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Cultural Shifts And Agricultural Transformation In Jamaldaha, Mekhliganj Of Cooch Behar: The Rajbanshi Perspective.

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ABSTRACT

Jamaldaha Gram Panchayat, situated within Mekhliganj Panchayat Samiti of Cooch Behar district, West Bengal, is home to 34 villages predominantly inhabited by the Rajbanshi community. This rural society, with a rich cultural and agricultural legacy, has undergone significant socio-economic and environmental transformations. Traditionally reliant on crops such as Pure breed Rice, Wheat, Mustard, Bamboo, Betel nut, and Jute, the community has shifted toward modern cash crops like High yielding Paddy, Tea and Potatoes, driven by market demands and technological advancements. This transition has had profound implications on their socio-economic structures, environmental sustainability, and cultural practices.

The introduction of modern cultivation methods, chemical fertilizers, and hybrid seeds has resulted in soil degradation, water scarcity, and a decline in biodiversity. Sacred bamboo groves, a cultural hallmark, and traditional sustainable practices such as the Hauli system have largely disappeared, disrupting the community's cohesion and environmental balance. Economic disparities have widened as wealthier entrepreneurs dominate the agricultural landscape, leaving small landholders dependent and vulnerable.

Environmental impacts include groundwater depletion, soil erosion, and contamination from unregulated use of insecticides and herbicides. Furthermore, the eradication of weeds, many with potential medicinal and genetic value, poses a significant risk to ecological and agricultural resilience. Despite short-term economic gains, these changes have threatened the region's long-term sustainability.

To address these challenges, this study advocates for the integration of indigenous knowledge with modern practices, the promotion of traditional crop cultivation, and the regulation of chemical usage. Conservation of biodiversity and equitable socio-economic measures are essential to restore balance and ensure sustainable development for the Rajbanshi community.

Keywords: Rajbanshi community, Agricultural transformation, Biodiversity loss, Socio-economic disparity

INTRODUCTION

Jamaldaha Gram Panchayat, situated within the Mekhliganj Panchayat Samiti of Cooch Behar district in West Bengal, is a vibrant rural community comprising 34 villages. Home to a predominantly Rajbanshi population, the region embodies a blend of historical traditions and evolving agricultural practices. According to the 2011 Census, Jamaldaha Gram Panchayat had a population of 29,588, with 15,241 males and 14,347 females, and an overall literacy rate of 61.24%.

Rajbangshi community has a long and significant past record that can be traced from the age of Mahabharata. They have got an age-old tradition to make their living from the crude nature. They look to nature for their medicine, food, fodder and daily life needs.

Agriculture is the main source of their income. They were very much accustomed with the cultivation of traditional cash crops such as jute, tobacco, betel-nut and bamboo groves. Regarding Tobacco it is extensive almost everywhere else. Pargana Lalbazar is especially famous for the excellence of its tobacco. This crop is also very largely raised in Mekliganj, Mathabhanga and Dinhata, and forms one of the staple products of agriculture of these parganas. The traffic in tobacco is large, and the people make a good deal of money by it. Tobacco is sent down in boats to the eastern districts of Bengal in large quantities. Formerly, the Burmese merchants annually used to take away thousands of maunds of tobacco from Mekliganj, and Lalbazar. The value of the annual export of this crop was about 10 lacs of rupees in 1876. Two species of tobacco are grown in the country: Ordinary and Hamakoo. Cultivation of hamakoo is extensive in Mekliganj.

Another report here should be allude is the report depicted in the Census Report -1951 about Cooch Behar district of West Bengal- "The greater portion of the country is well cultivated, composed of green fields studded with bamboo clumps and orchards, which surround the homestead of every substantial farmer. Bamboo, which has a hundred uses, is as extensively grown as it is universally used."

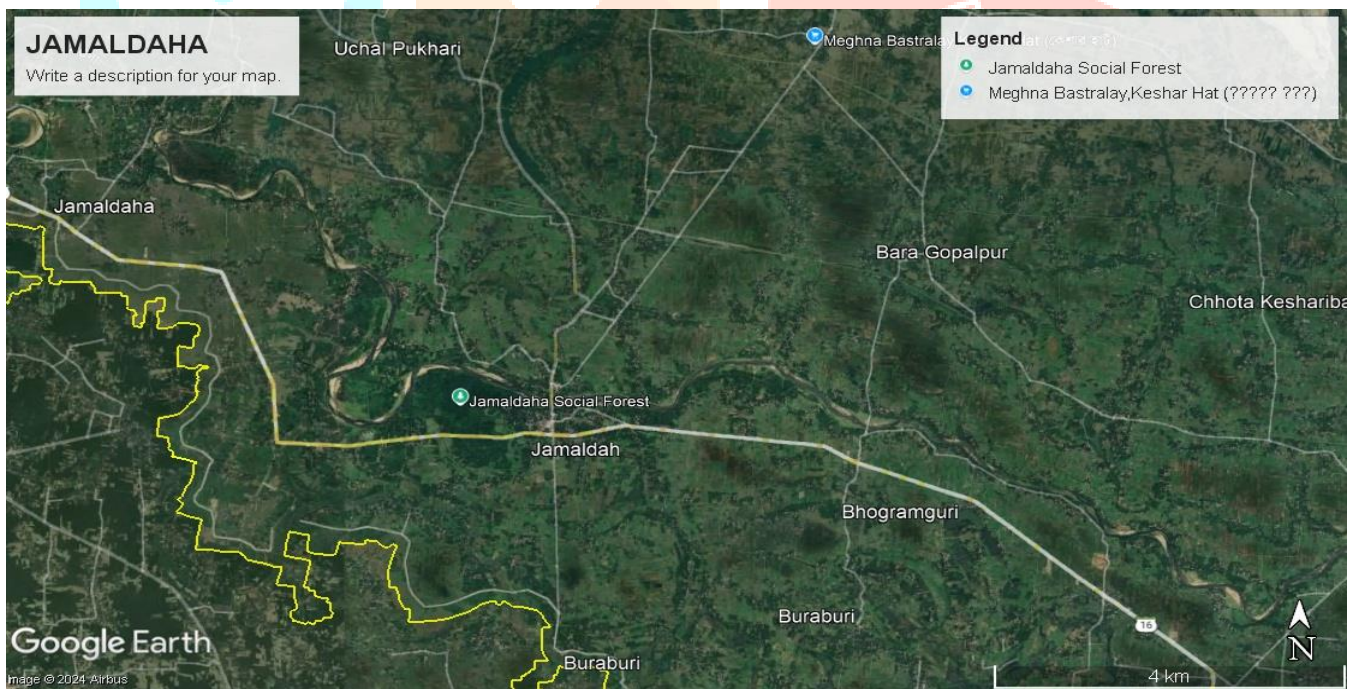
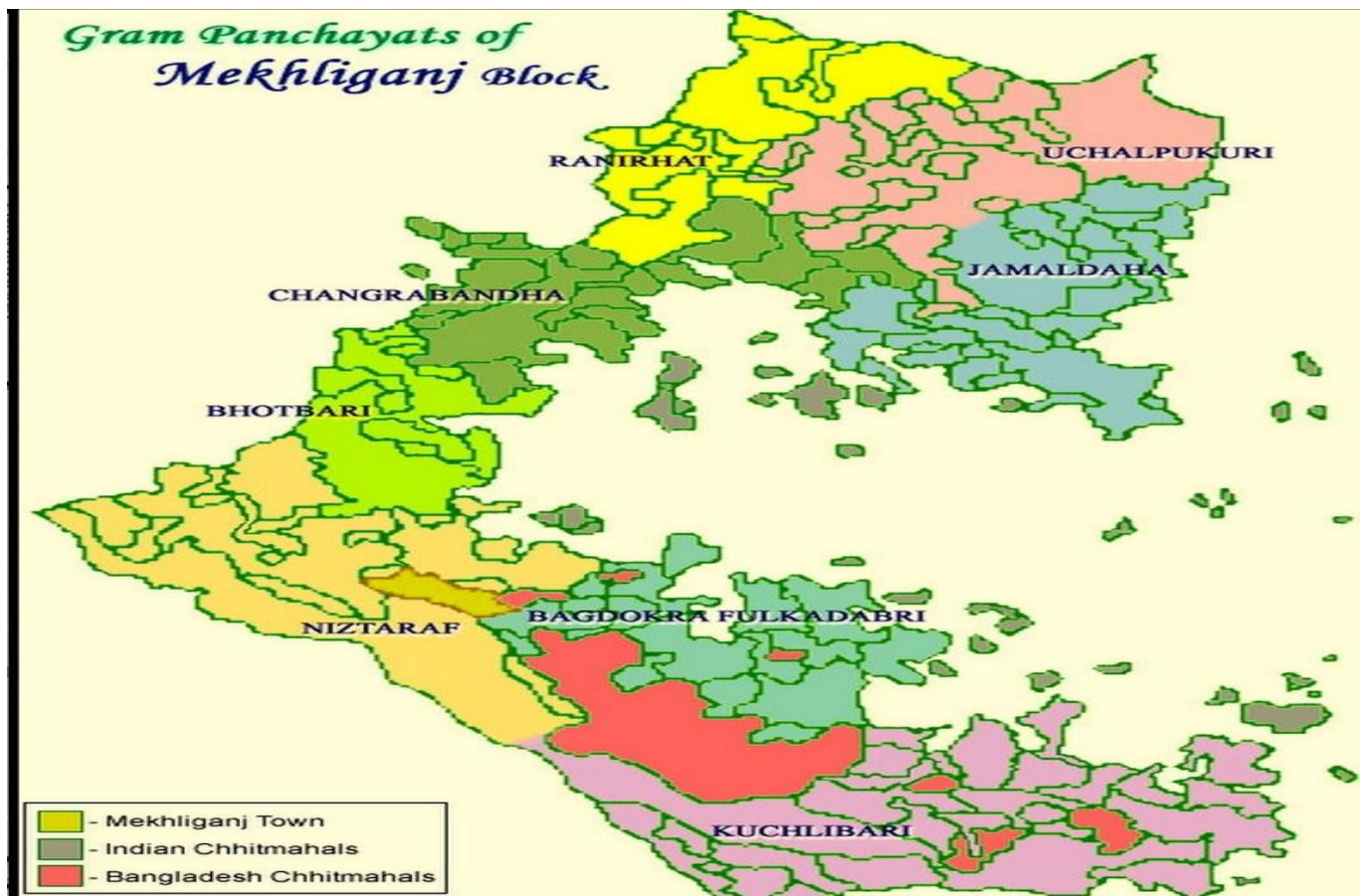
It is particularly important in Asia, where it is frequently considered the "timber of the poor" Rao, Dhanarajan and Sastry, (1987). As an example, Adkoli (1996) estimated that bamboo generates 432 million workdays in India. There are approximately 65 genera and 150 species of Bamboo are observed in India. Bamboo is very promising to reacclimatise the soil fertility.

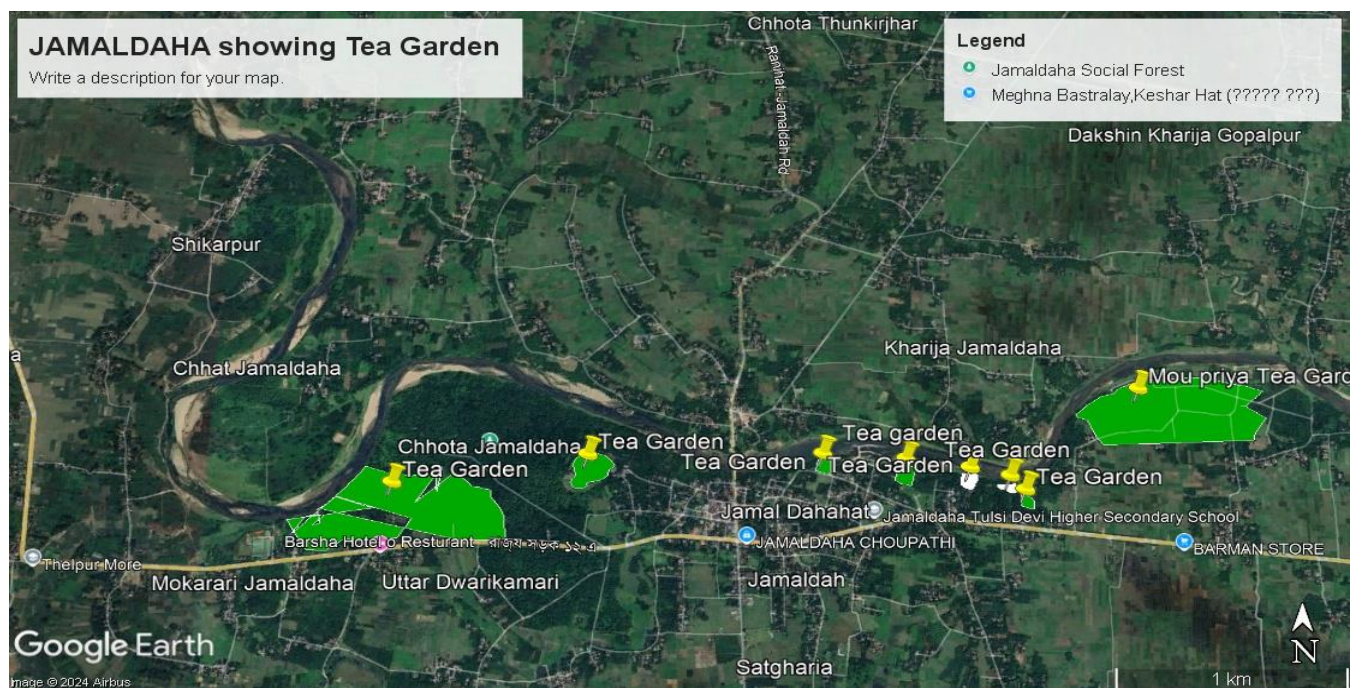
Modern technology made a shift of the pattern of cultivation; potato and tea gradually take the leading role in the agricultural field. Consequently bamboo groves, betel nut garden along with betel leaf is gradually losing its importance besides with deterioration of soil, air and water quality. Huge lose of water occurs at ground level. Socially people of poor section gradually become dependent on richer section of society causing great socioeconomic imbalance among different strata of people.

A beautiful proverb mentioning the use of bamboo(Bansh) and betel nut(Gua) trees for making house in Rajbangshi society should be quoted here- "Pube Hansh (pond)/ Uttare Bansh / Paschime Gua / Dakshine Dhuan (empty)"- how the surroundings of the Rajbangshi peoples' house should be.

STUDY AREA

Jamaldaha is a marginal village delimited by Bangladesh boarder in south Uchalpukhuri in North Gopalpur GP in east Ranirhat GP in west in Mekhliganj sub-Division Cooch Bihar district, and watered by the river Sutunga and numbers of other small stream. Jamaldaha is located at 26.459972°N & 88.972501°E has an area of 120.69 hectares. Area available for cultivation is almost 70% of its total area.





OBJECTIVES

To find out the impact of cultural upliftment of Rajbangshi community people through the change of approach in agriculture.

To excavate the gradual dominance of modern cash crops like potatoes and tea over the traditional cash crops like betel nut and bamboo groves along with betel leaf.

To find out how the local people became dependent upon the big entrepreneur.

To find out the impact of modern cash crops on soil's natural texture that needs more fertilizer and water.

Impact of weedicides and insecticides used to grow these cash crops are to be assessed.

To assess how the so called enlightenment, introduction of modern agricultural system in this area flourishes at the cost of large varieties of so called weed plants.

The power of which are still unknown to the field of medicine as well as gene pool reservoir for developing new species for the future world.

METHODOLOGY

Information was gathered, taking interview of the informants and as witness of the uses during the period of studies in the field. The field study was carried out by putting questionnaire to people of different age group, of different socio-economic strata

Information collected from them lured us to analyze the data scientifically and systematically that help us to correlates socio-economic upliftment with the changing pattern of agriculture. That leads to gradual loss of weeds and their importance.

FINDINGS:

It is after 1971 with the large scale infiltration of refugees from East Pakistan along with emergence of left front political parties in government a great change develop in Cooch Behar district. Living style of the undemanding people of Rajbangsi community got havoc change. Left Front movements like 'langal jar zami tar'- alters the relationship between so called Jotdar and Proja. Consequently large holdings of land became smaller. Hauli system of working replaced by paid labour system. (Hauli was a system in cultivation common in Rajbangsi society of Cooch Behar, in which people helps spontaneously other people's cultivation process without any monetary transactions.). Other two factors i.e. electrification and the development of road and transport brought havoc socio economic change in the life of Rajbangsi people. They were very much associated with traditional types of cultivation. Earlier every household used

to have large bamboo groves and betel nut gardens. We have already seen both the crops have some social linking and also environment friendly. With about 22 genera and 130 species, India is the second largest reservoir of bamboos, next only to China (Nath *et al.*, 2009). It can also be grown on marginal and degraded land. In addition, benefits of living biomass and soil organic matter content in bamboo stands have been well reported (Lin *et al.*, 2004; Tong, 2007). A bamboo plant grow so vigorously that releases some 35 per cent more oxygen into the air than a similar-sized stand of trees, and it matures (and can be replanted) within five years (compared to 30-50 years for a stand of trees). Bamboo is so fast-growing that it can yield 20- times more timber than trees on the same area (<http://life.gaiam.com/article/how-eco-friendly-bamboo>, accessed 19 December, 2011). It slows down soil erosion that is why it is a common practice of Rajbangsi community people to plant it on river banks. In Cooch Behar, Jalpaiguri, Dinajpur the spicess of Bamboo such as *Bamboo balcooa*, *B. bambos*, *B. natuns* planted in close spacing in one to two rows along the north western side of rice field as windbreaks against the dry and cold winds blowing from Nepal and Bihar (Banik et al, 2008). A unique characteristic feature of the Rajbanshi culture is the worship of the yellow bamboo (*Bambusa vulgaris* var. *straiata*). The maintenance of Sacred Groves of bamboo in every Rajbanshi hamlet is a unique cultural feature. Sanyal (1965) in his monograph on the Rajbanshi has mentioned the worship of a bamboo pole as the household deity. The yellow bamboo is worshipped as a deity, and its grove is held sacred as the abode of the village god (Gram Deo), which is often identified with Shiva.

As tobacco needs more time to grow and hazardous to marketise than that of potato but is labor intensive cash crop all the member of the family can take part in the process of its cultivation. But with the domination of money, cash-crop pattern of this area drastically changed. Means for agriculture gradually changes from langal to power tiller or tractors. Uses of chemical fertilizers were being started. Power generated water extractions from deep ground become a common practice. In the field of agriculture, high yielding hybrid seed was first introduced is paddy in the form IR-8 and others. Gradually pure breeds such as Dudhkalma, Ashambhora, Shocras, Baichi, Khayial, Nawra, Jashawa, Pakri, Bindi, Gaira, Tulshibhog, Kataribhog, Panati, Kakua, Jaldhopa, Burapakri, Malshira, Fulpakri, Fulgangia, Chottaganjia, KalaNunia Kawabhog, Hashkhol, Suisira, Beto, Dhepa, Kartikshail, Kakna, Kbangarma in Aman variety, lost theirground. In the report of census 1951 there was no mention of Boro rice cultivation in Cooch Behar. So in the field of cash crop vegetation pattern of this area is drastically changed. Modern cash crops like tea, potatoes, Boro Rice become prevalent.

The following statement, gives an account of the land under cultivation in 1902-2022 in Cooch Bihar District. (Source: Census West Bengal-1951, 1961&Source: PAO office, Cooch Behar (2013-14)

Sl.	Name of the crops	Area under cultivation(in Bigha/Hectare) in 1902-03	Area under cultivation(in Acre/ Hectare) in 1951-52	Area under cultivation(in Hectare) in 2013-14
1	Aus Rice	255000/34114	63,211/25581	50000
2.	Aman Rice	524000/70101	220,704/89316	217000
3.	Boro Rice	-	-	35000
4.	Potato	-	5,702/2308	60000
5.	Tobacco	105898/14167	12100 Hectare	11000
6.	Tea	-	200 Hectare (1957-58)	3420(2022)

Before 1980, Mekhliganj block of Cooch Behar district was completely devoid of any tea garden. And it is to some unexpected that position of Mekhliganj block should support the tea plantation as it is far away from the base of Dooars in Cooch Behar district yet it is a fact. Mushroom like growth of small tea gardens occur in the area of Jamaldaha and surrounding area in Mekhliganj block. The Tea board of India adopted the concept of STGs during the eighth five year plan (Hannan, 2008). Small Tea Growers (STGs) is defined, as a person or group having plantation area up to 10.12 hectares (as per the norms of Tea Board of

India). Report from Cooch Behar district shows that in 2022, 23 registered tea gardens are present in Mekhliganj block. Among 25000 hectores of cultivated land 3420 hectores have already been come under tea cultivation (Sources: B.L. & L.R.O. of Mekhliganj & Manager, Mekhliganj Tea Estate). Along with heavy impacts upon soil profile due to prolonged monoculture, many changes have occurred in the tea soils of eastern India. Soil compaction, intensive leaching of bases and increased acidity (Anon), low nutrient holding capacity and reduced biodiversity of the tea soils are some of the consequences. In 1980's a company named Long View first introduced tea plantation in Jamaldaha and Kuchlibari anchal in the Mekhliganj Block. To meet the rising demand of green leaf of tea, bought-leaf factory was introduced by the India govt. thereby made the separation of tea gardens and tea factory. Richer section of society appears in the tea field with the finance from bank or from share market. They purchase huge quantities of fertile land (without paying any heed to the law that only soil of poor quality are to be used for tea cultivation) from the poor people on condition that a member of the seller family will get job in the tea estate. Most of the times, the presence of indicator plant like *Lucas sativa* on the land provoked the grower to initiate tea garden without taking the hazards of soil testing. Short term profit lure the poor cultivator of this region to initiate tea garden in their uplands which were previously occupied by betel nut garden or bamboo groves. Often tea gardening spreads beyond to encroach paddy lands unlawfully.

Besides tea potatoes are the other types of cash crops now dominating in this area Tea and potatoes is the capital intensive crops needs proper nourishment from the growers. They need huge amount of fertilizers insecticides and herbicides. Sufficient amount of water is also required for both the cash crops; farmers generally collect water from nearby streams or from deep soil. Just to get more green leaf of tea, growers very often uses collagen powder which is locally known as vitamin (Isabion, Oviron etc.). In case of potatoes the so called vitamins along with borax are used unscientifically to get larger size of the product.



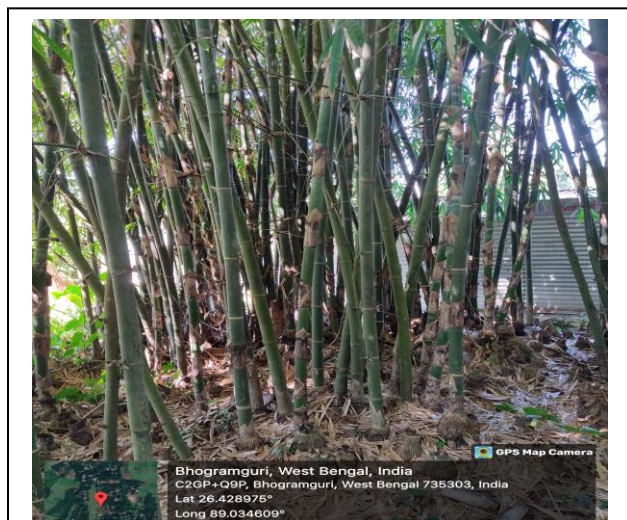


Figure 3 Makhla Bansh (local name)



Figure 4 Nal Bansh (local name)



Figure 5 Betel Nut gardens



Figure 6 Tea cultivation



Figure 7 River Sutunga with Boro-Rice cultivation



Figure 8 Potato farmer with Author

RESULT AND DISCUSSION

Aus Rice: In 1902-03, the cultivation area was 34,114 hectares, showing its prominence at the time. By 1951-52, this area reduced to 25,581 hectares, suggesting a decline. In 2013-14, it further decreased to 50,000 hectares, possibly indicating a shift towards other crops or changes in agricultural practices.

Aman Rice: Aman rice dominated cultivation in 1902-03 with an area of 70,101 hectares. It retained importance in 1951-52, with an area of 89,316 hectares, reflecting a growth by 2013-14, it reached 217,000 hectares, demonstrating a significant expansion, likely due to its adaptability and high yield.

Boro Rice: Not cultivated in earlier years (1902-03 and 1951-52). By 2013-14, it occupied 35,000 hectares, indicating its emergence as an important crop in modern agriculture.

Potato: No data for 1902-03. By 1951-52, potato was cultivated on a relatively small scale with 2,308 hectares. In 2013-14, the area expanded significantly to 60,000 hectares, highlighting a shift towards cash crops.

Tobacco: A major crop in 1902-03 with 14,167 hectares under cultivation. Reduced substantially to 12,100 hectares by 1951-52. Further decreased to 11,000 hectares in 2013-14, likely due to reduced demand or government restrictions on tobacco farming.

Tea: No records for 1902-03. A small area of 200 hectares was cultivated by 1951-52. By 2022, the area grew to 3420 hectares, reflecting tea's rising economic significance as a commercial crop.

It is a story of a number of marginal land owner of this locality first became a paid labor of their own land and finally become job-less people.

Besides so called crop plants a large number of plants are playing an important role in the life of Rajbanshi community people.

Tea as monoculture type of crop needs eradications of all kind of weeds from its soil. We are losing a great variety of herbs which might be a great gene reserve pool for future plants.

As the demand of water is satisfied by deep soil water or nearby stream already ground water level has been lowered down.

Improper uses of insecticides have been heavily come down over the water ecology. Number of fish variety has already been disappeared in this area.

Improper use of chemical fertilizer leads the spoilage of soil fertility and texture in this area. N fertilizer can also accelerate soil acidification (Bouman *et al.*, 1995). Again Nitrogen release from NO₃ salt as N is mobile and can be easily lost from the soil by leaching and runoff, resulting in NO₃-N contamination to groundwater and surface water (Errebhi *et al.*, 1998; Bowman *et al.*, 2002), the public perceive NO₃-N leaching as the greatest environmental threat. Owners of large tea garden takes huge bank loan showing the tea garden, acquire land from poor farmers with the conditions of one family member's employment in the garden, after few year often the owners announce lock out of the garden, same was happened to Long View and Mou Priya Tea garden in Jamaldaha and Bhogramguri Anchal.

Owner of small holdings become labour in the gardens. Owner of small tea garden has to depend on big entrepreneur for selling their green leaf as the price of green leaf is totally controlled by them.

Bamboo to the poor people is a immediate cash producing crops, whenever the money is needed they can cut few bamboo and sell it to the nearby market.

After plantation bamboo took three years to be mature enough without any use of fertilizer.

Betel nut garden is a traditional cash crop, a full grown garden of one bigha land yearly yield betel nut of more or less thirty thousand rupees, without any nourishment from the grower. Growers of this region generally planted betel leaf plant along with betel nut plant. Consequently they get economical benefit from both the plant simultaneously. With the introduction of modern cash crops markets are flourished with herbicides, number of which can penetrate up to one foot deep into the soil to destroy the root system of natural herbs and fern.

RECOMMENDATION:

Immediate measure should be taken to formulize the indigenous knowledge the people of this area have.

Traditional crop cultivation is to be encouraged.

Insecticides and herbicides uses should be regulated scientifically.

Weeds, relatives of crop species may remain as a reservoir of genes and should be conserved as they may be needed in the future.

Our attitude towards environment particularly to the edaphic and hydrological end should be changed.

CONCLUSION:

The study of Jamaladaha Gram Panchayat underscores the profound socio-economic and environmental transformations experienced by the Rajbanshi community due to the shift from traditional to modern agricultural practices. While the cultivation of modern cash crops like tea and potatoes has brought short-term economic benefits, it has simultaneously led to significant challenges, including environmental degradation, loss of biodiversity, and socio-economic inequalities. The erosion of traditional practices, such as the cultivation of bamboo and betel nut, not only threatens the community's cultural heritage but also disrupts its sustainable relationship with nature.

The findings highlight the need for a balanced approach to agricultural development that integrates modern advancements with the wisdom of indigenous practices. Restoration of traditional crops, regulation of chemical fertilizers and pesticides, and conservation of natural biodiversity are critical steps to ensure environmental sustainability and resilience. Equally important is addressing the socio-economic disparities that have emerged, with measures to empower small landholders and promote equitable resource distribution.

Preserving the cultural and ecological integrity of Jamaladaha requires concerted efforts from policymakers, researchers, and the community itself. By valuing both traditional knowledge and modern innovation, it is possible to chart a path toward sustainable development that respects the environment, uplifts the socio-economic status of all strata of society, and safeguards the heritage of the Rajbanshi community for future generations.

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