors because some respondents encountered more than one restriction.

The Figure No. 2.7 reveals the kind of restrictions the forest villagers face while collecting NTFP and while returning home with the collected items. Many respondents of the sample cited more than one type of restrictions. However, there are nearly 25 percent of the collectors who does not face any restrictions from the BTR authority and astoundingly, 71.69 percent responses of the 159 collectors has reported that there is only verbal retraction from the forest department. Apart from some harsh measures like beating, arrest and firing which figured 17.86%, 9.43%, and 7.55% of responses respectively, nearly 45 percent of collectors experienced seizure of their equipments.

The study also enquired whether the intensity of the restrictions after the declaration of TR has increased. Out of the collectors 60.38% have responded that the intensity of the restrictions from the FD has increased. However, 33.96% of collectors perceive that the restrictions remained at the same level, and 5.66% of collectors revealed that they can't comprehend the difference. In this respect it must be mentioned here that when the study included fuel-wood in NTFP the villagers' perception regarding restriction on collection has increased. This is perhaps due to the fact that a sizeable number of forest villagers are engaged in the profession of fuel wood selling (ref. Table No.3.4. in Appendix 2).

4. Livestock rearing: livestock rearing in BTR provides the much needed emergency cushion during volatility in livelihood and in urgent need of cash. Close to 15 percent of the families in the sample are seriously engaged in this profession. It is found that the profession of cattle rearing is more popular among the Nepali upper caste in BTR East division.

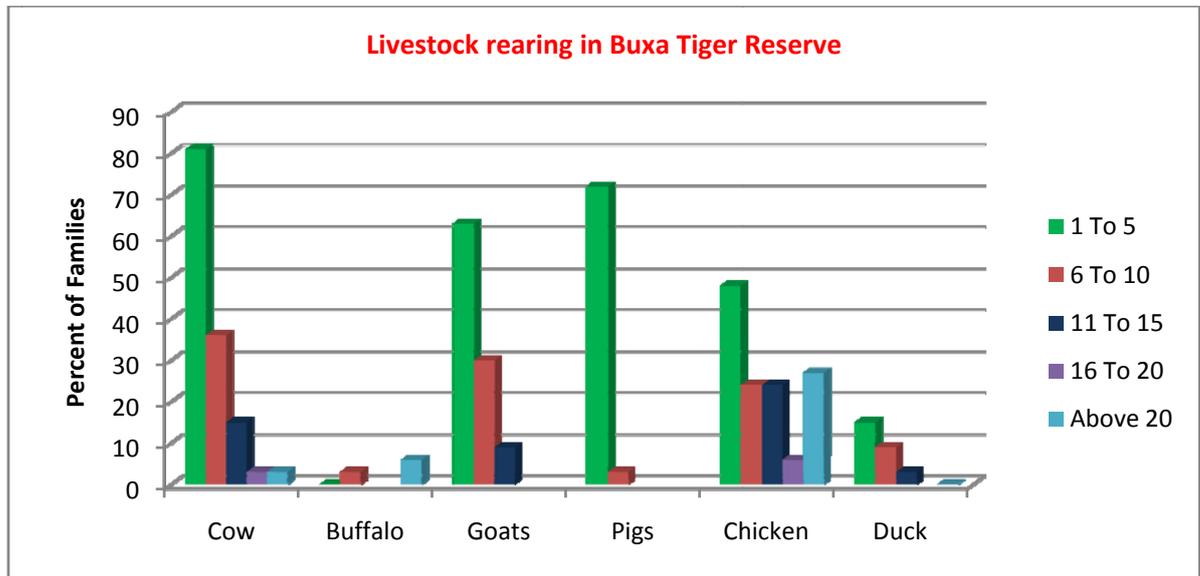


Figure No. 2.8 (Field Survey 2)

4.1 Number of live stock in the family

Livestock rearing family in the sample is 141 i.e. 83.93% of total respondents. During the survey it is found that there is no instance of livestock given or taken on share. In the survey it is revealed that among the 141 livestock rearing families 138 are engaged in cattle rearing, 102 are engaged in goat rearing, and 75, 129, and 27 keep pigs, chickens, ducks respectively (ref. Table No.4 in Appendix 2). Cows are mostly of local variety of milch cow which rarely need extra care and graze in the forest. FD failed in restricting cattle numbers in BTR. During the field survey it is revealed that though the forest department tried to restrict the number of cattle in forest villages but the villagers did not listen to the request of the forest department. Almost every family (82% of the sample family) keeps few cows but only around 15% of them are found to be seriously engaged in the business of selling milk or milk product and fetch monetary benefit out of it. Goats and Pigs are reared to get cash during festivals and sometimes also used as a security for cash crunch situations. Pigs are mostly reared in small numbers, number varies from 2 to 3, and the survey also revealed that Nepali upper caste families don't rear pigs. Chicken is the most favored livestock after cattle in forest villages of BTR.

However, it is revealed that only 20.93% of families are involved in chicken rearing to earn some sort of a commercial benefit out of it. Duck rearing is not very common, villages having natural stream flowing through the village, keep duck in their houses. Buffalo is rarely kept in forest villages however, the families who are involved in it are serious businessmen, and nearly 67 percent of them have more than 20 buffaloes in their herd.

4.2 Restrictions on grass collection or grazing

The survey suggests that among the forest villagers collecting grass from the jungle is not a popular practice.

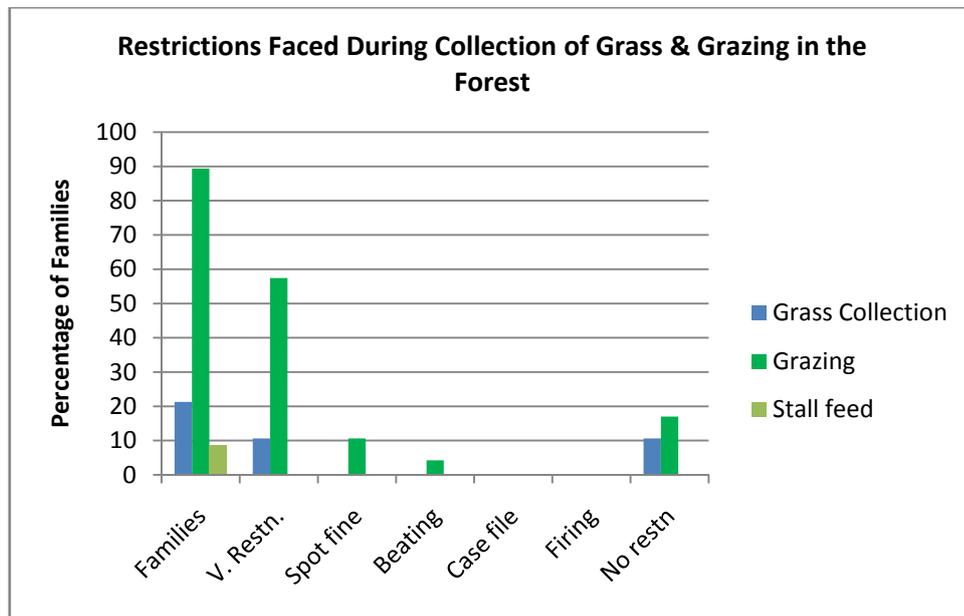


Figure No. 2.9 (Field Survey 2)

Note: Here the same respondent on several occasions has more than one experience so the results will not be 100%

Only 21.28 percent of the 141 livestock rearing families go for grass collection in the forest. It is found that those who have good quality cattle they go for grass collection instead of sending them to jungle in order to minimize the risk of getting killed by wild lives. Mass grazing in the jungle is a common picture in BTR. A massive 89.36 percent of the cattle keeper families sent their cattle in the forest to graze. It is found that there is virtually no restrictions from the FD in case of grass collection, 50% of the respondents recorded that they faced no restrictions while the other 50% told they faced verbal retractions from the FD. However, grazing finds some sort of resistance from the FD but that too mainly in the form of verbal restriction. If one exclude the respondents who experienced the spot fine (11.9%) and beating (4.76%) than grazing in the forest too does not face any restrictions from the FD. From the total responses it is found 35.71 percent

respondents experienced no restriction at all. From the stall fed category it is found only 8.51 percent families fed their cattle at home (ref. Table No.4.1 in Appendix 2). This category of the villagers are also very serious milkman, they do superior business of their milk. It's always not true that the families who send their herd in the jungle are not serious, from the survey the study did find few milkmen among them who sale their product to the market.

4.3 Milk production and sale: The survey reveals that among the cow rearing families 42.55 percent produces no milk and 31.91 percent produces 0.5 to 2 liters of milk. It is evident that nearly 75 percent of cow rearing families produces either nothing or insignificant amount of milk which is primarily used for family consumption. Nearly 25% of cow milk producers get some monetary benefit from this livelihood, however, approximately 6 percent of them produces good amount of milk which is supplied to market or to the milk collectors. Buffalo rearing is not popular in BTR; however, who so ever keeps buffalo does it for commercial purposes. Nearly 67 percent of the buffalo milk producers produce more than 20 liters of milk/day which is quite commendable. If one considers the total milk production in BTR then one would find that 12 percent of the milk producers produce more than 5ltrs a day, 48 percent produces less than 5ltrs a day. This 48 percent which produces from 0.5 liters to less than 5 liters may not be commercially beneficial but it supplements the much required nutrient needs of the families (ref. Table No.4.2 in Appendix 2).

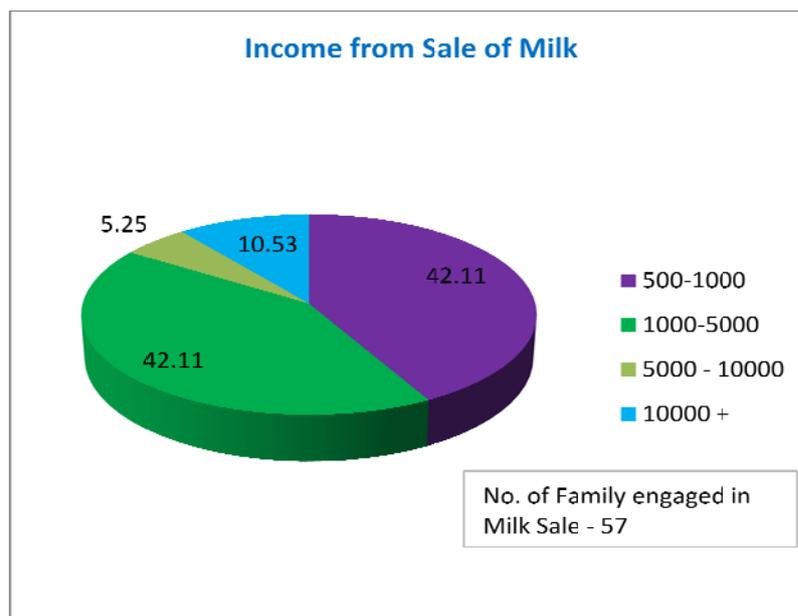


Figure No. 2.10 (Field Survey 2)

The survey also reveals that 38 percent of milk producers sell their product in the village market or in the markets of the nearby towns. It is found that milk selling is more popular in East BTR than in the West. Among the sellers 42.11 percent earns Rs. 1000 to Rs. 5000 per month, it's a possibly a fairly good amount for a forest villager, especially when expenditure on cattle rearing is virtually nothing in forest villages. It's significant to find that 10.53 percent of the milk sellers earn more than Rs. 10000 per month; here it is also noteworthy to mention that all the sellers belong to the villages of East BTR (also ref. Table No.4.3 in Appendix 2). Cattle rearing in BTR may be termed as an important livelihood option. 60 percent of the cattle rearing families produce some amount of milk and 38% sell their milk to earn money. All the efforts to regulate cattle rearing in BTR could not bring desired result. Ironically the IEDP project which was designed to reduce the negative impact of people's livelihood on the BTR offered the cattle rearing option to the forest villagers of BTR as an alternative livelihood option.

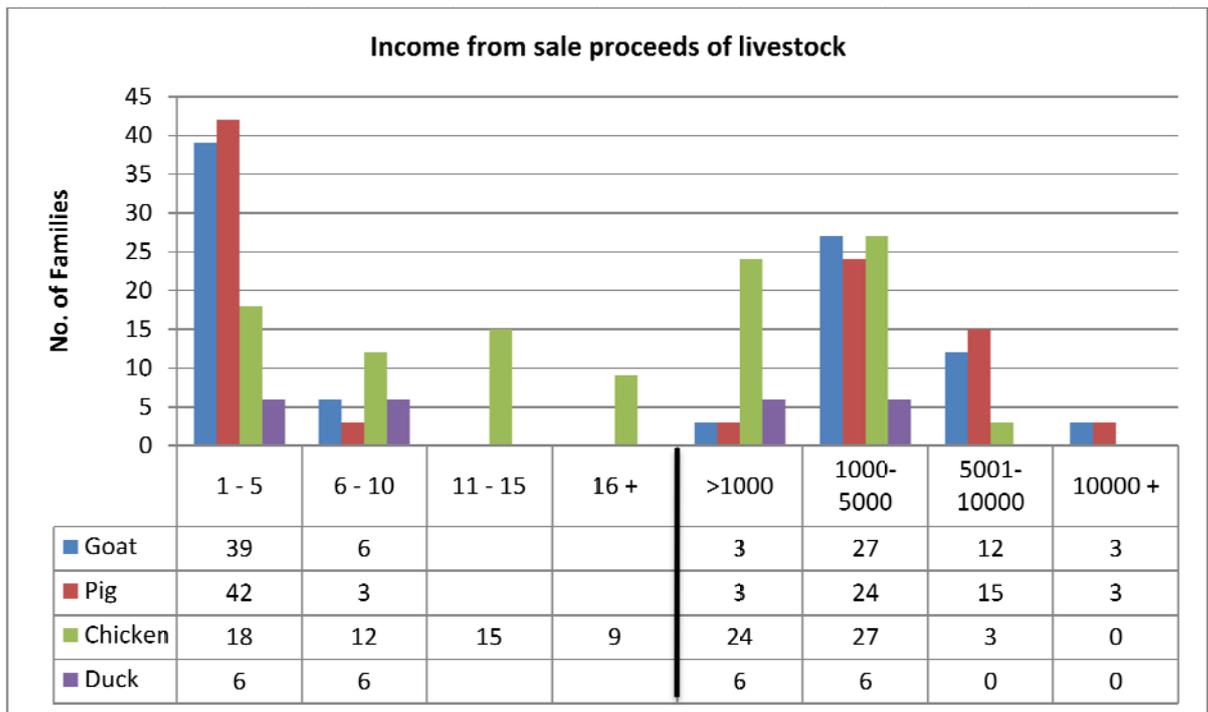


Figure No. 2.11 (Field Survey 2) Note: Sale related to sale during last one year

4.4 Sale of livestock

Forest villagers of BTR earn a considerable portion of livelihood through selling of livestock. The study reveals that there are nearly 92 percent of the goat keepers who sell their livestock and earn more than Rs. 1000/year; nearly 93 percent of the pig keeper earns the same amount in a year. In these two categories 33.33 and 40 percent of sellers

are there who earn more than Rs.5000 in a year. There are 38.3 percent of the livestock keepers who rear chicken, but surprisingly only 16.67 percent of them have more than 16 chickens in their coops. However, 41.86 percent of the chicken keepers got engaged in selling chickens. Pigs are reared predominantly for selling, 60 percent of the pig rearing families figured in selling their livestock (also ref. Table No. 4.4 in appendix 2). From the above figure it emerges that pig is the most profitable livestock to rear.

4.5 Loss of livestock due to diseases

So far, the data on livestock rearing suggested that the occupation is a meaningful livelihood option of the forest villagers of BTR. However, the data forgot to showcase the hazards associated with this occupation. Livestock rearing in BTR faces mainly two types of disturbances viz. (i) deaths due to diseases and (ii) wildlife attack. The survey revealed that nearly 13, 17, 13, 43 and 9 percent of livestock rearing families had to face decease of cow, goat, pig, chicken and duck respectively due to diseases. The number of deaths mostly ranged from 1 to 5, in case of cow, goat and pig which suggest that the disease did not take the shape of an epidemic (ref. Table No. 4.5 in Appendix 2). The chicken is the most vulnerable livestock which is prone to diseases in the forest villages. However, from the survey it is learnt that the year 2014-15 is particularly a good year so far as diseases of livestock are concerned.

4.6 Loss of livestock due to wildlife attack

Loss of livestock due to wildlife attack is a common phenomenon in BTR. It is revealed that not a single villager has got any compensation for the death of livestock caused by the attack of wild life. The forest villagers opined that they don't get the compensation for the killed livestock because they mostly are killed in the forest. Since the animals are killed in the forest so question of giving compensation does not arise. Even if the livestock is killed in the village for the same logic (i.e. as village is situated in the jurisdiction of forest administration) question of offering compensation does not arise.

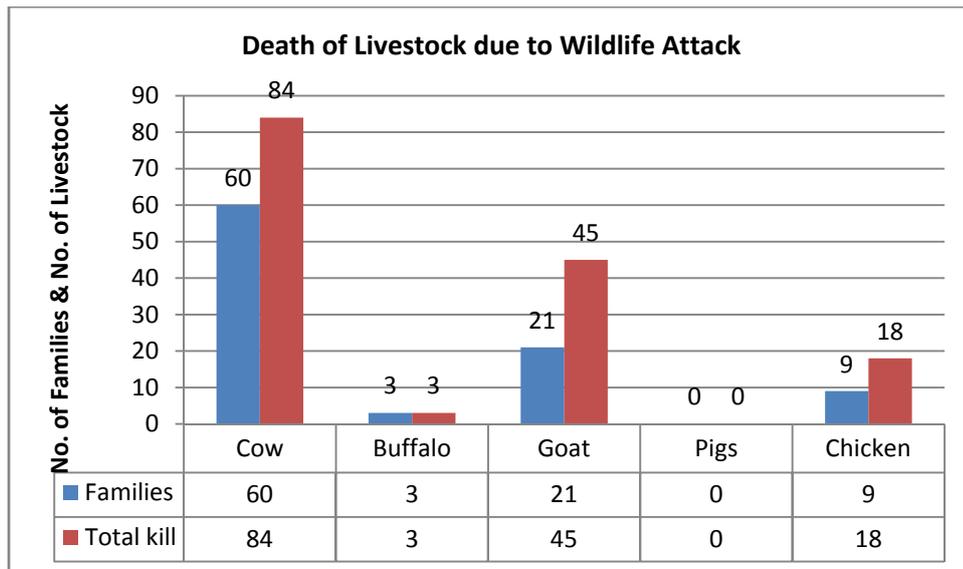


Figure No. 2.12 (Field Survey 2)

Ironically, it appeared that the forest villagers in BTR have accepted the logic and they have coped with this problem of living in a tiger reserve. The figure No. 2.12 (also ref. Table 4.6 in Appendix 2) reveals some astonishing figure, 42.55 percent of the livestock rearing families lost on an average 1.4 cattle per family in a year; nearly 15 percent of livestock rearing families lost 2.14 goat/family/year; and 6.38 percent of the families lost 2 chicken/family/year. This loss takes a heavy toll on the livelihood of forest villagers; since their security (livestock) for crunch time is snatched all of a sudden. Surprisingly, BTR authority has taken this phenomenon for granted. The problem may be scrutinized from another angle, since; BTR is a Tiger Reserve the survey tried to track the prime suspect (the wild life responsible for the deaths) of these incidents. Forest villagers have a commendable degree of knowledge and experience of wildlife's nature and killing techniques, the survey totally depended on their knowledge while recording this data.

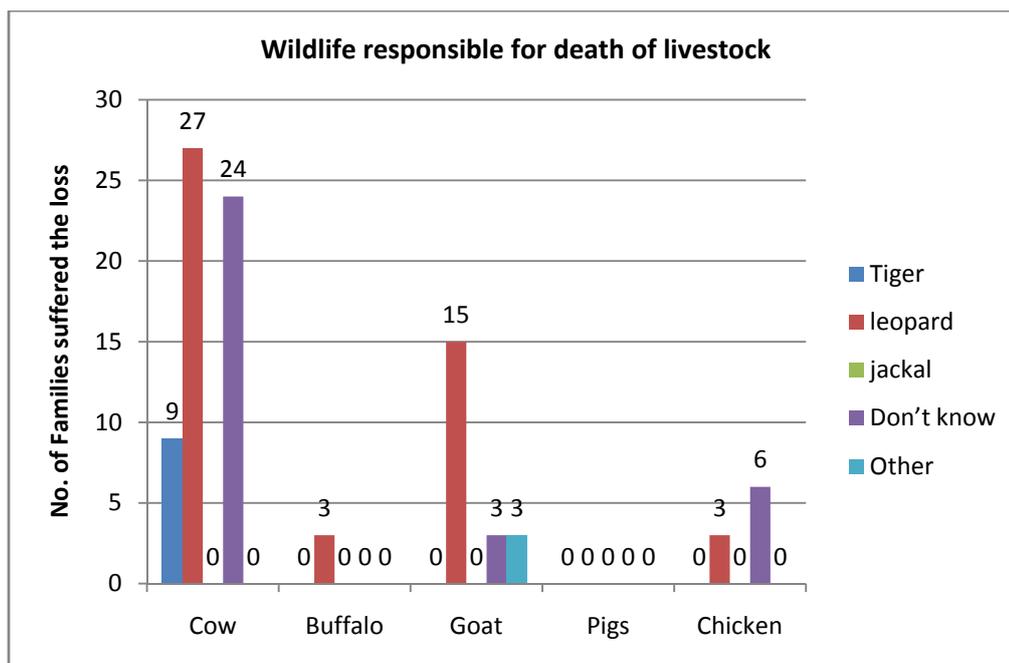


Figure No. 2.12 (Field Survey 2): Note: Cattle loss 60, buffalo loss 3, goat loss 21, chicken 9 family

In all the cases major responsible wildlife being leopard, in case of death of cattle, goat and chicken leopard is found to be responsible for 45, 71.43 and 33.33 percent cases respectively. However, in case of deaths of 40 percent for cattle, 14.28 percent for goat and 66.67 percent chicken, the responsible wild life could not be identified by the forest villagers. Only 15 percent of cattle losers' family held tiger responsible for the loss of their cattle (also ref. Table No. 4.6 in Appendix 2). Surprisingly, all the 15 percent families are situated in villages very close to Bhutan. People there are of the opinion that tiger comes from the hills of Bhutan and make a kill and again goes back to Bhutan.

While enquiring into the lifetime experience regarding deaths of livestock due to wildlife attack, it is revealed that a staggering amount of losses of livestock had occurred in BTR. This data of lifetime experience is of the 141 families of the sample. The data states the 141 families of the sample have lost a total of 300 cattle, 12 buffalos, 204 goats, 33 pigs and 99 chickens including the loss of the last one year (ref. Table No. 4.6 in Appendix 2). The forest villagers opined time and time again that it's their livestock which is providing the prey to the predator in the jungle.

5. JFM- an alternative source of livelihood

It is well documented and also reported in chapter III that Joint Forest Management as a concept emerged in the south of the state of West Bengal, it gained

considerable success in regenerating the forest of the area and in providing livelihood to the communities. It was started by a group of enthusiastic forest officers along with forest dependent communities. The concept was replicated to much of the country including northern part of West Bengal. The informal arrangement acquires a formal name of Joint Forest Management or JFM in the year 1989 with a Government Order. The concept of JFM extended to protected area with a new name of Eco development Committee or EDC and in BTR the formal GO was issued on 26-06-1996 (resolution No.3841-For/FR/6/11M-7/95dt. 26 June 1996 in Sinha & Yadav, 2002). By the year 2002, a total of 43 FPCs were constituted in forest villages of the buffer zone of BTR and in the forest fringe villages of the reserve, 22 EDCs were constituted in 22 forest villages inside core area of the BTR. These committees had a common intention to save the existing forest and regenerate the old forest through conservation. In the year 1998 a project called India Eco-Development Project (IEDP) was launched under the JFM with the aim to generate new income options to minimize the dependence on forest. Around 54 micro plans were drafted with the help of Peer Review Technique and the financial assistance of Rs. 35.71 corers came from International Development Association and Global Environment Trust. The project was started with great enthusiasm but how far it has succeeded in generating alternative livelihood options for forest villagers as well as for forest fringe villagers is not adequately documented barring few official records. This survey tried to fill this gap by focusing on the influence of the JFM, as well as the IEDP on the livelihood of forest villagers of the BTR. It tried to reveal whether alternative livelihood options were created for forest villagers of BTR. Since JFM is perceived to function in an egalitarian set up with grassroots' democratic values the survey also tried to venture into the forest villagers' perception regarding the quality of prevailing partnership with forest department.

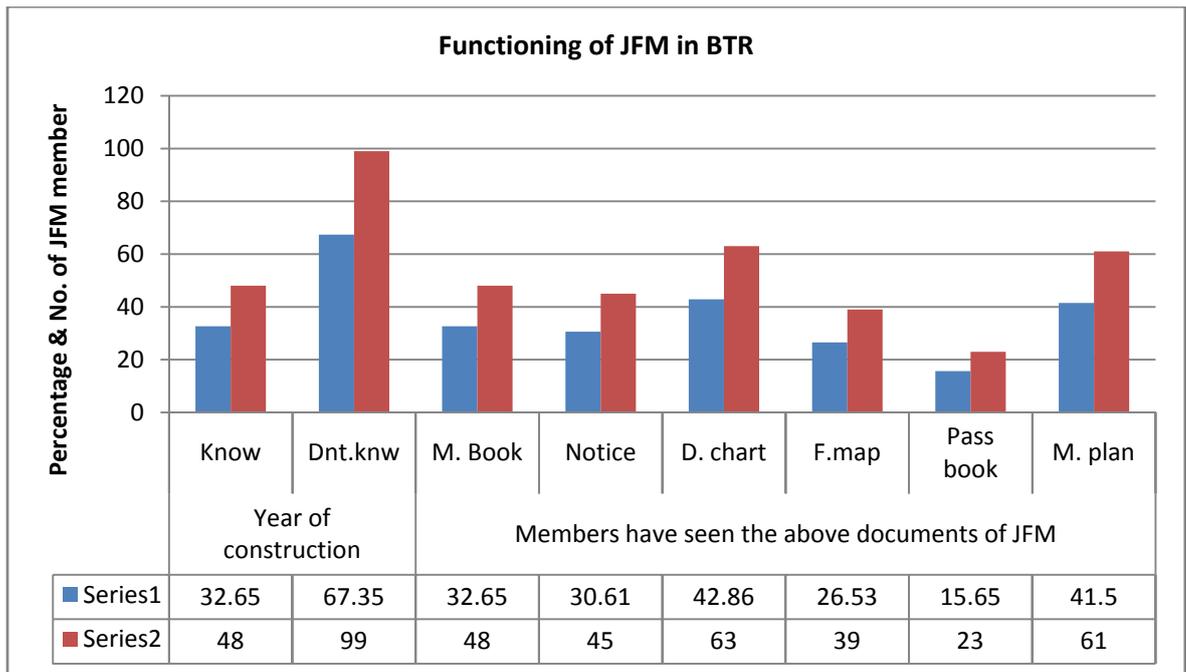


Figure No. 2.13 (Field Survey 2): Note: Number of non-member is 21 i.e. 12.5% of the sample.

JFM is supposed to function in an atmosphere where both the partners i.e. forest dependent community and the forest department (FD) is motivated to protect the forest and also enhance its resources. It is expected that both parties will come forward willingly for this great cause. The survey considered some basic elements of JFM to assess the readiness and the seriousness of the JFM members of the forest villagers of the BTR. It is found that 12.5 percent of the sample is not member of the committees of JFM; they are also not interested in the concept of JFM. However, among the members only 32.65 percent of them could remember the year of creation of the organization of FPC or the EDC in the village. JFM has the important matters like maintaining a minute's book, issuing notice of meetings, framing duty chart for patrolling in the forest, drawing a forest map indicating the jurisdiction of the concern committee, maintaining a bank Account and drafting a Micro plan (a new phenomenon for BTR). The survey simply enquired whether the members have experienced those basic features of JFM to test the awareness level, motivation level of the members. It is found only 32.65 and 30.61 percent of the members have seen the minutes book and received at least one notice of meeting of the JFM committee. Only 26.33 and 15.65 percent of the members have seen the forest map and the Pass Book of the committees. The facts revealed that forest villagers are not sufficiently aware of the functioning of JFM and as an institution JFM has also failed to demonstrate discipline. So far as duty chart and Micro plan is

concerned the result shows 42.86 and 40.82 of members have seen them (Figure No. 2.13), it suggests that JFM has emphasized more on the role of a task master than laying the opportunities of democratic polity. However, one may argue that the members behaved without having any idea on the relevance of duty charts, Bank Account and notice book of the committee etc. The spontaneous remarks that came out during the survey suggest forest villagers are annoyed with forest department on four accounts viz. (i) According to some active JFM members the activities of conservation made them enemy in the village as well as in other forest fringe villages. Some members of a village shared a fact that they caught many timber smugglers during patrolling but these miscreants got bail from the court and started threatening them, ultimately they had to ask for forgiveness from these smugglers. Forest Department's role in this whole humiliation was that of a spectator. (ii) The villagers opined that the coordination and cooperation between FD and JFMC members were far from desired level which resultant in an attitude of indifference among forest villagers with regard to JFM. (iii) The change in the names of the committees i.e. first it started with FPC thereafter in the protected areas it was converted into EDC, presently all the committees are called in the name of JFMC; all these created confusion among forest villagers. (iv) The forest villagers have the experience of *beggary* (labor without wage) as a result; some viewed the arrangement under JFM as another kind of labor without pay under the forest department.

5.1 JFM and livelihood options

The practice that was followed in south of West Bengal during the evolution of JFM as well as during early years of formal JFM has been – controlling of grazing in sal forest to let the forest sprout and 5 years of intensive protection, after that multiple soot cutting. Forests became rich in NTFP during this period of 5 years as a result people got livelihood options, after 2 to 3 multiple soot cuttings the villagers used to get the scope of final harvesting. These series of events always provided a steady source of revenue to the villagers involved in JFM activities. In contrast, in North Bengal the growth rate of trees are relatively low, most of the forests are protected areas and forests are not rich in NTFP, as a result revenue earning options are virtually nil [Nandi(b) , 2002]. All these facts prompted the FD to introduce different income generating schemes through the JFM committees so that the villagers can get attached to the concept of JFM. The survey enquired into this matter and tried to assess the no. of beneficiaries and type of benefits. The survey found that only 16.33 percent members of the JFM got some sort of tangible

benefits through JFM. The no. of beneficiaries is very low in compared to the member families. There is no other scope for revenue earning unlike in the south west of West Bengal. During the survey the concept of multiple soot cutting was never heard from the respondents. A meager amount of money earned from some tourist spots as entry fee is the only visible revenue model for JFM in North Bengal. Among the beneficiaries, 25 percent of them received the fire-wood allotment and allotment for house repairing (ref. Table no. 5.1 in Appendix 2). Forest villagers used to get their house repaired by the FD on a regular basis before the introduction of the JFM so it may not be termed as a motivating factor for them.

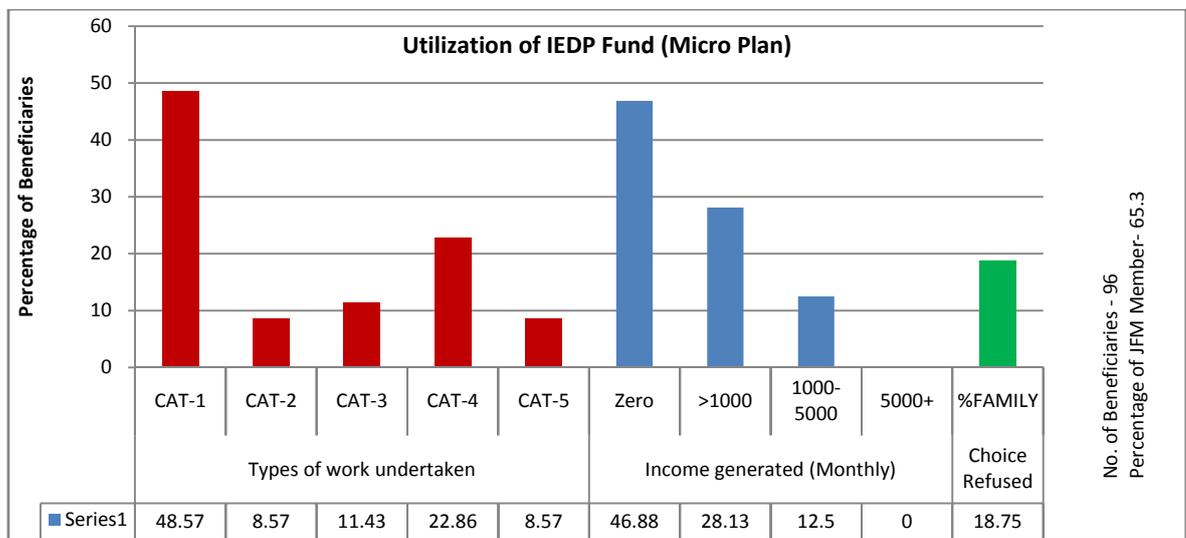


Figure No. 2.14 (Field Survey 2): CAT-1 denotes livestock, fishery; CAT-2 household implements, CAT-3 Inputs for entrepreneurship development, CAT -4 Agricultural implements, CAT-5 irrigation implements.

Note: 1. Types of schemes undertaken is more than the total beneficiaries as some of the families undertaken more than one scheme. Note: 2. Some respondents felt they got benefitted by agricultural and irrigational implements because their quantity and variety of production have increased, but they can not quantify the benefits, such no. is 12, i.e. 12.5% of the beneficiary families.

The survey reveals that 65.3 percent of the members of JFM got some benefit out of IEDP projects. Apart from the 12.5 percent non members, more than 22 percent of the member families did not get the benefits of the IEDP project. It is mainly because of the indifferent nature of some members and some villages in the sample remained out of the IEDP project. The Micro plan was prepared following a technique of peer review, so peoples opinion does figured in the final draft but in the survey it is revealed that 18.75 percent of the respondent's choice of options was turned down by the BTR authority. Reasons are not known to the respondents. It is revealed that a large number of

beneficiaries i.e. 48.57 percent opted for livestock and fishery; it suggests forest villagers are comfortable with their traditional livelihood options. Nearly 23 percent of the beneficiaries opted for agricultural implements like beetle nut saplings of high yielding variety, power tiller (in group) etc. again, these preferences indicates an intention to improve the traditional livelihood of cultivation. However, it is also found that 11.43 percent of the beneficiaries opted for entrepreneurship development i.e. opening a shop in the village; it's a new phenomenon among the forest villagers. While going through the data on generation of income by IEDP schemes it is found that 46.88 percent of the recipient could not generate income from the project. The reasons behind the failure of the project according to villagers are: (i) some of the pump sets became idle due to lack of water source and some became mal-functioning because of its bad quality and lack of spare parts, (ii) some cows died of diseases, (ii) Ponds could not hold water, (iv) poultry firms could not earn profit etc.. However, 28.13 percent beneficiaries could enhance their income by a margin of Rs. 1000/ month, only 12.5 percent of them could raise their income by Rs.1000 to 5000 and another 12.5 percent of the beneficiaries could not quantify their enhanced income. Nearly 50 percent of the fund used so far (Rs.12500/family) went in vain allegedly because of wrong choice or bad quality of benefits. So far as generation of income from the IEDP project is concerned it is witnessed that 53.13 (28.13+12.5+12.5) percent of beneficiaries could generate some level of income from the projects help (also ref. Table no. 5.2 in Appendix 2). It is further revealed that only 20.41 percent of the respondents perceive that JFM has introduced alternative income sources. At the same time 18.37 percent of respondents perceive JFM has reduced forest dependence (ref. Table No. 5.3 in Appendix 2). Surprisingly, among the positive respondents i.e. whose income has increased 50 percent consists of those who took the benefits on livestock rearing activity.

Forest Villagers Perception about JFM in BTR

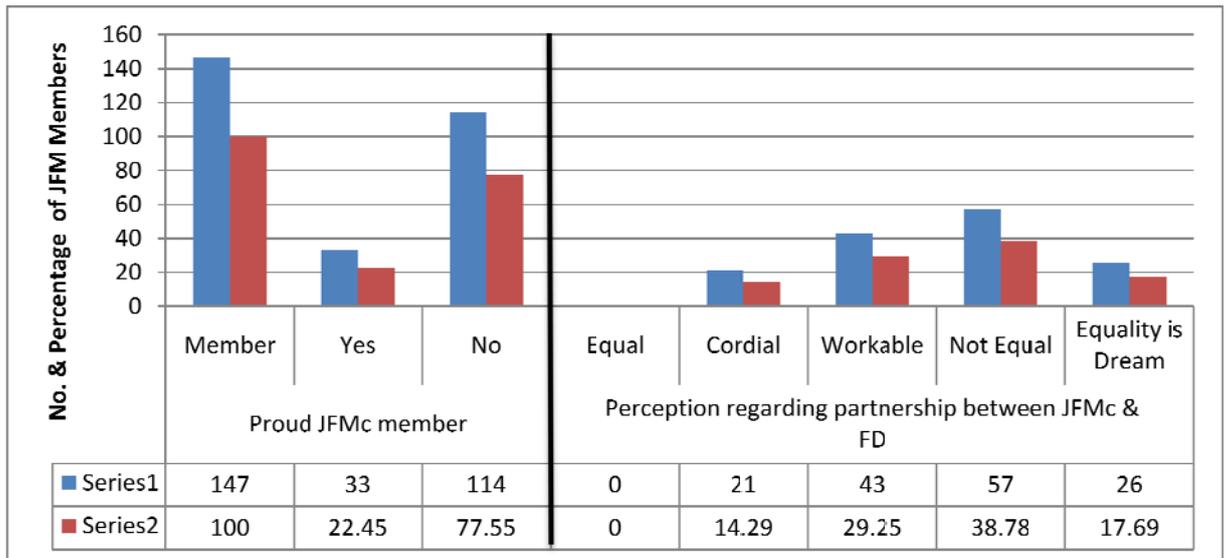


Figure No. 2.15 (Field Survey 2)

JFM emerged as a movement of conservation, where forest dependent people are supposed to be not only concerned about their monetary gains but also will show compassionate for nature. From the above figure it is found that among the members 22.45 percent considers themselves as a proud JFM member; they proudly narrated their past heroic activities. All of them blamed the FD for not supporting them adequately in their crusade; they held FD responsible for the widely perceived failure of JFM in BTR. Not a single member considers him or her as the equal partner of FD in protection of forest. Nearly, 39 percent of the JFM members consider FD has the upper hand in deciding the modalities of JFM. Among the members 17.69 percent think that it is not a practical proposition to work with FD as a friend (jointly), rather it's a dream like situation. However, 29.25 percent of the JFM members consider that there is a workable relationship with FD that may not be to the level of friendship. The null-hypothesis of not uniform relationship between the JFM members and the forest department is rejected at $p < 0.000$ since the calculated chi-square value 19.36 is much higher than the tabulated value at three degrees of freedom. The forest villagers do not hold any skewed preferences towards the JFM so far as the four categories of perceptions are considered in this study.

6. Migration - a livelihood strategy in BTR

Migration may be defined as the reaction of an individual or community to superior prospects to enhance economic wellbeing. It is also considered that an individual's reaction to migration could be because of non-economic factors, gambling character or a worried act after he or she is forced to leave the traditional livelihood. However, it is difficult to infer that one or two reasons are there behind migration but a crowd of complex factors (Mazumdar, 1987). Migration takes place due to the combined effect of pull and push factors. Pushes are the disadvantages that are present in a locality and the pulls are the attractions of a place that lures the migrant to settle down. Unemployment works as a push factor for a particular place at the same time employment opportunities present in a place may function as a pull factor. Similarly, people may move from the place where available services or amenities lack the basic standard, to a place having relatively better services (bbc.co.uk). Some scholars have listed mainly four reasons behind migration such as marriage, employment, education and lack of security. Other than marriage, the search for employment is the most important factor behind migration in India. It is inferred that the rural economy could not produce the required employment options for the rural population of the country, as a result of this mass exodus from villages towards cities is witnessed (Smriti, 1986). When the state of poverty becomes acute in a society, almost all the factors of push become visible. However, some communities from prehistoric period had been using migration as a tactic to livelihood strategy. While examining the role of migration in shaping the livelihood pattern Haan (2010) concludes that Migration in western Bihar in India is a part of livelihood strategy. Same type of migration is witnessed in different parts of India especially among the tribal communities. Ban Gujjars of Sivalik Himalaya (UP), shepherds of Kumayan, Santals of South West Bengal annually migrate as part of a livelihood strategy. The above survey of literature suggests migration takes place when viable alternative livelihood options dry up and also aspiration for better life induces people to leave homeland. Migration in forest villages is a new phenomenon; keeping all the above causes of migration in view, the study is expected to reveal the trend of it in forest villages of BTR.

It is found that 41.07 percent families of the sample have at least one migrant in the family. The survey depicts that among the families having migrant, 86.96 percent of them are experiencing this phenomenon for the first time. Among the total of 84

migrants 25% have migrated to Karnataka, the next preferable destinations are Delhi and Kerala. Surprisingly, forest villagers have not migrated to so-called developed states like Gujarat and Punjab (ref. Table No. 6.1 Appendix 2).

The study tried to assess whether there is any community wise trend in migration pattern in BTR. It is alleged that migration is common among the Nepali community but the survey suggests that out of 84 migrants 35.71 percent are Nepali and 53.57 percent are Rava. It is believed that the Rava community is shy and docile in nature, despite this the survey reveals that they are the most animated community so far as migration is concerned. There is no documentary evidence available as to why this community is migrating in large proportion compared to other communities. The study also examined whether the migrations are seasonal or permanent, in order to understand whether it is a livelihood strategy or push.

It is revealed that the 50 percent of the migrations are seasonal and other 50 percent are permanent in nature. From this data it is inferred that 50 percent of the migrants may have adopted this as an alternative livelihood strategy. It is also found that only 8.7 percent of the migrant families had taken their children with them, it further solidifies the above inference. However, it may also be due to the fact that when unskilled labors migrate, they live in challenging conditions where nurturing of offspring is virtually impossible (ref. Table No. 6.2 Appendix 2).

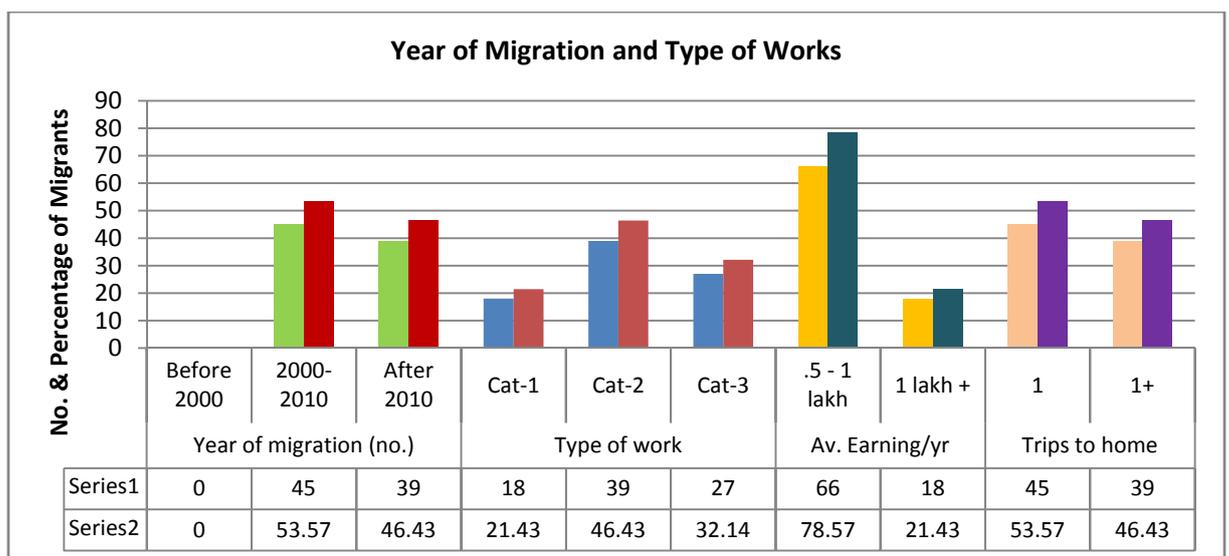


Figure No. 2.16 (Field Survey 2): Cat-1 denotes agro-farm, cat-2 hospitality industry/driver, Factory worker, Mine worker CAT-3 domestic help, construction work, shop attendant.

The survey (Figure No.2.16) reveals that all the migration from the forest villages of the BTR has started after 2000. Among the migrants 46.43 percent has migrated after

2010 and not a single migration is found before 2000. During the late 1980s, a virtual halt in forestry activities is witnessed in BTR with the declaration of Tiger Reserve. Its ripple affect might have taken 20 odd years to touch the livelihood of the forest villagers and it has been manifested in the form of migration. It is observed that most of the people after migrating are doing unskilled and semiskilled works; nearly 79 percent of them are earning a yearly income of Rs. 50000 to 1lakh. The facts suggest that these migrant labors were forced to leave their home not because of attractive wage but due to lack of livelihood opportunities in their locality. However, 21.43 percent of the migrants earn more than Rs. 1 lakh/ year. This amount too proves to be insufficient outside home, where one has to buy everything of daily necessity. People often forget to take into consideration the benefits they derive from nuke and corners of their residence, the value of these materials are realized once they are forced to buy those from market. It is found that 53.57 percent of the migrants come home once in a year and 46.43 percent come more than once.

6.1 Reasons for migration

The study tried to assess the reasons behind the migration from forest villages of BTR.

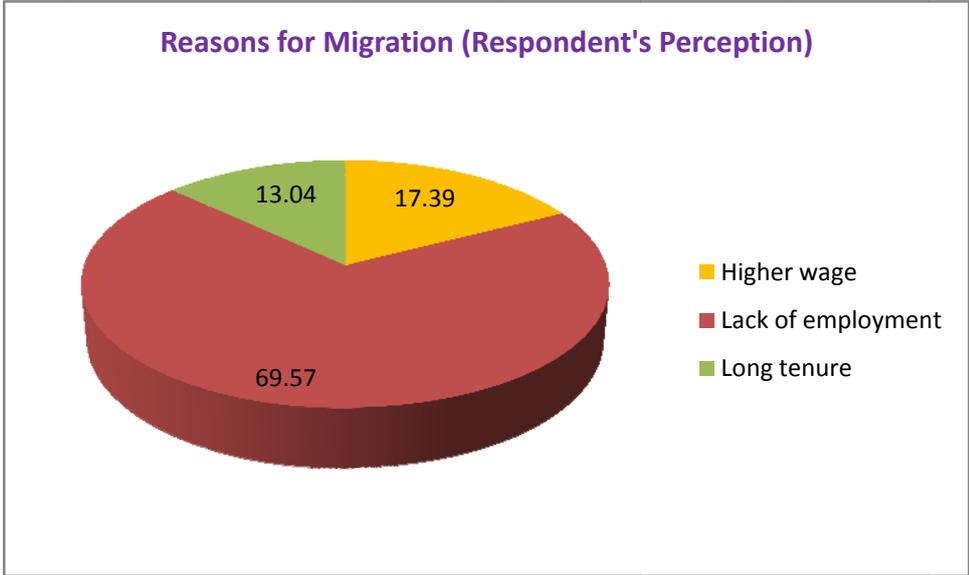


Figure No. 2.17 (Field Survey 2)

Nearly 70 percent of the families who have migrants reported that the members left the village because the employment opportunities in BTR has dried up considerably and 13.04 percent of the migrant families reveals that it's the long tenure of work in the destination places which is responsible behind the migration. In other words it may be concluded that 82.61 percent (69.57+13.04) of the respondents think there is no

sufficient work in the villages of BTR to sustain the current population. However, 17.39 percent of the respondents reported that it's the higher wage outside the village which lured them to migrate. Ironically, it is found that 21.43 percent of the migrants engaged themselves in agricultural works even after migrating from BTR (ref. Table No. 6. Appendix 2), this suggests that higher wage does matter, not the type of work. Moreover, it is revealed that the minimum wage for an agricultural labor in West Bengal is Rs. 225 which is much lower than the other States and Union Territories of the country (www.paycheck.in, 2017). If one considers the minimum wage of Karnataka and Delhi on agricultural and farm workers (the most favored destination of the migrants) it is found a agricultural unskilled labor's minimum wage is at Rs.288.66 in Karnataka, whereas the same for an unskilled labor in Delhi stands to Rs. 368 prior to September, 2016 (Department of Labour, Government of Karnataka, 2013.; The Hindu, 2016). Though it is very difficult to associate the pattern of migration with the amount of minimum wage as minimum wage laws are rarely followed by the private entrepreneurs. However, it supposedly helps in setting the bottom-line of wage rate.

7. Public distribution system and forest villages

Forest villagers of BTR are highly dependent on the public distribution system. On an average 51.79 percent of the families are BPL card holders and 32.14 percent are APL card holders. Surprisingly, 16.07 of families have both APL and BPL cards in the family. It's a new phenomenon in BTR, where half of the members of a family are BPL card holder and the rest are APL card holder. It is learnt from the villagers that they don't know the reason behind this fact. The survey tried to assess the purchase habit of the forest villagers to deduce some basic facts. It is revealed that K.oil, Sugar, Rice and wheat are the frequently purchased items. Overwhelming dependence on K. oil is due to the facts that the forest villagers depend on it for lighting lamps and other uses. More than 96 percent of the families purchase sugar but only 42.59 percent of them want more sugar, it is found that nearly 90 percent of the families purchase rice but their demand for rice is strong, 81.48 percent of the families wanted more rice (Ref. Table No. 7, Appendix 2). Wheat has a lowest demand because flower is only used for breakfast.

8. Health and livelihood

It is well documented that peoples' poor health brings acute poverty. A sound health apart from being disease free is the ultimate force behind human development and poverty eradication (UNDP, 2015). Forest areas are known for deadly Malaria and Tuberculosis. These two diseases took the shape of a menace in foot hills of North Bengal during closing years of last century (Hazra, 2016). However, the study revealed that presently Malaria and Tuberculosis are not creating much problem in BTR. So far as other fatal diseases are concerned, it is revealed that more than 30 percent the sample families are having one serious patient in their families. It is also found that the families are incurring a regular expenditure on the treatment for those diseases. People in forest villages hardly get any quality treatment. Apart from lucky few, most of them live with the disease. The findings suggest that the monthly expenditure incurred on treatment is mainly to reduce the degree of the hazard or pain not to cure the disease entirely. It is revealed that 70.59 percent of the families having patient incur an expenditure of Rs. 1000 to 5000/year on the treatment of the diseases. However, nearly 18 percent of the patient families are incurring more than Rs. 15000 p.a. on treatment which may be considered as a cost for a serious treatment (Ref. Table No. 8, Appendix 2).

9. Telecommunication facilities in BTR

Today India is experiencing a revolution in telecommunication. Overall tele-density in the country stands to 79.98 percent, while the rural India registers 48.66 percent as per the press release of TRAI on 1st September, 2015. The states of West Bengal, Tamil Nadu and Delhi recorded a tele-density of 78.12, 116.81 and 200.8 percent respectively (Telecom Regulatory Authority of India, 2015). The study sought to know whether the forest villagers are linked with this revolution, especially when various public goods are being linked with mobile phone numbers. The survey also intended to know the amount of money that the forest villagers are spending for mobile sets as well as on mobile connectivity. The survey revealed that 76.79 percent of the respondents have mobile sets; among the mobile owners' 30.23 percent families have 2 mobile sets and 16.28 percent families have more than 2 sets in the family. It is found that 60.47 percent families incur a monthly expenditure of Rs. 100 to 200. However, there are 20.93 percent families who incur expenditure more than Rs 400 per month. Revolution in telecommunication has positively influenced the forest villagers in BTR. One of the prerequisite for keeping a mobile phone is presence of electricity to get the

cell charged; interestingly it is observed that 76.79 percent of the sample family has mobile set while 60.09 percent have electricity in their houses (ref. Table No. 9 & 10, Appendix 2). The data suggest that people adopt other means like keeping battery to charge the cell.

Table No. II
Possession of assets by the forest villagers of BTR

Assets	No. Of families	% of families	Av. Price	Av. no. of assets.
T.V. (colored)	105	62.50	9700	1
T.V. (b/w)	33	19.64	2155	1
Dish T.V.	36	21.43	1970	1
Fan	78	46.43	764	2.04
Cycle	147	87.50	4000	1.57
Mobile	129	76.79	1100	1.56
Refrigerator	2	1.19	12130	1
Music system/DVD player	30	17.86	2500	1
Pump set	33	19.64	15000	0.45
Power tillers	3	1.79	47600	1
Motor cycle	57	33.93	56000	1
Car (four wheeler)	2	1.19	135000	1

Note 1: possession of some Pump set and the power tiller is in group possession

10. Assets possessed by forest villagers

Robert Chambers and Gordon Conway (1992) defined 'livelihood' as "A livelihood comprises the capabilities, assets (including both material and social resources) and activities required for a means of living." Physical assets help to enhance livelihood, keeping this aspect in mind, the survey included the provision of assessing the assets possessed by the forest villagers in BTR. While going through the assets possessed by the forest villagers of BTR, it is observed that the most common asset is cycle, 87.50 percent of the respondents have on an average 1.57 cycles in their families. The number could have been close to 100 percent had not there been respondents from hilly region. The second most popular asset in possession of forest villagers of BTR is mobile phone set, 76.79 percent of respondents' family possess on an average 1.56 mobile sets. Possession of colored TV takes the third position as the preferred asset among forest villagers. Nearly, 63 percent of the respondents' family has a colored TB. TVs of the two varieties (black and white and colored) if added together then it takes the second position among preferred assets by the forest villagers. A fair amount of families i.e. 33.93 percent of the sample have a motor cycle in their

possession. Motor cycle's capacity to travel to remote areas made it a good means of transportation in forest villages; this might be one of the reasons for its popularity. It is observed that only 19.64 percent of the families have pump sets that too, nearly half of them are owned jointly. In the sample 96.43 percent are cultivators, in comparison to that, possession of pump sets by the villagers is probably not adequate. A cursory view from the Table No.II suggests that the forest villagers of BTR are not possessing assets which help their livelihood, most of the assets have an entertainment component attached to them. Apparently, it is observable that the assets like TV, Music system, DVD player and to some extent Motorcycle have two edged losses (i) recurring expenditure on them and (ii) they seize the productive time which otherwise could have been used for meaningful livelihood generation.

11. Household expenditure in forest villages of BTR

Since the forest villages live within forest, they are blessed with the plenty of gifts of nature. Various livelihood options based on these gifts are always not visible or recordable. Sometimes, livelihood options are found which are considered illegal according to various forest Acts, but people are engaged in such livelihoods. This limitation forced the study to look into the household expenditure of the forest villagers to assess the relationship between the expenditure level and the available livelihood options.

11.1 Reasons Behind Preferring Household expenditure surveys

Household expenditure surveys, in true spirit, assess the level of poverty as well as well-being of people. It is extensively used as a surrogate to work out consumption based well-being of people across the globe. The study by World Bank under the leadership of Graham Pyatt on living standard measurement prescribed a path which broaden the movement of measuring consumption based poverty or well-being of people (Deaton, 2003). The house hold spending has been defined as the total expenditure made on consumption by a family (household) to meet the daily necessities of food, clothing, footwear, energy, transport, medical, leisure, housing etc. (OECD, 2017). The problems with the income data are many and varied due to some obvious reasons that can be evident from the following discussions.

It is difficult to capture household income through recall based surveys. It is more pertinent in case of forest villagers as they hardly have any regular income and there are several workers in a single family, even a minor contributes in the total income of the family. Secondly, it is not always possible to quantify incomes from varied professions

which are traditional in nature. There is a tendency on the part of the respondents to under-report income; in case of forest villages some occupations are there which are not legally acceptable as a result respondents may suppress the income from those occupations. Thirdly serious problems are there to assess the income of a self-employed respondent, even to trace the income of a wage earner becomes difficult as intra-year differences in wage earning fluctuates significantly (Planning Commission, GoI, 2014). In these circumstances, to assess the well-being of people, measurement of the relationship between the level of household expenditure and the available livelihood options becomes more relevant.

11.2 Pattern of Household Expenditure

This part of the survey is conducted following a modified mixed recall period (MMRD) which suggests a 365 days of recall period for items like clothing, footwear, educational expenditure, medical expenditure and expenditure on durables; 7 days for primary food items and 30 days for food items like fuel and services (Planning Commission, GoI, 2014). After calculating the household expenditure a regression analysis is employed to explain the household expenditure with various livelihood options presently available to the forest villagers of Buxa Tiger Reserve.

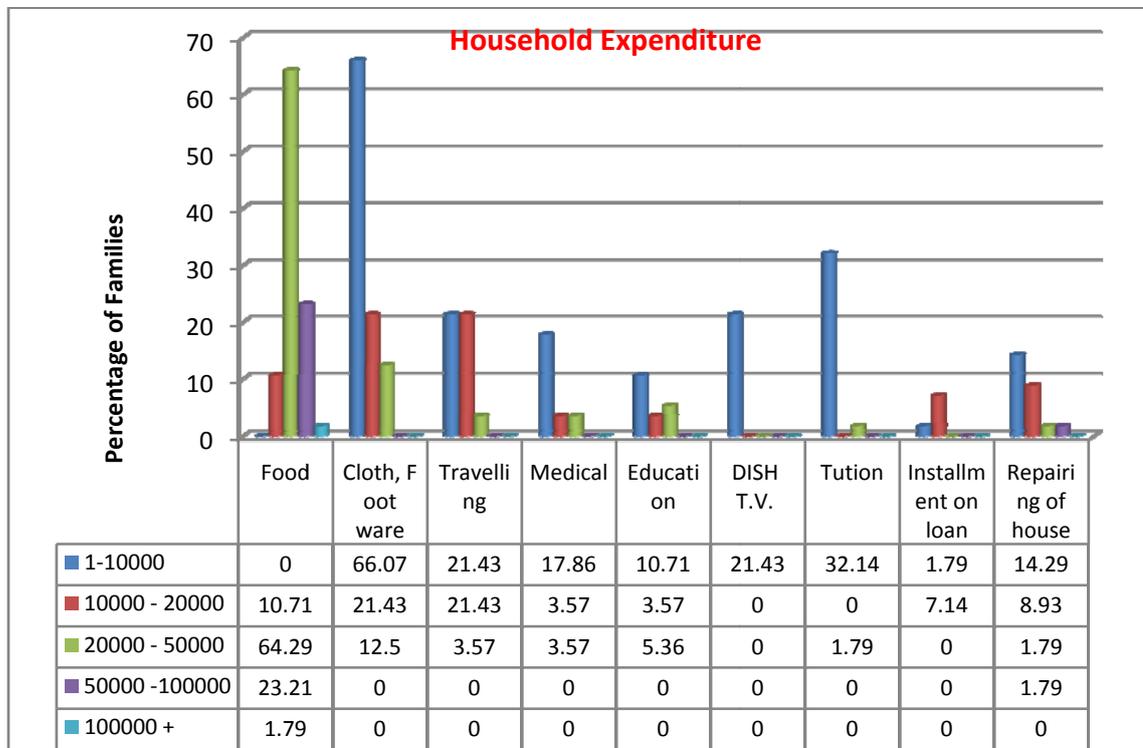


Figure No. 2.18 (Survey 2): Note: In villages like Pana, Raymatang, Sadar bazar, Kumargram it is found that a fair amount of money is spend on travelling as they need to send their kids to nearby towns for high school and they travel to these towns for various needs.

Figure No. 2.18 reveals that 10.71 percent of the families spent Rs. 10 to 20 thousand/year on food. Given the average family size of 6.86 persons /family the yearly expenditure on food in this case is too low. Majority of the families i.e. 64.29 percent incur an expenditure of Rs. 20 to 50 thousand/year on food. Productivity of land, gifts of jungle i.e. NTFP, inter cropping, livestock rearing all these supplements greatly to cash earnings of a forest villager. Cash expenditure sometime may show a mediocre living standard but given the level of other benefits Rs. 20 to 50 thousands expenditure on food may be considered fairly well in compared to the other rural areas of the state. Average daily expenditure of an Indian living in rural areas is Rs, 48 and the poverty line is defined as the ability to spend Rs.32 in rural India (www.saddahaq.com). However, 23.2 percent of the families in BTR spent Rs. 50 thousands to 1 lakh on food and only 1.79 percent of the families spent more than one Lakh. Figure No. 2.18 also reveals that 66.07 percent of the families spent up to Rs. 10 thousand/yearly on cloth and footwear, while 21.43 percent spent Rs.10 to 20 thousands. However, there are 12.5 percent of the families who spent Rs. 20 to 50 thousands on cloth and footwear/ year. In this connection, it must be mentioned that the Nepali community spends more on clothes and footwear than the other communities. It is found that the income from sell of livestock and sell proceeds of beetle nuts are used in purchasing cloths and footwear.

So far as travelling is concerned 53.57 percent of the families are incurring nothing on travelling, 21.43 percent of the families are incurring up to Rs. 10 thousand and another 21.43 percent of families are incurring an amount of Rs. 10 to 20 thousand. It is revealed that the parents of remote forest villages admit their children to nearby towns for higher education (high school and college) as a result of this, expenditure on travelling has figured to the amount of Rs. 10 to 20 thousand for 21.43 percent and 3.57 percent families spend a staggering amount of Rs. 20 to 50 thousand/ year. The Figure No. 2.18 reveals that expenditure on treatment in forest villages is very low, three fourth (75 percent) of the families spend nothing on treatment; it is perhaps due to the fact that they depend mostly on traditional medicine practitioners and faith healers. This fact may be corroborated from the census (2011) data, which states that there are 15 and 6 MBBS doctors in Kalchini and Kumargram block respectively, whereas the same two blocks have 69 and 11 traditional medicine practitioners or faith healers. So far as educational expenditure is concerned it is found that 75 percent of the forest villagers spent not a single penny for school education. Only 10.71 percent of the families spent up to Rs

10000/year, and there are 3.5 percent and 5.36 percent of families who spent an amount of Rs. 10 to 20 thousand and Rs. 20 to 50 thousand per year respectively for school education. This is due to the fact that some families are sending their kids to English medium schools run by private entrepreneurs from nearby towns and also because some families send their kids to private schools in towns. Though there is a prevalent view that presence of a private tutor is a precondition for good education in West Bengal, the survey reveals that nearly two third (66.07%) of the families don't send their kids to private tutor. This is supposedly because most of them cannot effort and their seriousness towards education is not sound. However, 32.14 percent of the families do keep a private tutor or send their kids to a private tutor.

Every year rain is so heavy in this forested tract that repairing to houses is more or less common in every alternate year. Usually, repairing to houses requires very little money as the necessary materials are collected from forest and the labor is given by the house-owner himself. However, house building technique has emerged as a specialized work over the years and demands a special skill. The survey found 14.29 percent of the families undertaking minor repairs to their houses and spending up to Rs. 10000 and 8.93 percent of the families are spending Rs. 10 to 20 thousand/year. However, there are 1.79 percent families who are spending Rs. 20 to 50 thousand and another 1.79 percent families who are spending Rs. 50 thousand to 1 lac every year on house repairing.

If one minutely observes the data on family expenditure then one could find a trend, nearly 60 to 70 percent of the families are living a very ordinary life; they are highly dependent on the government's aids. It is found 64.29% of the families spend Rs.20 to 50 thousand on family food, 66.07 percent families spend up to Rs. 10 thousand on Cloth and footwear, 53.57 percent spend nothing on travelling, 75 percent spend zero on medical treatment, 75 percent spend zero on education, 66.07 percent spend zero on tuition fees and 73.21 percent families spend zero on house repairing. Though, always the same families are not common here but by and large it represents a group. However, there are some families who are spending handsomely in house hold expenditure, this is because some of the families have government servants, some families have big business of livestock rearing, some families have large landholdings, some have beetle nut orchard and some have imperceptible business.

11.3 Analysis of the Household Expenditure Data

A regression line is drawn to analyze the household expenditure data with respect to different sources of livelihood. The level of expenditure is measured by a ratio scale and all ten independent variables have been represented by qualitative dummy variables. It has been observed that there are mainly ten livelihood options presently available to the forest villagers of BTR. Out of these livelihood options, four livelihoods like agriculture (Agcl), work under forest department (Ufd), livestock rearing (Lsr), NTFP collection (Nftp) were present before the declaration of the Tiger Reserve. It is evident from the regression results that the traditional livelihood options insufficiently explain the household expenditure of forest villagers, though the occupation of livestock rearing is found to be significant among all the traditional livelihood opportunities. Moreover, among the non-traditional livelihood options like services, wage labor, self employed (Se), work under panchayat (Pan), pension (Pen) and skilled job (Skill), only service and skilled job are found to be significantly influencing the household expenditure level.

Test Statistic 3
Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
Service	3.985	.823	.323	4.840	.000	.630	1.587
Agcl	-4.874	1.335	-.200	-3.651	.000	.939	1.065
Ufd	-.382	.691	-.035	-.552	.581	.716	1.397
Lsr	2.257	.691	.183	3.267	.001	.895	1.117
Wage	-1.225	.532	-.135	-2.301	.023	.815	1.227
Nftp	.882	.591	.084	1.493	.137	.880	1.136
Se	-.477	.730	-.039	-.653	.515	.801	1.248
Pan	-2.706	.926	-.170	-2.922	.004	.827	1.210
Pen	.113	.576	.011	.196	.845	.913	1.096
Skill	7.206	1.213	.358	5.938	.000	.772	1.296

a. Dependent Variable: Exp

b. Predictors: (Constant), Skill, Pen, Nftp, Agcl, Ufd, Lsr, Se, Wage, Pan, Service

Note: R =.748, Adjusted R Square=.531,D-W=1.688, F=19.917,p<0.000

The overall fit of the model measured by R-square is found to be high, explaining 53 percent variation in the dependent variable. The goodness of fit measured by F statistic is found to be significant beyond $p < 0.000$ and the DW statistic is within the acceptable limit. The regression coefficients reveal that the people who are engaged in service and skilled job get higher wage rate because of their skills and the people who are engaged in livelihoods requiring manual labor gets a lower wage which is reflected in

their level of expenditure. Since the unskilled workers are getting a low wage, their choices of expenditure is limited, and thus negatively affect the expenditure level. The forest villagers who have no other livelihood options or suitable engagement opportunities are forced to choose these low yielding unskilled jobs. The agriculture as an occupation has shown that it is negatively correlated with expenditure level; it is perhaps due to the fact that the agricultural land produces food items which sustain the families for a significant portion of a year (ref. figure 2.5). Moreover, a considerable portion of household expenditure of forest villagers comprises of food items, hence families having agricultural livelihood are negatively correlated to expenditure level. The villagers engaged in the rearing of livestock have registered a strong correlation with household expenditure level. It signifies that livestock rearing explains a significant portion of household expenditure. Families having livelihood from livestock rearing tend to have a greater expenditure level which signifies a better standard of life. From the above regression analysis it is revealed that the traditional livelihood options like works under forest department (Ufd), NTFP collection (Ntfp) are unable to explain the household expenditure level. The villagers engaged in traditional livelihoods like Ufd and NTFP collection have lost their significance after the declaration of Tiger Reserve. The new livelihood opportunities like services and skilled professions have emerged as significant contributor in the level of household expenditure.

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CHAPTER – VI

SUMMARY, CONCLUSIONS AND POLICY IMPLICATIONS

Summary Conclusions

6.1 Introduction

The study endeavors to appraise intervention of different forest policies and Acts at different points of time on the livelihood of forest villagers. However, it mainly confined to the policies undertaken during the British and independent India and a special emphasis is given to the period of before and after the declaration of tiger reserve in Buxa. This thesis delves to portray a picture which suggests a gradual alienation of forest people from forest resources due to policy interventions. In the era of conservation regime, the forest villagers have become persona–non-grata, as the forests are believed to be kept as inviolate areas exclusively for wildlife. The writings of conservationists put forward an argument that the livelihood of forest dwellers is harmful to forest ecology. The problems are multifaceted and the issue is as sensitive as a religious matter as the dilemma has been portrayed as a fight between conservation and forest dwellers' livelihood. People, at large, suffer from an assumption that considering the rights of forest dwellers are detrimental for conservation. The thesis cannot firmly claim that this belief is based on falsehood. However, it can be argued that the forest villagers are the communities who created most of the forests in North Bengal right from Sandakfu (highest peak in the District of Darjeeling) to the bank of river Sankosh (NESPON, DISHA & NFFPFW, 2005). Apart from the writings of the forest right activist groups, the presence of 200 odd forest villages across North Bengal's remote forest areas corroborate this fact. These people have the unique knowledge of forestry science (applied), knowledge on the plantation and natural regeneration of trees, knowledge on wildlife's behavior and food habit, knowledge on soil condition and topography. If the country neglects these skillful people and further alienates them from their traditional livelihood, the ultimate loser would be the very 'national interest'. It is estimated by several scholars that nearly 50 percent of the countries designated forests are degraded (Farnandes, 1996). Who will re-plant those degraded land? Probably, it is not the sprouting environmentalists of the cities! The forest villagers can be the best warrior in the crusade of future conservation.

The findings of the thesis are mainly divided into two sections. Section one shows the narrowed down in livelihood options of the forest communities due to policy interventions as reported in chapter III and IV, and section two reveals the livelihood condition after the declaration of the tiger reserve in BTR as dealt with in detail in chapter V. To be precise, chapter V scrutinizes the problems faced by Panchayat in protected area; investigates the present pattern of livelihoods and the problems associated with them; examines the comparison between the available options of livelihood before the declaration of tiger reserve and after the declaration of tiger reserve; looks into the relationship between the household expenditure and the varied livelihood options of forest villagers; and investigates the present status of the Joint Forest Management (JFM) especially with respect to the capacity of generating new livelihood options as well as perceptions of forest villagers regarding quality of partnership in JFM.

6.2 Summary findings

6.2.1 Gradual alienation of forest dwellers from forest resources

The British came to India with the knowledge of Industrial revolution. They radically changed the pattern of uses of forest resources in India, till then forest was utilized as domestic fuel, construction timber and agricultural gears in a subsistence economy. Technologies transformed the forest resources into paper, fuel for steam engines of ship and sleepers of the train, resulting in the immeasurable use of wood. Development of railway network, war needs (World War I and II) all these increased the demand for forest resources many folds. A stringent regulation on the conventional use of the forest resources was a required condition for unopposed supply of timber. As a result, state's monopoly over forests was established in the name of the reserve during the colonial period (Gadgil, 2000). The forest Act of 1878 provided the required ammunitions for creating reserves and Indian Forest Act 1927 rationalized the process. The semi-nomadic forest communities of Dooars of eastern Himalaya (foothills under Jalpaiguri and Alipurdooar districts of West Bengal) got a bad deal from the colonial forest administration as their resource base (forest) was declared an unoccupied wasteland. The declaration boils down to the fact that the authority deliberately avoided to negotiate with the communities to record their rights over the forest or its resources (Choudhury, 2015).

The eminent historians and ecologists opined that the reserves were subjected to over-exploitation and soon became degraded. Forest people's requirements of forest resources were considered as 'biotic pressure' (Guha, 2000). Priority of the British foresters was principally commercial in nature, and timber producing trees served that priority. As a result of this, forests that were useful for forest dwellers' livelihood got replaced by an orderly monoculture of teak, pine, deodar and *sal*. This trend continued even after independence (up to 1980s). Moreover, the plantation of tea, coffee and rubber ate out much of the quality forest during the colonial period and transformed the forest communities into confined labor in these big estates (Gadgil, 2000). During this period the community institutions that used to manage forests (by regulations and religious injunctions) were methodically dismantled (Kothari, 1996). However, it must be mentioned here that the forest communities of the North Bengal did not join this captive workforce, mass migration from Chotanagpur (Jharkhand) and neighboring countries filled the needed work force in the tea estates.

The independent India's first forest policy, i.e. the National Forest Policy, 1952 acknowledges the above-stated reasons for the destruction of forests and unequivocally blames the war needs, industrial needs, infrastructural needs, and the creation of big river valley projects behind the degradation of Indian forest. Ironically, the policy shifted its focus and recommended to tightening up the privileges enjoyed by the forest dwellers during the colonial period. The policy also suggested for doing extensive research on forest resources to find out their commercial uses (MoEF, GOI, 1952). The intervention paved the way for maximizing commercial gain (Rangarajan, 2012). The aspiration for industrialization was so high that raw materials gathered from the forest were supplied to various industrial houses at a highly subsidized prices (Guha, 1996). The result was evident, the country lost nearly 18 percent of its forest cover within a span of fewer than 30 years (Fernandes, 1996).

The tiger census in the early 1970s brought a great concern for the big cat among the policy makers. Like all the previous policy interventions it also did not give emphasis to the root cause of the diminishing number of various wild lives including tiger (detailed discussion in chapter III). A western concept of conservation, Protected Area (PA) crept into Indian forestry discourse and The Wildlife Protection Act, 1972 came into existence. The concept of Protected Area prescribes no human intervention in the forest; nature is thought to take care of itself. The 'inviolable' areas are meant exclusively for wildlife.

The concept is far from Indian forestry history and present reality (Saberwal, Rangarajan & Kothari, 2001). The provisions of Wildlife sanctuary and National Park seriously curtailed the forest dependent livelihood of the forest dwellers.

Despite having few sanctuaries, national parks, and tiger reserves the overall culture regarding forest after the independence remained commercial in nature. Clear felling coup (CFC) by FD and under the contractors became a common jargon where everything of a certain area of forest was felled and new plantation was created. The need for a large workforce to carry out this massive task created the modern day forest villages during the colonial period. The establishment of these shanties continued till the 1980s as commercial forestry was in full swing and was bringing handsome returns (NESPON, DISHA & NFFPFW, 2005). This was the time when forest villagers had plenty of works under forest department or contractors, benefits from inter-cropping, the collection of NTFPs, livestock rearing and cultivation of their land. However, by this time many forests of the country became degraded and a large amount of forest land was de-notified for various mega-projects (Fernandes, 1996). The Forest Conservation Act, 1980 was enacted with the objective of preventing the conversion of forest land and generating alternative livelihood options for the local community. A few studies suggest that the Act could stop forest conversion but failed in augmenting communities' livelihood options (Poffenberger, McGean & Khare, 1996).

6.2.2 Functioning of Panchayat in BTR

While investigating the performance of panchayat in forest villages of BTR the study found that 41.04 percent of the land-based works undertaken had to go for a written No Objection Certificate (NOC) and 35.58% of works got delayed due to lack of timely NOC from the BTR authority. The forest villages are situated in forest land and legally the land belongs to the forest department, as a result, any kind of land-based development undertaken by the panchayat requires a mandatory NOC. This provision of NOC negatively influences the livelihood of forest villagers in two accounts: (i) infra-structural works under Panchayat get affected as a result, villagers get less employment, (ii) the village remains cut off from the nearby major market and thus, villagers can not avail the benefits of the market. Some of the remote villages of the sample like Balapara, Lepraguri, Kumargram, Shiltong of BTR East Division and Pana, Raymatang of BTR West Division remain unapproachable almost for the entire rainy season. However, the new FRA 2006 has a provision of legitimizing land rights in the hands of villagers under

section 3(1) of the Act (The Gazette of India, Part II, 2017), but the Act is yet to demonstrate results on the ground as the implementation process is presently going on at a very slow pace.

6.2.3 Livelihood pattern in BTR

Forest villagers in BTR used to remain busy in forestry activities, livestock rearing, agriculture, and NTFP collection before the declaration of tiger reserve. After the declaration of tiger reserve new livelihood options have been added to the earlier ones. A one-sample Kolmogorov-Smirnov test has been employed to explore the present livelihood pattern of the forest villagers. The intention has been to examine whether the present livelihood options are uniformly distributed i.e. the occupations have uniform importance. In this case, the null hypothesis could not be rejected since the Z value falls in the acceptance region ($Z: 0.790$ and at $p < 0.561$). The results imply that the livelihoods do diverge among different families but their distribution is not significantly uniform. The villagers are involved in several occupations to supplement livelihood i.e. the villagers have drifted to other occupations. This is either due to the fact that earlier livelihoods have dried up or other factors influenced the villagers to adopt new livelihoods. However, these new livelihood options do not hold equal significance.

6.2.4. Agriculture as a source of livelihood

Agriculture is still now one of the most favored livelihood options of the forest villagers of the BTR. It is evident that 96.43 percent of the registered families in BTR have a fairly good size of arable land and do agricultural works on a subsistence basis (ref. Figure No. 2.4, Chapter V). Before the reservation of Buxa forest during the colonial period, the communities of Buxa were traditional farmers (shifting cultivators), when the communities were offered cultivable land in exchange of mandatory labor under forest department they accepted it (Ghosh, 2001). The survey revealed that the forest villagers of BTR are suffering from two types of problems with regard to cultivation. The problems are (i) they have only 11.1 percent of land under irrigation and ii. crops are damaged by the wildlife on a regular basis. Due to the lack of irrigation facilities, 46.30 percent of the cultivators cannot cultivate the *boro* crop (ref. Figure No. 2.5, Chapter V). Nearly 95 percent of farmer families in BTR suffered from crop damage by wildlife (mainly elephant). It's a grave crisis as the compensation received by them from the forest department is nowhere near to actual loss. As a result of this, they

are little interested in claiming the compensation. The study reveals that only 66.67 percent of loss incurring families applied for the compensation in the year 2014-15, and out of that only 44.12 percent of the farmers got the compensation (ref. Table no.2.4, Appendix 2). Due to the above-mentioned reasons, forest villagers in BTR are losing interest in cultivation. A good livelihood option for forest villagers is fading out gradually; the phenomenon may hamper the livelihood option of these communities dearly and in turn may affect the forest also. Apart from the cultivation, the forest villagers of BTR used to do inter-cropping in between the saplings of plantation [Jha (a), 2010]. Before the declaration of the tiger reserve 66.07 percent of families were engaged in inter-cropping, it has dwindled down to 30.36 percent today (Figure No. 2.4-A, Chapter V).

6.2.5 Forestry works as a source of livelihood

The forestry works included plantation, cleaning, fire line making, firefighting, nursery work, harvesting etc. After the abolition of 90 days of mandatory free labor the forest villagers in BTR started to get wages for the entire period of work. Since then forest villagers' main livelihood had been work under forest department or contractors. Regular plantation related works enhanced other livelihood options as well.

The survey revealed the types of work the villagers used to do and the type of work the villagers do now (Figure No. 2.6, Chapter V). The Wilcoxon Signed Rank Test is employed to test the null hypothesis that the median of a distribution does not vary for a set of paired data. All the results of the test found to be negative signifying very little opportunities left for the forest villagers under the forest department (Test Statistics 1 & Test Statistics 1.A , Chapter V). The same data on livelihood opportunities of forest villagers of BTR in pairs of before and after the declaration of tiger reserve are taken into consideration and McNemar Test is employed. The test justifies that there is a significant change between the condition of availability of livelihoods with respect to before and after the declaration of the tiger reserve.

6.2.6 NTFP collection as a source of livelihood

Non-Timber Forest Produce or NTFP collection was one of the main occupations of forest villagers in BTR before the declaration of the tiger reserve. The livelihood option of forest communities is greatly linked with the gathering of NTFP (Larsen, Olsen, & Boon, 2000.; Wollenberg, & Ingles, 1998). The study revealed that 75 percent

of the sample used to collect NTFPs like different food items, medicinal plants, and decorative items from the forest for consumption as well as for selling purpose. Presently, there are only 25 percent of the forest villagers who are involved in this livelihood. It is also found that villagers are not collecting NTFPs because the availability of these products has reduced considerably. However, the reasons like 'lack of buyer', 'other viable works than NTFP collection', 'low price of NTFPs' all these have a common interpretation and that is lack of non-availability of Transit Pass (TP) for transporting the products, has reduced the number of buyers of these products.

6.2.7 Livestock rearing as a source of livelihood

Livestock rearing is a popular livelihood option to forest villagers as it requires very little cost (due to the presence of grass in the forest) and provides the much-needed cushion in crisis time. Nearly 84 percent of the sample is engaged in livestock rearing. However, a majority of them are not serious players in this profession. Only 15 percent of the cow keepers have 10 or more cows (ref. Figure No. 2.8, Chapter V), and only 38 percent of livestock keepers sell their milk. (ref. Figure No. 2.10, in Chapter V & Table no. 4.3 in Appendix 2). Only 6 percent of livestock keeper is found to be very serious about milk production and have developed a business of milk supply to the nearby towns. Goat and Pig are reared mainly for cash benefit. The major problems with livestock rearing in BTR are deaths due to diseases and wildlife attack. The forest villages are in remote areas and the facilities of veterinary hospitals are situated in blocks or sub-divisions, as a result of this, often livestock dies without treatment. The death of livestock due to wildlife attack is a threat in BTR. It is more so because the villagers don't get compensation for the loss of their livestock, simply for the reason that the livestock risked its life by entering into the forest. Even if a livestock is killed inside the village the villagers cannot claim for compensation, as technically, the village itself is in the forest land.

6.2.8 JFM- an alternative source of livelihood

Joint Forest Management (JFM) as a concept emerged from a grass root level resource generation and distribution system practiced in South West Bengal (ref. chapter III for detailed scrutiny). The Technique became successful in terms of creating forests in degraded lands, distributing benefits of final harvest and other usufructuary benefits. In the year 1989, the GoWB took over the model and tried to replicate it throughout the

State with a formal GO. One of the problems with this model was that it cannot be used in protected areas (PA) as the concept of final harvesting is not applicable there. However, the protected areas came under another arrangement of JFM called Eco-Development Committee or EDC. These EDCs are supposed to protect the forests for wildlife and in exchange, they were given some external aids to generate alternative livelihood to minimize the negative impact of people on protected areas (Sinha & Yadav, 2002). BTR being a protected area got several such external aids and most important of them is India Eco-Development Project (IEDP). The study investigates the overall performance of JFM in BTR as it supposed to generate alternative livelihood of the forest and forest fringe villages.

It is found that only 16.33 percent members of the JFM (147 member family i.e. 87.5% of the sample) received some kind of physical benefits from JFM. The flagship program of IEDP was introduced in the year 1996 in BTR with the aim to minimize the negative impact of PA on people and vice versa. The program framed 56 micro plans and spent nearly Rs. 43 crore, both for departmental restructuring and the micro plans. More than 65 percent JFM members received different types of benefits to enhance their livelihood. From the survey, it is revealed that nearly 65 percent villagers got the benefits but very few could transform the benefits into alternative livelihood options. While scrutinizing the capacity of these benefits to augment livelihood it is found that 46.88 percent of the beneficiaries could not produce anything to augment livelihood.

6.2.9 Migration, an alternative livelihood strategy

Lack of employment functions as a push factor for a particular region and in contrary, the opportunities of employment in a place can act as a pull factor. (bbc.co.uk :Smriti,1986). Migration is used as a livelihood strategy by some communities in India (Haan, 2010). It is found that more than 41.07 percent of the sample has experienced at least one migrant in their families. Among the families having migrant members, 86.96 percent experienced this phenomenon for the first time (Figure No. 2.16 in Chapter V).

The survey reveals that all the migration from the forest villages of the BTR has started after 2000 ((Figure No. 2.16 in Chapter V)). With the declaration of Tiger Reserve the commercial forestry in BTR has stopped, the various works under the forest department were withdrawn gradually. During the 1990s the BTR witnessed several

Govt. sponsored schemes whose main aim was to generate alternative livelihood options among forest villagers and forest fringe villagers. IEDP was one of such centrally sponsored, ADB aided, income generating program. The survey revealed that the program failed in most of the cases.

The conservation regime set in without arranging adequate alternative livelihood options for forest villagers. Perhaps, this is the cause of migration from forest villages. The survey observed that most of the migrant from BTR are engaged in unskilled and semiskilled works; nearly 79 percent of them are earning a yearly income of Rs. 50000 to 1lakh (Figure No. 2.16 in Chapter V). These observations suggest that the forest villagers have migrated not because of the handsome salary outside the village rather; they were pushed to migrate from forest villages as livelihood options dried up.

6.2.10 Household Expenditure and Livelihood Options

Household expenditure surveys, accurately evaluate the stage of poverty as well as the well-being of a community. It is widely used as a proxy for consumption based happiness of people across the globe. (Deaton, 2003). The household expenses have been defined as the total expenditure made on consumption by a family unit to pull together the daily requirements of food, clothing, footwear, energy, transport, medical, leisure, housing etc. (<https://data.oecd.org/hha/h>).

It is hard to apprehend household income through recall-based surveys as the families may not have normal returns; always it is not possible to measure returns from traditional livelihoods, and the propensity of respondents to misrepresent return. (Planning Commission, GOI, 2014). Other than the above reasons, in the case of forest villages, few livelihoods do not uphold legal norms as a result; respondents may conceal real income.

After calculating the household expenditure a regression analysis is employed to explain the level of expenditure by a variety of livelihood options available to the forest villagers of BTR. The overall fit of the model measured by R-square is found to be explaining 53 percent variation in the dependent variable. The goodness of fit measured by F statistic is found to be significant beyond $p < 0.000$ and the DW statistic is found to be within the acceptable limit.

Apart from the livestock rearing the traditional livelihood options have insufficiently explained the household expenditure of forest villagers. Among the new

livelihood options like service and skilled job are highly correlated with expenditure level. The families who are engaged in manual works usually get a lower wage, this feature is echoed in their level of expenditure (negatively correlated), as their choices of expenditure are limited (Test Statistic 3 in Chapter V). It is manifested from the regression coefficient that the villagers engaged in traditional livelihoods have lost their significance after the declaration of Tiger Reserve. However, the new occupations like a wage earning and works under panchayat (pan) are negatively correlated with the household expenditure. The plausible reasons may be that the families involved in these occupations have meager income level as a result; their expenditure level gets negatively affected. The forest villagers who have no other livelihood options or appropriate appointment opportunities are compelled to choose these low yielding unskilled jobs.

6.2.12 Conclusion

It may be concluded that the forest dependent community or forest villagers historically had suffered worst kind of social exclusion. This phenomenon has been acknowledged as “historical injustice” in Forest Rights Act 2006. It is amply clear that commoditization of the forest resources speeded up the destruction of forest and also made the forest dwellers economically, socially and politically vulnerable. Commoditization of forest resources benefited the elite rulers, landed elites, industrialists, traders and planters. In the present era of conservation, 47 Tiger Projects more than 500 sanctuaries, national parks etc. are the instruments of it. All these reserves successfully made the livelihood of forest dwellers vulnerable by excluding them from their resource base, culture and institution. A policy of relocation of the forest dwellers indicates to the old beliefs that to conserve the forest one has to disregard the rights of forest people. In one hand the thesis suggests that the prevailing situation in BTR in terms of its functioning of panchayat, institution building, educational and healthcare facilities there is probably a tacit threat to these communities to leave the forest. On the other hand it revealed that the traditional livelihoods have narrowed down considerably, villagers are forced to accept works under panchayat and as daily labor. Different forestry works like plantation, fire line making, harvesting etc. have dwindled down to single digits from more than 6 months of work. The problems like lack of irrigation, crop damage by wild life, diseases to livestock, livestock killed by wildlife, non availability of NTFP, lack of timely availability of NOC to do land based development, slow implementation of Forest Rights Act 2006 etc. all these made it very difficult for a forest

villager to carry on with a meaningful livelihood. A massive exodus of young forest villagers to other States is being witnessed to avail petty jobs.

If one minutely observes the prevailing conservation practices in its totality than one can easily find that it is not actually devoid of human population. However, the status or more conclusively it may be suggested that the class of the 'population' matters. The new class of jeep borne safari riders has replaced the erstwhile beneficiaries like landed elites, industrialists, planters etc. Nomenclature has changed but the class probably remained the same. Often it is seen that institutes like National Tiger Conservation Authority (NTCA), National Park Authority, NGOs etc. blame the forest people, as the only obstruction in making the forest 'inviolable'. In this bigoted sight, the large portion of the problem like mining, forest de-reservation for big development projects, supplying forest resources at through away prices to industries, extensive tourist permits etc. remain grossly ignored.

From a cursory view, it may be opined that the lack of adequate plantation and unplanned felling of trees (unauthorized) and some time ill-planned authorized felling (Hindustan Times, 2014; Bhujel & Rava, 2014) have made the forest degraded. This, in a sense, reduced the opportunity for NTFP collection and the option of intercropping (Figure No. 2.4-A in Chapter V) that the forest villagers' used to do. It is witnessed that two sides of most of the approach roads inside the forest are vacant, denuded, and the mark of CFC (Clear felling Coupe) is evident in every such site. This type of forest perhaps is not suitable for any wildlife either. In the colonial period as well as after the independence, the BTR witnessed commercial plantation and CFC in the forest. The monoculture of Teak and other species have been created keeping in view the commercial aspect, these forests are neither suitable for people's livelihood nor wildlife's habitat, as undergrowth in such forests is very poor. Ironically, the conservation regime perhaps has not succeeded in stopping the resources to go to market. Nevertheless, it may be inferred that there is a scope to undo the mistakes until the forest villagers are present in the forest with their forestry skill.

It is observed from the lifetime experience of the forest villagers with regard to the death of livestock due to wildlife attack (Table no.4.6 Appendix 2), that the forest villagers have established a unique relationship between wildlife's life and their livelihood. The survey witnessed a deep-rooted dependence of forest villagers on the forest for several livelihoods. It is also understood that they are not anti-wildlife. The

forest villagers have accepted the loss to their crop and livestock due to wildlife attack into their stride. There is no any kind of enmity against wildlife is found during the long period of the survey. Yet it is observed that there is a plan to relocate these villages from the protected areas of the country (NTCA, 2012). On the flipside of this initiation, their relocation means loss of an opportunity to create forest; as they did in the past. Besides, relocation of forest people had failed in the past, even the relocation of Bhutia Basti from BTR was not completely successful. It is alleged that some of the relocated people went back to the earlier village again. Relocation of the villages from the Sariska Tiger Reserve experienced the same fate (Sahabuddin, 2007). The amount of money that the Central Government is planning to spend on relocation is quite large, for example, a Parliament Committee recently argued for a speedy release of Rs. 24 crore for the relocation of 2 villages from Mudumalai Tiger Reserve in Tamilnadu (www.ndtv.com, 2015). With this amount of money, if the symbiotic relationship of the forest people with the forest is improved, the life of animals, as well as livelihood of forest dwellers, probably witness a break of a new dawn.

6.3 The policy implications

The findings of the thesis, the critical evaluation of them as well as the review of different literature helped to put forward the following policy implications. The recommendations are unidirectional as it did not consider various concerned department's (like Rural Development, Backward Class Welfare, Agriculture, Minor Irrigation, Animal Resources Development, Cottage & Small Scale Industries etc.) plans and opinions, and totally based on the findings of the study, researcher's experiences during the phase of interaction with the respondents. The thesis focused on the forest villagers' capabilities, their assets (both material and social resources) in consonant with the definition of livelihood posited by Chambers (1992). The study examined whether closest to the people at the center, there are resources and livelihood assets on which the forest villagers have access. The detail of these resources and livelihood assets include natural resources, technologies, their skills, knowledge and capacity, their health, access to education, sources of credit, or their networks of social support (IFAD, 2014). All the programs that were initiated so far, to generate income opportunities in BTR always tried to minimize the dependence on forest through alternative income generating schemes. These schemes allegedly failed, as the forest villagers don't have the marketing facility and the schemes are not based on their strengths. In order to reduce the dependence on

forest or 'negative impact of people on PA' (Sinha & Yadav, 2002) the strength of the forest villagers is ignored time and time again. Schemes like knitting machine, sewing machine, mushroom cultivation, *sal* leaf platter manufacturing, vermin-compost making, apiculture, rice husking mill and allied works, soft toy making etc. were undertaken in different projects. In reality it is observed that these projects failed to gain momentum due to improper selection of projects and other inherent entrepreneurial weaknesses. In an informal discussion with the forest villagers during the survey, it is known that the schemes failed because they don't have the skill on those schemes and marketing acumen required to develop proper logistics to identify and distribute the produce to the target group of customers. In a changing world where established finest of tailors, sweater weavers, expert leaf platter making houses, and other established business houses face a tremendous competition from the corporate manufacturer; it is very difficult for a forest villager to market his/her semi-finished product. This section of people needs a niche market of the products on which they have their expertise or strength. The study made the following recommendations based on the strengths of the communities.

6.3.1 The thesis reveal that among the forest villagers skilled workers and people engaged in services (having educational skill) have successfully transformed their livelihood options from forest-dependent livelihoods. They are living a good standard of life as revealed by the regression analysis. In this perspective, it is recommended to establish various skill enhancing facilities in forest villages. Vocational training like carpentry, electric works, nursing training, training on veterinary medicine, expertise in catering and hospitality industry etc. will generate alternative livelihood options. These vocational training may create a win-win situation for the forest villages at the same time for the individual person who undergoes the training. A rudimentary level training on nursing and veterinary medicine may bring incredible results to forest villages. In the survey it is found 75 percent of villages do not have any sub-center within a distance of 10 km., nearly 60 percent of the villages cover a distance of 30 km. to get the Block primary health services (ref. Table no. 5.1 and 5.2 in Appendix 1), the situation is simply understandable. In such a situation an Auxiliary Nurse-cum-Midwife (ANMs) or a male Health Worker known as Multi-Purpose Worker (MPW) present in a forest village would mean a lot of courage to the villagers. The survey reveals that there are mainly four types of diseases (ref. Table no. 7.1 in Appendix 1) to livestock if these diseases are controlled

or treated than more than half of the problem will be solved. The survey also exposes that 58.67 percent villages have to travel 6-10 Km to reach to the nearest veterinary hospital and 25 percent villages cross through 11-15 Km (ref. Table no. 7.2 in Appendix 1). The study acknowledged that 21-30 cattle expired in 16.67 percent villages and another 16.67 percent villages experienced 41-50 cattle death during the same period (ref. Table no. 7.3 in Appendix 1). The data are suggestive of a grave situation; a person from the village having the training in veterinary medicine will be of great help to the forest villages. In the study it is found that more than 16 percent of the sample is engaged in business i.e. self-employed (Table no. I, Chapter V), the data suggest that forest villagers are getting interested in independent professions. In this connection, it must be mentioned that tourism in BTR has emerged as an alternative livelihood option in recent years. Ironically, most of the entrepreneurs are from outside the forest villages barring a few exceptions. The tourism can be done in forest villages of far-flung areas on home stay basis. After the enactment of FRA 2006, forest villagers are the owner of the land in their possession, so the NOC and documents for getting financial aids are much easier to obtain. By providing knowledge on soft skills, training on housekeeping, food and catering the youth of forest villagers of BTR might be made a good entrepreneur. This initiative would pave the way for the nature lovers to enjoy the serenity and natural beauty of the tiger reserve at the same time it would generate attractive business opportunities.

6.3.2 Forest villagers are traditionally shifting cultivators. Still today they feel comfortable in cultivating their land. Nearly 46 percent of families can sustain more than 6 months from their land's production (ref. Figure No. 2.5, Chapter V). Major problems with this occupation are crop damage by wildlife and lack of irrigation facilities. The problem of crop damage by wildlife can be avoided by choosing crops that do not attract elephants, more fodder plantation deep inside the forest, plantation of mixed vegetation having fruit trees, bamboo etc. Forest villager's main objection against compensation of crop damage has been, 'too little too late'. There may also be an arrangement of paying actual compensation in a time bound manner. The existing perennial sources of water may be tapped through minor irrigation facilities. Irrigation department may be consulted for the much needed technical expertise. For digging irrigation canals, the forest villages may take the help of MGNREGA. Forest villagers are forming institutions like Gram

Sabha under the FRA 2006; this institution or panchayat may be used as a monitoring agency of these works.

6.3.3 The forest villagers are naturally keen to livestock rearing; this passion has a ready advantage i.e. abundance of postural land. However, random grazing allegedly creating two types of problem to the wildlife- i) reducing carrying capacity of the forest as a result herbivores in the forest find little grass to eat, and ii) spreading diseases (contaminating diseases) among wildlife. Due to the above-mentioned logics, different forest policies (ref. chapter IV), right from 1952's National Forest Policy to Wild Life Protection Act, 1972 tried to regulate the number of livestock but they failed.

The knowledge and the capacity of livestock rearing are the strength of the forest villagers; it is more pertinent in BTR East Division. This livelihood may bring more prosperity to their life if the quality of cattle is enhanced through artificial means and through replacement of the existing cattle with high yielding variety. Emphasis must be given to increase the number of stall-fed cattle. During the study, it is observed that the villagers don't let the quality cattle to graze in the forest. If the quality of cattle enhances the jungle grazing will reduce considerably. It will create double pronged advantages by reducing the rate of degradation in the forest and by increasing standard of living of forest villagers. If the quality of livestock is improved then it would enhance the livelihood of a sizeable number of villagers, as it is found that nearly 43 percent of the cattle rearing families are producing zero amount of milk (Table No. 4.2 in Appendix 2). There is no sense to this kind of venture, especially when the fodder is scarce. To solve the problem of diseases it is further proposed to club the facilities of the veterinary hospital with Beat Offices, as most of the Beat Offices are in the forest and they are nearer to forest villages.

6.3.4 NTFP collection in BTR has reduced considerably over the years owing to various reasons including non-availability of NTFP in the forest. The ban on transit pass (TP) from tiger reserve has drastically reduced the number of NTFP merchants in BTR; this again reduced the quantity of NTFP collectors. The value addition centers for NTFPs like broomsticks (*fooljharu*), bay leaf (*tejpatta*), decorative items and medicinal plants may help the forest villagers to augment livelihood option. Scientific research in this direction may help to find out the exact nature of the value addition that to be followed. Medicinal plant cultivation in the hills of BTR may offer a new livelihood option to forest villagers. Presently, whatever marketing of NTFP is done is carried out by

WBFDC and by different co-operatives engaged in forest-related activities. According to State Government's assessment, the marketing initiatives are far from desired level (Directorate of Forests, GoWB, 2013). The present study does not suggest more action from forest department for marketing of NTFP rather less or no action. The forest department's role should be of a facilitator, a legal hassle free environment should be created where-in entrepreneurs feel confident to venture into the business.

6.3.5 It is observed that per capita employability under FD has nosedived to single digit and work like plantation has become almost obsolete along with other forestry works. Two non-parametric tests, the Wilcoxon signed rank test and McNemar test are employed to test the null hypothesis that the works under forest department have not reduced after the declaration of the tiger reserve. The null hypothesis is rejected as all the results of the Wilcoxon signed rank test have been found to be negative. The results of McNemar test reveals that the null hypothesis of no difference in the quantum of works under the forest department before and after the declaration of tiger reserve is rejected in most of the cases. Even a cursory view of the data (Figure No. 2.6, Chapter V) suggests that different types of works under forest department (almost all related to plantation and harvesting) have drastically reduced. Nearly 22 percent of forest villagers, whose primary duty was work under forest department, now don't work under forest department. The main reason of this change has been the policy intervention in 1983 when the forest of Buxa was declared as a tiger reserve. Whatever, plantation and harvesting presently carried out in BTR is done in the garb of facilitating movement of wildlife, habitat development and removal of cyclone damaged plants.

In this connection, it must be mentioned that there is a provision of creating community forest resource (CFR) zone under the management of Gram Sabha according to the Forest Rights Act, 2006 [section 3(1)i]. The Act empowered the villagers to regenerate and manage the said CFR. The provision may be used to plant mixed type of forest which is useful to wildlife as well as to people's livelihood. Fodder plantation inside the degraded forests may improve the situation in many ways. It will create food for herbivores; as a result, they will be less attracted to villagers' crop land. Already the scheme entitled "National Afforestation Programme (NAP)" has strongly emerged as a massive plantation plan throughout the country. The resources of this scheme may be used in the mixed plantation program. Here, it must be mentioned that the parliament enacted a new bill on 28 July 2016 named 'The Compensatory Afforestation Fund Bill,

2008'. The corpus fund of Rs. 23607.67 core as on 31 March 2012 is dedicated to this massive compensatory plantation (www.indiaenvironmentportal.org.in). It is recommended to frame suitable policies to avail the benefits of these programs and plant the degraded forests of BTR. A massive plantation program will replant the forests which in turn create employment, at the same time improve the livelihoods of forest villagers through accessible forest resources.

6.3.6 At a time when the country's FD is trying to employ special tiger force in all the 48 tiger reserves and demanding hard to get permission from Ministry of Defense for surveillance by Drone plane (NTCA, 2012), it is disturbing to find that 945 posts (38.67percent of the sanctioned posts) of Forest Guards are left vacant in West Bengal. Among other important posts (which are usually regarded as important for saving forest and wildlife) 404 of Deputy Ranger/Forester (31.64 percent of the sanctioned posts) and 189 Forest Ranger (32.59 percent of the sanctioned posts) posts are left vacant (GoWB, 2011-12). It is also found that only 2.27 percent of the families out of the presently involved 132 families in forestry work (ref. Figure No. 2.6, Chapter V) have done works like fire line making whereas not a single family was involved in firefighting. One may conclude that fire is not a problem in BTR. Conversely, the FD's record states that out of the 217 incident of forest fires in the State in the year 2011-12, BTR has witnessed 93 (i.e. 42.86 percent) of them. It is understood that fire in the forest is a yearly recurring event and it has the capacity of destroying forest as well as wildlife. From the official document, it is revealed that at least 258.5 hectares of forest land were affected by fire in the year 2011-12. These facts reveal that while the basic things are in lackluster shape, the policymakers aspire for high-tech interventions. It is recommended to fill those vacant posts with a special consideration for the forest villagers of BTR, it will be beneficial to both the forest villagers and forest as they have the knowledge of the difficult terrain of this forest and symbiotically related to this forest.

6.3.7 During the survey it is found that a sizeable number of families in the hills were engaged in maintaining orange orchards which was an age old profession but the BTR authority uprooted these orchards in the year 1998. It is learned from villagers that hills of BTR are good for orange plants. Buxa dooar and Santhalabari used to be a big wholesale market for orange. The name of the place '*Santhalabari*' according to locals is derived from two Nepali words '*santala*' and '*bari*' which means orange and orchard respectively. Name itself is quite suggestive to claim that the place was once famous for

orange. The study suggests offering a second thought to the whole matter and finding modalities to start it once again. However, required preventative measure must be taken to avoid widespread plantation of orange trees in forest land.

6.3.8 The survey shows that during the last one year (ref. Figure No. 2.12, Chapter V: Table No. 4.6, Appendix 2) 84 cattle of 60 families were killed by wildlife, out of these, in 9 cases tiger was held responsible and in 27 cases it was the leopard. The Nine (9) families, who blamed tiger (Royal Bengal tiger) for the loss, are of the opinion that tiger from the Bhutan hills came down to villages and had their prey. If one value the experience of the forest villagers then one may infer that BTR has very few tigers, that too, in the hills of Bhutan. In the case of deaths of goat, 45 goats were killed by wildlife during the last one year (2014-15), in no case tiger was held responsible by the villagers. The above data raise a serious question about the presence of tiger in BTR. However, the Tiger Census of 2011 which followed Scat DNA Technique, showed a presence of 20 tigers in BTR. The number has improved considerably from a figure of 12, according to the Tiger census of 2007 which followed mainly Pugmark method and in some cases Scat DNA technique (buxatigerreserve.com). The presence of enough leopards is felt by the villagers. Leopard and elephant have developed an informal relationship with the forest villagers for food (prey and crop). This deduction may be further solidified by the data on lifetime experience of the forest villagers. It is found that 141 families amongst 168 lost 300 cattle, 204 goats to wildlife attack. Beside all these mayhem on the villagers' crunch time dependence, no visible rage on wildlife is found. It seemed that the policy of relocating forest villagers from protected area is a short-sighted policy. It could not fathom that conservation too needs people; the finest foresters of the country perhaps cannot be thrown out of the jungle to satisfy few people's aesthetic needs.

6.3.9 The forests of BTR are disappearing every day, even the forest villagers are aware of it. The reasons are many and varied, not all forest villagers are benign to the cause of conservation. However, they realize the need of forest conservation, the activities are done by these communities during IEDP project is a burning example of that (Sinha & Yadav, 2002 in Chapter 3). Awareness programs for conservation perhaps not needed for forest villagers, what they need is a practical implementation of different programs like the improvement of NTFP items through bamboo, cane and medicinal plant cultivation etc. Programs like rainwater harvesting, reviving degraded lands,

reviving sandy lands of river banks, framing village level organization to create community forest resources (CFR) under FRA 2006, and emphasizing on the forestry productivity that accentuates equitable distribution of benefits. These thoughts may initiate a new enthusiasm among forest villagers.

6.3.10 Some of the recent incidents in North Bengal suggests that there is a design to create a conflict between the Gram Sabha and JFMC members (Debnath, 2016). In this context, it must be mentioned that after the enactment of FRA 2006 the JFMCs (or FPCs) has little relevance in forest villagers' life. On a number of occasions, they agitated against the existence of JFMCs (NFFPFW, 2008). Today there are more than 3000 JFMCs across forest villages and forest fringe villages; under the earlier practice the committees have more than 400 thousand hectars of forest land under their protection (GoWB, 1997). However, JFMCs which once came into existence through a government order today constitute totally a different interest group. In different forest areas nearer to BTR the forest villagers are opposing the CFC operations of the forest department in their CFR zones. The Gram Sabha is empowered under FRA 2006, to stop any kind of felling of trees if the Sabha thinks it is detrimental for forest's ecosystem. Being stopped by the Gram Sabha the forest department tried to revive the JFMCs and allowed them to collide with each other. The authorities entrusted to implement FRA 2006 must recognize this possibility of conflict between forest villagers and forest fringe villagers and take all necessary steps otherwise the very interests like the generation of livelihood and conservation of forests will be badly defeated.

6.4. Limitations and Future Scope of Study

The result of the present study may not be generalized as it is limited to one tiger reserve out of 50 odd tiger reserves of India. However, the Buxa Tiger Reserve is a true representative of all the reserves as it has the experiences of commercial forestry as well as protected area management. The forest has traditional communities in its forest villages; the communities also had to go through changes in their livelihoods. There is scope for further research in this direction with a statistically significant sample size from a well defined population base of the different type of protected areas of the country.

The study included only the registered forest villagers in the sample, by doing so it left out nearly 600 percent of the unregistered forest villagers. The unregistered forest

villagers are mostly landless and they allegedly have a severe scarcity of livelihood opportunities and hence have a strong dependence on forest. The heavy dependence on forest could have exposed them to the sharp edges of policy intervention. A new narrative of either livelihood of forest villagers or conservation of forests is emerging very fast. The important aspect of this nature remained unaddressed as the unregistered forest villagers are not included in the study. There is scope for a further research of a comparative analysis of the policy intervention on the livelihood of both registered and unregistered forest villagers.

The study focused on the pattern of changes in livelihood options after the declaration of tiger reserve to assess the influence of the forest policy intervention. A study on the number of cases filed against the forest villagers, the number of people died on firing by the forest department, the number of conflicts between FD and forest villagers etc. would have more directly revealed the impact of policy intervention. The nature of the cases i.e. the sections of the Acts mentioned therein would have clearly spelt out the problems of BTR.

Another serious limitation of the study is that it did not seek the opinion of forest officials who work on the ground. Though, it considered several forest reports, articles by foresters, proceedings of departmental conferences, forest acts and policies. However, a perspective of the FD regarding the present livelihood pattern in BTR owing to policy intervention could have revealed a new dimension.

While enumerating the present livelihood options of forest villagers the study considered the livelihood opportunities generated by FD and Panchayat. Due to constraints of time and resources, the study could not include the role of other departments like Rural Development, Backward Class Welfare, Agriculture, Minor Irrigation, Animal Resources Development, Cottage & Small Scale Industries etc in generating livelihood opportunities. Though these departments have a very negligible presence in forest villages but indirectly they do produce livelihood options. Had their contribution in forest villages been included in the study it would have been a holistic study.

The chapter III of the thesis tried to focus on the history of forest policies and acts. It failed to elaborately explain the background of these policies and acts i.e. what necessitated to frame these laws. It also failed to mention the Parliament's debate on the

issues, the preliminary draft of the acts and subsequent amendments, the correspondence between the central government and state governments.

Three districts of North Bengal namely Darjeeling, Jalpaiguri, and Alipurduar are well known for their tea, timber and tourism industry. If one minutely observes then one finds that these three industries are interlinked to each other. Historically they have a common lineage, e.g. tea gardens came up clearing the natural forests, communities involved in these industries are more or less common, time of their creation is common etc. Today, except the tourism the other two industries are suffering from various problems. The two districts' (Darjeeling and undivided Jalpaiguri) land use map suggests 38.03 and 28.75 percent (Directorate of Forests -GoWB,2013) of the total geographical area fall under the jurisdiction of forest and another around 15 percent fall under tea gardens (geospatialworld.net: darjeeling-tourism.com). As more than 50 percent of the land of these districts falls under these two sectors and they are gradually becoming unproductive, the livelihood problem of the local communities becomes delicate. In this backdrop, a thorough study on the challenges faced by the timber sector and closed tea estates in North Bengal is suggested for future researchers.

Future research should also focus on the demand-supply equation of forest products, in this direction a survey on how many furniture shops; saw mills, timber shops, veneer industries are there around BTR is necessary. Where from they get the required timber, how much timber they use in a year, all these questions are vital for finding out the demand supply chain. It is also necessary to find out the yearly illegal extraction of timber from BTR to comprehend the carrying capacity of the forest if extracted at the same rate. Environmentalists group usually don't like the concept of forest resources being supplied to the market, but one cannot ignore the forces of the market. The deficiency between demand and official supply will be filled by illegitimate supply. The future researcher may look for a model where the market, forest villagers, and wildlife can survive with equal importance.

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Appendix - 1

Table 1.1
Administrative Distribution of The Sample Villages

Name of villages	Beat	Range	DIVISION
Kumargram	Kumargram	Kumargrm duar	B.T.R. (EAST)
Indu basty	Bhalka	Bhalka barobisha	B.T.R. (EAST)
Balapara	Balapara	Bhalka barobisha	B.T.R. (EAST)
Lepraguri	Bhalka barobisa	Bhalka barobisha	B.T.R. (EAST)
Shiltong	Raidak	Shamuktala	B.T.R. (EAST)
Chipra	Chipra	South raidak	B.T.R. (EAST)
Sadar bazar	Buxaduar	Buxa duar	B.T.R. (EAST)
Buxa fort	Buxa beat	Santala bari	B.T.R. (EAST)
North poro	Poro beat	Damanpur	B.T.R. (WEST)
South poro	Poro beat	Damanpur	B.T.R. (WEST)
Raymatang	Raymatang	Pana	B.T.R.(WEST)
Pana	Pana	Pana	B.T.R.(WEST)
Total Beat, Range	11	8	2

Table No. 1.2
Administrative Division of the Villages

Name of villages	Block	District
Kumargram	Kumargram	Alipur duar
Indu basty	Kumargram	Alipur duar
Balapara	Kumargram	Alipur duar
Lepraguri	Kumargram	Alipur duar
Shiltang	Kumargram	Alipur duar
Chipra	Kumargram	Alipur duar
Sadar bazar	Kalchini	Alipur duar
Buxa fort	Kalchini	Alipur duar
North poro	Kalchini	Alipur duar
South poro	Kalchini	Alipur duar
Raymatang	Kalchini	Alipur duar
Pana	Kalchini	Alipur duar
Block wise distribution	1:1	

Table no. 2
Structure of Panchayat Bodies in Forest Villages of BTR

NAME OF THE VILLAGE	Composition of G.S.			COMPOSITION OF G.P.			REMARK
	F.V.	R.V.	T.G.	F.V.	R.V.	T.G.	
KUMARGRAM	1	0	0	3	0	11	
INDU BASTY	3	0	0	2	8	0	
BALAPARA	1	0	0	2	8	0	4FV=2GS
LEPRAGURI	1	1	0	1	10	0	
SHILTANG	1	0	0	3	0	8	
CHIPRA	1	0	0	3	0	8	
SADAR BAZAR	3			1	10	0	3FV=1GS
BUXA FORT	3	0	0	1	10	0	DO
NORTH PORO	3	0	0	NA	NA	NA	
SOUTH PORO	3	0	0	NA	NA	NA	
RAYMATANG	2	0	1	NA	NA	NA	
PANA	2	0	1	NA	NA	NA	
GS COMPRISING 1 VILL	4 =33.33%						
GS COMPRISING 2VS/TG	1 = 8.33%						
GS COMPRISING 3VS/TG	7 = 58.33%						
GP COMPOSITION FV:RV+TG				2.19:10			

Notes:

G.S. indicates Gram Sangsad
F.V. indicates Forest Village
R.V. indicates Revenue village
T.G. indicates Tea Garden

Table no. 3.I
Land Based Developmental Works of Panchayat

Types Of Works	Work in Vill.	Without NOC	With V-NOC	With W-NOC	Work Delayed	% NOCs and work delayed				Work not Undertaken
						With-out NOC	With V-NOC	With W-NOC	Work Delayed	
Constructing New Road	8	0	2	6	5	0	25	75	62.5	4
Repairing Road	9	0	4	5	5	0	44.44	55.55	55.55	3
Constructing Kanel	7	1	2	4	4	14.28	28.57	57.14	57.14	5
Constructing Building	11	3	3	5	4	27.27	27.27	45.45	36.36	1
Erecting Electricity Line	6	0	5	1	0	0	83.33	16.66	0	6
Entry Of TRUCKS	6	1	5	0	0	16.67	83.33	0	0	6
Indira Awas	8	3	2	3	3	37.5	25	37.5	37.5	4
Total	55	8	23	24	21	95.72	316.94	287.3	249.05	29
Average	7.87					13.67	45.27	41.04	35.58	4.14

Data related to the year- 2014-15

V-NOC stands for verbal NOC, W-NOC=Written NOC,

Table No. 3.2
Performance of Panchayat Schemes & Pensions

Village	MGNREGS (DAYS)	I.A.(NO)	BRIDHYA	BIDHABA	KRISI	OTHERS	SHG (NO)
Kumargram	51	0	6	0	0	0	2
Indu basty	42	2	2	2	1	12	4
Balapara	53	0	2	1	2	0	8
Lepraguri	25	0	11	1	3	0	3
Shiltang	48	20	36	0	0	0	5
Chipra	48	1	4	0	0	0	5
Sadar bazar	53	9	6	5	0	0	1
Buxa fort	50	4	0	0	0	0	0
North poro	48	2	5	0	0	16	3
South poro	48	2	4	0	0	14	3
Raymatang	61	0	6	0	0	0	6
Pana	60	4	5	0	0	0	2
Total	587	44	87	9	6	42	42
Average	48.92	3.67	7.25	0.75	0.5	3.5	3.5
Villages with 0 result	0	4	1	8	9	8	1

*The results indicate work of last one year (SHG, pension's data are historical)

I.A. indicates Indira Awas, SHG stands for self help group, Others include S.T. pension, etc.

Table No. 4
Status of MGNREGS & ICDS Work under Panchayat

Village	Job card	No card	% card	ICDS center	Childs/Center	Remarks
Kumargram	111	0	100	2	31	
Indu basty	52	6	90	1	21	
Balapara	65	0	100	1	10	
Lepraguri	73	0	100	0	0	
Shiltang	164	2	99	1	65	CROWDY
Chipra	79	101	44	1	44	DO
Sadar bazar	28	0	100	1	14	
Buxa fort	18	0	100	1	12	
North poro	NA	NA	100	2	41	DO
South poro	NA	NA	100	1	34	
Raymatang	78	0	100	1	24	
Pana	109	9	92	1	45	DO
Total			1125	13	341	
Average per village			94	1.1	28	

The results indicate the work done in last one year for MGNREGS

**Table No.5.1
Healthcare Facilities in the Forest Villages of BTR**

	Sub-Center	No Sub-Center	Availability of medicine In the Sub-Center	Av. No. of doctors	Presence of nurses	Av. Distance form village
No. Of village	3	9	3	2	0	8
% Of village	25	75	--	--	--	--

**Table No. 5.2
Distance of Block Primary Health Centers or Rural Hospital from the Villages**

	0-10 KM	11-20 KM	21-30 KM	31 KM +	TOTAL
No of villages	0	2	3	7	12
% Of villages	0	16.67	25	58.33	100

**Table No. 5.3
Prevailing Diseases in the Forest Villages of BTR**

Disease	Disease not Found	1 to 10	11 to 20	21 to 30	30 +	TOTAL
Malaria	3	6	2	1	0	12
% Of Malaria	25	50	16.67	8.33		100
T.B.	1	8	3	0	0	12
% Of T.B.	8.33	66.67	25	0		100
Jaundice	10	0	1	1	0	12
% Of Jaundice	83.33	0	8.33	8.33	0	100

Data comprising the patients who were hospitalized during last one year

**Table no. 6.1
Educational Facilities in the Forest Villages**

Institutions	No. Vill.	% vill.	No. Vill.	% vill.	Av. Teac	Schools having only 0 -15 students
Pr. School (govt.)	12	100	0	0	2.75	2=16.67%
Pr. School (pvt.)	2	16.67	10	83.33	2	
High school	8	66.67	4	33.33	23	
0 Graduate in village	6	50	6	50.00		
1-5 Graduate in village	6	50	6	50.00		
1 Post Graduate	1	8.33	11	91.67		

In case of high school if it is situated within 8 km of the village it is assumed to be in the village.

Table no. 6.1 (A)
Medium of Instruction in the educational institutions

Institutions	Mother tongue as medium of instruction	% Mother tongue as medium of instruction.	Other languages as medium of instruction	% Other languages as medium of instruction
Pr. School (govt.)	2	16.67	10	83.33
Pr. School (pvt.)	0	0	12	100
High school	0	0	12	100

Table no. 6.2
Transportation Cost to Reach Schools, Colleges

Av. Cost /day	Village to H. School	% of vill	Village to College	% of village
Rs. 0	12	100	1	8.33
Rs. 10 – 20	0		3	25
Rs. 21 – 30	0		4	33.33
Rs. 31 – 40	0		3	25
Rs. 41 – 50	0		0	0
Rs. 51 - Above	0		1	8.33
TOTAL	12	100	12	100

Table no.7.1
Prevailing Diseases of Livestock in BTR

Diseases	No. of Villages Suffered	% of Villages Suffered	No. of Villages Not Suffered	% of Villages Not Suffered
Dysentery	12	100	0	0
Anthrax	2	16.67	10	83.33
Foot & Mouth	12	100	0	0
Septicemia	6	50	6	50
Ear infection	5	41.67	7	58.33

Table no. 7.2
Veterinary Doctors' Visit to Villages & Distance of Vet. Hospital

	Frequency of visit				Distance of vet. hospital			
	Zero/y	Once/y	Twice/y	More/y	0-5 km	6-10 km	11-15km	16 + km
No. Of villages	3	7	2	0	1	7	3	4
% Of villages	25	58.33	16.67	0	8.33	58.67	25	33.33

Table no. 7.3
Loss of Cattle Life Due to Diseases during Last One Year

Particulars	No. Of cattle lost (in last one year)						0 LOSS
	1 to 10	11 to 20	21 to 30	31 to 40	41 to 50	51 +	
No. of villages	3	1	2	0	2	1	3
% Of villages	25	8.33	16.67	0	16.67	8.33	25

Table no. 8.
Forest Rights Act 2006 & Panchayat

PARTICULARS	Panchayat Know	% Panchayat Know	Don't. Know.	% Don't Know	Process On	Not Done
Heard of FRA, 2006	7	58.33	5	41.67		
We Will Get Land Rights	8	66.67	4	33.33		
Rights Over NTFP	1	8.33	11	91.67		
Gram Sabha Will Be Created	6	50	6	50		
Gram Sabha Will Manage The Forest	1	8.33	11	91.67		
FRA 2006 Implemented So Far:						
Land Deeds Distributed	0		4	33.33	6=50%	2=16.33%
Rights Over NTFP Recognized	0		9	75	0	3=25%
Gram Sabha Has Been Created	2	16.67	5	41.67	5=41.67%	0
Gram Sabha Has Started Functioning	2	16.67	8	66.67	2=16.67%	0

Appendix – 2

TABLE No. 1.1
Age & Sex Profile of the Respondents

Age group	Male	% of male	Female	% of female	Total	% of total
20 - 40	12	7.14	0	0.00	12	7.14
41 - 60	63	37.50	12	7.14	75	44.64
61 - 80	51	30.36	15	8.93	66	39.29
81 +	15	8.93	0	0.00	15	8.93
TOTAL	141	83.93	27	16.07	168	100.00

TABLE No. 1.2
Demographic Profile of the sample

Caste (No. of family and % of family)					Average family size				W.mem	% w.mem
S.C	S.T.	O.B.C	GEN	TOTAL	MAL E	FEMAL E	MINO R	TOTA L		
3	105	12	48	168	411	357	384	1152	654	56.77
1.79	62.50	7.14	28.57	100.00	2.45	2.13	2.29	6.86	3.89	

W.mem. Refers to working members in the family

TABLE No. 1.3
Educational Profile of the Families

Av. No. of minors & % of family having minors						Family having Class x pass	Family having Graduate.
Family	Infant	Nursery	Primary	H. School	Dropout		
138	27	21	144	153	39	54/(168)	9/(168)
82.14	0.20	0.15	1.04	1.11	0.28	32.14	5.35

Note: Percent of family having minors, Madhyamik pass (Class X) and Graduate have been calculated on the basis of sample size of 168 families. Average no. of minors has been calculated on the basis of total family having minors i.e. 138.

Table No. 1.4
Occupations of the Working Members of the Family

Occupations	No. Of families involved	% of families involved
Service (salaried)	27	16.07
Agriculture	162	96.43
Work under FD	132	78.57
Livestock rearing	141	83.93
Wage labor	87	51.79
NTFP collection	42	25
Self employed	27	16.07
Panchayat's work	153	91.07
Pension holder	42	25
Skilled prof.	9	5.3

Kolmogorov-Smirnov Z: 0.790, p<0.561

Note 1: In the occupation there is no exclusivity i.e. a particular family member is not only involved in one occupation. Often it was found that the same member of the family is involved in 2 to 4 occupations depending on the availability & seasonality of works.

Note 2: While assessing NTFP collection as a profession fuel wood collection is not included here.

Table No. 2
Details of land holding (irrigated and non-irrigated)

Land size	% having irrigated Land		% of having non-irrigated land		Family
	No. Of family	% family	No. Of family	% family	
Landless					6 (3.57)
Less than 1 acre	3	1.85	30	18.52	33
1 acre - 2 acre	6	3.7	66	40.74	72
2 acre - 3 acre	6	3.7	27	16.67	33
3 acre - 4 acre	0	0	09	5.55	9
4 acre +	3	1.85	12	7.41	15
Total	18	11.1	144	88.89	162 (96.43)
% Of total	10.71		85.71		100

Table No. 2.1
Type of Crops Produced in Forest Villages of BTR

Crops	No. Of families	% of families
Paddy	126	77.78
Wheat	0	0
Corn	63	38.89
Jute	12	7.41
Mustard	06	3.70
Vegetables	99	61.11
Others	27	16.67

1. Others include *kodo etc.* 2. No. of families involved in agriculture is 162 and percentage is calculated on that basis.

TABLE No. 2.2
Inter-cropping Before, After the Tiger Reserve was Declared

Intercropping Before Tiger Reserve		Av. Land Size (<i>bigha</i>)	Intercropping After Tiger Reserve		Av. Land Size (<i>bigha</i>)
No of Family	% family		No of family	% family	
111	66.07	3.62	51	30.36	1.47

TABLE No. 2.3
Productivity of land

	No. Of crops produced			Beetle nut	Av. Sustainability by crops			
	1 crop	2 crop	3 crop		1-3 month	3-6 month	6-9 month	9-12 month
No. Of Families	75	87	0	45	48	39	27	48
% Of 162 Families	46.30	53.70	0.00	27.78	29.63	24.07	16.67	29.63

Note 1. No. of families who used to maintain orange orchards: 3

Note 2: Beetle nut orchard is a major source of cash in East BTR. Families earn from Rs. 5000 to the tune of Rs. 200000 per year. Families earning Rs. 5000 or more from yearly sale of Beetle nut have been recorded here.

TABLE No: 2.4
Crop damaged by Wild Life & Compensation

Total Farmer Family			Crop damaged		Families Applied for Comp.				Families received Comp.			
No. of Farmer Family	No of not effected	% of not Effected Family	No. of families Effected	% Effected Family	No. of Family applied for Comp.	% of Family applied for Comp.	No. of Family not applied for Comp.	% of Family not applied for Comp.	No. of Family received Comp.	% of Family received Comp.	No. of Family not received Comp.	% of Family not received Comp.
162	9	5.56	153	94.44	102	66.67	51	33.33	45	44.11	57	55.89

Remarks:

1. Now compensation is directly transferred to bank a/c as most of the forest villagers do not have bank a/c they don't get compensation for crop .damage.
2. They receive Rs. 300 to 500 that too after 2 to 3 years. People are losing interest in cultivation.
3. In Chifra forest village(BTR East), most of the villagers have stopped cultivation because whatever they produce gets destroyed by elephants.

TABLE No. 2.5
Expenditure on Agricultural Inputs

EXPENDITURE INCURRED	INPUTS								
	Range of Expenditure By The Families	Seed	%Of Seed	Manure	% Manu	Labour	%Labour	Irri	%Irri
ZERO		90	55.56	105	64.81	138	85.19	135	83.33
Rs. 1-1000		51	31.48	27	16.67	3	1.85	3	1.85
1001-2000		18	11.11	12	7.41	12	7.41	3	1.85
2001-3000		3	1.85	3	1.85	0	0.00	6	3.70
3001-4000		0	0.00	9	5.56	0	0.00	9	5.56
4001-5000		0	0.00	3	1.85	0	0.00	0	0.00
5001-6000		0	0.00	3	1.85	6	3.70	6	3.70
6000+		0	0.00	0	0.00	3	1.85	0	0.00
TOTAL		162	100.00	162	100.00	162	100.00	162	100.00

Table-2.6

A Comparative Analysis of Forestry Works Before & After The Declaration of TR

Types of Work	Families involved after Tiger Reserve	Percentages of families involved	Families involved before Tiger Reserve	Percentages of families involved
Plantation	84	63.64	162	96.43
Fire line making	3	2.27	114	67.86
Cleaning	87	65.91	156	92.86
Sal seed collecting	27	20.45	36	21.43
Road repairing	78	59.09	90	53.57
Fire fighting	0	0.00	48	28.57
Nursery work	3	2.27	72	42.86
Harvesting	6	4.55	156	92.86

Table No. 3
Restrictions faced by the NTFP Collectors

Collector in the sample	Entry restriction	Verbal restriction	Beating	Arrest	Firing	Seizure	No. Rest.
159	48	114	29	15	12	72	39
94.64	30.19	71.69	18.24	9.43	7.55	45.28	24.53

Note 1. Fuel wood has been included into NTFP here. 2. Summation of different types of restrictions is more than the total NTFP collectors because some respondents encountered more than one restriction.

TABLE No. 3.1
Collection of NTFP Before & After The Declaration of Tiger Reserve

Collector		Less Before Tiger Reserve		More Before Tiger Reserve		Same As Before Tiger Reserve	
NO.	%	NO.	%	NO.	%	NO	%
42	25	0	0	42	100	0	0

Note: Fuel Wood is Not Included as NTFP here. Above calculation is done based on Families involved in NTFP collection

TABLE No. 3.2
Seasonality of NTFP Collection Including Fuel Wood

Name of the items	Fam	% of fam	Collection period					%of fam
			MAY - OCTOBER		NOV - APRIL		Wh. Year	
			Fam	%of fam	Fam	% of fam	Fam	
Fuel wood	159	94.64	03	1.89	138	86.79	18	11.32
Decorative items	30	17.86	24	80.00	06	3.77	00	0.00
Food items	27	16.07	15	9.43	06	3.77	09	5.66
Spices	06	3.57	00	0.00	03	01.89	03	1.89
Wild fruits	06	3.57	06	3.57	03	01.89	00	0.00
Broom-stick	9	5.36	00	0.00	9	5.36	00	0.00
Fish	12	7.14	6	50.00	00	0.00	6	50.00

Note: 1. Food items include: Bamboo shoots, Mushroom etc., Fruits include sweet potato, *latka*, and wild berry. Fish also includes decorative fish for aquarium.

Note: 2. In this table Fuel wood has been included as NTFP.

Table no. 3.3
Details of NTFP Consumption and Sale (Based On Number Of Collectors)

Items	Consumption	% of Consumption	Consumption + sale	sale	market	stockiest	sale/no. collectors
Fuel Wood	159	94.64	42	0	36	9	26.42
Decorative Items	0	00	0	30	0	30	100
Food Items	24	16.07	12	0	12	0	12.5
Spices	00	00	0	6	3	3	100
Wild Fruits	6	3.57	0	0	0	0	0
Broom Stick	9	5.36	0	9	3	6	100
Fish	12	7.14	0	2	0	2	50

Note: Total no. of families selling fuel woods is not equal to the summation of sells in market & sells to stockiest because some of the sellers sell in market as well as to stockiest.

Table No. 3.4
Intensity of Restrictions on NTFP Collection before & After Declaration of Tiger Reserve

COLLECTR	NOW LESS		SAME		NOW MORE		CAN'T SAY	
	FAMILY	% FAM.	FAMILY	% FAM.	FAMILY	% FAM.	FAMILY	%FAM.
159	0	0	54	33.96	96	60.38	9	5.66
94.63			33.96		60.38		5.66	

Fuel-wood has been included in NTFP.

Table No. 4
Livestock rearing in Buxa Tiger Reserve

NUMBER OF LIVE STOCK IN THE FAMILY	Cow	% of cow	Buffalo	% of bflw	Goats	% of goats	Pigs	% of pigs	Chic ken	% of chicken	Duck	% of duck
	1 To 5	81	58.70	0	0.00	63	61.76	72	96.00	48	37.21	15
6 To 10	36	26.09	3	33.33	30	29.41	3	4.00	24	18.60	9	33.33
11 To 15	15	10.87		0.00	9	8.82		0.00	24	18.60	3	11.11
16 To 20	3	2.17		0.00		0.00		0.00	6	4.65		0.00
Above 20	3	2.17	6	66.67		0.00		0.00	27	20.93	0	0.00
Total	138	100.00	9	100.00	102	100.00	75	100.00	129	100.00	27	100.00

Table No. 4.1
Restrictions Faced During Collection of Grass & Grazing in the Forest

	Grass Collection	% Of Grass Cltn	Grazing	% Of Grazing	Stall Feed	% Of Stall Feed
Families	30	21.28	126	89.36	12	8.51
V. Restn.	15	10.64	81	57.45		
Spot Fine	0	0	15	10.64		
Beating	0	0	6	4.26		
Case File	0	0	0	0		
Firing	0	0		0		
No Restn	15	10.64	24	17.02		

Note: Here the same respondent on several occasions has more than one experience so the results will not be 100% neither according to row nor column

Table No. 4.2
Average Milk Production (Family Wise)

Producing family	0 production	Production wise segregation of families (ltrs)						TOTAL
		0.5 to 2	2 to 5	5 to 10	10 to 15	15 to 20	20 +	
Cow	60	45	27	3	3	0	3	141
% Family	42.55	31.91	19.15	2.13	2.13	0	2.13	100
Buffalo	0	0	0	3	0	0	6	9
% Family	0	0	0	2.13	0	0	4.26	6.39
Total	60	45	27	6	3		9	50
% Wise production	40	30	18	4	2	0	6	100

Note: Total milk producers =cow + buffalo=141+9=150

Table No. 4.3
Income from Sale of Milk

Family in sale	Income From Milk Sale/Month				Total
	500-1000	1000-5000	5000 - 10000	10000 +	
57	24	24	3	6	57
38	42.11	42.11	5.25	10.53	100

Note: 1. Total milk producing livestock keeper 150.

Note: 2. only 12 families spent on fodder and medicine between Rs. 400 to Rs.500.

Table No. 4.4
Income from sale proceeds of livestock (yearly)

Details	Range	Goat	% fam	Pig	% sale	Chicken	% sale	Duck	% sale
NO. OF ANIMAL SOLD LAST YEAR	1 TO 5	39	86.67	42	93.33	18	33.33	6	50
	6 TO 10	6	13.33	3	6.67	12	22.22	6	50
	11 TO 15		0			15	27.78		
	16 +		0			9	16.67		
Family in Sale		45	100	45	100	54	100	12	100
SALE PROCEEDS IN LAST YEAR (IN RS.)	>1000	3	6.67	3	6.67	24	44.44	6	50
	1000-5000	27	60	24	53.33	27	50	6	50
	5001-10000	12	26.67	15	33.33	3	5.56	0	0
	10000 +	3	6.66	3	6.67	0	0	0	0
TOTAL OF ITEMS		45	100	45	100	54	100	12	100

Table No. 4.5
Loss of Livestock Due to Diseases (Last One Year)

Li. Stock	No. Fam.	% Fam	Death due to disease					
			1 TO 5	% Death	6 TO 10	% Death	10 +	% Death
Cow	18	12.77	18	100%	0	0	0	0
Buffalo	0	0	0	0	0	0	0	0
Goat	24	17.02	21	87.5	3	12.5	0	0
Pigs	18	12.77	18	100	0	0	0	0
Chicken	61	43.26	13	21.31	12	19.67	36	59
Duck	13	9.22	13	100	0	0	0	0

Note: 1. Percent of fam. is calculated on the basis of 141 families, % of Death is calculated on the basis of no. of families experiencing death in each category.

Table No. 4.6
Death of Livestock due to Wildlife Attack

Livestock	Cow	% of responsible wildlife	Buffalo	% of responsible wildlife	Goat	% of responsible w.l.	Pigs	% of responsible w.l.	Chicken	% of responsible w.l.
% Families	42.55		2.13		14.89			6.38		
Total kill	84		3		45			18		
Avg. Kill	1.4		1		2.14			2		
Wildlife responsible for death of livestock	Tiger	9	15	0	0	0	0	0	0	0
	leopard	27	45	3	100	15	71.43	0	3	33.33
	jackal	0	0	0	0	0	0	0	0	0
	Don't know	24	40	0	0	3	14.29	0	6	66.67
	Other	0	0	0	0	3	14.28	0	0	0
Avg. cmp.	0	0	0	0	0	0	0	0	0	
Loss so far	300		4		204		33	99		

Families encountered livestock loss due to wildlife attack - 141

Table No. 5
Functioning of JFM in BTR

Member	Year of construction		Members have seen the following documents of JFM						remarks
	Know	Dnt.knw	M. Book	Notice	D. chart	F.map	Pass book	M. plan	
147	48	99	48	45	63	39	23	61	12
87.5	32.65	67..35	32.65	30.61	42.86	26.53	15.65	41.50	

Table No. 5.1
Tangible Benefit Received by the Villagers from JFM except IEDP Project

Member	Beneficiary	Types of benefits (in percentage of recipient families)							
		CAT-1	CAT-2	CAT-3	CAT-4	CAT-5	CAT-6	CAT-7	CAT-8
147	24	3		6	6	3	3	0	3
87.5	16.33	12.5	0	25	25	12.5	12.5	0	12.5

Category-1 denotes live-stock, CAT-2 Sewing Machine, CAT-3 fire-wood allotment, CAT-4 House repairing, CAT-5 bee rearing, Cat-6 help for ornamental fish culture, CAT-7 Pump set, Cat-8 Solar panel

Table No. 5.2
Utilization of IEDP Fund (Micro Plan)

%Family	Types of work undertaken (in %family)					Income generated (monthly)				Choice Refused
	CAT-1	CAT-2	CAT-3	CAT-4	CAT-5	Zero	>1000	1000-5000	5000+	%FAMILY
96	51	9	12	24	9	45	27	12	0	18
65.3	48.57	8.57	11.43	22.86	8.57	46.88	28.13	12.5	0	18.75

CAT-1 denotes livestock, fishery; CAT-2 household implements, CAT- 3 Inputs for entrepreneurship development, CAT -4 Agricultural implements, CAT-5 irrigation implements.

Note: 1. Types of schemes undertaken are more than the total beneficiaries as some of the families undertaken more than one scheme. Note: 2. Some respondents felt they got benefitted by agricultural and irrigational implements because their quantity and variety of production have increased, but they can not quantify the benefits, such no. is 12, i.e. 12.5% of the beneficiary families.

Table No.5.3
JFM and Generation of Alternative Livelihood Options in BTR

Perception regarding New Income Sources		New income sources introduced				JFM reduced forest dependence	
YES	NO	CAT- 1	CAT-2	CAT-3	CAT-4	YES	NO
30	117	15	9	3	3	27	120
20.41	79.59	50	30	10	10	18.37	81.63

CAT-1 refers to income from livestock rearing, CAT-2 farming implements increased productivity, CAT-3 bee keeping, CAT-4 basic amenities to villages.

Table No. 5.4
Forest Villagers Perception about JFM in BTR

Proud JFMc member			Perception regarding partnership between JFMc & FD				
Member	Yes	No	Equal	Cordial	Workable	Not equal	Equality is dream
147	33	114		21	43	57	26
100	22.45	77.55	0	14.29	29.25	38.78	17.69

Table No.6
Year of Migration and Type of Works

Details of mgt	Year of migration (no.)			Type of work			Av. Earning/yr		Trips to home	
	Before 2000	2000-2010	After 2010	Cat-1	Cat-2	Cat-3	.5 - 1 lakh	1 lakh +	1	1+
Total	0	45	39	18	39	27	66	18	45	39
% Mgt	0	53.57	46.43	21.43	46.43	32.14	78.57	21.43	53.57	46.43

Cat-1 denotes agri-farm, cat-2 hospitality industry/driver, Factory worker, Mine worker
CAT-3 domestic help, construction work, shop attendant.

Table No. 6.1
Migration from forest villages of BTR

No. Of famly	1st. Time mgt. Fam	Destination state	No. & % among migrated
69 (41.07%)	60 (86.96%)	GUJRAT	0 (0)
		KERALA	9 (10.71)
		DELHI	12 (14.29)
		HARIYANA	6 (7.14)
		PANJAB	0 (0)
		KARNATAKA	21 (25)
		BHUTAN	6 (7.14)
		NEARBY TOWN	9 (10.71)
		OTHERS	21 (25)

1st. Time mgt. Fam stands for the families from where first time migration has happened. OTHERS include U.P., Tamilnadu, Meghalaya, Tripura

NOTE: No. of migrants is more than the no of migrant families because often it is found that the husband and wife both has migrated.

Table No. 6.2
Pattern of Migration (According to No. of Migrants)

Details of mgt	Sex of migrants		Community wise division of migrants				Tenure of migration		With child
	Male	Female	Nepali	Rava	Adibasi	Others	Seasonal	Permanent	
TOTAL	69	15	30	45	3	6	42	42	6
% MGT	82.14	17.86	35.71	53.57	3.57	7.14	50	50	8.7

Families having more than one migrant-6 (husband and wife)

Table No. 6.3
Reasons for Migration (Respondent's Perception)

Details of mgt	Higher wage	Lack of employment	Long tenure	No. Family
Total mgt family	12	48	9	69
% Of mgt family	17.39	69.57	13.04	100

Note: No. of respondents are 69, No. of Migrants are 84.

Table No. 7
Public Distribution System & Procurement Pattern in BTR

Category of ration cards			Av. Dist.	Items	Purchase	% purchase (out of 162)	Villagers' demand	% of villagers' demand (out of 162)
BPL	APL	APL+BPL		Rice	144	88.89	122	81.48
87	54	27	2KM.	Wheat	120	74.07	27	16.67
51.79	32.14	16.07		Sugar	156	96.30	81	50.00
				M.Oil	48	29.63	36	22.22
				K. Oil	162	100.00	69	42.59
				Dal	15	9.26	27	16.67
				Others	15	9.26	6	3.70

OTHERS include soap. 6 families do not avail ration.

Table No. 8
Fatal Diseases Prevailing in the Families

No. of family having fatal diseases		Type of diseases				Treatment cost/year				
		CAT-1	CAT-2	CAT-3	OTHERS	Zero cost	1 - 5 Th.	5-10Th	10-15 th .	15Th.+
NO. OF FAM	54	18	3	18	15	3	36	0	3	9
% OF FAM	30.36	35.29	5.88	35.29	29.41	5.88	70.59	0	5.88	17.65

CAT-1 Refers to diseases related to gastroenterology like gastric ulcer, cat-2 Related to E&T, cat 3 refers to permanent disability, TB. OTHERS include wounds inflicted by FD's firing, epilepsy/asthma
N.B. Some diseases are treated through govt. hospital, so treatment expenditure is nil.

Table No. 9
Telecommunication Facilities in the Forest Villages of BTR

No. Of Fam. Having Phone		TYPE OF PHN.		NO. OF MOBILES			AV. MONTHLY EXPS.		
		LAND	MOBILE	1 MOBILE	2 MOBILE	2+ MOBILE	100-200	200-400	400+
NO. OF FAM	129	3	129	69	39	21	78	24	27
% OF FAM	76.79	2.33	100.00	53.49	30.23	16.28	60.47	18.60	20.93

Table No. 10
Electricity Facilities in Forest Villages of BTR

Respondents having electricity		Av. Yearly electricity bill			
		Upto rs. 2000	2000-4000	4000-6000	6000 +
No. of family	111	84	24	3	0
% of Family	66.07	75.68	21.62	2.70	0.00

Families having solar electricity-3 (this number is not included since they don't pay electricity bill.)

Table No.11
Possession of Assets by The Forest Villagers of BTR

Assets	No. Of families	% of families	Av. Price	Av. no. of assets.
T.V. (colored)	105	62.50	9700	1
T.V. (b/w)	33	19.64	2155	1
Dish T.V.	36	21.43	1970	1
Fan	78	46.43	764	2.04
Cycle	147	87.50	4000	1.57
Mobile	129	76.79	1100	1.56
Refrigerator	2	1.19	12130	1
Music system/DVD player	30	17.86	2500	1
Pump set	33	19.64	15000	0.45
Power tillers	3	1.79	47600	1
Motor cycle	57	33.93	56000	1
Car (four wheeler)	2	1.19	135000	1

Note 1: possession of some Pump set and the power tiller is in group possession.

Table No. 12
HOUSEHOLD EXPENDITURE

AVERAGE + YEARLY EXPENDITURE										
		FAM FOOD (based on Weekly Expend.)	Cloth, Footware (Incl. Exps On Festiv)	Travelling (based on Weekly exps.)	MEDICAL EXPENDITURE	EDUCL. EXPEND. (School Fees)	DISH T.V. CHARGES (Monthly Exps.*12 Months)	TUTION(based on Monthly (Tution Fees)	INSTLMNT. ON LOAN (Mithly Prnt)	REPAIRING OF HOUSE
0	0	0	90	126	135	132	111	153	123	
	0.00	0.00	53.57	75.00	80.36	78.57	66.07	91.07	73.21	
1-10000	0	111	36	30	18	36	54	3	24	
	0.00	66.07	21.43	17.86	10.71	21.43	32.14	1.79	14.29	
10 - 20 Th	18	36	36	6	6	0	0	12	15	
	10.71	21.43	21.43	3.57	3.57	0.00	0.00	7.14	8.93	
20 - 50 Th	108	21	6	6	9	0	3	0	3	
	64.29	12.50	3.57	3.57	5.36	0.00	1.79	0.00	1.79	
50 -100Th	39	0	0	0	0	0	0	0	3	
	23.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.79	
100th +	3	0	0	0	0	0	0	0	0	
	1.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Note: In villages like Pana, Raymatang, Sadar bazar, Kumargram it is found that a fair amount of money is spend on travelling as they need to send their kids to nearby towns for high school and they travel to these towns for various needs.

Table No. 13
Financial Inclusion Among Forest Villagers in BTR

PARTICULARS	A/C DETAILS			TYPE OF A/C		AMOUNT IN THE A/C		
	BAN K	P.O.	NO A/C	SAVING S	JOB CARD	0 Balnce	1 - 10TH	10 TH.+
NO. RESPONDENTS	87	81	0	87	81	75	66	27
% RESPONDENTS	51.79	48.2 1	0	51.79	48.21	44.64	39.29	16.07

Appendix – 3

Figures on Panchayat Data

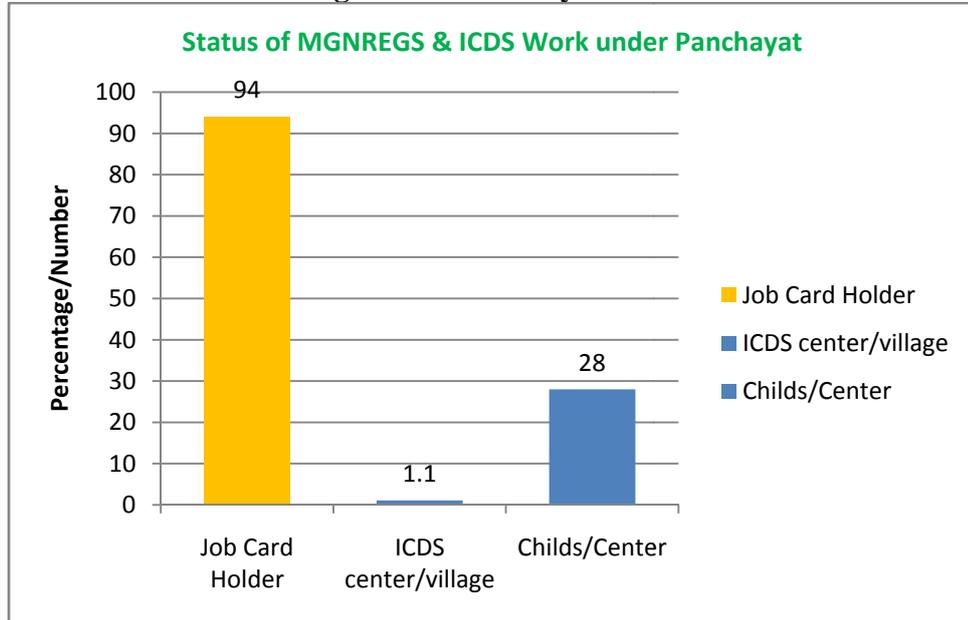


Figure No. 3.1 (Field Survey 1)

Healthcare Facilities in the Forest villages of BTR

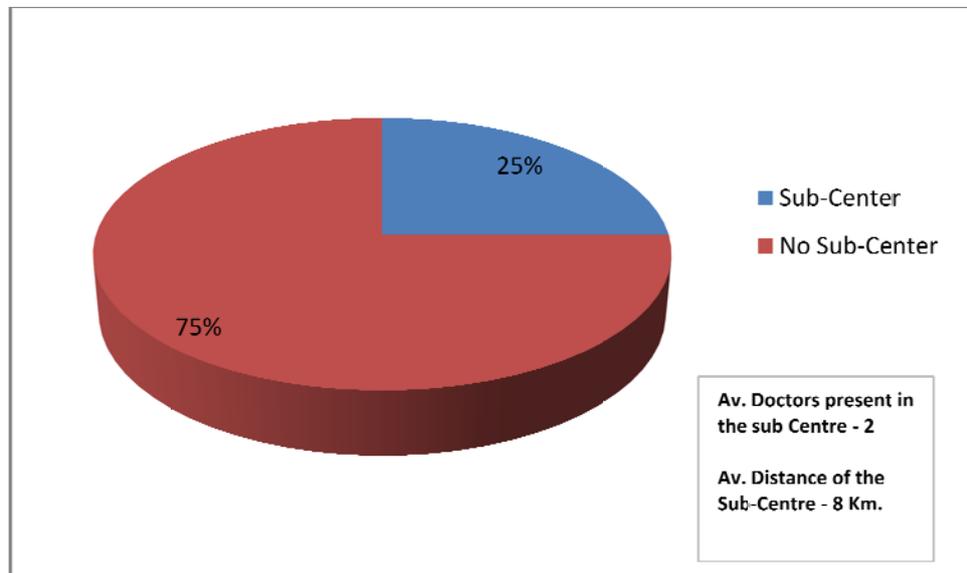


Figure No. 3.2 (Field Survey 1)

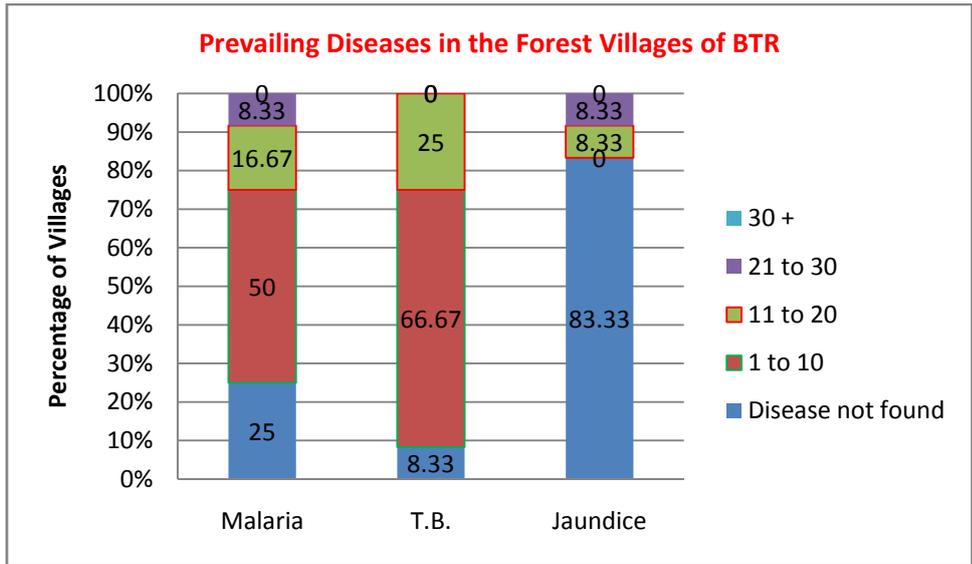


Figure No. 3.3 (Field Survey 1)

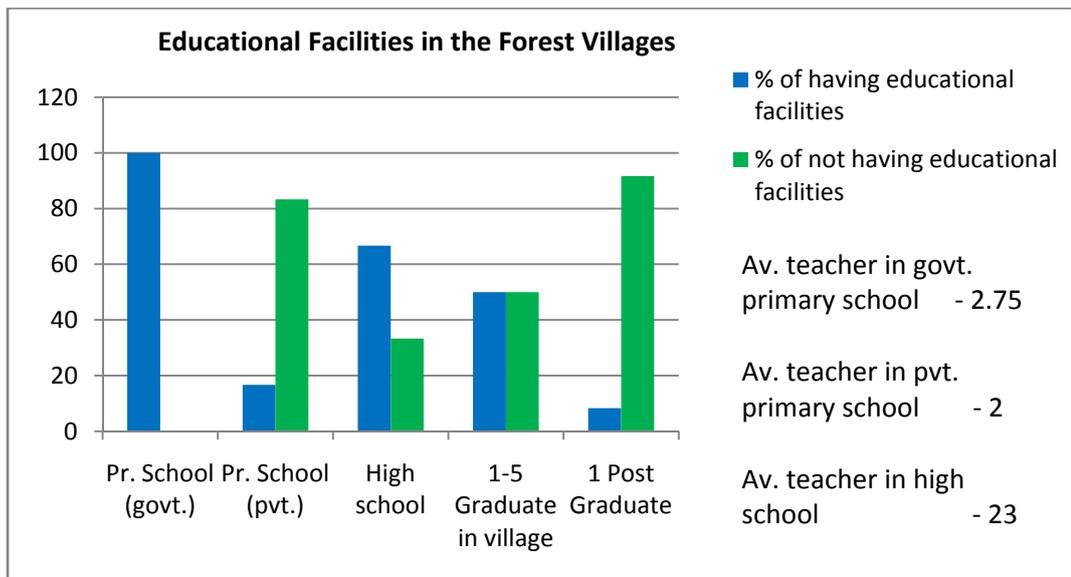


Figure No. 3.4 (Field Survey 1)

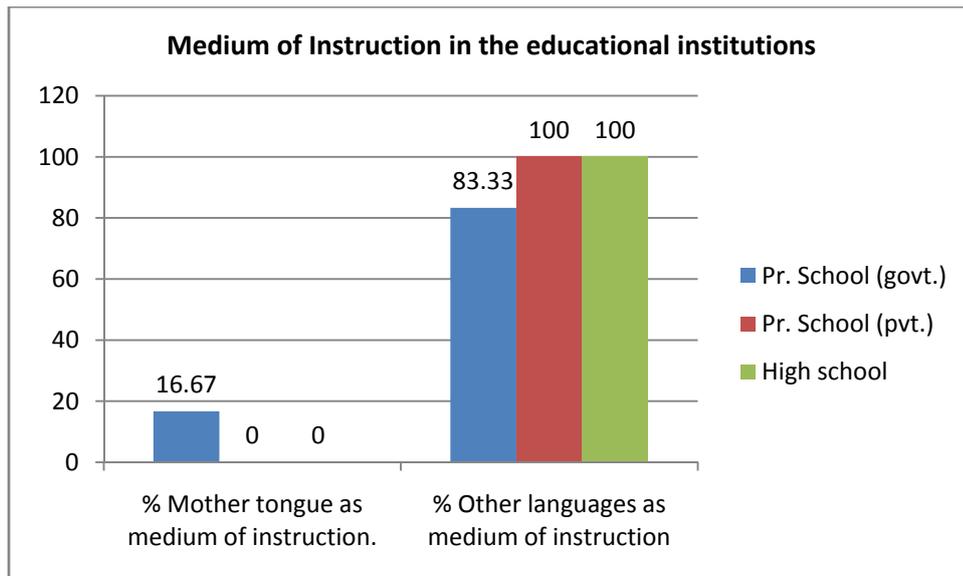


Figure No. 3.5 (Field Survey 1)

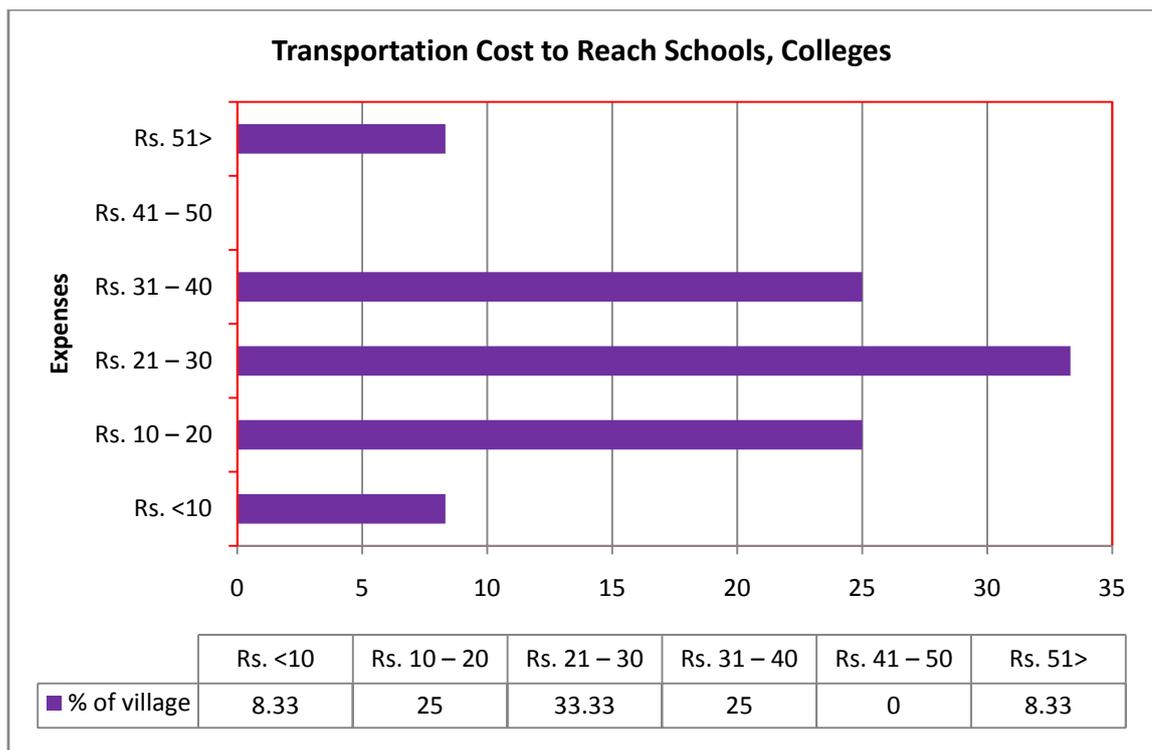


Figure No. 3.6 (Field Survey 1)

Appendix – 4

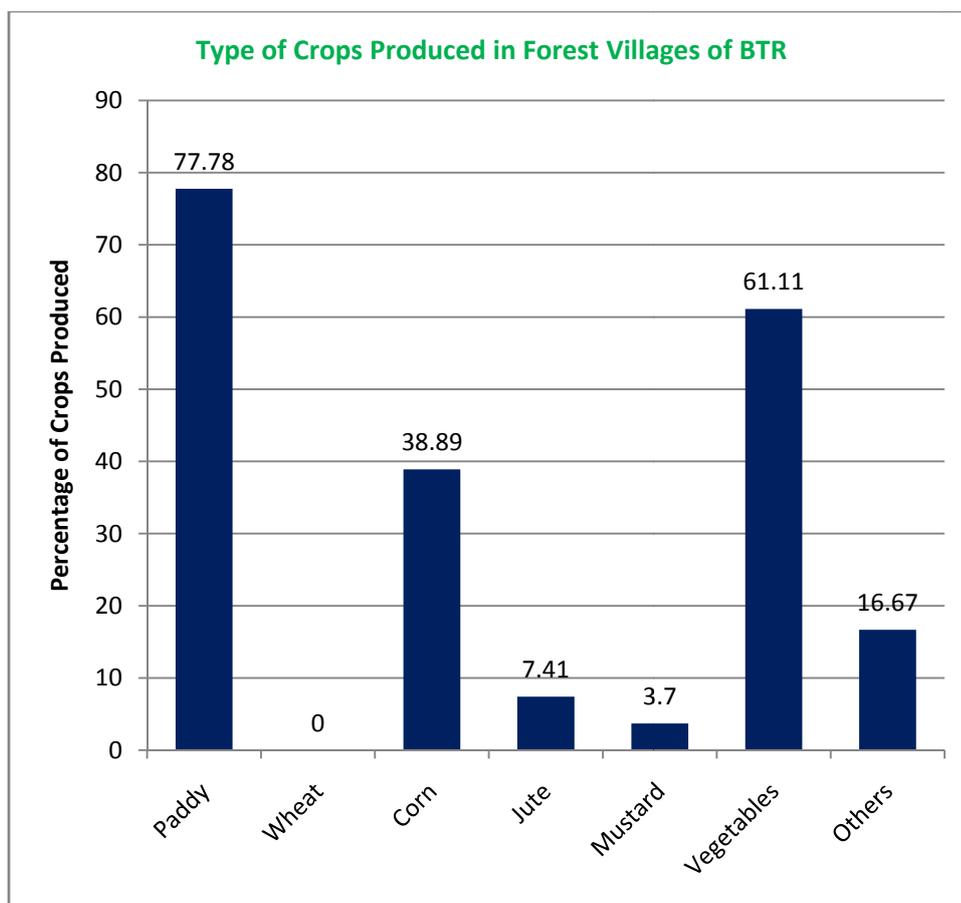


Figure No. 4,1 (Field Survey2)

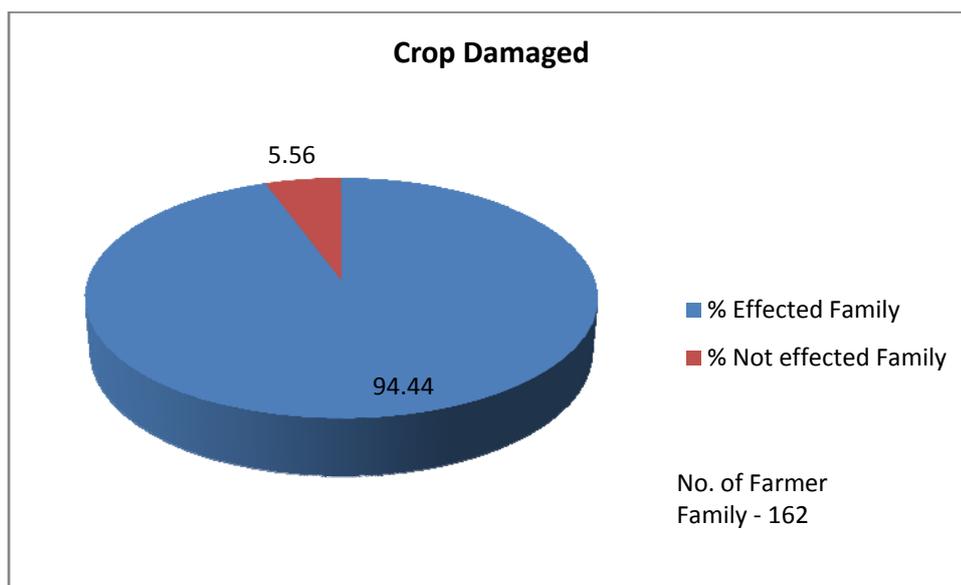


Figure No. 4,2 (Field Survey2)

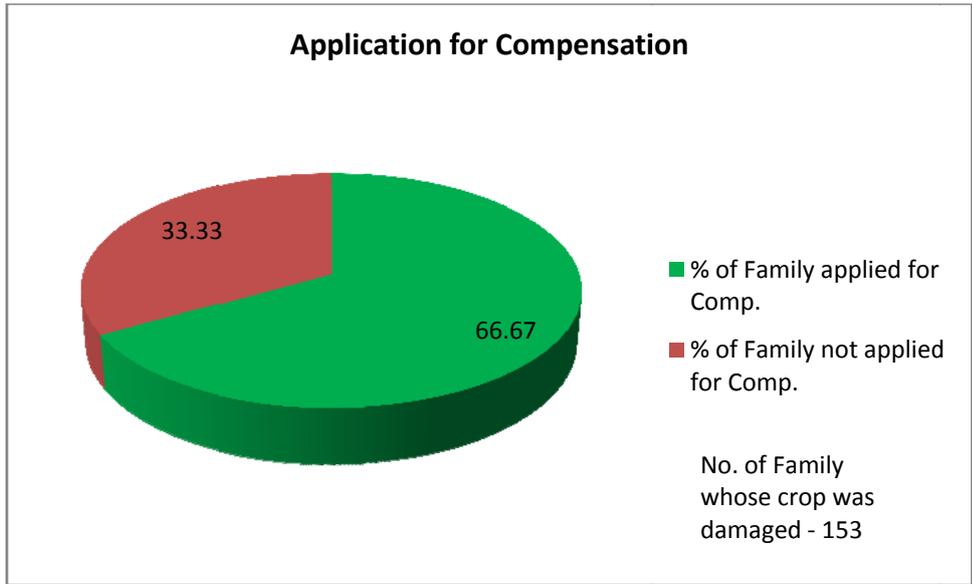


Figure No. 4,3 (Field Survey2)

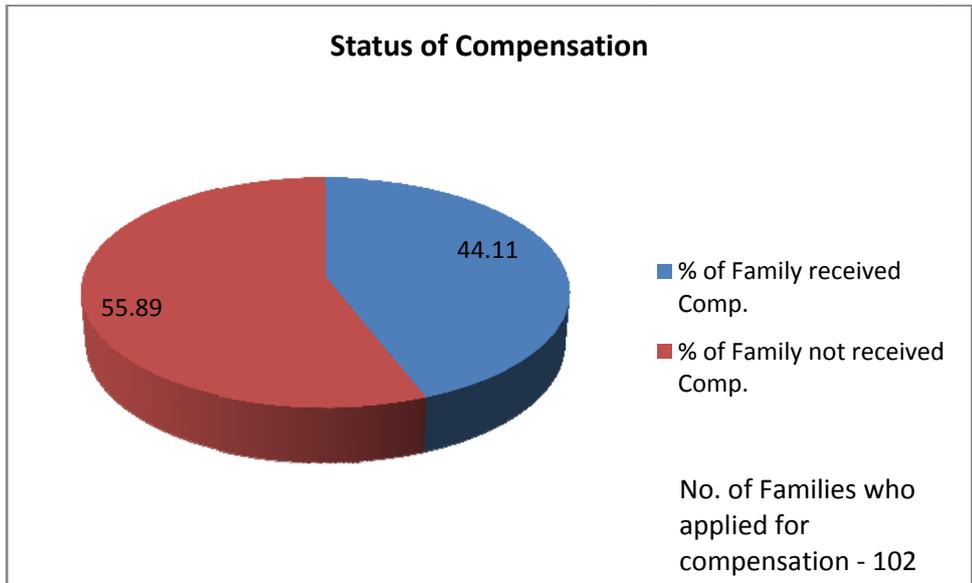


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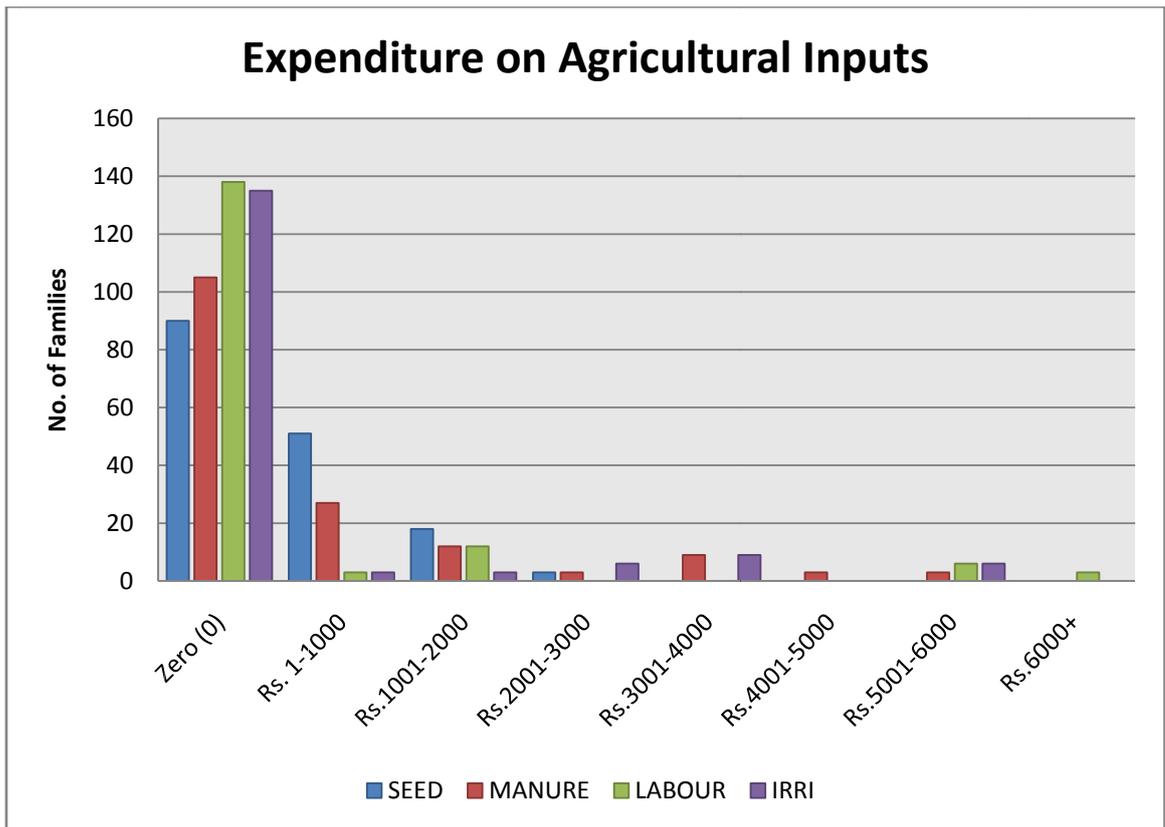


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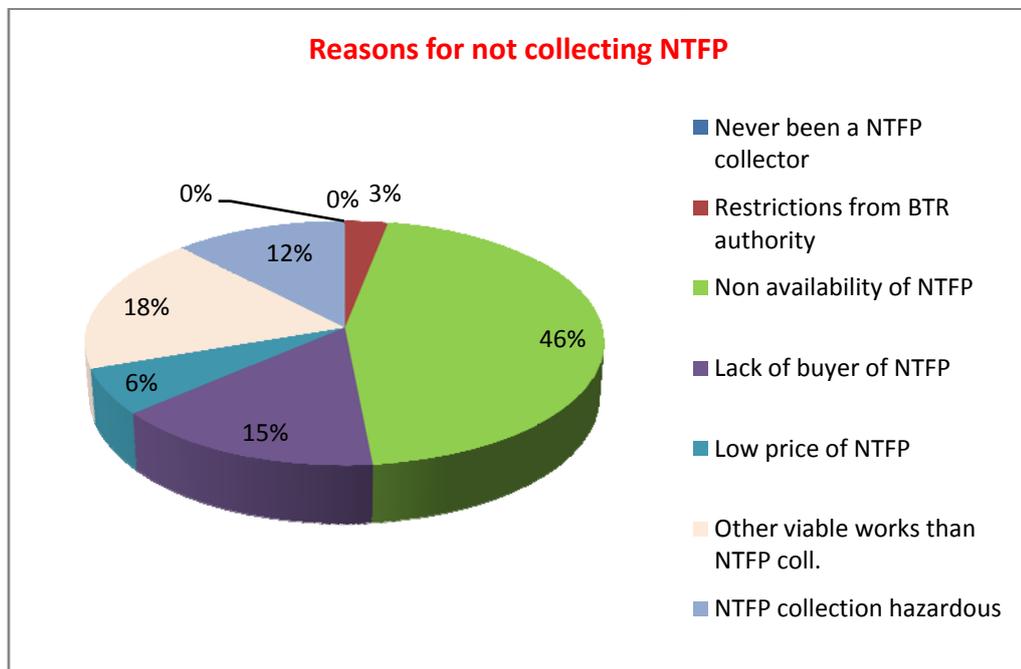


Figure No. 4,6 (Field Survey2)

Note: Respondents sometimes have mentioned more than one reason for not collecting NTFP. That is why the total responses are more than the total families not collecting NTFP. Ideally the number should have been 84. (i.e.168-42-42)

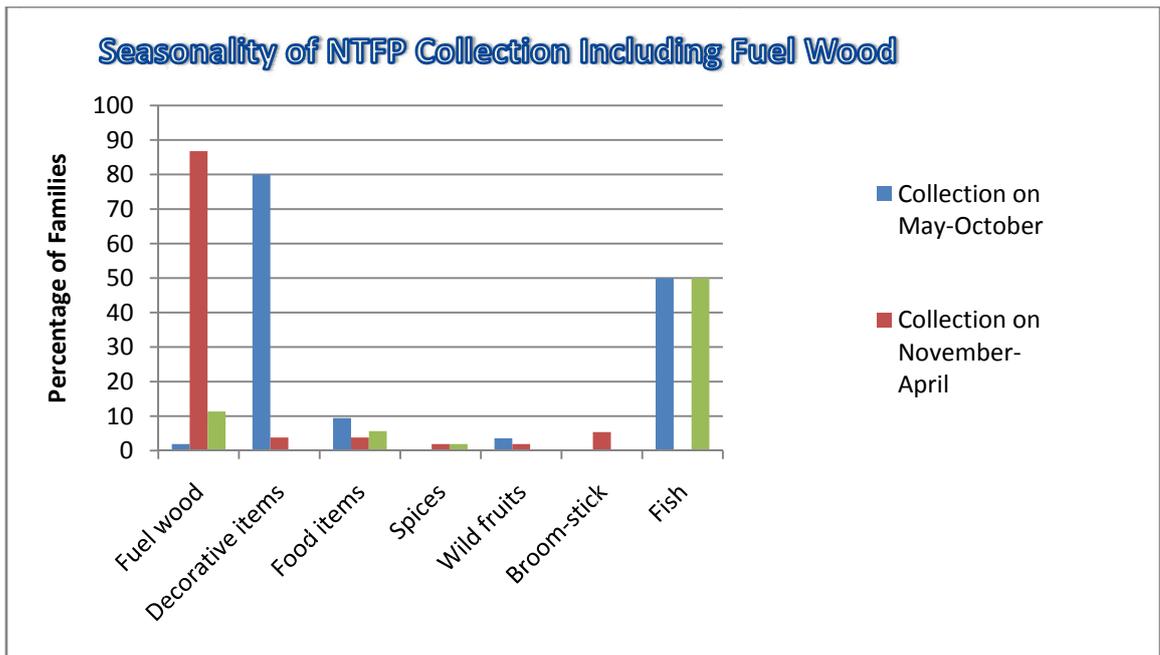


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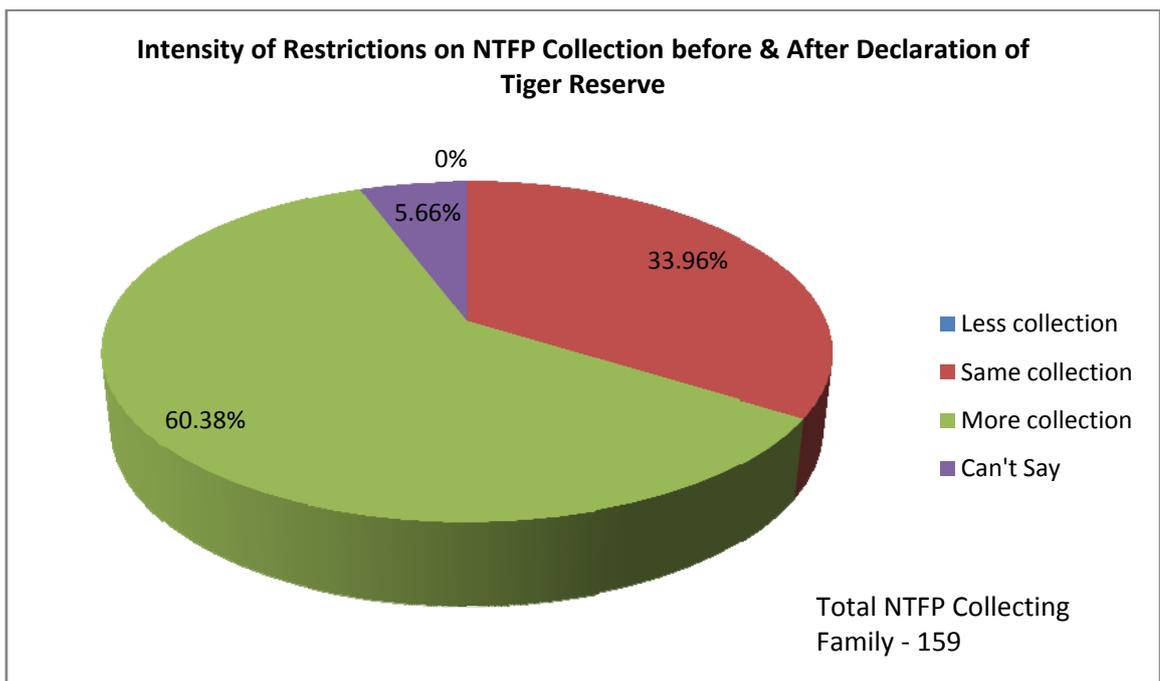


Figure No.4.8 (Field Survey 2)

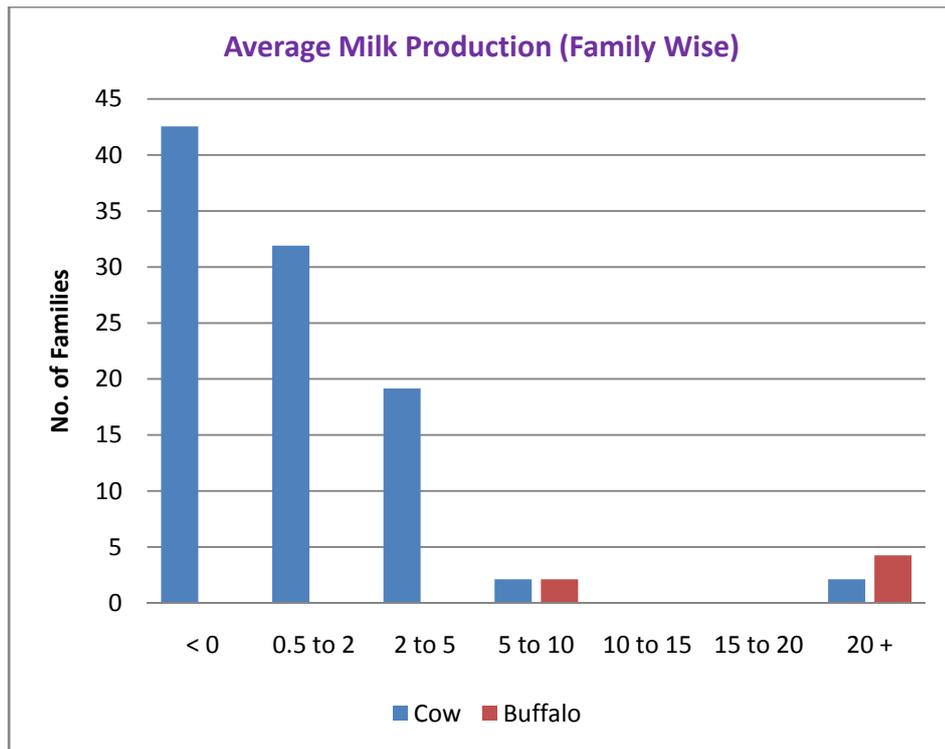


Figure No. 4.9 (Field Survey 2)

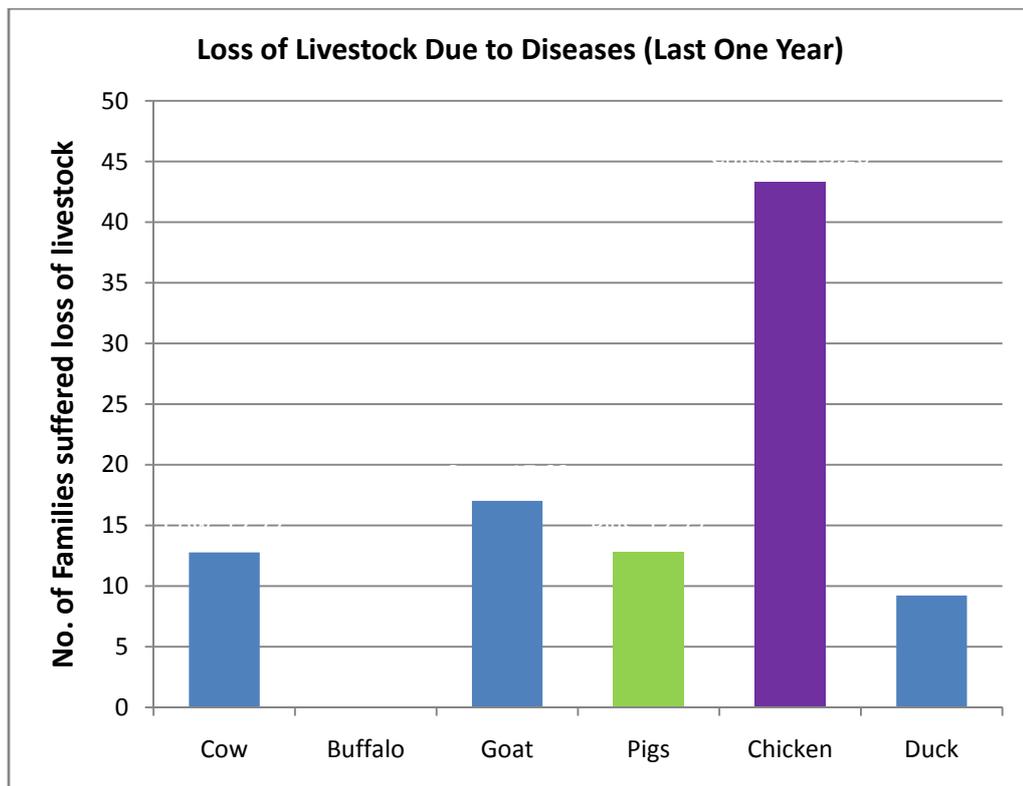


Figure No.4.10 (Field Survey 2)

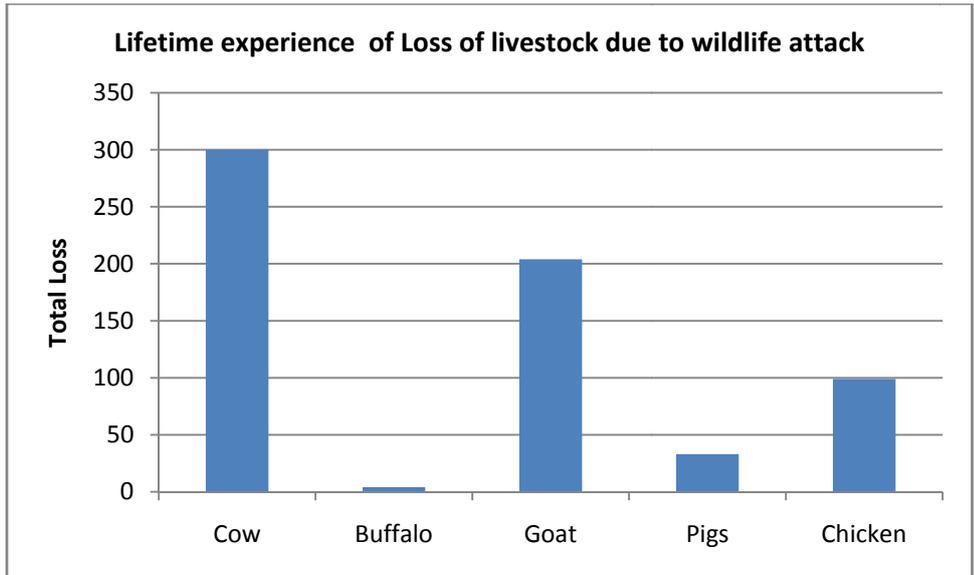


Figure No. 4.11 (Field Survey 2)

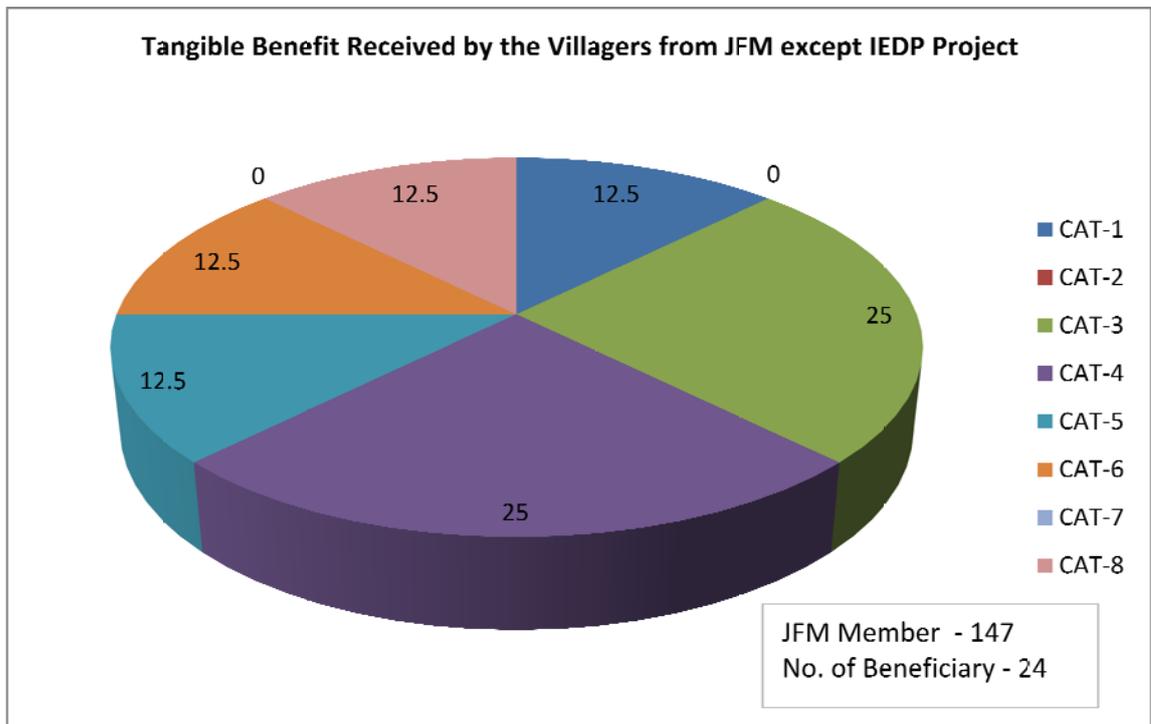


Figure No. 4.12 (Field Survey 2)

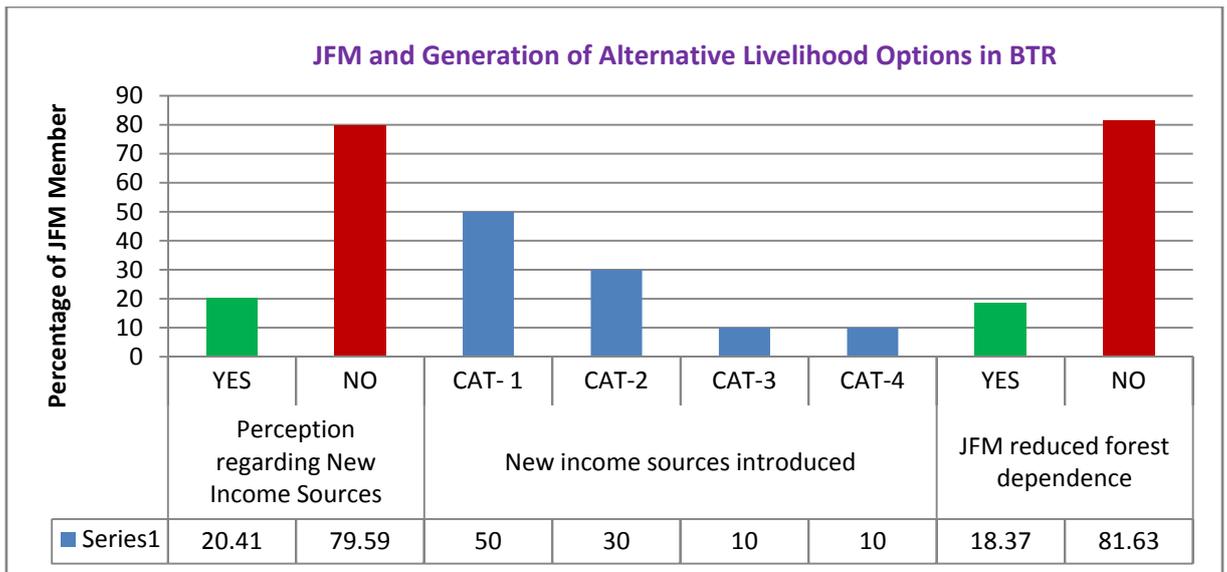


Figure No. 4.13 (Field Survey 2)

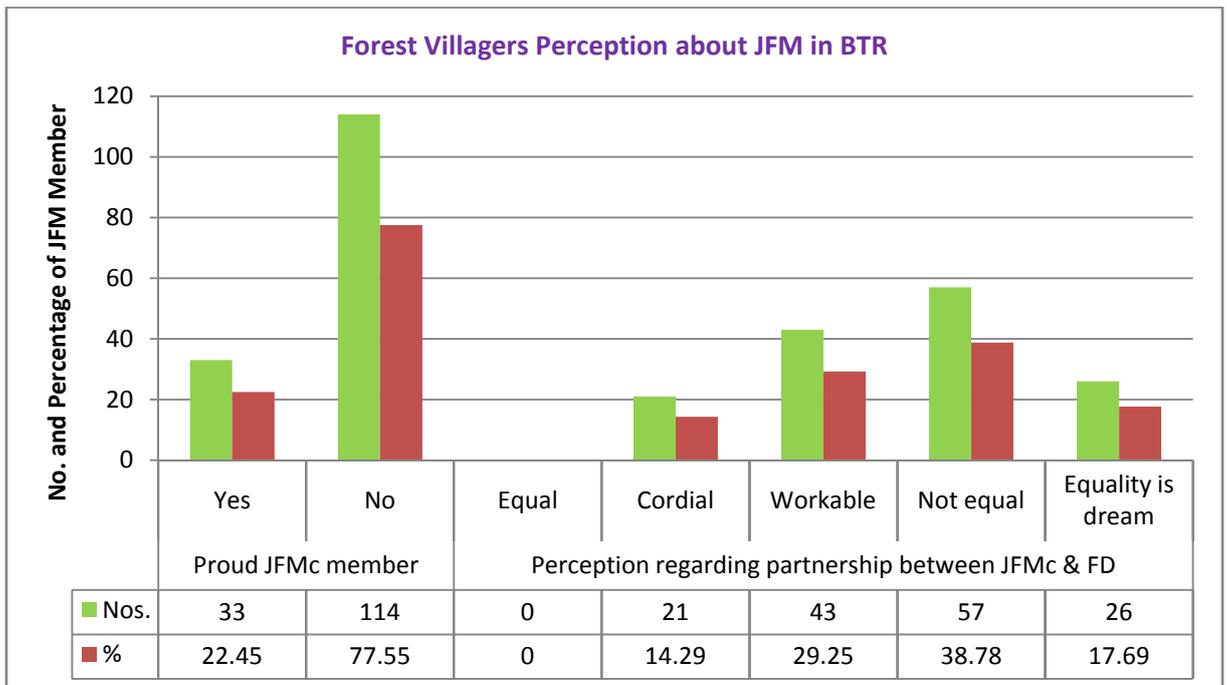


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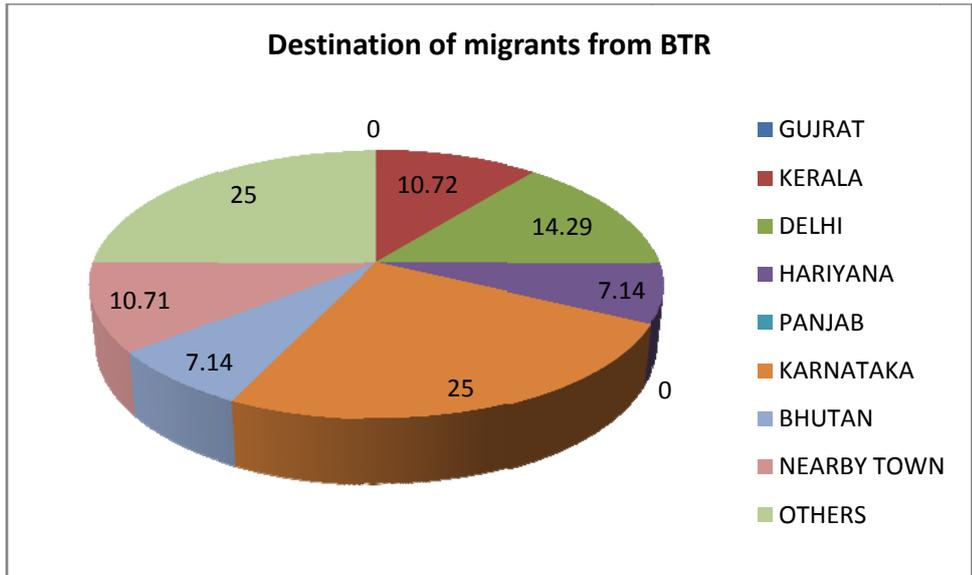


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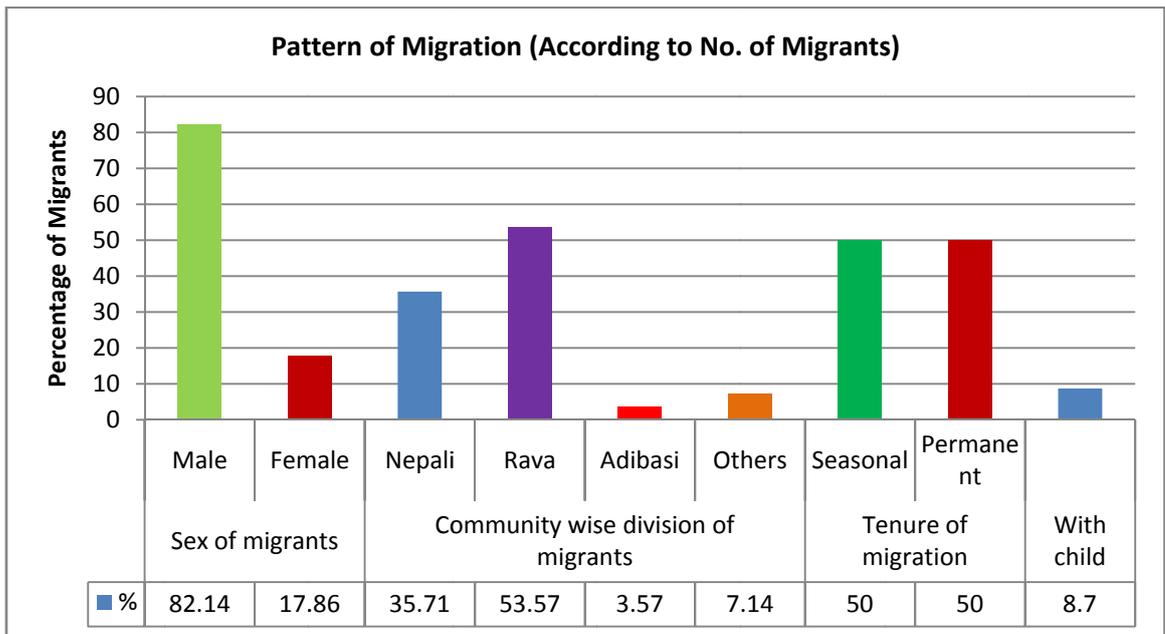


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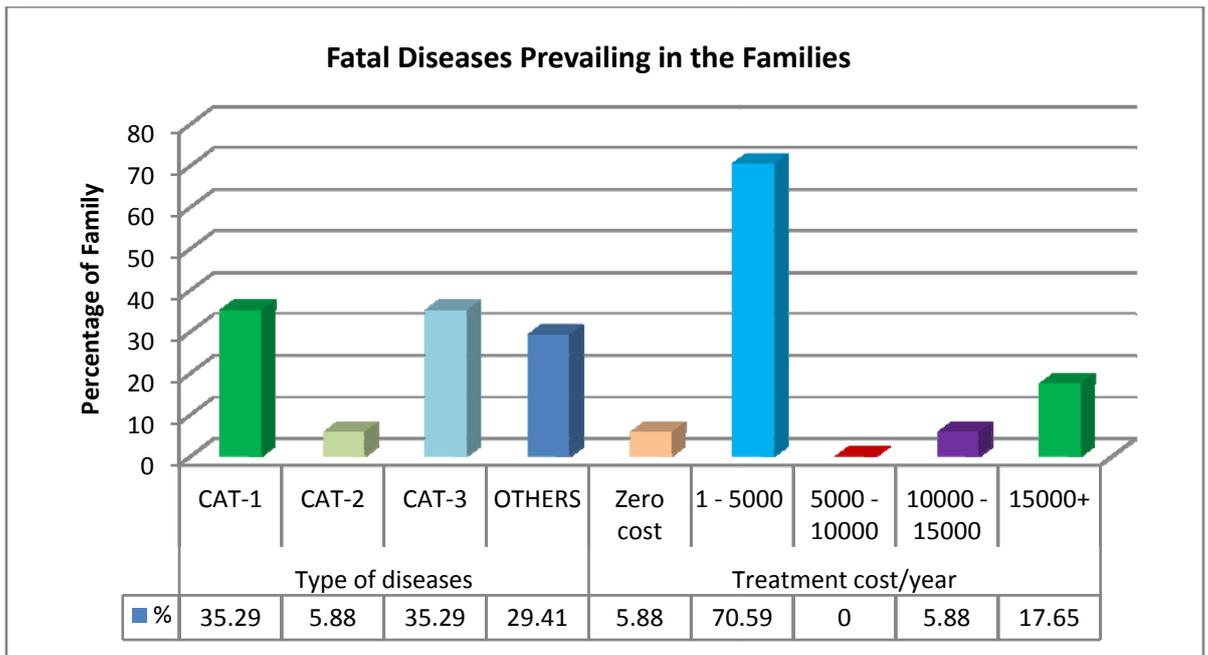


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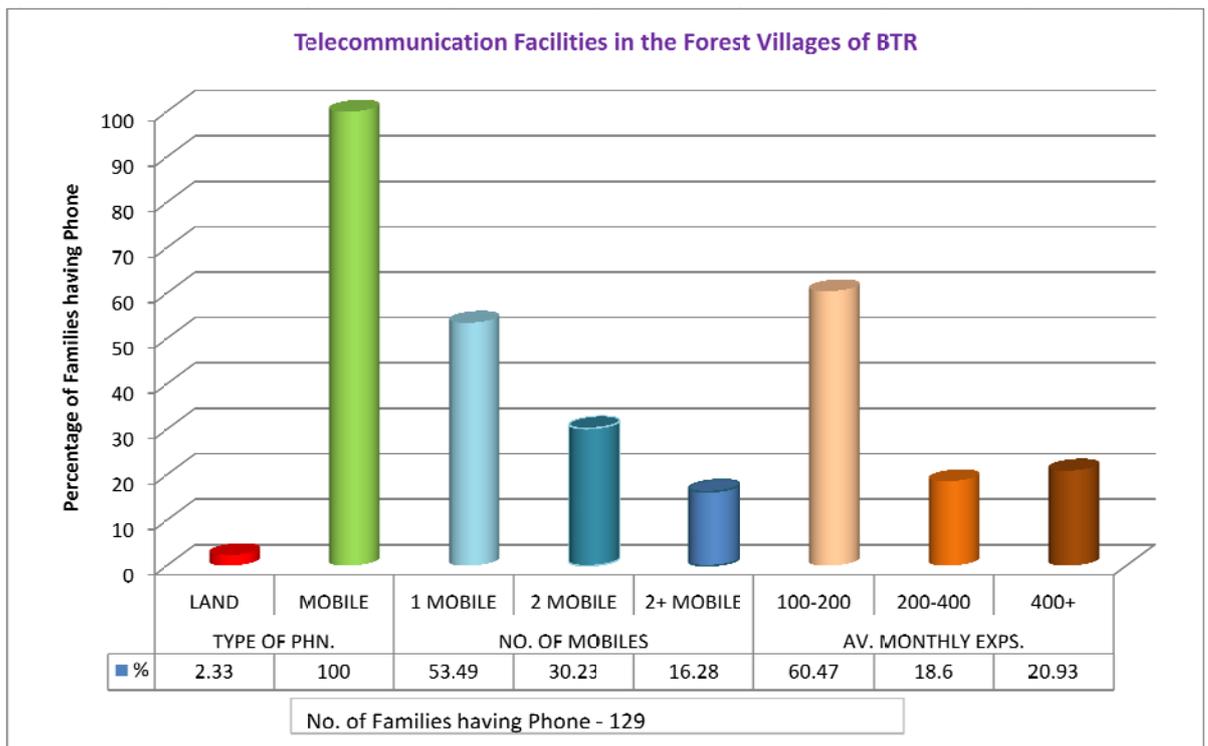


Figure No. 4.18 (Field Survey 2)

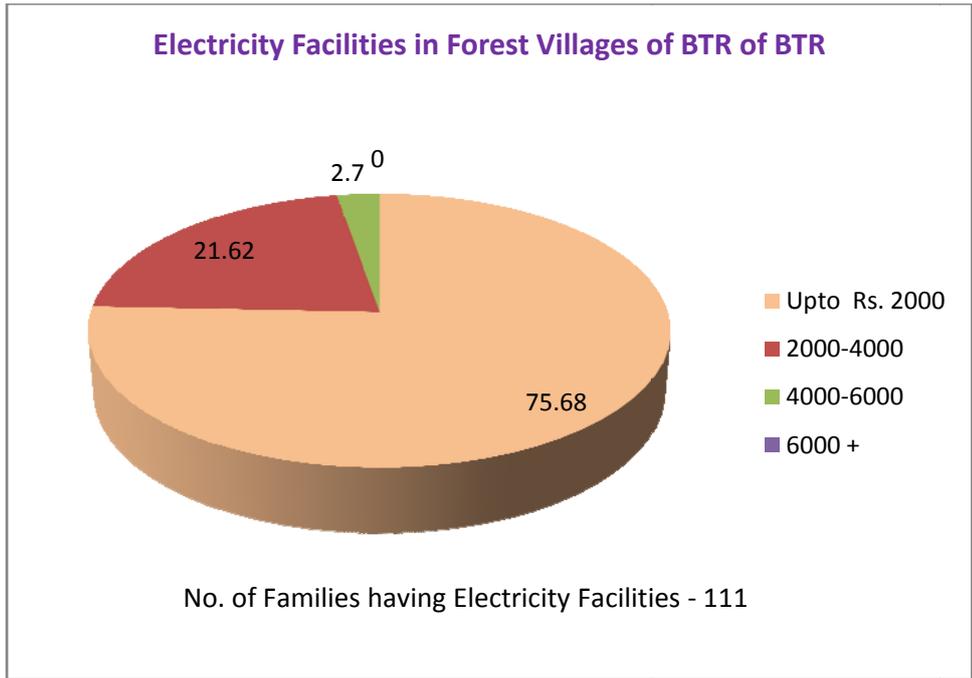


Figure No. 4.19 (Field Survey 2)

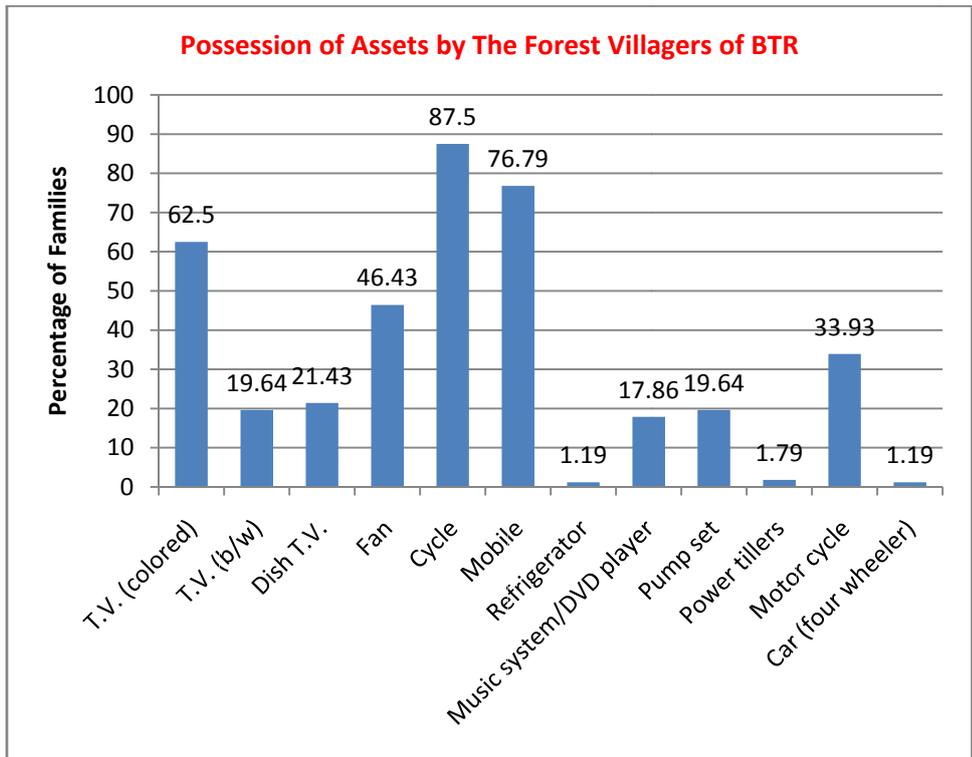


Figure No. 4.20 (Field Survey 2)

Appendix – 5

QUESTIONNAIRE – NO. 1

Village Profile and Panchayat Function:

(Questions to be asked to the panchayat member & data should be collected from panchayat office)

1. Name of the village:
2. Block...
3. District...
4. Forest Beat..
5. Forest Range...
6. Forest Division...
12. Status of MGNREGS (100 days work)
13. Indira Awas Yojona(nos.)
14. Bridhya Vata (nos)
15. Micro Finance SHG Nos SGSY Nos.
17. How many forest villages are there in Panchayat bodies? (Composition of Panchayat)

particulars	Forest village	Revenue village/Tea Gardn
Gram samsad		
Gram panchayat		

18. Type of land based development undertaken by panchayat in last one year.....
.....
.....
19. Type of problem faced by the panchayat from FD while conducting land based development (NOC) related problem.
Verbal NOC.....
Written NOC.....
Work Delayed
20. Details of Panchayat work:

Bidava vata	Job Card	Days of work received	Days of bekar vata recived	Bardhya- kya vata	Anganwari center Y/N (Beneficiary)	Krishi Vata

21. a. Details on healthcare facilities.(Y/N,numbers,km)

Sub-centre	medicines	doctors	nurses	.	Distance from village	Distance of BPHC(bloc)

b. Whether women's health care facilities in the sub-centre available: Y/N

c. Details of different diseases that are prevalent in the village.

Details	Malaria	Jaundice	TB
Under treatment during last year + Hospitalized			
Death			

22. Education facilities:

a. Details of primary school...

Primary sch.(gvt.)	Primary sch(pvt.)	Distance	Teachers		Students	Medium		Mother tongue
			govt	pvt				

b. Details of high school.....

H.S.(G)	HS(Pvt)	teachers	students	distance	Transportation cost	Fare/day

c. Details of college...

Name of the college	distance	Transportation cost	Fare/day	No of graduate	Drop out

23. Details on animal husbandry..

a. How far is the nearest primary animal husbandry from your village?KMS

b. Do doctors come on visit to your village? Y/N

c. Frequency times in a year.

d. Common diseases. i.ii.iii

iv.....v.vi.

e. No of cattle lost in last year due to the above diseases.....

24. Status of the new Forest Right Act, 2006:

a. Have you heard of the new Forest Right Act? Y/N

b. What are the rights you are going to get from this Act?

i. Land Rights.....

ii. Rights over NTFP

iii. Gram Sabha will be created

iv. Gram Sabha will manage forest

c. How far is the above said rights being implemented in the villages that you represent.

i. Land deeds distributed

ii. Rights over NTFP recognized

iii.Gram Sabha has been created

iv. Gram Sabha has started functioning

Appendix – 6

QUESTIONNAIRE NO: 2

Family Profile of Respondent:

A. General

1. Name of the respondent: _____ 2. SC/ST/OBC/GEN. Age...Sex...

3. No. of Family members:

Adult		Minor	
Male	Fem	Male	Fem

4. How many members of the family do work?

5. Occupation of the adults (along with mandays involved in each job):

- | | | |
|--|-----------------------|-----------------------|
| (i) Salaried. | (ii) Agriculture. | (iii) Work in FD. |
| (iv) Live-stock Rearing. | (v) Wage Laborer | (vi) NTFP Collection. |
| (vii) Timber Felling. | (viii) Self Employed. | (ix) Panchayat's work |
| (x) Pension holder (Bardhakya/Krishi/Bidava/Other) | (xi) Other Occupation | |

6. Education:

No. of Madhyamik pass in the family

Minor's education: Infant/Nursery school/(do not study)/ (primary school) (high school)/nursery school (drop out)/

7. Details of Land (in bigha) Taken on Share.....Given on share.....

Cultivable Irrigated No of Crops

8. How many days the family can sustain on lands crop production?

B. Sources of Income –

1. Works in Forest Department

Availability of FD's traditional works

- i. How many days of forestry works were available before creation of TR.....days
- ii. How many days of forestry works do you get after creation of TR.days
- iii. Types of work that you get in Forest now & before the declaration of BTR

Types of Work	Families involved after Tiger Reserve	Percentages of families involved	Families involved before Tiger Reserve	Percentages of families involved
Plantation				
Fire line making				
Cleaning				
Sal seed collecting				
Road repairing				
Fire fighting				
Nursery work				
Harvesting				

2. Agriculture: (Y / N)

i. What are the crops that you harvest? (a) Paddy (b) Corn (c) Jute
(d) Mustered (e) Wheat (f) Vegetable (g) Others

ii.

- a. Did wild lives destroy your crops last year? Yes/No
- b. Did you apply for compensation last year? Y / N
- c. Did you get compensation for that? Y/N
- d. Did the compensation match with the actual loss? Y /N

iii. How much do you spend on the following in one year?

1. Seed.....2. Manure3. Wages to labour4. Irrigation ...

- vi. Do you do intercropping? Y/N
- v. **Inter-cropping:** before TR was declared(Y/N) - After TR(Y/N)
- vi. If inter-cropping is stopped after TR was declared then what is the reason behind that.

vii. Area under intercropping before TR.....after TR.....

3. NTFP Collection: i.(Y / N/ Yes but less than before TR/ More than before TR)

i.a. If u don't collect NTFP (other than fuel-wood) then the reasons:

- (a) Never a NTFP collector (b) restrictions of FD (c) Non-availability of NTFP (d) Lack of Merchants (e) Merchants offer low price (f) Other viable works (g) Hazardous working atmosphere

b. What do you collect from forest other than timber (sale/week)

Name of the items	Period of collection	Point of Sale	
		Nearby market	To stockist

ii. Does the FD restrict you from collecting NTFP? Yes/No/NA

Type of restrictions:

Restricts entry	Spot fine	Verbal restrictions	Beating	Filing Cases	Firing	Seizes sickle, axe etc.

iii. Do you feel that the restrictions were same before? (i.e. before the tiger reserve?)

Less – Same – More – Don't Know

iv. Have you or any member of your family ever been punished for collecting NTFP?

Yes/No... Type of the punishment.....

4. Live stock Rearing: (Y / N)

i. How many cattle / buffalos does your family have?

CATTLES					BUFFALOW				
Total	Adult (M/F)	Minor (M/F)	Taken on Share	Given on Share	Total no	Adult (M/F)	Minor (M/F)	Taken on share	Given on Share

- ii. a. Do you collect grass from nearby forest?...Y/N
 c. Does FD restrict you from collecting grass? Y/N.
 iii. What action FD takes if you violate restriction?

Spot fine	Beating	Filling cases	Firing	Verbal Restrictions

- iv. a. Do u take your cattle for grazing in the jungle? .. Y/N.
 b. Have you ever been punished?

Spot fine	Beating	Filling cases	Firing	Verbal Restrictions

- v a. How many milk producing cows /Buffalos do you have?
 b. What is the average milk production in a day?Liters.
 c How many days the above said average production do you get?Days.
 d. Average price Rs. /lt
 vi.a. Average monthly exps. if stall fed Rs.
 b. Expenses on medicine Rs..... Others Rs.....

5. Goat /Pig/Chicken /Duck

- i.No of..Goats....., Pigs....., Chickens.....Ducks.....
 ii.Average Annual Sale proceeds in last year

Name	Numbers	Rate	Sale proceeds	Death due to diseases
Goat				
Pig				
Chicken				
Duck				

- iii.Losses due to wild life attack in last year? G/P/C /B/Ch/D No.....
 iiia.Which wildlife did attack your livestock? T/Leo/Jac/Pyth/Others/Don't Know
 iiib. Losses of livestock due to wild life attack in lifetime? G/P/C/Ch/D No.....
 iv. Compensation received from FD last year. RS...../G,P,C./B/Ch/D
 iva. If no then the reason.....
 v. Is there any restriction from FD on rearing of G,P,C.
 vi.Do u get vaccination on cattle, goat, pig, poultry etc from FD? Y/N

6. Functioning of JFM

i. When was the JFMC constituted?

(a).Have u received any usufractory benefit from JFM? ...Y/N/NA

If yes then what.....

...How many times.....

ii. Have you seen the committee's

Minutes book	Notice of meeting	Duty chart	Forest map	Bank pass book	Micro Plan

i. What have you done with your IEDP fund (micro plan)?

.....

iv. Monthly income from that scheme (IEDP).....Rs.....

v. Was your suggestion on choice of scheme turned down in the micro plan? Y/N/NA

vi. Has JFM introduced new sources of income?.....Y/N

If yes what are those...i.....ii.....iii.....iv.....

vii. Has JFM reduced your dependence on forest?.....Y/N

viii. Don't you feel proud to be a member of FPC/EDC? Y/N

ix. Do you consider yourself as equal partner to FD in the process of conservation?

A. Equal B. Not equal but cordial C. Workable D. Not equal C. Equality is a dream

7. Healthcare facilities

i. Are your children immunized from...

Polio	TB	Hepatitis B	Triple Antigen	measles	others

ii. Is any member of your family challenged by fetal diseases? Y/N

Name of the diseasetreatment cost Rs...../month

8. PUBLIC DISTRIBUTION SYSTEM:

i.

Bpl/apl	since	Ration card	distance	Remark(antadaya)

ii.

Items sold in ration	price	Items you purchase	Items you need more	Items sold occasionally
Rice				
Wheat				
Sugar				
Mustered oil				
Kerosene oil				
Dal				

9. TELICOMMUNICATION FACILITIES:

i. Do you have telephone facility? ..Y/N.....Mobile/land. No. of Mobile...

ii. Average expenses..Rs...../month

10. EMPLOYMENT OPPORTUNITIES THROUGH MIGRATION

a. Employment details in nearby towns and far-away towns and cities...

Name of the town/State	Worker M/F	Seasonal / permanent	Work types	Year of migr.	Staying (no of days)	Average wage/day	Children go?
Gujrat							
Kerala							
Delhi							
Hariyana							
Punjab							
Sikkim							
Bhutan							
Nearby town							
Other							

b. Reason of migration (i) Higher wage (ii) lack of employment in the locality (iii) Duration of employment lengthier

c. Conveyance cost per trip Rs. d. No. of Trips in a year.....

e. Had anybody of your family ever been to outside for job before this? Y/N. Year....

11. Facilities of electricity in the village

i. Do u have electricity ...Y/N ii. The bill that u pay Rs...../m/quarterly

12. Details on household expenditure

i. Durable Expenditure: Do you have purchased following items last year? (put tick(√) or (×) mark) / do you have the following durables

Items	Quantity	Expenditure	Have in Possession	No. in Possession
TV (black&white)				
TV colored				
Fan				
Cycle				
Mobile				
Fridge				
Music system				
Agri-kits				
Medical Expenditure				
Educational Expenditure				
Dish TV				
Motorcycle				
DVD player				
Repairing of houses				

ii. Non Durable Expenditure: (weekly/monthly)

Family food exps.Rs. Cloth n foot wearing..... Travelling.....

Exps. on major festival.....

Other monthly exps.(Dtv/Tuition fee/Monthly Instalment.....) Rs.....

13. SAVINGS AND LOANS

ACCOUNT... Y/N. Where..... Type of account..... Amount (Rs.).....
LoanY/N From Where..... Amount (Rs.)..... Rate of Int
(%).....

14. Awareness on FRA 2006:

A. Have you heard of the new forest right Act? Y/N

B. What are the rights you are going to get from this Act?

i.

ii
.....

iii
.....

C How far is the above said rights being implemented in your village?

.....

D. Have you got any benefit from this Act? Y/N. If yes what

E. What do you think about the Act?

.....

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DOCUMENT

Pakistan-India Legislators and Public Officials Dialogue on Sharing of Experiences on Governance and Democracy. (With Special Reference to Agriculture) Joint Statement



Centre for Research in Rural and Industrial Development
Chandigarh

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187. *Pakistan-India Legislators and Public Officials Dialogue on Sharing of Experiences on Governance and Democracy. (With Special Reference to Agriculture) Joint Statement*

HURDLES FACED IN IMPLEMENTATION OF FOREST RIGHTS ACT 2006: A CASE STUDY OF NORTH-WEST BENGAL

Bijoy Debnath

Abstract: Annexation of forest by creating reserves through various legislations with the proclaimed objective of development resulted in loss of livelihood options and marginalisation of the forest dependent communities since pre-independence period. Endorsing this as 'historic injustice' and accepting the rights of dwellers, the Forest Rights Act 2006 makes provisions on use and management of forest resources by them. The paper attempts to understand the dynamics of conflicts between different groups, having relevance with respect to forest in pre-Act period, in the process of implementation of the Act. For this purpose, three forest villages of North Bengal have been selected based on published reports. Required data and information have been collected through interviews and discussions with key stakeholders. The paper reveals how different groups have been interacting with each other and is not in a mood to accept the authoritative position of Gram Shabha as envisaged by the Act.

Introduction

The preamble to The scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act 2006 (hereinafter referred to as FRA 2006) states that the aim of the act is to undo the 'historic injustice' carried out against the forest dwelling people by the successive governments of the past. Understanding among the general people is that the act has been conceived as an instrument of undoing the injustice. Is this possible only by enacting landmark legislation in the parliament without giving due importance to its implementation at the ground? Experiences indicate that policy often suffers from achieving objectives due to improper implementation even in economically developed world having cent percent literacy rate and strong judicial system. For this reason, experts prefer adoption of a 'program of implementation analysis' (PIA) for major legislative proposals. (Kent 2010, pp.1-3) In India, for example, there are plenty of legal provisions to protect the rights, freedom and privileges of women, but in reality, society at large is far away from recognising the honor of them. 'Nirvaya' episode may be cited as such an example, when High Courts had to express displeasure on the issue of protection for women. This complex social reality seems to be indicative that the objective of undoing 'historic injustice' would never be achieved by a good legislation only. (Sirmate 2014)

There remains the same pertinent question with regard to the implementation of FRA 2006. What extent the achievement has been accomplished at the execution level? Complaints regarding the manner in which

the Act has been implemented are surfacing day after day. (www.forestrightact.com & Wikipedia) Major allegation against the implementation of the Act is that it has failed to give expected benefit to majority of forest dwellers. On Dec 3, 2012 at the National Meeting on FRA organised by the Union Ministry of Tribal Affairs, the tribal welfare officials of almost all the states promised that they would correct the past mistakes. They further pledged that they would reopen the rejected claims and recognise community forest rights. Until June 2012, more than half of 2.8 million land title claims of the forest dwellers have been rejected by several states and of the claims approved only 0.5 per cent constitute as community forest rights. Tribal welfare officers are of the view that they depend on Forest Department (hereinafter FD) for different records and the FD's role in extending help in implementing the Act is not appreciable. (Kumar 2012). Though the job of implementation of the Act on the ground has largely been dependent on FD officials for many reasons, unfortunately a good number of these officials see the Act as an instrument of undermining their power in forest management and, hence, do not co-operate with the state administration. (Green 2015, p-3) Under this perspective, three major incidents of conflicts between forest department and forest villagers in North Bengal till 2014 have been studied and analysed. The paper, however, primarily tries to identify the nature of the problems associated with the process of implementation with respect to the dynamics of conflicts of the system.

Enactment of the Forest Rights Act 2006

The enactment of the FRA 2006 was not a smooth journey but a conclusion of a long history of struggle to establish the legitimate rights over forest and forest land by forest dwellers. Immediate antecedent of nationwide forceful movement on the demand of the forest dwellers' right was, however, an eviction circular issued on behalf of Ministry of Environment and Forest (MoEF) citing the Supreme Court's order (Nov 23, 2001) . This circular of May 3, 2002 directed all provincial governments and UTs to evict forest 'encroachers' within a time frame of 5 months. The brutal evictions of tribes and other traditional forest dwellers across the country, led to a nationwide fierce protests. (Sarin 2010. p. 115)

The nationwide persistent social and political movements gradually gained momentum and had been able to create such a tremendous social pressure that the government ultimately was forced to come out with a new enactment which, for the first time, incorporated the essence of democratic polity in forest act. This new act, FRA 2006, originally passed on 18 December 2006, came into force on January 1, 2008 with essential notification of administrative rules. The content of the Act fundamentally regressed from earlier versions of legislations with respect to attitude towards forest dwellers and their rights. Many scholars, therefore, termed it as a kind of 'paradigm shift'.

The FRA, 2006 apparently brought about a radical change both in the century long underlying beliefs based on colonial mindset and also in theoretical understanding relating to conservation of forest. The acceptance of the rights of forest dwelling people has always been construed as an act that makes sustainability of forest resources susceptible in the long-run. The present Act, on the contrary, starts with the acceptance of necessity of several rights of the forest dwelling people. This paradigm shift in the official approach and attitude towards forest management and functioning of FD is amply indicative in the statement made in the first chapter of the said Act, which states: "*An Act to recognise and vest the forest rights and occupation in forest land in forest dwelling scheduled tribes and other traditional forest dwellers who have been residing in such forests for generations but whose rights could not be recorded; to provide for a framework for recording the forest rights so vested....*" The Act also acknowledges the injustice done to the forest dependent communities and states, "*And whereas the forest rights on ancestral land and their habitat were not adequately recognised in the consolidation of the state forests during the colonial period as well as independent India resulting in historical injustice to the forest dwelling scheduled tribes and other traditional forest dwellers who are integral to the very survival and sustainability of the forest ecosystem...*" (FRA 2006, Ministry of Law and Justice, 2007.p-1)

The important aspect to be noted in this context is that the Act conceives a new institution called 'Gram Sabha' which signifies the village assembly of adult population. The Act entrusts the Gram Sabha as the sole representative and authority to take decisions related to utilisation of forest resources to the extent it has been bestowed on villagers as their rights.¹

Present status of FRA across India and West Bengal

Even after the lapse of a period of more than six years since enforcement of such an historic Act, an account of the present status, however, would bring forward the reality that the extensive endeavor is yet to be needed to pursue the process of execution in order to establish the rights of forest dwellers and this process is neither smooth, nor hassle-free.

Since January 2008 to 31 May 2014, the Act met its target fairly well by awarding 1436290 titles throughout the country to eligible forest dwellers. Out of the titles, 23578 are community rights. During these six and half years, the Ministry of Tribal Affairs (MoTA) received 3764315 claims of which 84349 being community in nature. Thus, in case of individual claims the success rate of finalisation is 38 per cent, where as in community rights it is only 28 per cent. During the period from January 2008 to April 2014, average number of monthly claims received is 49490 and number of finalisations of claims for distribution is 18883. However, a month wise account submitted, covering the period up to May

2014, shows the important fact that the number of claims received in the month of May 2014 declines unexpectedly to only 3065 which is much below from the monthly average of 49490 during this period. Similarly, the number of title deeds either distributed or ready to distribute slides down to a meager 1177 in May as against monthly average of 18883.

In West Bengal, up to 31 May 2014, 16524 title deeds have been distributed and 15285 title deeds are ready to be distributed. Conversion rate of claims into delivery or ready to delivery of title deeds in the state is 23 per cent, which is well below the national average of 38 per cent. In the category of ready but not delivered, West Bengal contributes 15285 numbers of title deeds, which is almost half of whole country's figure i.e. 34421. In the month of April 2014, there is not a single claim received or title deeds delivered (www.tribal.nic.in). This analysis indicates that the operative level is unreasonably below expectation and, most importantly, the process of implementation of FRA 2006 perhaps has started to slow down considerably. However, this explanation is based only on a very micro view of the real scenario. It does not give any idea on the issues like confrontation with forest department, attitude of general administration and law-enforcing agencies and difficulties on the part of forest dwellers to adjust with judicial process. It also does not explain the nature of day-to-day struggles of forest dwellers as well as protest movements organised by them.

The Scope of the Study

The acceptance of rights in the Act, however, does not automatically mean the smooth transfer of rights at the ground level. Understanding of the real difficulties at the grass-root level at the time of implementation would be helpful for proper and complete execution of several sections of the Act. In addition, it will help in transferring rights to the actual beneficiaries. This article attempts to study few recent incidents relating to implementation of FRA 2006 in North Bengal, with the objective of identifying and understanding the area of such possible difficulties. Often alleged incidences of violation of the provisions of the Act, even on the part of the state government, are surfacing. (www.forestrights.com) This study is aimed to find such violations, if any, along with the possible causes. So far media reports are concerned; there exists occasional conflicts between the FD and forest villagers. Identification of the fissures in the mutual relationship between FD and villagers that causes conflict is imperative for the proper accomplishment of the justice that has been sought by the Act. The paper enquires why the name of forest department comes into forth while the tribal welfare department is the nodal agency for implementing the Act. This paper is also intended to understand the main content of disagreement as well as the process of resolution of conflict.

Methodology

The study is based on primary data collected through interviews and discussions with key stakeholders – forest villagers, forest officials, activists of forest movements, local panchayates and various other concerned people. Three forest villages of North Bengal have been selected based on published reports of confrontation between FD officials and forest villagers on the issue of the implementation of FRA 2006.

Governmental Perception of the Act and Genesis of Confrontation

Government of West Bengal issued a Government Order (GO) on 17-03-2008 to District Magistrates with the following directives: (i) Forest Rights Committee should be form at the level of Gram Sansad, (ii) Forest Rights Committee shall act as a functional committee under Gram Unnayan Samiti, and (iii) the chairperson and the secretary of Gram Unnayan Samiti shall act as the Chairperson and the secretary of the Forest Rights Committee.² Existence of Gram Sansad is possible only in accordance to the Panchayat Act and differs with the concept of Gram Sabha in spirit and in content as exists in FRA 2006. Govt of West Bengal wanted to convert 'Gram Sansad' constituted according to Panchayat Act into Gram Sabha which is completely a new institution conceived by FRA 2006. The GO violates the section 3(1) of FRA Rules, 2007³ wherein it is clearly stated that the Gram Sabha shall elect a Forest Rights Committee from amongst its members. (The FRA Rules 2007) The FRA 2006 suggests in section 2(f), that a 'Forest Village' does not mean only the village defined as in West Bengal Panchayat Act but all types of forest villages.⁴ Another problem of making 'Gram Sansad' equivalent to Gram Sabha is that it requires to satisfy a stipulation of minimum number and, in order to fulfill that criterion, often several villages are clubbed together. Forest villages being small hamlets situated in far flung areas of forest, people find it difficult to make one Gram Sabha for several villages. The GO also pronounced that the Forest Rights Committee shall act as a functional committee under *Gram Unnayan Samiti* and the chairperson and the secretary of *Gram Unnayan Samiti* shall act as the Chairperson and the secretary of the Forest Rights Committee. All these directives of GO are not only clear violation of FRA, 2006 but are beyond the unique democratic approach that have been applied in framing different provisions under FRA 2006. The section 3(2) of Forest Rights Act Rule, 2007 clearly states that "The Forest Rights Committee shall decide on a chairperson and a secretary and intimate it to the Sub-Divisional Level Committee."⁵

Though this GO could not be effective for a long time due to organised protest movement of forest dwellers of the state in general and Chilapata forest villagers in particular, but the issuance of such a GO exemplifies the complete apathy to understand the spirit of the Act on the part of the government officials

and their political authority. This apathy is essentially the genesis of many incidents of conflicts which explain the complexities of implementation at the ground level.

A. Incident in Chilapata

Chilapata forest is a patch of forest near Jaldapara National Park in Dooars, District Alipurduar, West Bengal, India. The forest forms an important elephant corridor between Jaldapara National Park and Buxa Tiger Reserve. Chilapata is also a forest Range under wildlife III or Coochbehar Division, West Bengal. Though there are two Range Offices namely i) Chilapata and ii) Kodalbasti in this forest, it is popularly known as Chilapata forest.

On the 28th February, 2013 Buxa Tiger Reserve (BTR) logging department started CFC operation in the Mantharam beat, under Kodalbasti Range. CFC- clear felling coupe - is a process under which trees are felled in block and saplings are planted in their place. This CFC operation was decided by the forest department without consultation and consent of the village communities which is mandatory under the FRA 2006, if the concerned forest falls under community forest resources (CFR). When the incident came to the notice of the forest villagers they convened an urgent meeting of the Gram Sabha and resolved against the CFC. As per the resolution of the Gram Sabha, villagers communicated their decision to the forest authority. Villagers argued that the said forest is a CFR and, according to the provisions under section 3(1)(i) of Forest Rights Act 2006, the FD cannot decide unilaterally on felling of trees without the consent of the concerned Gram Sabha.⁶ They also reminded the FD that if anybody undertook such work of felling trees without consulting Gram Sabha then the members of the Gram Sabha could act as a public servant under the provision of section 9 of the said Act. When FD did not heed their argument and decided to continue the operation, villagers resisted them from doing so.

The act of resisting the operation was perceived by the Forest Department as a criminal offence of refraining government officials from performing their duties and lodged an FIR against five of the community leaders in Kalchini Police Station (PS) on March 2, 2013.⁷

Villagers, on the other hand, decided to lodge a written complaint in the local police station against the FD officials for violating the statutory provisions of the Act.⁸ Habitually forest people are so docile and peace loving that they avoid lodging any formal complaint lodging in police station even in case of the incidents of killings as a result of forceful intervention of FD officials, villagers avoid to take help of law enforcing agency for justice. (NESPON, DISHA, NFFPFW. 2005 pp. 3-11) Thus, when they actually lodged a written FIR in Kalchini Police Station under Alipurduar District (the then Jalpaiguri district), against the FD citing the relevant provisions in the Forest Rights Act, 2006, it

appeared as something new happening to both the villagers as well as officials of the FD. The two sections that the villagers mentioned in their counter FIR were section 3(1)(i) and section 9 of 2006 Forest Rights Act. Subsequently, members of the Gram Sabha surrendered before the court of the Addl. Chief Judicial Magistrate, Alipurduar on 3 April, 2013 and moved a bail petition on the 17th of April, 2013. The honourable court, citing relevant provisions of the FRA 2006, addressed villagers as 'members of Gram Sabha' and proclaimed that the actions of the members of the Gram Sabha were quite commensurate with the rights vested on them in the provisions of the FRA, 2006. The honourable judge granted them bail in spite of one of the sections under which the case was lodged against them was non-bail able.

All regional print media published the news with due prominence. However, the incident did not remain local and it came to the notice of the Central Government. In a letter dated 4th April, 2013 to the Chief Minister of West Bengal, the Ministry of Tribal Affairs and Panchayati Raj has mentioned the problems that continue to arise in the implementation of the said Act.⁹ The letter unequivocally condemns the police atrocities on the forest villagers of North Bengal and sets the Act's spirit presumably in right perspective. It cites the section 5 of the Act, and emphasised on how the said section empowers the forest villagers to protect their forest.¹⁰

B. Incident in North Khairbari Forest Village

On 23 December 2013, FD (Madarihat Range, Coochbehar Division) planned for a CFC of nearly 36 hectares of prime forest of South Khairbari, having roughly 950 full-grown trees. However, the dwellers of North Khairbari forest village protested and stopped the Forest Department's operation. Seeing the determined protest, the FD retreated from the spot. The villagers argued that the FD is destroying forest of the area. Because of this destruction, the wild lives do not find enough food in the forest and encroach into their farmland.(UBS 2013 p. 6) The villagers lodged a complaint at the Madarihat Police Station on 27 December 2013, against the Range officer and the Beat Officer of Madarihat Range. They cited the section 5, section 3(1)(i) of FRA 2006 and Rule 4(1)(e) of FRA Rule 2007. According to section 4(1)(e) of FRA Rule 2007 the Gram Sabha shall - constitute Committees for the protection of wildlife, forest and biodiversity, from amongst its members, in order to carry out the provisions of section 5 of the Act.¹¹

In retaliation, on 28th December 2013, FD declared that it would go ahead with the CFC operation from 31 December 2013, also reiterated that the villagers don't have the right to stop Government's work. The villagers were also firm on their protest and resolved to save their forest at any cost. (UBS 2013, p. 6) However, the FD did not start the CFC operation (for reasons unknown to the

villagers) from 31 December 2013. It came with police and JFMCs members (members of joint forest management committee) on 7 January 2014. As the FD started to fell trees, hundreds of protesters, mainly youth and women came out, stood in front of the trees and stopped the FD from felling them. Number of women was so many that the police did not dare to take any action. (UBS 2014, p. 6 and *Hindustan Times* 2014 p-6)

In a press release dated 8th January 2014, by Uttar Banga Ban-yan Sromojivi Manch (the organisation behind the movement) urged the FD and people at large to stop illegal tree felling in community protected forest, to stop violating community rights over forests. The press release emphasised on four points. (a) North Khairbari forests form a part crucial wildlife corridor traditionally used by wild elephants, any disturbance in it will increase man-elephant conflict. (b) The involvement of the JFMC members in this case is a new phenomenon because FD never directly used JFMCs of revenue villages against Gram Shabha. (c) The members of the Gram Shabha simply were discharging their duties, they enjoy legal immunity under section 9 of the FRA 2006; (d) Police should not be used in FD's CFC operation, instead district administration should uphold the rights given to the forest villagers by the FRA 2006.¹²

Facing a stiff and determined resistance from the villagers, FD officials were forced not to proceed further. However, on 6th March 2014 the Range Manager of Moraghat (logging) Range – Saw Milling Division W.B.F.D.C. Ltd. wrote a letter to the Secretary and President of North Khairbari Gram Sabha. The letter was written to seek necessary permission of the Gram Sabha to continue with the CFC operation. The Saw Milling Division expressed helplessness as the 'CFC-area' had already been handed over to them by the Division Forest authority, for the operation. It argued that preventing the felling would result in the loss of government revenue and to avoid the loss the corporation required the necessary permission from the Gram Sabha.¹³

C. The Incident in Kolabari Forest Village

The third incident that happened related to the implementation of FRA 2006 was in Kolabari forest village in the district of Darjeeling. Gram Sabhas of kolabari forest village, neighboring Kataria and Hilajhora forest village; all located in Darjeeling district; took a collective decision of procuring Minor Forest Produce (MFP) from their community forest resource (CFR) area. According to section 3(1)(c) of FRA 2006¹⁴ and Rule 11(1)(b)¹⁵ and (4)(1)(c)¹⁶, the villagers are entitled to collect MFP from their CFR and to dispose it in the market. The decision was communicated to all concerned authorities like the SDO, the DFO, the BLRO and local Panchayat. Villagers organised a public hearing regarding their decision on 22 April, 2013 requested them to be present for participation.

However, none of them turned up for the hearing. Subsequently, they organised four such hearings with the hope that the officials would participate to vindicate the decision of the Gram Sabhas which is otherwise mandatory also under section 11(1)(b) and 4(1)(c) of FRA Rules 2007.¹⁷ Despite repeated request except the BLRO, no government officials who are supposed to be involved in implementing the FRA 2006 turned up. In order to encompass the area of jurisdiction under these three Gram Sabhas distinctively, villagers put up a signboard indicating the resource area (or CFR area). This is however, a common practice of an effective gram sabha to put up sign boards indicating CFR area under their jurisdiction in order to meet the requirement of section 6(1) of FRA 2006¹⁸. (UBS 2014, p 6) On 7 July 2014, the Range Officer of Panighata Range under the Kurseong Forest Division along with forest guards came to Kolabary forest village and threatened the villagers for the sign board; allegedly loaded gun pointing towards them. Press release of several forest villagers' organisations later described this incident as the expression of arrogance by the Ranger. The incident disillusioned the villagers who believed that they were actually participating in the process of institution building in accordance to the statutory provisions of FRA 2006.¹⁹ However, villagers gathered again, discussed the matter in a series of meetings, and decided to lodge a FIR against the Ranger. On 12 July 2014, the villagers filed a FIR against the Range officer under the Scheduled Castes and the Scheduled Tribes (Prevention of Atrocities) Act 1989 at Panighata Police Outpost. But, latter on it was found that police had registered a case against the Ranger under sections 341, 34 and 506 of Indian penal code (IPC). The FD also filed a counter FIR on the same day against three villagers including a tribal woman in Mirik Police Station under section 353, 511, 34, 341 of IPC.²⁰

The FIR by the villagers perhaps angered the FD as a result on 25 July 2014 the DFO of Kurseong Forest Division along with Range officer of Panighata Range, Beat Officer of Kolabari Beat and forest guards entered Kolabari forest village and removed the signboard. The incident taught a lesson to the forest villagers that an iota of empowerment can bring a white-collar officer like DFO to their village.

According to reports published in local vernacular daily, (UBS, 2014, p 6) the forest officials were of the opinion that the villagers were forcefully forming Gram Sabhas and were trying to settle their rights. The officers were also of the impression that Forest Rights Act 2006, had been in the process of implementation throughout the country, but not had started in West Bengal. Hence, according to their perception, the initiation of forming Gram Shabha by the villagers was illegal. However, it did not corroborate with the official facts that we had. According to Government Order dated 17-03-2008, the Department of Panchayat & Rural Development Govt. of West Bengal passed an order to the

DMs to create Gram Sabha within the stipulated date of 31 March 2008. Moreover, the State Government (in a meeting organised by the Ministry of Tribal Affairs and UNDP held on December 2012, Delhi) had promised to initiate a special drive in order to implement FRA 2006, in 70 forest villages of Darjeeling District. (www.tribal.nic.in)

Secondly, the statements that the gram sambas were illegal because they did not seek the consent of forest administration. This logic was not tenable as the section 3(1) of FRA Rules 2007 states, "*The Gram Sabhas shall be convened by the Gram Panchayat and in its first meeting it shall elect from amongst its members, a committee of not less than ten but not exceeding fifteen persons as members of the Forest Rights Committee,..*". Therefore, even if the committees are formed without the consent of the forest department, the existing legal provision does not exclude it as invalid. Documentary evidences also reveal that a good amount of time and money of FD and Tribal welfare department is devoted in making awareness programs for forest dwellers to implement the FRA 2006 in the whole country including West Bengal. (www.tribal.nic.in)

Explanations

We have the following important observations from the study of the three incidents stated above that would help us to understand the existing reality in the process of implementation of FRA, 2006.

- The involvement of FD officials in every incident is very much in prominence throughout North Bengal. This is perhaps for the reason that homestead as well as cultivable land of forest dwellers are under the ownership of FD and those are not under revenue administration. Thus anything done on this land by the forest villagers or even any land based activity undertaken by the Panchayat authority requires the permission of FD. It keeps open the scope of intrusion of FD in each and every mundane issue of forest villages which may ultimately turn into a conflict of interest. However, recently on October, 2014, Government of West Bengal issued a Gazette Notification to the effect of converting all forest villages to revenue village and a detailed survey work has been initiated by the Land & Land Revenue department. (Gazette Notification 2014, Howrah)
- There exists undoubtedly a trust deficit between two groups – village dwellers who are entitled to get the benefits and forest officials who are entrusted to offer all the helps to the Gram Sabha and tribal welfare department to implement the Act. The most important factor that causes the worsening of the conditions of mutual acceptability and relationship

between these two groups is the issuing of the provincial government order to the effect of merging Gram Shabha with panchayat. The enactment of FRA is considered as a historic event only for the reason that the state, for the first time, officially admitted that rights had been denied to forest people. On the one hand, FRA, therefore, is an attempt to cure the long-pending sore of the historic injustice in the minds of those people and, on the other hand, is an acknowledgment of the importance of forest communities' in forest management. Most importantly, after a long battle, FRA to a Forest Dweller emerges as a symbol of recognition of community rights over forest resources and at the same time a tool of exercising their rights. Gram Shabha has been visualised by the policy makers not without any reason as an independent body in the said Act. This self-independent nature of Gram Shabha actually spans the concept of community rights over forest resources. The very existence of exercising their rights is embedded in its independent and statutory jurisdiction provided in the Act. It is a common belief that Gram Shabha will lose its independence completely if it merges with panchayat and, thereby, the very purpose of FRA will be defeated.

- With a traditional belief and mindset inherited from the colonial ruler, forest officials and even the common folk miserably fail to understand the very purpose of the Act. Though, the name *The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act 2006*, itself suggests that the act aims at recognition of 'forest rights' of forest dwellers on forests and forest land, the administrative authority surreptitiously denies to accept the spirit. There are clearly two aspects of the purpose of the Act embodied in different sections and provisions in this enactment. First, the process that describes how and what path would be followed for the recognition of rights. But, the second aspect is even more important in the context of the present study. It implicitly entails that the process has to be steered very cautiously as well as judiciously so that the Act is not just perceived as recognising forest rights of those who are entitled under the Act. But it is also recognised as strict enough to keep out those who may attempt to use it for getting benefits that are not admissible to them under this Act. This very important aspect of the Act to keep out non-admissible sections will be completely jeopardised once Gram Shabha is merged with panchayat.
- While analysing the experiences of these three incidents we find that the implementers and policy makers fail to understand the very important aspect of the FRA that it goes beyond mere 'recognition' of forest rights. The Act does not only provide recognition of 13 types of forest rights, individual as well as community, but also empowers Gram Sabha and it

is envisaged as a new kind of local level institution in regard to protection of wildlife, forests, bio-diversity, habitat and cultural and natural heritage. These aspects are essentially needed to be amalgamated in the process of implementation and, simultaneously, it is required that an institutionalised environment to be created so that the rights, powers, jurisdiction are established and duties mentioned in the Act could be discharged with full authority. Where ever dwellers of any village, being conscious about their rights, do not agree to sacrifice this cardinal spirit of the historic enactment, the administration prefers to treat it as illegal. Many different organisations of forest dwellers have been working for the cause of deprived villagers and have been trying to make villagers conscious for a long time. Forest officials often consider their activities as anti forest department. Flawed understanding of the objectives of the enactment and deeply rooted misconception of 'good old days' in the minds of administrators are responsible for such misplaced allegation. This is reflected when forest officials stigmatised forest villagers' organisations like Himalayan Forest Villagers Organisation (HFVO) and Uttar Banga Bana Jana Sramajibi Mancha (UBJSM) as anti-forest department.

- We have already mentioned that the FRA 2006 is a result of constant and bitter battles fought between the local forest dwelling communities and the classes who believed that 'natural assets always belonged to the rulers and not to the communities'. These battles continued even after independence and finally they were able to establish their rights. It is quite expected that activists who fought passionately this long battle for their legitimate entitlements would be conscious and concerned about the rights they have achieved through the enactment and, thereby, may be better informed and knowledgeable than the indifferent government officials entrusted for FRA implementing. Government Officials who are normally used to getting unconditional allegiance of the villagers and enjoying unquestionable superiority could not accept the reality that these people are better informed when common villagers deny accepting officer's explanation on certain issues. This develops a kind of fissure in the mutual relationship.
- State government earns a sizeable amount of revenue from CFC operation, which mainly falls under Community Forest Resource (CFR) zone. There are 26 FDCs in the country employing 19047 permanent employees. The main function of the Forest Development Corporation in many states has been so far to convert 'low' value degraded misc. forests into 'high' value teak, sal and bamboo forests. The total plantation area with the FDCs is 1.24 m ha. In view of the new Forest Policy and the ban

on clear felling, this role needs to be radically changed. (Report-National Committee on Forest Rights Act, 2010, p-167) However, felling being under CFR, Gram Shabha has a right to decide on the felling. Ironically, FD does not like to believe that the forest villagers can decide on their CFC operation.

- › As they used to view the CFC as a government work, they do not agree that villagers can interfere in government work. Accordingly, FD perceives villagers' role as a clear violation of law. The fact that the forest officials are not in favor of the Act, which acknowledged the rights of forest dwellers, may be inferred from the list of litigants against the Act either in the Supreme or in High Court. Most of them are retired forest officials and their main allegation against the Act is that it is unconstitutional and detrimental to the conservation of environment. (www.tribal.nic.in accessed on 10-09-2014) On the other hand, it appears that some of the forest villagers have become over enthusiastic and have started to believe that the Act made an end of forest department.
- Day-to-day needs of forest villagers' are linked to FD but the nodal agency of FRA implementation is actually the Tribal Welfare Department at the state level and MOTA at the Central level. Community Forest Resource or CFR claiming process is a complex task which needs data to be collected from either Land and Land Revenue Department or FD. In most cases, data are not available in the public domain and only solution is to take resort to seeking those under the provisions of right to information. Tribal Welfare Department is the nodal agency for implementation of the Act, but land records are in the hands of FD and Revenue Department. However, FD is performing the role of implementing agency on the ground. This creates confusion and often makes the actual implementing agency invisible.
- The second incident reveals an existence of potential conflict between two social groups. There are more than 3000 forest protection committees (FPC, also referred as JFMC) in North Bengal supposed to protect more than four lakh hectares of forest land. (State Report on West Bengal Forest 1996-97, p. 73-74) After the enactment of FRA 2006 the existence of JFMCs (or FPCs) have little relevance with regard to forest management. However, JFMCs or FPCs which once came into existence through a government order today constitute a completely different interest group. It appears that FD officials came with JFMCs members with a mal-intention of taking chance of potential conflict between people belonging

It appears that FD officials came with JFMCs members with a mal-intention of taking chance of potential conflict between people belonging to two different sections of the locality. Having lost the earlier privileged position enjoyed by the members of JFMCs, who are not forest dwellers, may have a sense of deprivation due to exclusiveness of the institution that has been constituted after the present enactment only with the forest dwellers called Gram Sabha. People entrusted to implement FRA 2006 should note this possibility of conflict and take all necessary measures so that no vested interest group could instigate the conflict between these two groups of people.

Conclusion

The extent of rights and honors that have been achieved at present by the forest villagers has a long history starting from pre-1969 period when they were literally bonded laborers. (Jha 2010, p.69-74) They were used to living under the whip of forest department. Attitude of the forest officers towards forest dwellers was an obvious corollary of persisting milieu over a century. FD officials were habituated to get the job, whatever may be the nature, done by their orders which had never been questioned or challenged. It is, therefore, difficult for them to adjust with the newly emerged circumstances when those people exercise their rights, question the rationality behind the order, examine the long-run effect on sustainability of forest and propose alternative use of forest resources instead of the plan made by FD based on traditional view. Incidents those we have studied here make known to us all such subtle facets of multi-dimensional character of the situation as well as inherently underneath social dynamics that apparently expressed as conflicts with the forest administration. This department is, however, now visualised as one of the instruments for implementation of FRA 2006 and entrusted to undo a 'historic injustice'.

The perception of 'historical injustice' to these people is best expressed by an analogy given by a young forest villager of Chilapata, at the time of enquiry of the incident by us. He wittily said, "*Let suppose a person had been robbed. Police caught the robber and recovered the asset. Instead of handing it over to the original owner, police forcefully established its own entitlement over the assets. Now, is it ethical to claim entitlement over the asset recovered from robbers, instead of giving it back to the person who once owned them? Here the robbers were the British Ruler, robbed person was forest dependent community and the police was independent government of India*". The message is clear. These marginalised people envisaged that their community lost their rights of forest dependent livelihood in the British Period. The country became independent but they had not been given back their appropriate rights on forest. Countenance of resilience and conviction on the part of the villagers towards the implementation of the Act as we witnessed in all such incidents in Chilapata,

Khairbary and Kalabari are, therefore, quite expected. So far, due to ignorance regarding the forest dwellers' philosophy of livelihood, society at large wrongfully accuse the forest dependent communities whenever the question of failure of conservation of forest is discussed. Once the villagers get their rights back on forest resource uses, that very livelihood practice led them to stand against the decision of felling of forest by the FD, which is equally destructive and detrimental for ecosystem. Forest villagers of North Bengal probably caught the right cord to play the sweet tune of conservation. If Gram Shabhas function well to prove themselves, worthy to carry forward the sense of ownership on forest resource use that has been bestowed on them by the act, future forest management policies ensuring sustainability along with livelihood practices surely will emerge from the courts of these little hamlets.

Endnotes

¹ "The Gram shabha shall be the authority to initiate the process of determining the nature and extent of individual or community forest rights or both .." Section 6(1), FRA 2006.

² *G.O.No.1220/PN/0/01/1A-2/07 Dt.17-03-08 of Department of Panchayats and Rural Development, Government of West Bengal*

³ "The Gram Sabhas shall be convened by the Gram Panchayat and in its first meeting it shall elect from amongst its members, a committee of not less than ten but not exceeding fifteen persons as members of the Forest Rights Committee," Section 3(1) FRA Rules 2007

⁴ "Forest Villages mean the settlements which have been established inside the forests ... and includes forest settlement villages, fixed demand holding, all types of taungya settlements, by whatever name called, for such villages and includes lands for cultivation and other uses permitted by the government." Section 2(f), FRA 2006

5. Section 3(2) of FRA Rules, 2007

⁶ "Gram Shava has the right to protect, regenerate or conserve or manage any community forest resource which they have been traditionally protecting and conserving for sustainable use." Section 3(1)(i) of FRA 2006

⁷ See Order Sheet G.R. No. 404/13 Ref: Kalchini P.S. Case No. 30/13 dated 02-03-13 State-Verses-Pabitra Rava and Others dated 17-04-2013. Justice A.S. Mukhapadhyay, ACJM-in-Charge JM, 1st Court, Alipurduar.

⁸ See Copy of the FIR dated 11-04-2013 by Mantharam Gram Shabha in Kalchini Police Station under Jalpaiguri district, West Bengal.

⁹ "Government using police and forest officials against people trying to protect their forest. This has happened in particularly in North Bengal.people who are trying to exercise their powers under section 5 of the FRA to protect forests from forest Department felling are facing arrests, police cases and raids.....In this context I wish to emphasise that the powers of gram Sabhas under section 5 of the Act should be respected.

If people are unable to stop their forests from being destroyed by Forest Department felling, how can they exercise their community rights in these forests? This has the effect of making community rights meaningless.” letter to the chief ministers from MoTA&PR, Govt. Of India (D.O.No.MTA&PR/VIP/18/88/20013 Dt.04-04-2013) www.tribal.nic.in accessed on 19-09-2013.

¹⁰“... ensure that the decisions taken in the Gram Sabha to regulate access to community forest resources and stop any activity which adversely affects the wild animals, forest and the biodiversity are complied with.” Section 5 FRA 2006

¹¹ “The Gram Sabha shall constitute Committees for the protection of wildlife, forest and biodiversity, from amongst its members, in order to carry out the provisions of section 5 of the Act. Section 4(1)(e)

¹² Press release by Lal Sing Bhujel, Sundar Sing Rava; conveners Uttar Banga Ban-Jan Shromojivi Manch (UBVJSM) 08-01-2014, Siliguri, Darjeeling.

¹³ Letter to the Secretary and the President, North Khairbary Gram Sabha by Range Manager, Moraghat L Range, on behalf of the Divisional Manager, Saw Milling Division, W.B.F.D.C.ltd., Government of West Bengal. dated 06-03-2014.

¹⁴ “right of ownership, access to collect, use, and dispose of minor forest produce which has been traditionally collected within or outside village boundaries.” Section 3(1)(c) FRA 2006

¹⁵ “The Gram Sabhas shall - fix a date for initiating the process of determination of its community forest resource and intimate the same to the adjoining Gram Sabhas where there are substantial overlaps, and the Sub-Divisional Level Committee.” Section 11(1)(b) FRA Rules 2007

¹⁶ “The Gram Sabha shall pass a resolution on claims on forest rights after giving reasonable opportunity to interested persons and authorities concerned and forward the same to the Sub-Divisional Level Committee;” Section 4(1)(c) FRA Rules 2007

¹⁷ Receipt copies of the invitation letters, by –chairperson – FRC, Kolabari forest village Gram Sabha, Naxalbari, Darjeeling, West Bengal.

¹⁸ See Section 6(1) of FRA 2006, “The Gram Sabha shallby receiving claims....and preparing a map delineating the area of each recommended claims...”

¹⁹ Press release by Himalayan Forest Villagers Organisation - HFVO and UBVJSM dated 31 July, 2014. Siliguri, Darjeeling, West Bengal.

²⁰ Police Notice u/s 41(A) Criminal Procedure Codes Mirik P.S. Darjeeling, West Bengal, Case No.66/14 dated 12-07-2014 by ASI-Panighata P.F.

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Reserve forest and livelihood opportunities: A study on Buxa tiger reserve

¹ Bijoy Debnath, ² Debasis Bhattacharya

¹ Assistant Professor in Commerce, S.K. Mahavidyalaya, Lutunia, West Midnapore, West Bengal, India

² Associate Professor, Department of Commerce, University of North Bengal, Darjeeling, West Bengal, India

Abstract

Reasons for creating reserves in colonial period had been a concern for the reduction in big game species and to enhance the commercial production of timber. Reserves ensured strict regulation on traditional use of the forest, regardless of its good or adverse impact on the forest's ecology. Forest Act of 1878 and 1927 provided an excellent launching pad for denying traditional livelihood to the forest dwellers and compelling them to act as labor under forest department. The Wildlife Protection Act, 1972 coined the concept of protected area for which more and more areas of forests are declared as wildlife sanctuaries and national parks. Protected area propagates a conservation regime of not interfering in the forest so that nature can take its own course. Today, 47.64% of the total forest area of *North Bengal* falls under these categories. The objective of this paper is to look into the concept of reserve from the point of view of forest dwellers' livelihood. Buxa Tiger Reserve (BTR), the 15th Tiger Reserve of the Country has been selected for this study since it has witnessed commercial forestry as well as protected area management and it provides residence to 37 forest villages. An observation from the study suggests that the concept of reserve has forced the forest villagers to change their livelihood pattern. The study also reveals that due to lack of livelihood opportunities villagers are forced to migrate in search of alternative livelihood.

Keywords: reserve, conservation, policy, livelihood, forest village

Introduction

It is estimated that more than 1.5 billion inhabitants across the globe are depended on forests for their livelihood though, the degree of dependence vary considerably depending on the accessibility to forest resources and people's customary practices. A conservative approximation reports that nearly 350 million forest dependent communities live in and around forests. These people are heavily reliant on the forests for livelihood. Moreover, around 60 million forest dwellers are found to be completely dependent on forest resources [2]. The survival and income generating options of forest dwellers to a great extent depended on the resources available in the forest itself [3, 19]. It is estimated by prior researchers that resources of forest contribute almost US\$100 billion including non-timber forest produce (NTFP) and timbers used by the human for varied uses over the years [29]. The contribution of NTFPs is found to be a major source of income to the forest dwellers [12]. It is well recognized by various authors pursuing research on the livelihood opportunities in the tropical regions that the resources of forests are used by the forest community for their survival [14, 37, 38]. In recent times, it is also revealed by researchers that people living in the vicinity of forests extremely rely on various types of flora and fauna and animal products for their own consumption as well as selling the same for commercial purposes [31]. There are views that the farming of NTFPs on a commercial basis may generate substantial income and also help conserving the forest [23, 24, 17]. The technological up gradation owing to industrial revolution, radically changed the pattern in forest resource uses. More and more organized timber felling were needed to feed the transport industry, paper industry, rail road expansion, war requirements (World War I & II). Moreover plantation industry like tea, coffee and rubber were created uprooting the

natural forest which changed the landscape and the forest dependent people's traditional livelihood. The competition for forest resources became intense. The British rulers started to annex forest to take the control of forest resources in the state's hand by creating reserves. Erstwhile forest users became persona-non-grata in their homestead because reserve inherently meant control over traditional use of forest resources. The colonial rulers put forward the following two arguments in support of reserves; i) a reduction in big game species and, ii) to enhance the production of timber [25]. However, the concept of 'reserves' can be traced back to the Maurya period, Kautilya advised to reserve the forests rich in fish, game and elephant. Elephant forests had great importance; this was because elephant was indispensable part of army. There have been little discussions in the existing historiography regarding the effects of the resource extraction and creation of reserves on the livelihood of forest tribes [32]. The colonial state asserted control over forest hitherto managed by community. The conservationists of the post independent India propagated two arguments for keeping people out from the reserves and for creating protected areas i.e. sanctuaries, national parks, tiger reserves etc. The two mythical philosophies in support of Protected Area are: I) 'pristine' forest and (II) human land-use practices destabilizes ecosystem. However, many ecologists claim that disturbance, both climatic and anthropogenic, had played a critical role in enhancing biological diversity of various ecosystems. They elaborately accomplished that 'pristine' wildernesses of the East Africa especially the great migration of millions of herbivores crossing the Serengeti plains give us a feeling of no human intervention in them. The same is true for Amazon forest, an image is created as if the anchor of the program himself is the only person who has stepped into those forests

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for the first time. In reality, the *Masai* herder and the Indians played a vital role in shaping these varied ecologies [25]. Similarly, in India the forests that are witnessed today are largely created by the forest villagers under the guidance of FD. Labor colonies, settled for the purposes of firefighting, plantation, maintenance and management of forest were termed as 'Forest village'. The shifting cultivators, who were once forcefully removed out of the forest, became the first settlers in the forest villages [8]. In North Bengal, after a recurring failure to regenerate Sal forest in the Indian *terai* during the 19th century, the shifting cultivators (*Jhumias*) whom the British once ousted from forest staged a comeback. They were asked to clear fell and burn the forest and plant trees, in exchange, they were given land to cultivate. They had to offer mandatory free labor (*begar*) of 90 days in the plantation [16]. However, the concept of free compulsory labor i.e. *begar* was abolished from late 1960s [10]. The most of the forest villages are situated in the North Bengal's *Dooars* (the land along the foothills of the Darjeeling and Bhutan Himalayas) as these areas were among the earliest in India, where extensive work was done under the colonial forest management system [4].

The examples of the above mentioned conservation model where peoples' roles in protection of nature and their livelihood opportunities get little attention, are also present in India. This suggests a catastrophic impact as a substantial number of populace in India who are categorized as BPL live in and around forest regions [27]. As per the estimates of Ministry of Environment and Forest (MOEF, 2006) approximately 40 percent of the poor people reside in these forests. These underprivileged people in India mostly belong to tribal communities who are heavily dependent on the resources of forests for their livelihood [26, 13, 1]. Another study discloses that these tribal people depend to a large extent on NTFPs comprising of medicinal herbs, edible fruits and vegetable to the extent of more than 20 percent of their household income [28].

The above discussions unambiguously establish the dependence of forest villagers on forest resources for their livelihood. However, it focuses very little on the access rights of forest villagers on forest. It is known that the access to the resources of reserved forests (here sanctuary and national park) is illegal and all sorts of external interferences (unauthorized) are considered as punishable offence under different provisions of forest laws. According to Section 2(ii) and 2(iv) of the Forest (Conservation) Act, 1980 harvesting of forest even for regeneration or reforestation, cultivation of fruit bearing trees or medicinal plants would require prior approval of Central Govt. These clauses of the Act are potential enough to influence the livelihood of forest villager, as the main occupation of the forest villagers of BTR had been to engage in forestry works.

After the declaration of Tiger Reserve the Buxa forest came under the jurisdiction the Wild Life Protection Act 1972 (WPA-1972) as BTR became a sanctuary as well as a national park (NP-117.23 Sq. km, Sanctuary 273.35 Sq. km). Under section 18 of WPA 1972, The State Government may declare any forest as a sanctuary if it considers that such area is of adequate ecological, faunal, floral, natural or zoological significance, for the purpose of protecting, propagating or developing wildlife or its environment. In this connection it must be mentioned that the definition of 'wildlife' under

section 2(37) of WPA 1972 is not only wild-animals but every single thing of the forest. According to the definition grass, NTFPs, fuel-woods all fall under the category of 'wildlife' as they form a 'part of any habitat'. Apart from the above provisions the section 27(2) of the Act makes the forest villagers duty bound – (a) to prevent the commission, in the sanctuary, or an offence against this Act; (b) to help in discovering and arresting the offenders; (c) to report death of any wild animal; (d) to extinguish fire in the sanctuary; (e) to assist any forest officer in the investigation.

Further, Section 33(d) of the Act empowers the forest officials to regulate or prohibit grazing in sanctuary. Under section 35(7) no grazing of livestock is allowed in National Parks³⁹. These provisions of the Act have the potentiality to influence on the livelihood of forest villagers. The Act also prohibits extraction of minor minerals like boulders, sand etc. from the riverbeds if river bed is in a national park or in a wildlife sanctuary. It is evident a sizeable population of forest villages of BTR was engaged in boulder, stone chips and sand lifting from various streams (riverbed) flowing through BTR. The provision of the Act allegedly created complexities. The present paper makes an attempt to look into the declaration of reserve forest and the outcome of that on the livelihood opportunities of people living in BTR.

Objectives of the paper

It can be discerned from the discussion in the previous section that a significant change has taken place after the BTR was formed. In this context an endeavor has been made to understand the occupational shifts that have the villagers had to undergo to maintain their livelihood. It is indeed very difficult for these marginalized forest dwellers to search for alternate livelihood opportunities owing to dearth of market connectivity. In view of these developments this paper focuses on the available livelihood options of forest villagers in BTR and how they have attuned themselves with the provisions of Tiger Reserve. In this backdrop the objectives of this paper are:

- I) To explore the narrowing of livelihood opportunities of forest villagers from a historical perspective,
- II) To investigate the present pattern of occupations of forest villagers
- III) To look into the problems associated with the present occupations
- IV) To integrate the objectives mentioned above and to suggest policy implications.

Survey methodology

This study is carried on using a participatory action research (PAR) and subsequently a descriptive research methodology has been followed to process the data as revealed by the respondents. A considerable effort has been made almost for one year to collect the responses from the forest villagers to apprehend the livelihood opportunities available to the villagers of BTR backed by evidential reasoning. The methodology involved fact finding and gathering of knowledge through continuous understanding of their occupational habits as well as opportunities. A structured questionnaire was designed to gather relevant data by employing nominal scales to obtain the data required to address the issues mentioned in the objectives. Considering the background of the respondents, multiple item scales have

not been administered which require comprehending the scales and providing accurate response. Keeping in view the major objective of the study a few non parametric tests have been employed to process the data. Tests suitable for nominal scale data have been employed to arrive at meaningful conclusions. Villages are selected following stratified purposive sampling method based on forest Ranges, ethnic composition and geographical location. Finally, 12 villages are chosen forming a village sample size of 32.43 percent of the 37 forest villages of BTR, distributed across 11 Beats and 8 Ranges. After selecting the villages, 5 percent of the registered forest villagers are interviewed, and the Panchayat members of the concerned village with two distinct structured questionnaires. Relevant primary data on forest villagers collected through survey are incorporated in the paper. The paper tries to focus on the history of alienation of forest villagers from the forest resource base and the institutional provisions that were constituted at different point of times. The paper tries to suggest paths to follow, for the betterment of the forest villagers as well as the forest. Thus, the paper is mainly divided into four parts: I) Narrowing of livelihood opportunities of forest villagers from a historical perspective, II) Findings of the case study III) Findings: A Summary and IV) Conclusion.

Justifying Selection of Buxa Tiger Reserve (BTR)

BTR has been selected as the study area because this forest has experienced virtually every forest policies; right from *commercial forestry to the present day's protected area management*. Secondly, this forest has relatively higher concentration of forest villages. Out of 168 officially recognized forest villages in North Bengal, 37 are situated in BTR. Thirdly, BTR is a part of the flagship conservation program of 'Project Tiger' in India. Before 1980s, employment in Forest Department (FD) was the most important source of livelihood for the majority of the forest villagers of BTR. Other supplementary sources of livelihood along with subsistence level of agriculture were NTFP (non-timber forest produce) collection, livestock rearing etc. The declaration of 'tiger reserve' seriously regulated these livelihood options³³. The situation provides a scope to compare two periods i.e. before the declaration of tiger reserve and after the declaration of tiger reserve.

Narrowing of livelihood opportunities of forest villagers from a historical perspective

Commoditization of forest and loss of livelihood

Introduction of railway connectivity in 1850s witnessed a major change in Indian forest policies and practices. The network of railway tracks increased from only 56 kms in 1853 to over 51,650 km in 1910^[41]. Timber resources in India were declining rapidly under the pressures of high timber demand in the British Empire^[34]. During the World War I. timber and bamboo were supplied to war zone for building bridges, buildings, ships etc. Approximately 1.7 million cubic feet timber (mostly teak) were exported annually^[7]. Indian forest department became the sole supplier of timber in Middle East, and to the allied forces during World War II. War need exposed the remotest forests, the most accessible forests got felled to meet the demand of the war, and margin of profit there in some cases rose to as many as 400percent. In this plunder, the question of forest dwellers' livelihood lost voice.

The erstwhile right holders were given specific quantum of timber and fuel, while the sale or barter of the same was banned in 1878's forest act.

Few ecologists/historians explained the process of creating reserves as mere confiscation of resources, not conservation. The reserves were either dedicated to producing timber or were amounted to open-access lands that suffered overuse and degradation^[9]. As commercial forestry means more and more revenue and revenue mainly comes from large timber forest as a result the FD was forced to neglect shrubs and pasture land. Ironically these two types of land provide varieties of livelihoods to the local communities. Moreover, plantation of tea, coffee and rubber brought a major transformation in forest ecology. Plantation economy itself requires a high level of timber demand for fuel and packaging. This new economy engaged the erstwhile forest people as captive labor in tea, coffee and rubber plantations^[7].

Passion for industrialization and forest dweller's livelihood

Independence brought little change in forest dwellers' life, ironically the 'concessions and privilege' enjoyed by them in British period were viewed as overly generous in 1952's National Forest Policy^[20]. The conception of restructuring forest to maximize commercial gain already strong in the colonial era got even stronger now^[22]. An extensive commercial forestry operation continued until 1980 with little emphasis on regeneration. This destroyed the forest, its ecology and the forest dependent people's livelihood^[21, 18]. The zeal of industrialization after independence was so intense that forest resources were awarded to industrial houses at throwaway prices. One such example may be cited; in 1960s bamboos were supplied to industry at Rs.1.50/tonne, when the prevailing market price was Rs.3000/tonne^[9].

New conservation regime and forest dweller's livelihood

A nationwide census on tiger population was conducted in 1972 and figure found to be at around 1800, much below the earlier estimates of 2500. The census proposed two corrective measures (I) to select few sites having tiger's habitats- each with a core area of at least 300 sq. km. (free from any kind of human intervention) (II) to create a large surrounding of buffer zone, where limited access of local people would be entertained. However, the buffer will be repopulated by the growing numbers of tigers in the core area. This project came to be known as 'Project Tiger' launched in 1973, at that time it was the largest wildlife conservation Project in the World. Nine forests across the country were selected for 'Project Tiger', some of them were old princely hunting grounds and some had been reserved forests since British period^[22].

Community's pattern of resource use in protected areas is always not compassionate, not all of them harmful either. In certain cases the eviction or ban on resource use in protected areas has resulted in a negative way. For example the Keoladeo Ghana NP, Rajasthan, a World Heritage site for various dazzling diving birds. From a sanctuary it was upgraded to a national park in the year 1981. Until 1981 a large number of buffalos of the pastoralist communities around the park used to graze in the park's grassland. They used to collect firewood and fodder from the forest. With the change of the status, grazing was banned. In the absence of the buffaloes weeds roofed over the surface of the water bodies; as a result the diving birds find it impossible to dive into

water. The ecological impact was instantaneous, drastic reduction in diversity in bird's variety was witnessed [25].

Mascot of wildlife conservation faced existential crisis so does forest dwellers

Sariska, Rajasthan came into limelight in 2005, when it was exposed that tiger has vanished from the Tiger Reserve. A Tiger task force was created to look into the crisis which in turn instituted National Tiger Conservation Authority or NTCA. The NTCA revised the earlier norm of 300 sq. km. 'inviolable' area to an area ranging from 1000 to 3000 sq. km. and an extra area of 800 to 1200 sq.km. As buffer zone for 20 breeding tigresses. However, BTR has 760.87 km² area comprising core and buffer together and only 10 reserves out of the 48 have more than 1000 sq. km in their core area [43]. The official data suggests 79 percent of the tiger reserves have less than the viable population of tiger. The NTCA believes that forest dwellers in the protected area are detrimental for wildlife as a result; priority has been given to relocation ('millennium goal') of forest dwellers from the tiger reserves to make the reserves 'inviolable'. On this pretext, relocation of

forest dwellers of 27 hamlets spread across core and buffer of Sariska was started after 2005 on the basis of 'mutual understanding'. However, available study suggests neither the relocation was mutual nor the forest dwellers' happily accepted the rehabilitation package [30].

Findings of the case study

Demographic profile of the sample

Survey is done on 56 registered (agreement holder) families of 1011 of BTR [40]. Average family size of the sample is 6.86 persons per family. The number of families presently is almost 6 times higher than what is shown in the record of forest department as registered family. The numbers of persons who can work are 3.89 persons/families.

Working members of the sample families are engaged in 10 types of occupations. 96.43 percent of families are involved in agriculture. Only 3.57 percent of families are found to be landless. Agriculture is a major source of livelihood till date. Though, Panchayat started functioning in Forest Villages since 1998, it has emerged as the 2nd most important employer in the forest villages.

Table 1: Occupations of the forest villagers of the BTR

Occupations	No. of families	Percent of families
Salaried Job	9	16.07
Agriculture	54	96.43
Work in Forest Dept.	43	76.78
Live-stock rearing	47	83.93
Wage Earner	30	51.79
NTFP collectors	17	30.36
Self employed	10	17.86
Panchayat's work	51	91.07
Pension holders	14	25
Others	6	10.71

Note 1: While assessing NTFP collection as a profession, fuel wood collection is not included here. Others include professionals or skilled labor like carpenter, mason etc. Note 3: Kolmogorov-Smirnov Z: 1.527, p<0.019

It is evident from the above table that the types of occupation are many and varied, and overlapping in nature i.e. the same member of the family is involved in different occupation. A one sample Kolmogorov-Smirnov test has been employed to investigate the uniform occupational pattern of the forest villagers. In this case the null hypothesis is rejected at p<0.019 implying that the occupations do vary significantly among different families included in this study. Forest villages were established, primarily to carry out forestry works. The villagers' main livelihood options hovered around cultivation, livestock rearing, NTFP collection and forestry work before the declaration of tiger reserve. However, it is evident that villagers have drifted to other occupations including skilled jobs. It's perhaps due to the narrowing down of traditional livelihood opportunities.

Livestock rearing in forest villages is an age old profession. The forest villages were established primarily to carryout forestry works like plantation, cleaning, harvesting, fire-line making etc., it is significant to find that presently, 23.22 percent of the family don't work under forest department. In the survey it is found that only 30.36 percent of the forest villagers collect NTFP. The new sources of livelihood are service, self-employment and pension.

Livelihood Options in Forest Villages of BTR

1. Forestry work under FD before and after Tiger Reserve

Forestry works under the FD was the most important work for forest villagers. After completing 90 days of mandatory *beggery* (work without wage) they used get wages on the remaining days of work. However, from 1969 they started to get wages for their entire work under forest department. Pattern of work has changed dramatically, before the declaration of the TR the 92.86 percent of the villagers used to do harvesting work which has dwindled down to 4.5 percent. Average man days of work that the villagers get now under FD have come down to 15 from 185. If two villages are excluded from the sample than the average work under FD in a year would stand in between 5 to 7 days. The villagers stated that they had their best times during 1970s and 1980s because there was lot of works in the forest, as well as wages for work. Moreover, they used to cultivate in between plantation (inter-cropping). However, plantation and cleaning as a form of forestry work still holds a strong position even after the declaration of tiger reserve, this is particularly due to grass plantation for wildlife and some patch of tree plantation in Buffer Zone of the reserve. Surprisingly, Nursery work and firefighting are not done by the forest villagers now.

Table 2

Types of Work	Families involved after Tiger Reserve	Percentages of families involved	Families involved before Tiger Reserve	Percentages of families involved
Plantation	28	63.64	54	96.43
Fire line making	1	2.27	38	67.86
Cleaning	29	65.91	52	92.86
Sal seed collecting	9	20.45	12	21.43
Road repairing	26	59.09	30	53.57
Fire fighting	0	0.00	16	28.57
Nursery work	1	2.27	24	42.86
Harvesting	2	4.55	52	92.86

1. Respondents recalled an approximate no of man days they get from FD now in a year.

2. Respondents recalled the period before it was declared & gave an approximate detail of their work under the FD.

3. In some villages like Uttar Poro and Dakshin Poro, works under FD in the year 2014-2015 are extremely high as compared to other villages because of the works under MGNREGA have been clubbed with FD's work.

4. No. of families involved in forestry work under FD at present is 43 based on which the average of man days are calculated. Wilcoxon Signed Ranks Test: $Z=2.521$, $p < 0.012$

The Wilcoxon signed rank sum test is a non-parametric or distribution free test. As for the sign test, the Wilcoxon signed rank sum test is employed to test the null hypothesis that the median of a distribution varies for a set of paired data. In this particular situation, the signs have been found to be all negative when one considers the difference, various works under the forest department before and after the declaration of tiger reserve. A cursory observation simply reveals that the opportunity of getting employed under the forest department has nosedived after the declaration of tiger reserve. The test simply suggests that the median values differ significantly justifying very less opportunity left for the villagers to work under the forest department. The difference is found to be significant beyond $p < 0.012$.

2. Agriculture

Agriculture is one of the most popular occupations of the forest villagers of the BTR. Productivity of the land of the forest villagers is reasonably well. Despite being mostly non irrigated land, there are 53.7 percent of total lands which produce two crops. Nearly 30 percent of the families can sustain close to whole year by lands' produce. The small farmers (nearly 59 percent of the land owners) can sustain only 1 to 6 months from land's productivity. A sizeable portion of farmers are found to be depended heavily on the cultivation of beetle nuts. It is found that 27.78 percent of the respondent families earn more than Rs. 5000/year by selling beetle nut.

Collection of NTFP

The collection of non-timber forest produce or NTFP was a major source of livelihood to forest villagers not only in BTR but throughout North Bengal. The survey suggests only 17 families i.e. 30.36 percent of the sample is engaged in collection of NTFP, almost 70 percent of the families are not engaged in this profession. In a vein to enquire into this phenomenon it is found that 14 families were never been an NTFP collector and 31.91 percent respondents don't collect NTFP because of non-availability of the same in the Jungle. Surprisingly, only 2.13 percent blames the restriction from the BTR authority as the reason behind not collecting NTFP.

Livestock rearing

The survey shows that 40.43 percent of livestock keepers' sale milk. Among the sellers 42.11 percent earns Rs. 1000 to 5000 per month which is fairly good, especially where expenditure on cattle rearing is virtually nothing. It's significant to find that 10.53 percent of the milk sellers earn more than Rs. 10000 per month. Here, it is worth mentioning that nearly 60 percent of the cattle keepers produce some amount of milk. Moreover, forest villagers in BTR earn a reasonable amount by selling livestock. It is observed that nearly 92 percent of the goat keepers' earn more than Rs. 1000/year; almost 93 percent of the pig keepers' earn the same amount in a year. In these two categories, 33.33 percent and 40 percent of goat and pig sellers earn more than Rs.5000/year.

From the survey it is evident that migration from the forest villages has increased in recent years. The most important livelihood option of forest villagers i.e. work under forest department has virtually come down to zero. The agricultural land has got fragmented; most of the unregistered families don't have land. Agricultural productivity is seriously hampered by lack of irrigation and crop damaged by wildlife. Collection of NTFP is mainly done for consumption purposes. Moreover, it's no more a viable option of livelihood. Livestock rearing faces 3 fold problems in BTR namely i) death due to attack from wildlife, ii) death due to disease, and iii) low quality breed of livestock. Drying up of livelihood options has pushed the already cornered forest villagers to go out of the jungle and the city life has lured the aspirant youths.

Migration

A society or a group of people who are living in a particular geographical location or a group of people who are dependent on identical livelihood, if, migrates from that location, then it can be assumed that the viable alternative livelihood options have dried up. Another reason may be that the aspiration of the youth who are looking for city life. The dream for better life and city life sometimes become synonymous and the only feasible option to them is migration. Migration in forest villages is a new phenomenon it started only after 2000.

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Livestock rearing

The survey shows that 40.43 percent of livestock keepers' sale milk. Among the sellers 42.11 percent earns Rs. 1000 to 5000 per month which is fairly good, especially where expenditure on cattle rearing is virtually nothing. It's significant to find that 10.53 percent of the milk sellers earn more than Rs. 10000 per month. Here, it is worth mentioning that nearly 60 percent of the cattle keepers produce some amount of milk. Moreover, forest villagers in BTR earn a reasonable amount by selling livestock. It is observed that nearly 92 percent of the goat keepers' earn more than Rs. 1000/year; almost 93 percent of the pig keepers' earn the same amount in a year. In these two categories, 33.33 percent and 40 percent of goat and pig sellers earn more than Rs.5000/year.

From the survey it is evident that migration from the forest villages has increased in recent years. The most important livelihood option of forest villagers i.e. work under forest department has virtually come down to zero. The agricultural land has got fragmented; most of the unregistered families don't have land. Agricultural productivity is seriously hampered by lack of irrigation and crop damaged by wildlife. Collection of NTFP is mainly done for consumption purposes. Moreover, it's no more a viable option of livelihood. Livestock rearing faces 3 fold problems in BTR namely i) death due to attack from wildlife, ii) death due to disease, and iii) low quality breed of livestock. Drying up of livelihood options has pushed the already cornered forest villagers to go out of the jungle and the city life has lured the aspirant youths.

Migration

A society or a group of people who are living in a particular geographical location or a group of people who are dependent on identical livelihood, if, migrates from that location, then it can be assumed that the viable alternative livelihood options have dried up. Another reason may be that the aspiration of the youth who are looking for city life. The dream for better life and city life sometimes become synonymous and the only feasible option to them is migration. Migration in forest villages is a new phenomenon it started only after 2000.

Table 3: Migration from forest villages of the BTR

No. of Families	Ist. Time Migrant	Destination	Numbers	Percentages
23 (41.07percent)	20 (86.96percent)	Gujarat	0	00.00
		Kerala	3	10.71
		Delhi	4	14.29
		Haryana	2	07.14
		Punjab	0	00.00
		Karnataka (Ch.)	7	25.00
		Bhutan	2	07.14
		Nearby Town	3	10.71
		Others	7	25.00

Note 1. Ist. Time MGT.FAM stands for the families from where first time migration has happened. OTHER include U.P., Tamil Nadu, Meghalaya, Tripura

Note 2. Of migrants is more than the no of migrant families because often it is found that the husband and wife both have migrated

It is found that 41.07 percent families of the sample have migrant members. Table No. III shows that among the migrant families 86.96 percent of families are first time migrants. Among the total of 28 migrants 25percent have migrated to

Karnataka, surprisingly forest villagers have not migrated to, much claimed industrial state like Gujarat and urbanized state like Punjab.

Table 4: Migration Scenario in the BTR

Details of Migration	Year of migration			Av. Earning/yr	
	Before 2000	Between 2000-2010	After 2010	0.5 - 1 lac	1 lac +
Total Number	0	15	13	22	6
Percentages	0	53.57	46.43	78.57	21.43

The Table IV shows that all the migration has been happening after 2000. Among the migrants 46.43 per cent has migrated after 2010. In 1990s, it is observed a virtual halt in forestry activities in BTR with the declaration of TR. Its ripple effect might have touched the forest villagers from 2000 onward and the impact surfaced in the form of migration. It is observed that most of the people are engaged in unskilled and semiskilled works. It is found that 78.57 per cent of the migrants are earning a yearly income of Rs. 50000 to Rs.1lakh. This suggests that this migrants were forced to leave their locality, it's not that handsome wage lured them from their current position.

Findings: A Summary

1. Lack of plantation work has made the forest villagers redundant in forest. They are forced to find alternative livelihood options. It is found that the forest villagers have switched to works under the Panchayat (MGNREGA) and to works on daily wage. A good number of the forest dwellers are migrating to other states in search of livelihood; it's a new phenomenon among them. One sample Kolmogorov-Smirnov test signifies that forest villagers' have adopted new livelihood options as traditional options of livelihoods have narrowed down. The null hypothesis that the pattern of livelihood remained same is rejected at $p < 0.019$. The stoppage of plantation work has made the forest degraded. This, in a sense reduced the opportunity of NTFP collection and the option of intercropping that they used to do. Easy accessible forest patches are heavily degraded today; mark of overuse and CFC is evident in every such site. This type of forest conceivably is not suitable for any wildlife either. Wildlife, mainly elephant, raid on forest villagers' crop on a regular basis in BTR; this is possibly due to the poor quality of the forest. The Wilcoxon signed rank sum test significantly (beyond $p < 0.012$) justifies that

very less opportunity is left for the forest villagers to work under the forest department after the declaration of tiger reserve.

- Most of the forest villagers are traditional shifting cultivators. Even today, they feel comfortable in cultivating their land. Two major problems with this occupation are crop damaged by wildlife and lack of irrigation facilities. The first problem may be avoided by choosing crops that do not attract elephants. Moreover, fodder plantation deep inside the forest, plantation of mixed vegetation having fruit trees, bamboo etc. may be affective. Forest villager's main objection against compensation for crop damaged by wildlife has been, 'too little too late'. The arrangement of compensation close to actual loses and speedy payment may repair the acrimony against FD. Irrigation canals may be dug with the help of MGNREGA.
- Forest villagers sell their livestock on the eve of major festival and at the time of urgent financial requirement. Livestock rearing in forest villages face mainly two types of problems; diseases and attack from wildlife. It is proposed to club the veterinary facilities with Beat Offices, as most of the beat offices are in the forest and they are nearer to forest villages. It is further proposed to improve the quality of the cattle as it is found that too many cattle are producing too little amount of milk. There is no justification to this kind of venture, especially when the fodder is scarce. However, since the forest villagers are naturally ardent to livestock rearing, this profession may bring prosperity to them if quality of cattle is improved through artificial means and through replacement of the existing cattle with high yielding variety.
- NTFP collection in BTR has reduced considerably over the years owing to various reasons including non-availability of NTFP in the forest. NTFPs like

broomsticks provide an opportunity to set up value addition centers in the locality. Moreover, medicinal plant cultivation in the hills of BTR may offer livelihood options to forest villagers.

5. During the survey it is found that a sizeable portion of families in the hills were engaged in maintaining orange orchards, an age old profession but the BTR authority uprooted these orchards in the year 1998. Hills of BTR are good for orange plants, a second thought may be presented to the whole matter and a feasible alternative can be worked out.
6. In recent years tourism in BTR has emerged as an alternative livelihood option for the entrepreneurs, mainly from outside the forest villages barring a few exceptions. The same can be done in forest villages of far-flung areas on home-stay basis by imparting training on housekeeping and providing marketing linkages. This initiative would provide the nature lovers an opportunity to enjoy the serenity, natural beauty of the tiger reserve at the same time; it would create attractive business opportunities for the forest villagers.
7. Panchayati Raj system is widely regarded as local government as it is the sole agency to carry out rural infra-structure development. Most of the developmental works performed by this body are land based. Forest villages are situated in forest land so, the developmental works tantamount to conversion of forest land under FCA 1980. This legal tangle creates problems for panchayats and in turn problems for forest villages. In this respect it must be mentioned that since the forest villagers are situated within the jurisdiction of forest, panchayat members require an NOC (no objection certificate) from FD. The survey shows that this compulsion sometimes poses a stumbling block for the panchayats. However, the panchayat members having influence in the political parties do the work without an NOC or with a verbal permission from the Range Officer or DFO. However, 41.04% of works undertaken had to go for an NOC and 35.58% of works got delayed due to timely non availability of NOC.

Conclusion

It is noticeable from the one sample Kolmogorov-Smirnov test that the occupations vary significantly among forest villagers, the null hypothesis is rejected at $p < 0.019$. The forest villagers' have adopted new livelihood options as traditional options of livelihoods have narrowed down. While investigating the status in forestry related works under the FD, Wilcoxon signed rank sum test is employed to test the null hypothesis that the median of distributions varies for a set of paired data. It is found that the median values differ significantly (beyond $p < 0.012$) justifying very less opportunity left for the villagers to work under the forest department after the declaration of tiger reserve. However, a cursory look justifies that new avenues like skilled jobs, tourism have opened up but these could employ very small number forest villagers as they require expertise knowledge. The amount of money that the Central government is spending on relocation of forest villages is quite large. A Parliament Committee recently argued for speedy release of Rs. 24 corer for relocation of 2 villages from *Mudumalai* Tiger Reserve in Tamilnadu^[42]. With this amount of money the development of the forest of a

particular locality is achievable, which in turn improves the symbiotic relationship of the forest people with forest. Often it is observed organizations like NTCA, National Park Authority, NGOs accuse the forest people as the only impediment in creating the forest 'inviolate'. In this myopic view, the big chunk of the problem like mining, forest denotification (de-reservation), supplying forest resources to traders, industries, widespread tourist entry and developmental activities (big dams) etc. remain grossly unnoticed.

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