

Historical Geography of Forestry and Forest Culture in Sub-Himalayan West Bengal, 1757-2015

Manoranjan Ghosh[†] and Somnath Ghosal^{l*}

Abstract

Re-examining a range of archival data and information regarding colonial forestry in the state of West Bengal, India, it has been found that the colonial period was the clear-cut turning point of the forest landscape in terms of environmental changes of the state. In West Bengal, the British colonial rulers were in a highly dominating position; and they had implemented one single model of forest management throughout the Indian subcontinent including the Bengal Presidency. The primary objective of the present study is to understand the changing nature of colonial forest landscape through plantation (Sal, Tea, and Cinchona) activities and the establishment of forest villages through Taungya process in the sub-Himalayan West Bengal from 1757 to 1947. In particular, this study aims to examine as to how the colonial plantation activities changed the forest landscape of this particular region. It also examines civil society movement based on forest resource rights and problems in the implementation of the Forest Right Act (2006) in the sub-Himalayan West Bengal till 2015, since independence. The colonial forest management authority was more interested in the plantation and cultivation of trees with high timber values compared to the natural forest. For this purpose, the saplings of Teak, Mahogany, Sisso were supplied to different parts of Bengal province to increase the timber productions. In 1886, for the first time in the Indian forest history, an area of about 15,5,399.29 sq.km was demarcated as Reserved Forest which included the whole western Dooars region located on the right bank of the river Teesta in the northern part of West Bengal. It was the starting point of 'scientific' forest management in the then Bengal Presidency or present West Bengal. The Taungya system of scientific forest management was first initiated in the Bengal Presidency in colonial India after colonial Burma (Myanmar). The system has changed the traditional cultivation practice within the forest land. Due to the Taungya system, 168 forest villages were established in the Himalayan foothills of Bengal. And since India's independence in 1947, West Bengal has witnessed a number of civil society movements linked to the welfare of poor forest villagers demanding the forest resources rights, for example, the Jangal Mahal movement. The Forest Right Act (2007) has also created conflicts in different parts of the study area. In a nutshell, rapid exploitation of forest resources along with trading monopoly of forest management by the state Forest Department has done historical injustice to the people of sub-Himalayan West Bengal.

Keywords: Forestry, Colonial Forestry, Taungya Process, Commercial Plantation, Sub-Himalayan West Bengal, India

[†] Research Scholar (UGC-SRF), Rural Development Centre, Indian Institute of Technology Kharagpur Kharagpur-721302, West Bengal, India

*Corresponding Author, Email: somnath@iitkgp.ac.in

^lProfessor, Rural Development Centre, Indian Institute of Technology Kharagpur, Kharagpur-721302, West Bengal, India
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Introduction

The idea of forest management during the period of colonialism was a conventional process of implementing one single continental model of forest legislative action and management procedure throughout the country (Sivaramakrishnan, 1999). The intent behind a uniform single forest legislative model was to maintain the continua of the forest resources supply to Europe (Rangarajan, 1996) as well as to develop structural infrastructure within the Indian subcontinent. This model brought transformation in the forest landscape which was readily accredited by scholars that the colonial period was a clear-cut turning point in the history of environmental change in the Indian sub-continent as well as the sub-Himalayan region (Gadgill and Guha, 2002). The imperial techno-scientific forest management¹ mainly focussed on the plantation of a specific type of species with the approach of agri-silviculture (Kumar, 1900; Kumar, 2012; Sivaramakrishnan, 2009), for example, the impact of Sal and Teak cultivation in sub-Himalayan Bengal during the second half of the colonial period. Moreover, after critical examination of a vast range of colonial activities in terms of exploitation of forest resources in the sub-Himalayan region, it has been understood that the socio-economic life of the forest dwellers had changed due to the intervention of the British to fulfil their economic interests. However, the post-colonial forest management practices of India continue to carry the legacy of the colonial structure of forest management practices (Sivaramakrishnan, 1999).

Notwithstanding, in the colonial period, the nature of changing forest landscape of sub-Himalayan West Bengal was reasonably different from the other parts, that is Sundarbans Mangrove forest and south-western plateau forest of West Bengal. Therefore, there is a need to explore the historical geographic

dimension of the changing forest landscape of this particular region, because it would reveal the social, economic, and political interlinkage of forest landscape under the spatiotemporal framework. The objectives and methodological issues of the study area are discussed in the next sections.

Objectives and Methodology of the Study

The primary aim of the present study is to understand the changing nature of colonial forest landscape through plantation (Sal, Tea, and Cinchona) activities and the establishment of forest villages (Table 1) through Taungya process in the sub-Himalayan West Bengal from 1757 to 1947. In particular, how the colonial plantation activities changed the forest landscape of this particular region. In addition, this study aims to examine the civil society movement based on forest resource rights since independence and the associated problems in the implementation of the Forest Rights Act (2006) in the sub-Himalayan West Bengal till 2015. To accomplish the objectives of the study, it uses an archival source of information and data, such as West Bengal state archives based in Kolkata, forest directorate library of West Bengal and Bangladesh, especially, the tour reports of the British forest services personnel. The digital repository of West Bengal Public Library Network has also been used to retrieve colonial forestry information. Published and non published reports, monography of West Bengal state forest department has also been used as a source of information.

The Study Area: Sub-Himalayan West Bengal

The present study area, that is, the sub-Himalayan West Bengal embraces the districts of Jalpaiguri, Alipurduar, Cooch Behar, and Siliguri sub-division of Darjeeling district. The forest types of these areas are mainly sub-tropical semi-evergreen and deciduous.

1. Techno scientific forestry in colonial period was introduced to practice modern scientific forest management technique using technological assistance. For example, the forest school was established in 1878. Alongside, using techno scientific forestry knowledge the Indian forest service was introduced; published regular forest reports (Guha, 1992; Sivaramakrishnan, 1999).

Table 1: Forest Villages in the Sub- Himalayan Bengal

Districts	Number of Forest Villages	Number of households
Darjeeling	91	2377
Jalpaiguri	74	5247
Cooch Behar	3	162
Total	168	7786

Source: 150 years of forestry in West Bengal, Forest Directorate, 2014.

Data based on the enumeration of 1984.

The tree species include Sal (*Shorea Robusta*), Chikrassi (*Chikrasia Tabularis*), Gamar (*Gamalina Arborea*), Khair (*Acacia Catechu*), Sisso (*Dalbergia Sisso*), Simul (*Bombax Ceiba*) and others. The valley of river Teesta and Torsha represent a rich ecological diversity of forest landscape. Das (2011) has rightly pointed out that the Sub-Himalayan Bengal region is rich biodiversity and at the same time an eco-crisis zone.² In this sub-Himalayan West Bengal region the tropical evergreen forest cover about 167 sq.km in Kurseong and Khatmari area; similarly, about 25 sq km extending across Buxa Doors and Terai region are covered by sub-tropical semi-evergreen forest, and sub-Tropical broad

leaved wet hill forest occupies approximately 800 sq.kms. In many parts of this region, the perennial rivers emerging from the Himalaya serve as the edges of the forest administrative division. For instance, the river Sankosh acts as the extreme eastern boundary with Assam forest division. Currently, 3051 sq.km has been recorded as forest land of the study area, out of which 2598 sq.km is under reserved forest, 257 sq.km is under protected forest, and 194 sq.km is under unclassified others forest (Directorate of Forest, 2012) (please refer to Table 2 showing the differences between reserved, protected and unclassified forests).

Table 2: Differences between Reserved, Protected and Unclassified Forest

Reserved Forest	Protected Forest	Unclassified Forest
An area notified under the provisions of Indian Forest Act, 1927 having a full degree of protection. In Reserved Forests, all activities are prohibited unless specifically permitted (Sec.20 of IFA, 1927).	An area notified under the provisions of the Indian Forest Act having a limited degree of protection. In Protected Forest, all activities are permitted unless prohibited (Sec. 29 of IFA, 1927).	An area recorded as forest but not included in the Reserved or Protected forest category. Ownership status of such forests varies from state to state.

Source: State Forest Report, 2011-12, West Bengal.

Many hilly streams arising from Bhutan Himalaya pass through this forested region. This is one of the key reasons as to why people dwelling in this region suffer from frequent floods and mudflow, which affects their livelihood in many ways. Involuntary displacement due to changing river course and loss of fertile cultivated land due to

deposition of mountain sand, silt and debris are also common phenomena.

In the case of a socio-demographic profile, the Sub-Himalayan West Bengal is home to many indigenous people— Toto, Dukpa, Rabha, Mech, Munda, Madeshi, and Santhal (Census of India, 2011). However, changing the forest environment and bio-diversity have been

² The entire Himalayan region, especially the sub-Himalayan region is an eco-crisis zone because of the following reasons— forest areas have been encroached by human settlements; at the same time the region has been facing severe human-animal conflicts (Bhuyan and Kar,

2018; Panja and Mistri, 2018). Besides, growing number of dams and fall of groundwater level have been directly affecting large number of peoples' livelihood needs.

influencing the livelihoods of these people (Nagendra, Paul, Pareeth, and Dutt, 2009).

The research findings of the paper are discussed in the following sections. The first part discusses the nature of colonial forest management. This has been further sub-divided into three parts, namely— commercial plantation of Sal, tea and Cinchona, followed by history of Taungya cultivation and established forest villages, and changes in forest landscape in sub-Himalayan Bengal. In the second part, post-colonial forest movement based on resource rights, implementation problems of Forest Rights Act (2006) has been explored. The third section critically discusses the views on the sustainability of the forest and the dignity of the forest dwellers on the basis of both historical geographic perspectives of forest landscape and forest people.

Results and Discussion

Nature of Forestry in Colonial Bengal

During the colonial period (1757-1947), forest landscape of the Bengal Presidency was expanded from the Darjeeling hills in the north to the Mangrove forest of Sundarbans in the south and Santhal Parganas in the west to the Chittagong hill tracts in the east. In the first half of the British rule (1757-1857),³ the British administrative authority had no guiding principle of collecting forest resources from the most diversified hills and Mangrove forests of Bengal Province (Ghosal, 2011; Saikia, 2002). The British colonial rulers believed that the forest is the major obstacle to expand modern agriculture system in the foothills of the Himalayan region.

Within a few months after the second half of the colonial period (1857-1947)⁴, the authority classified the forest land into three categories— reserved, protected, and unclassed forest areas. On 3rd August 1855, Lord Dalhousie first declared a forest policy for the conservation of forest landscape in Calcutta (Blanford, 1922).

The formal forest conservation in Bengal province started after the inspection of forest areas by Brandis (first inspector general of forests of India) in August 1864. Although Dalhousie had formally declared the forest area classification on 1855, the superintendent of Botanical Garden of Calcutta at that time, Anderson was appointed not only as the first chief conservator of forest of Bengal Presidency but also the superintendent of Botanical Garden of Calcutta. Under the supervision of Anderson, tree saplings such as Teak, Mahogany, Sisso were supplied to different parts of Bengal province to increase timber production and supply more timber to European market. In 1886, for the first time in Indian forest history, an area of about 15,5,399.29 square kilometres was demarcated as Reserved Forest which included the whole western Dooars region located on the right bank of the river Teesta (Forest Directorate, 1964). After that, the forest landscape of the sub-Himalayan Bengal had changed drastically. According to Sivaramakrishnan (2009), during this period the 'techno-scientific' knowledge of forest management was introduced to produce more forest products mainly timber in different parts of the Bengal Presidency. However, the technique of forest management was the same for the whole province, which creates huge environmental problems later on in the entire province. As Sivaramakrishnan (1999: pp-2) mentioned:

As the geographic diversity of Bengal intuitively suggests, forest management could not possibly conform to standard continental or colonial model.

Frequent changes of forest working plan, like Manson's plan of 1892, Osmaston plan of 1902, Griere's plan of 1912, and the revised plan of 1920 had become a curse for overall forestry activities in the sub-Himalayan Bengal. Even, some forest region had no policy and guidelines for management (Sivaramakrishnan, 2000,

³ It was the direct rule of British East India Company or also known as Company Raj. Meaning of 'Raj' is rule. East India company rule started in 1757 after the victory of the Battle of Plassey, when they accomplished Diwani (revenue collection power) in 1765 over Bengal and Bihar.

⁴ The second half of the colonial period started when the ruling power was officially transferred from the East India Company to the British Government.

2009). Demarcation of natural forest under three different categories- reserved, protected, and the unclass forest was the prime objective of the colonial rule because it was the major source of revenue the British Raj. Delineation of forests into the three categories caused enormous hardships to the daily lives of the forest dwellers and indigenous people. For example, a large number people depend on the forest not only for the collection of fodder for their cattle but also fuel and food for their sustenance but after delineation of the forest

into reserved and protected forest caused livelihood problems to these people (Kar, 2004). This observation bear resonance to the findings of the researchers of Singh (2014); Singh(2015) and Das (2017) who demonstrated in their studies as to how the people living in the hill economy and in and around national forest park regions depend on the forest resources for their daily lives. Figure 1 demonstrates the temporal pattern of different types of forest cover along with the total forest in the Bengal Presidency from 1868 - 1940.

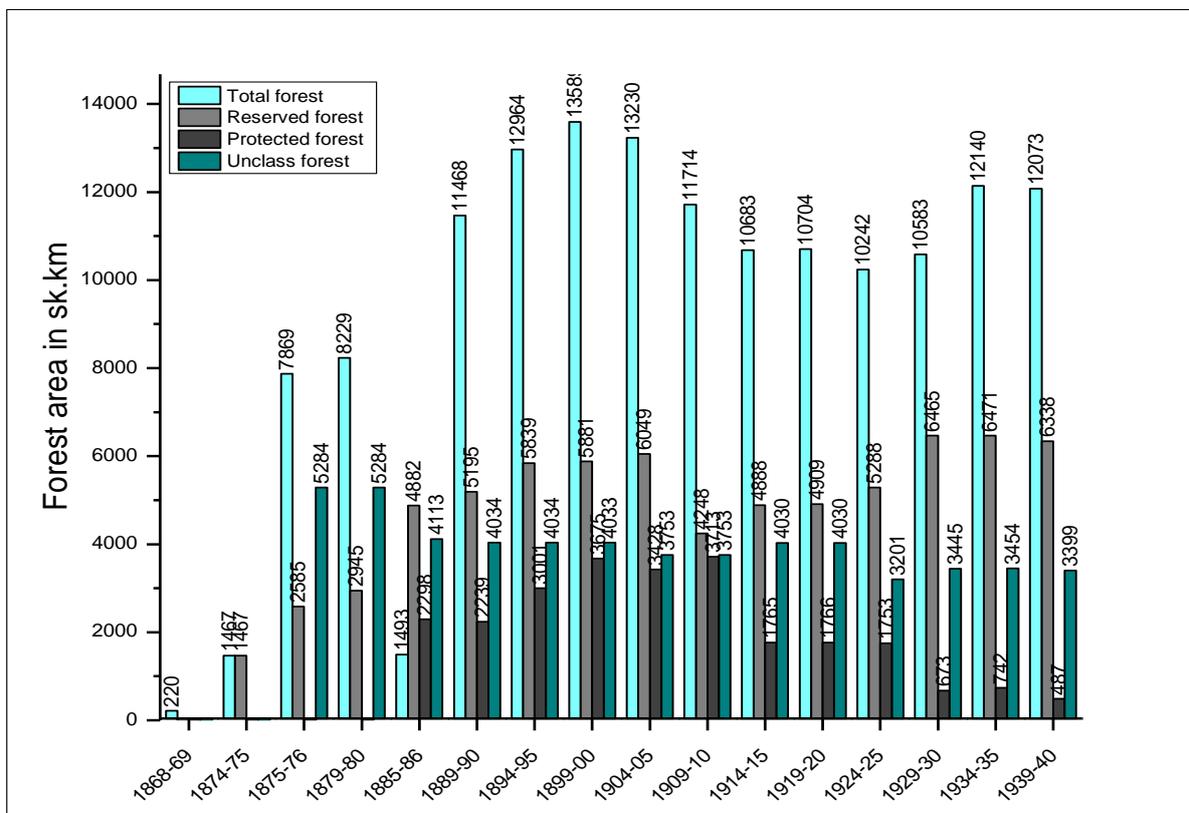


Figure: 1 Changing Pattern Forest Cover of Bengal during the Colonial Period
Source: Forest Directorate, Govt. of West Bengal, 1964.

Figure 1 illustrates that reserved, protected, and the unclass forest area had steadily increased during the colonial period, which indicates the British control over forest land and resources was mainly to generate revenue.

Commercial Plantation of Sal, Tea, and Cinchona in Sub-Himalayan Bengal

In the colonial period, the Himalayan environment had been physically transformed by the experiment of different agri-silviculture activities by the colonial rulers (Guha, 2001; Rangarajan, 1996; Kumar, 2012; Sivaramakrishnan, 2016). Litvinoff and Griffiths, (2014) and Saha and Sundriyal, (2012) argued

that colonial imperialism not only altered the cultural, political and social structures of the colonised societies but also destroyed the environment, native ecology and traditional subsistence patterns of agriculture. The socio-ecological history of British India has a special interest in the scrutiny of the intimate connection between imperialism and environmental degradation (Gadgill and Guha, 2002); particularly, the transformation of natural forest landscape into plantation practices in Bengal Presidency. For example, homogenisation of sub-Himalayan Bengal forest by the substantial plantation of Sal and Teak with the enormous investment by the European merchants were only to increase more profits. The railway transportation connectivity between Himalayan Bengal and Calcutta port played an important role in reaching the overseas market.

The forests of sub-Himalayan Bengal are generally of wet mixed types (Champion and Seth, 1964) with scattered savannah grassland; often covered with both endemic and exotic species. Evidently, the British had started homogenous Sal and Teak plantation for commercial purpose. However, this man-made Sal and Teak forest had less ecological value, which transformed the existing character of the physical landscape of the region. Initially, the colonial ruler faced difficulty in terms of cultivating Sal forest (Blanford, 1922) in the sub-Himalayan region. Then, the drastic, radical solution was found out by the then British foresters H.O. Shebbeare, and J.W.A Grive who was then working in the sub-Himalayan belt. Shebbeare and Grive both had argued in favour of clear-felling of the forest land particularly the region where there was enormous undergrowth of semi-evergreen species had been observed (Jha, 2012; Karlsson, 2000). Rigid fire protection in the initial years of forest management increased moisture contents in the soil, especially in the Doars region, which led to

various problems of regeneration of the Sal tree (Shebbeare, 1928).

The making of Sal and Teak timber in this region was thus not a smooth process; it was against the physical environment of sub-Himalayan Bengal. It became evident that the rates of erosion rate of the rivers Rydak and Dimer were greater than before and insect attacks in the natural forest landscape had increased (Murial, 1915).⁵ In 1914, the forest zoologist Beeson found a new beetle species (*Diapus Furtivas*) which attacked the green Sal and damaged the whole tree. Therefore, the colonial authority had introduced the clear-cutting method, which was a method of homogenization of forest under block system with a rotation period (Blanford, 1922; Hart, 1915; Shebbeare, 1928). The main aim of this clear-cutting method was nurturing of valuable timber species and cutting the less costly plants. Each clear-cut felling series was in an average of about 5000 acres, simultaneously with eight-year rotation. Under this system, the total area was divided into four equal sizes for collecting timber properly in the specific time duration. The whole series of clear-cut felling was made for 40-80 years cycle, and the pattern Sal plantation was classified as two types such as (1) plantation without field crop and (2) plantation with field crop.

The second method of the plantation was very popular and had shown better results. Here, at the initial stage, a single line of seeds were planted with little digging of soil by the Taungya cutters,⁶ but later double or triple line of seeds were planted (Blanford, 1922). The Buxa Timber and Trading Company started Sal plantation and were also involved in the collection of other plant timbers in order to meet the growing demand of the local markets. This is largely because the northern part of Bengal Presidency had enormous demand for woods for making tea packing boxes.

⁵ In the first decade of the 20th century, a large number of immature and disease affected Sal timbers had been extracted from the forest of Buxa and Jalpaiguri. The enquiry was carried out by Murial in 1913 and he affirmed that there were different causes, such as erosion of Rydak

and Dimer River, death from the climber, and most importantly insect attack (Murial, 1915).

⁶ Taungya process has been discussed in detailed in the next section.

The commercial plantation in sub- Himalayan Bengal however, did not confine only to commercial Sal cultivation; there was also a massive plantation of tea which drastically transformed the natural forest landscape of sub-Himalayan Bengal. Tea as a soft drink had high demands in the European market, and due to that a sizeable amount of forest area had been converted into tea gardens. The sub-Himalayan Bengal belt is very suitable for tea plantation because of its slopes and soil condition. The Gazoldoba tea garden was the first tea garden in sub-Himalayan Bengal. Brougham established this tea garden by taking the land on lease from the government in 1886. However, the plantation of tea was underpinned by colonial politics; the central aim was always to earn more revenue; for instance, in order to expand tea cultivation, the colonial administrators declared

large tracts of land as wastelands. Wastelands, as they were called, were always given as grants for the establishment of tea cultivation. By doing so, the colonial administrators declared the region as a 'non-regulatory district' in order to facilitate the expansion of tea gardens (Dasgupta, 1992; Ghosh, 1970). Figure 2 presents the evolution of tea gardens of the sub-Himalayan region. Figure 2 also demonstrates that the number of tea gardens in the latter half of the colonial period had decreased, whereas the total area of tea gardens had increased. This finding signals that the colonial administrators either captured forest lands or agricultural lands to expand the tea business. Simultaneously, cinchona (*Cinchona Officinalis*) plantations were also undertaken in Mungpu region, which also transformed the forest landscape.

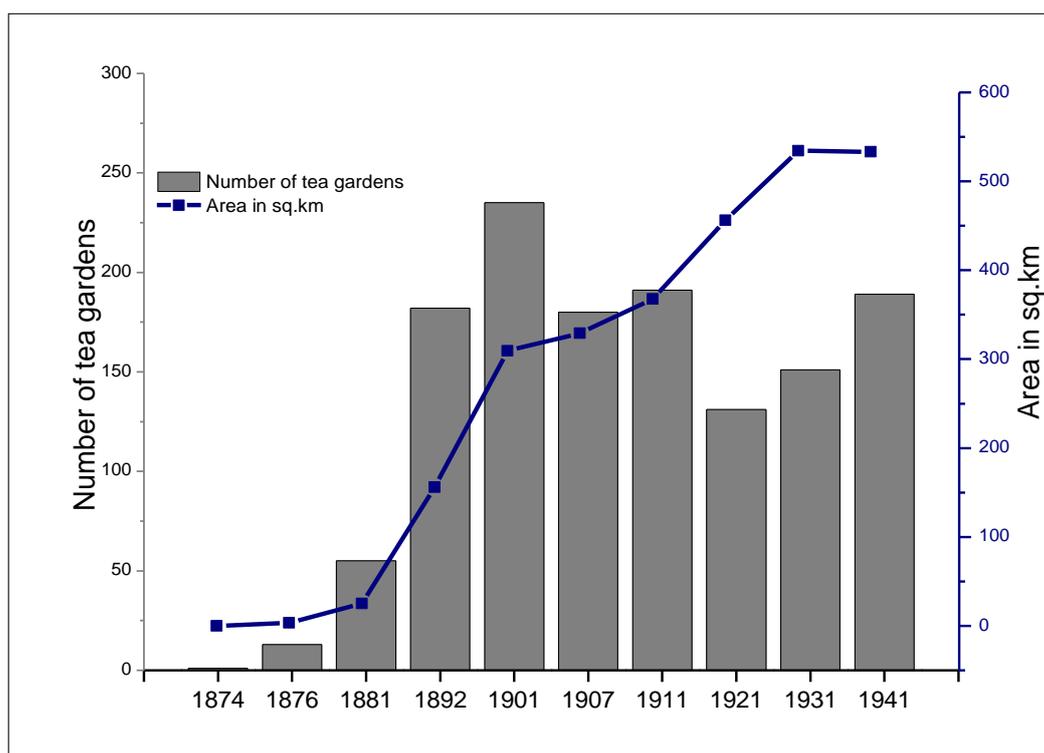


Figure 2: Evolution of Tea Gardens (Plantation Agriculture) in Sub-Himalayan Bengal, 1874-1941
Sources: Dasgupta, 1992, West Bengal Forest Directorate, 2014

Anderson started his experiment to develop commercial Cinchona cultivation, initially in the whole hilly areas of Bengal but by 1862, he decided to stick to only Mungpu hills. As a general rule, Cinchona is cultivated in a cycle of

10 years. It has been observed that in the areas where Cinchona grows and becomes matured; the soil where the Cinchona were grown cannot be reused immediately for replantation. The land needs to be kept fallow for a few years. In

1913, there were 3000 acres of land under Cinchona plantation in Mungpu region (Forest Directorate, 1964). Overall, due to this plantation, the natural forest landscape of the Himalayan foothills also changed. Figure 3 shows the spatial distribution of forest landscape and

major plantation areas, that is, the tea gardens in the sub-Himalayan West Bengal. Thus from this figure, one can understand as to where and how the forest landscape was transformed into plantation fields.

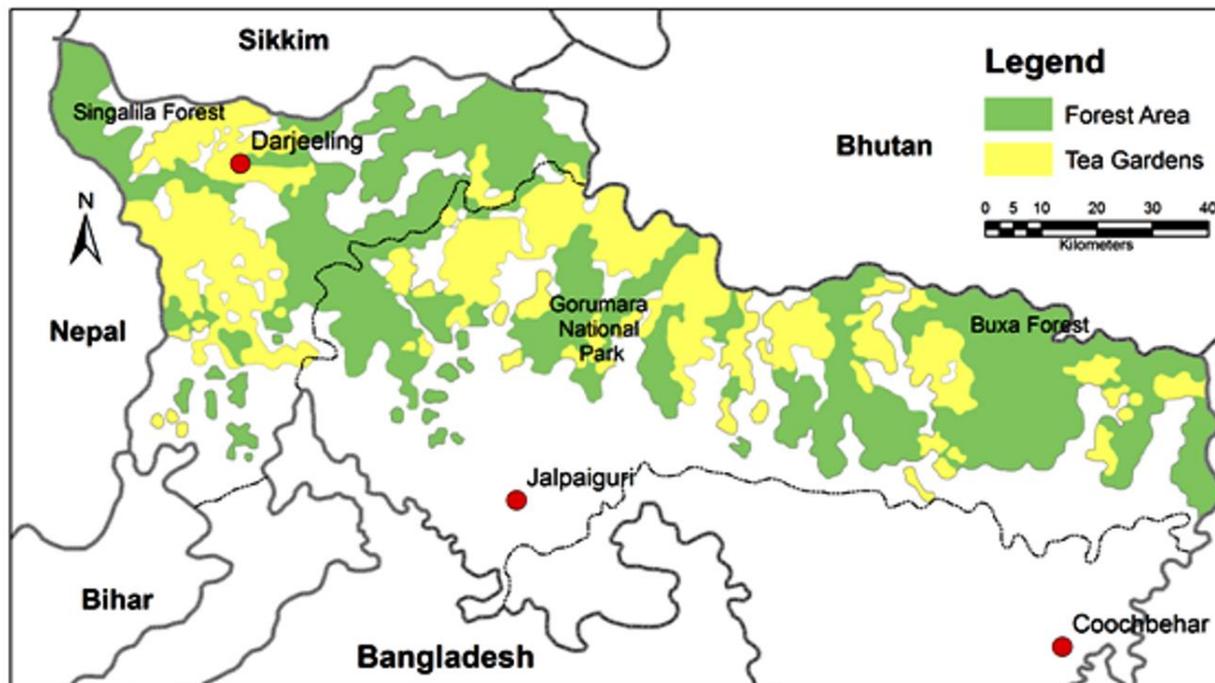


Figure 3: New Spatial Order of Forest and Tea Gardens in the Himalayan and Sub-Himalayan Bengal

Source: Modified after Karlsson, 2000

History of Taungya Cultivation and Forest Villages in the Sub- Himalayan Bengal

Taungya ('Taung' refers to the hill, and 'Ya' refers to cultivation) is a Burmese word. In 1856, the Taungya system of techno-scientific forestry was first initiated in Burma among the tropical Asian countries. . Taungya means agro-forestry in which a small area of land was planted with other agricultural practices. In the Taungya process, one man or one family worked, and cultivate food crop when the trees are still small (Edberg, 2015; Win and Kumazaki, 1994). Taungya, as an inter-cultivation technique, transformed both the traditional cultivation process and forest land of the sub-Himalayan Bengal. After its introduction to Burma, it spread to the Himalayan Bengal. In the first stage, due to the failure of natural regeneration of Sal in northern Bengal region, the British rulers followed the regeneration of Sal by Taungya

system. It was important for the British administrators to regenerate Sal and Teak because of the enormous demand in the European and domestic markets for construction of the house, making railway slippers, and furniture for Royal British navy and others purposes. Taungya cultivation was labour intensive; therefore, huge labour force was required for continuing this practice.

As a consequence, the forest villages were established in different parts of the sub-Himalayan Bengal bringing labour mostly tribal families from central high land areas, especially Jharkhand, Madhya Pradesh, and Chotonagpur plateau as these areas had huge labour scarcity under the Begeri system (provision of no wage against labour). The Taungya workforce was initially comprised of communities from Santhals, Munda, and Madesi. These communities were followed by the Garos,

Rabhas and Bhutia communities. The Taungya felling cycle was based on one villager per acre land, and the plantation labour was free of cost (Lahiri, 2014). There was no money paid to the Taungya plantation worker against their labour; therefore, the establishment of forest villages became a popular strategy, and large numbers of people were allowed to settle in the forested areas. Only since 1988, the Taungya villagers came under the paid plantation system under the Forest Department. If one looks at the distribution of forest villages in the sub-Himalayan Bengal, there are 74 forest villages occupying a total of 5247 households. This means on an average there are 70 households per village. Moreover, a total of 168 forest villages are spread across the northern region of the state of West Bengal. The Darjeeling district has 91 forest villages which are the highest, and Cooch Bihar has the least with only three forest villages. These forest villages embrace 2539 households (West Bengal Forest Directorate, 2014). The following section discusses changes in the forest landscape.

Changes in the Forest Landscape

During the colonial period, forest resource extraction from the Himalayan territory was based on a detailed spatial survey of the hill landscape by Rennel, Buchanan, and Hamilton (Kar, 2004). The spatial growth of colonial forest areas (Reserved, Protected and Unclassified Forest) in Bengal was depended on controlling the activities of forest dwellers because the forest sector was the major source of economic profits as well as revenue. In particular at sub-Himalayan West Bengal, spatial growth of plantation activities changed the forest landscape of this particular region; for example, four separate forest divisions in colonial sub-Himalayan Bengal such as Tista, Kursroung, Jalpaiguri, and Buxa division were demarcated (Saikia, 2011) with the idea of homogeneous Sal and Teak plantation in early 1867. Figure 4 displays the spatial distribution of plantation categories concerning forest division in the sub-Himalayan Bengal. It was clear from Figure 4 scale and intensity of the plantation (Teak, plywood, pulpwood, and Miscellaneous); which indicate that it had transformed the natural vegetation landscape of this particular region.

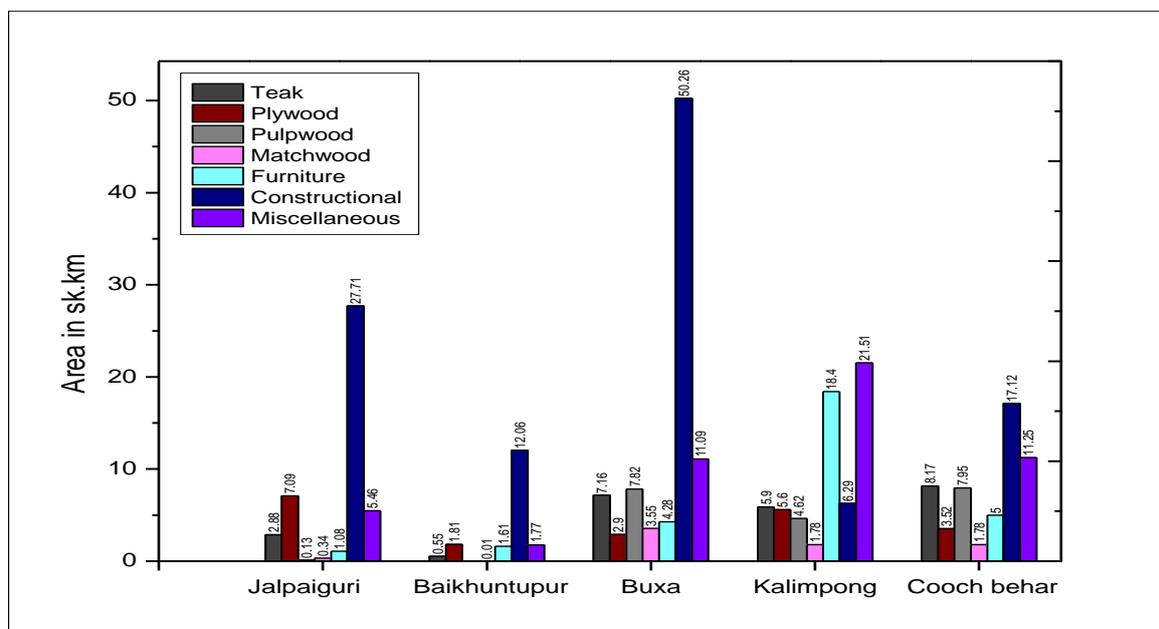


Figure: 4 Spatial Pattern of Different of Plantation Category in the Sub-Himalaya West Bengal, 1900

Source: Report of the Forest Directorate, Government of West Bengal, 1964

Post-Colonial Forest Movements Based on Resource Rights in Sub-Himalayan West Bengal

Post-independence forest policy emphasises more on the national level via the 'National Forest Concept', where the local needs are considered as secondary requirements to primary the industrial needs (Banerjee and Ghosh, 2010; Banerjee and Madhurima, 2013). As a result, West Bengal witnessed a number of civil society movements related to the welfare of poor forest villagers in the sub-Himalayan West Bengal. The *Jangal Mahal*⁷ movement was important in the sense that it acknowledged the forest dwellers' demands for their rights to forest resources and dignity. Forest tract from Baikhuntapur to Shalugura is known as *Jungle Mahal*, where a particular group of people known as *Fapri* settlement has been dwelling there. People of these *Fapris* are very poor and migratory; their livelihood is depended on livestock grazing, especially buffalo in the forest land. However, the *Raja* (the local king) of Jalpaiguri levied a tax for grazing activities and the amount of tax depending on the number of livestock knows as *Gaddi*. In 1970, the forest dwellers raised voice against the *Gaddi* system demanding their livelihood rights to graze in the forest land. In some parts, radical movement against the Taungya process also emerged in 1960-1970; this movement, however, followed the left tradition politics; for example, the *Gherao* movement by forest villagers against the Taungya administration authority; when the Taungya management authority refused to pay the villagers for plantation activities, which in turn triggered conflict between the villagers and Taungya authority⁸. The Taungya villagers demanded basic livelihood amenities and

payment against their labour in plantation activities.

In recent times, rights-based conflicts linked to forest resources have emerged in different parts of the sub-Himalayan West Bengal. These movements are however related to the practice of eco-development measures. For example, Buxa Tiger Reserve was selected for the World Bank sponsored eco-development initiative (Forest Directorate, 2014). At the initial stages, the people of the forests actively participated in implementing a unit of this sustainable forest management initiative, but with time, there arose conflicts in this tiger Reserved forest based on issues of eco-development practices. The Rabha community was working with the forest department in many areas such as preserving the forest, saving wild animals from the illegal local businessmen by preventing them from felling trees and killing wild animals. However, these Rabhas, after a few months had refused to help the forest authority on the ground that their livestock was not allowed grazing, in the forests. Moreover, some of their leaders had lost their lives as they were misrecognised and shot at by forest guards during patrolling (Karlsson, 1999).

Implementation of Forest Act (2006) in West Bengal and Associated Problems

In West Bengal, the Forest Rights Act (FRA),⁹ 2006 was officially implemented on 31 December 2007. However, the act came into action after two years under the jurisdiction of Rural Development and Panchayat Raj department. As per the FRA, the forest department must implement the land rights of the forest dwellers, but the FRA had created conflicts during its implementation in different parts of the state. According to the FRA, the

⁷ In West Bengal, when we refer "Jungal Mahal", generally people understand the specific geographical territory of western part of West Bengal, which are covered by forest. However, 'forest tract of Baikhuntapur to Shalughara in the northern part of West Bengal' is also known as 'Jungal Mahal'. For details see "Kirat Bhumi" edited by Aribindo Kar (2004). In this article the term "Jungal Mahal" represent only Baikhuntapur and Shalughara forest tract of the northern part of West Bengal.

⁸ Tea garden labour and Taungya workers have been living together outside the dense forest of the sub-Himalayan

West Bengal for a long time. First, the tea garden workers gained success in their movement in attaining basic amenities. This success of the tea workers inspired the Taungya workers to launch their movement against the forest authority.

⁹ Forest Right Act (FRA) was passed in the Indian parliament on December 2006, which is considered as ground-breaking policy for the forest dwellers of the country.

Gram Sabha (village assembly) of a particular forest village is the responsible local implementing agency of forest land allocation to the landless forest dwellers;¹⁰ whereas, in West Bengal, the Gram Sansad¹¹ (village council) is the local implementing agency of the mentioned activities. Gram Sansad is generally operated by political agents, which is never considered as equivalent to Gram Sabha (a non-political). Although, in few forest villages of sub-Himalayan West Bengal, the Gram Sansad takes the decisions regarding the household and community land rights (Jha, 2010, 2012), this has been creating reported conflicts in the villages. Apart from this, the direct conflicts over the forest and land resource rights have been rising among the forest fringe dwellers based on 'wasteland issue'. For instance, state forest authority claims that the forest land of sub-Himalayan West Bengal had been reserved as 'wasteland' category during the colonial period; therefore, the scheduled tribes and other traditional forest dwellers' land rights cannot be implemented. However, reserving forest land as 'wasteland' was a colonial politics. Looking into the colonial forest reports in West Bengal, it has found that the king of Bhutan ruled the earlier sub-Himalayan territory of the West Bengal. In 1865, the British rulers took the charges of this territory after the Indo-Bhutan war. At the same time, the British rulers declared this territory as 'wasteland' by Bhutanese-Dooars Act, 1869 (Choudhury, 2015). Although the sub-Himalayan region is one of the rich bio-diversity zones full of flora and fauna, the entire region was covered with evergreen and moist deciduous forest, where people from the different communities have been living, and the forest resources are being considered as a major source of livelihoods base. This colonial legacy of 'self-declared wasteland policy' resulted in the inception of conflicts between people and forest protection authority in the twenty-first century.

Conclusion

The purpose of the current research was to reexamine the historical geography of forestry

and forest culture in Sub-Himalayan West Bengal for the period 1757-2015. From the above discussion and analysis, it has found that the colonial plantation and regeneration activities were the turning point in the history of the Himalayan environmental changes as well as people's right over natural resources. However, the legacy of the colonial forest governance rule continues to create in numerous problems in the current forest policy implementation of the sub-Himalayan West Bengal including the management of the welfare of the poor forest dwellers. Nonetheless, after independence, rapid exploitation of forest resources along with monopoly in trading of woods has been bestowing historical injustice to the poor forest dwellers in the sub-Himalayan West Bengal. Indeed, the forest dwellers continue to witness on-going crisis as some of their forest-based traditional livelihoods (like cattle grazing and non-timber forest product collection) are considered as criminal activities by the forest management. Therefore, to mitigate the overall 'forest crisis,' there is a need to framing new strategies considering the different domains of forest management—environment, demography, economy, agricultural practices, and livelihoods of the forest dwellers alongside the culture of this particular region.

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¹⁰ Forest Right Act, 2007 is also known as the Scheduled Tribes and others Traditional Forest Dwellers Act.

¹¹ Gram Sansad is a hierarchal division of Panchayat Raj system of India (Panchayat Raj Act, 1973).

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