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An Analytical Reflection on Adivasi Research-Observation on Social Determinants of TB Cases

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Abstract

The tea garden worker communities are positioned at the lower level of social class structure if seen through their wage structure, living conditions, and social status. Since the people came from outside the state boundary, their ethnic status as an indigenous population is contested. Their ancestors were brought from the tribal heartland of mainland India, and these people still contain tribal tradition, making them different from local tribal groups culturally and physically. The study intends to highlight how the people, who are mostly illiterate, are very poorly educated on health issues and their symptoms. Lack of education has made them ignorant of various health issues. They are mostly menial labourers, drawing meagre wages hardly sufficient for their dignified survival. Though such factors determine the access to and availability of healthcare facilities, the garden authorities provide health care facilities free of charge in tea gardens. Thus, more than a treatment issue, it is the issue of other factors responsible for the occurrence of TB.

Increasing evidence shows that people in disadvantaged positions are subject to differential exposure to several risk factors. In tea gardens, unhealthy housing conditions have been a universal phenomenon. The primary data collected from the various tea gardens have shown that the houses consist of only two rooms without proper ventilation, all family members have to share a single room to sleep, and there is a maximum possibility of constant and prolonged exposure to TB germs in case of active TB cases. Lack of balanced food and low-quality food people take are also causes of concern. Social exclusion in the economic, social, and political domains is evident. Several of their behaviours are detrimental to good health.

The study intends to highlight using the framework analysis of WHO how there is every possibility that a uniform healthcare strategy for all population groups would result in a differential healthcare outcome, given that population groups are stratified in terms intertwined with risk factors and differential social determinants. Thus, there needs to be a population-specific healthcare strategy to achieve healthcare equity. By equity in health care, the author means that "everyone in need of health care receives it in a form that is beneficial to them, regardless of their social position or other socially determined circumstances. The result should be the reduction of all systematic differences in health outcomes between different socio-economic groups in a way that brings everyone up to the health of the most advantaged.".

Keywords: tea gardens, health, social determinants, tuberculosis, workers

1. Introduction

The paper intended to understand the socio-economic position of the tea garden workers and their marginalization. Further, the paper aimed to understand how socio-economic marginalisation of the labour influenced the TB incidence among the tea garden workers. The researcher used a qualitative research approach to capture the marginalisation and perspective of the tea garden workers regarding TB. The paper presents the history of the tea garden to understand the historic marginalisation of the tea garden workers as forcefully migrant labourers, their position after independence, and present socio-economic conditions using secondary literature available. The later part of the paper captures the social attributes influencing TB among tea garden workers using primary data collected during field work. The data have been presented according to WHO's framework to understand the social determinants of health further.

2. History of Tea Estate: The land and the people

In 1839, Assam Company was formed in London with a capital of 500.000. (Behal, 1992). The colonial state provided the British planters with land and capital to establish the tea plantation in Assam. Specific rules were introduced to grant land to the British planters; however, till 1860, only 51 tea gardens were established. In 1865, the number of tea plantations increased from 51 to 86. The tea plantations were majorly controlled by the seven major British companies. The land and capital were not a problem for the establishment of the tea plantation; however, the mobilisation of the labourers to work in the tea gardens was a major problem.

It is well documented in literature that initially the British planters influenced the local tribal people to work in the tea garden, but they denied it. Bhowmik argued that British planters have tried several ways to employ the local tribal people in the tea gardens (Bhowmik, 1996).

Initially, they increased the revenue of the land and banned opium, which would force the people to work in tea gardens for the need of hard cash, yet they were denied from working in tea gardens. Behal argued that later the British planters were also not interested in employing the local tribal people in tea gardens for other reasons, such as they were stigmatised as indolent, lazy, and addicted to opium; they demanded more wages; and they rationalised the fact that they would have better bargaining power. (Behal,1992). In 1861, the Jorhat tea company reported to the government that they needed to import a large number of labourers for the expansion of the tea gardens. The planters needed a large number of cheap laborers. The colonial government allowed labour to migrate labourers from tribal heartlands such as present-day Jharkhand, Chhattisgarh, Telangana, and Bihar to Assam. They migrated in small boats through the waterways. It is documented in history that the act itself was so cruel that it reported the death of several human beings. The labourers employed there were settled in pathetic conditions. They were paid 5 and 4 paise for men and women, respectively. They were settled in filthy and unhygienic conditions. In 1869, the workers' breach of contract was passed. This act gave power to the recruiters to arrest the labourers who tried to flee from their work or even did not match the level of expectation of work. The condition of the recruitment was so brutal, and the settlement conditions were so pathetic that between “1863 and 1866, out of 85.000 labourers, 35,000 died. Due to harsh working and filthy living conditions, the workers reported diseases such as malaria, tuberculosis, typhoid, cholera, etc. The workers were not allowed to take leave. Many works of literature have argued that even pregnant women were not allowed to take leave during their course of pregnancy. Behal documented that in 1906 medical officer Nazaria observed an appalling amount of abortions among pregnant women in tea gardens. 65% of the pregnant women gave birth to still babies. (GOI,1906a: 343). The women workers kept their work during pregnancy, which was a major reason for giving birth to the still babies. The wages in the tea garden were stagnant for 35 years from 1875 to 1900, whereas the price of the food grains increased 100%. The labourers unable to buy proper food pushed them into ndernourishment. The work in filthy conditions and the unavailability of proper healthcare facilities increased the number of stillbirths and increased the death rate in tea estates more than the birth rate. In 1880-1901, the average birth rate of women was 86 per 1000, whereas it was 127 per 1000 for the women employed outside the tea estate (Behal, 1992). Several guards (Chowkidaar), Sardaar, and Mouhiris were employed to supervise the labourers and catch them if they tried to abscond. The conditions slowly and steadily angered the labourers, and in many instances, they resisted against the planters. In 1903, serious conflict was between the workers and the management of the Rowmari tea estate in Lakhimpur district.

The labourers attacked the European officials and caused them serious injury. The same group of labourers marched to the magistrate court to protest. Subsequently, they were arrested and were imprisoned for 12 years (ibid.). The violent clashes kept happening, and as a result, Lord Curzon insisted on investigating such cases and their reasons. The commission in 1906 said that the harsh system of recruitment and the condition of the labourers were the reason for such clashes. In 1908, the penal contract system was withdrawn from the tea estate, and the indenture system was paused. Still, until independence, tea estates under British officials were pathetic. They kept suffering from low wage payments, pathetic working conditions, and unhygienic living conditions. The filthy conditions pushed them to suffer from various diseases such as malaria, cholera, and more persistently, tuberculosis.

3. Poor health conditions among the tea garden labours

Medhi et. al. (2006) reveal in a study that in tea gardens the prevalence of underweight among children is 59.9%, and 69.9% of adults suffer from thinness. 65.4% of people suffer from worm infestation. Hypertension and stroke are very common among labourers due to the high use of alcohol and tobacco. Sahoo et al.'s (2002) study among the labourers in Beesakopie Tea State reveals that the people who are not aware of their health condition and the people who are little aware of their health condition go to the hospital and are mostly ignored by the doctors and other health care providers.

Bogohain (2013) has studied the health conditions among the tea garden labourers in Hajua Tea State in Doomdooma and has revealed that the tea estate does not have a hospital. The patients are shifted to the nearest hospital in another tea estate named Khumtai Hajua tea estate. Most of the respondents revealed that they find it difficult to go to that hospital as it is 6 km away from their home. The distance of the hospital from the settlement in the tea estate acts as a major constraint to receiving the treatment. The study further reveals that though in that hospital the medical dispensary is present, the quality is not enough.

Deb (2000) revealed in his study that tea garden labourers mostly suffer from malnourishment and undernourishment because of a lack of adequate food. The authors further claimed that the labourers inside the tea gardens are 100% non-vegetarian, but hardly they consume meat, fish, or eggs due to low wages and high prevalence of poverty. The poor labourers mostly consume rice with salt, chilli, and tatoes. They even lack daal with rice. The labourers also lack milk, milk products, and fruits. This leads to a deficiency of protein, vitamins, fats, etc. Barkat et. al. (2010) have studied the tea gardens in Bangladesh and have found the same problems.

He revealed that the people on the plantation mostly consumed rice with boiled potatoes, chilli, and salt. Mostly they consume food two times. The gap period in taking food is huge, which impacts their immunity adversely. They lack nutritious food due to economic incapacity.

Balgir (2009) has studied 6 tea estates in Dibrugarh district and has found that the labourers in the tea garden are extremely vulnerable to communicable diseases such as malaria, leprosy, and TB. Communicable diseases such as TB are more prevalent among labourers due to the prevalence of excessive drinking, smoking/chewing tobacco, and inadequate food intake.

4. Lifestyle behaviour among the labourers in the tea garden

Borsha Rani Bora (2015) conducted her study in the Teok tea estate and argued that the consumption of alcohol among both men and women is very high. The consumption of alcohol not only adversely affects their physical health but also affects their social health such as increase violence, cognitive dysfunction due to alcohol etc.

Deb (2000), in his study, has revealed that the sampled labourers responded that mostly every day in the evening while coming back home from work they consume alcohol. The workers mostly feel tired and have body pain, and they feel relaxed after consuming alcohol.

Medhi et. al. (2006) have done a cross-sectional study interviewing 650 youths in the tea estates of the Dibrugarh district, revealing that consumption of alcohol among the 15-24 year old youth is prevalent. Fifty-eight percent of youth use at least one substance product. 27.4% of youth among the interviewed have revealed that they consume both alcohol and tobacco.

Sonowal (2018) argued that the consumption of alcohol is common between both rich and poor classes in society. However, due to the quality and harmful drinking patterns, alcohol-related disease and morbidity are more common among the low socio-economic groups. Consumption of alcohol has a more adverse effect on the lower section of society because they are burdened with other vulnerabilities such as low wages, poverty, malnutrition, social exclusion, unhealthy living conditions, etc. In tea gardens, alcohol is easily available. In the neighbourhood, people sell alcohol at cheap quality and without government regulation. The cheap and lower price is one of the major reasons people consume more alcohol.

5. Housing facilities in Tea Estate

Dey (2019) has studied Fatemabad tea estate and has revealed that the labourers mostly live in the quarters provided by the tea garden authorities. The permanent labourers receive their quarters from the tea garden management authority. Among the respondents, 18% of labourers revealed that they live in a pucca house, 74% live in a kutcha house, and the rest, 8%, live in a small house made by them with bamboo and sticks. Most of the houses lack sanitary toilets and drain systems. The lack of a drainage system forces the labourers to throw garbage in the neighbourhood. This leads to the storage of material and water, which further creates health problems such as malaria and typhoid.

Saikia et al. have studied the living conditions of the Sarsurai tea estate in Jorhat and revealed that the labourers were provided quarters by the tea garden management. The land provided to them for their stay is completely contractual. They are only permitted to stay in the house till they are working in the tea estate. The houses can be taken back from them on disciplinary grounds. It is one of the easiest ways to whip the labour and put them under the control of management. The people in the tea garden often use firewood as fuel, provided by the tea estate, for cooking. The burning of firewood in the limited space is one of the major reasons the labourers suffer from health problems such as tuberculosis, asthma, etc.

Sharma and Bhuyan (2016) have studied the living conditions of Moijan Rajgarh Borline, a privately owned tea estate, and have revealed the similar pathetic living conditions of the labourers in the tea estate. The labourers live in the quarters provided to them by the tea garden management. The average size of the family is 6-7 members, but the rooms provided to them are 2. There is no electricity in the Moijan Rajgarh Boroline tea estate. The unavailability of sanitary toilets and tubewells in the quarter provided by the tea garden management has put the labourers in an unhealthy and unhygienic condition. 60% of households surveyed for the study have revealed that they have no tubewell facility, and they are mostly dependent on the nearby water bodies for the source of drinking and cleaning water.

6. A framework of analysis for Social Determinants of Health

From the discussion made above based on literature, one can safely conclude that some social determinants of health are equally important as the clinical aspects of diseases to delineate in any discourse on the health and well-being of the masses. Based on such understanding, Erik Blas and Anand Sivasankara Kurup (2010) have presented a framework of analysis for Social Determinants of Health primarily based on three dimensions of activity – to analyze, intervene, and measure. For each dimension, there are five levels.

Since the proposed study limits its scope to fact-finding and analysis of social determinants, the discussion will be limited to the analytical part of the framework. The five analytical levels can briefly be described as follows:

Socio-economic context and position

It has been established that social position puts forth a powerful influence on the type, magnitude, and distribution of health in societies. The differential control of power and resources in societies generates stratifications in institutional and legal arrangements, ultimately distorting political and market forces. Such stratification has a critical link to health inequity. Factors like social class, gender, ethnicity, education, occupation, and income define the position of a person or the community at large. "The relative importance of these factors is determined by the national and international context, which includes governance, social policies, macroeconomic policies, public policies, culture, and societal values. Access to and availability to health is very much determined by such factors". The socio-economic status of the individuals do not depend on the individuals but state policy, governance and societal value that increase the gaps between communities.

Differential exposure

There is increasing evidence that people in disadvantaged positions are subject to differential exposure to several risk factors, including natural or anthropogenic crises, unhealthy housing, dangerous working conditions, low food availability and quality, social exclusion, and barriers to adopting healthy behaviors. It has been established that exposure to most risk factors (material, psychosocial, and behavioral) is inversely related to social position. Understanding these "causes behind the causes" is important for developing appropriate equity-oriented strategies for health".

Differential vulnerability

It is quite interesting to remember that the same level of exposure may have different effects on different socio-economic groups, depending on their social, cultural, and economic environments and cumulative life course factors. Certain population groups across the countries are burdened with clusters of risk factors, such as social exclusion, low income, alcohol abuse, malnutrition, cramped housing poor access to health services, etc. A similar sort of exposure may have a different effect on population groups who are not burdened with such risk factors. Thus, the health initiatives must contain measures to look into such determining factors.

Differential health care outcomes

"There is every possibility that a uniform healthcare strategy for all population groups would result in a differential healthcare outcome, given that population groups are stratified in terms intertwined with risk factors and differential social determinants. Thus, the needs to be a population-specific healthcare strategy to achieve healthcare equity. Equity in health care ideally implies that everyone in need of health care receives it in a form that is beneficial to him or her, regardless of his or her social position or other socially determined circumstances. The result should be the reduction of all systematic differences in health outcomes between different socio-economic groups in a way that levels everyone up to the health of the most advantaged".

Differential consequences

Poor health may have several social and economic consequences, including loss of earnings, ability to work, and social isolation or exclusion. Further, sick people often face additional financial burdens that render them less able to pay for health care and drugs. While advantaged population groups are better protected, for example, in terms of job security and health insurance, for the disadvantaged, ill health might result in further socio-economic degradation, crossing the poverty line and accelerating a downward spiral that further damages health.

7. Research Methodology

The aim of the study was to understand the socio-economic positionality of the tea garden workers in Assam. The marginalisation and how the social attributed influence TB case among the tea garden workers. The study aimed to capture the perspective of the tea garden workers regarding TB and hindrances in receiving TB treatment. The qualitative, cross-sectional research design was adopted to capture the in-depth perspective of the tea garden workers and their marginalization. Purposive sampling was selected by the researcher. The fresh new TB cases and relapsed TB patients among tea garden workers were selected to meet the criteria of the research objective posed. Four tea gardens from Sonitpur District (Dehkiajhuli, Sirajhuli, Sessa, and Addabarie) were selected. The selection of the tea gardens was based on the permission granted to conduct the research and their affiliations with organisations such as Bhartiya Chai Mazdoor Sangh and Assam Chai Mazdoor Sangh. The affiliation of the tea estates controls the amenities and worker's rights in the tea estate.

8. Present condition of the tea garden, continuation of colonial legacy: Analyzing the data collected from the fieldwork

The labours interviewed in the fieldwork reflected on the work culture, wage payment, and life after work. The workers revealed that they have to join work at 7:00 AM and work until 5:00 PM. In between, at 1:00 PM they get a lunch break and after half an hour they have to join work back strictly. If any workers are late to join the work at 7:00 AM even for 10 minutes they are sent back home, as the workers are daily wage earners they remain unpaid for that particular day. The workers interviewed revealed details about the work pattern. Each garden has assigned gatekeepers for each settlement line who are known as line chowkidars. The line chowkidaars start whistling early at 5:00 PM to wake labourers up so that they can join work on time. The female labourers whose primary job is to work in the plantation field, plucking up the leaves, and cutting and spraying fertilizers wake up at 5:00 AM. In two hours they finish their domestic work and join work at 7:00 AM. After work when they come home they again start with their domestic work because of which they rarely get sufficient time to sleep and take rest. The inadequate amount of sleep majorly affects their health and the immunity system. The laborers despite working hard and doing such odd jobs across all seasons are paid very little till now. The interviewed labours revealed that when British planters began the tea plantation, the motive was to extract the profit from the labours at most and they were paid negligible. After independence after the shift of ownership of the plantation, barely the owners changed from British to Indian but it did not change the exploitation and the nature of the work. The labourers were still paid a handful and negligible. In 1998, after the Bodo-Adivasi conflict, the Adivasi labours in the tea garden started their cultural-political organisation named AASAA (All Assam Student Association of Adivasi) to unite the Adivasi labours. Across Assam, AASAA tried to mobilise the labours for bargaining against the management and authority for more rights. In 2006, the community under the leadership of AASAA came together in Guwahati to protest for three demands: ST status, an increase in the daily wage, and land rights. As per the former members of AASAA interviewed after independence, the Congress party formed government in both the centre and state. At the state level, the elite, upper-caste Assamese people mostly dominated the party. The group of people was highly prejudiced against the Adivasi community, and they argued majorly that since the Adivasi people were brought from outside the state and are not original inhabitants of the state, they don't deserve the ST status. The Adivasi people in the tea garden consider it a tactic of the dominant Assamese caste society to push the Adivasi community from receiving welfare and benefits through ST status. They also felt betrayed because the economy of the entire state is dependent on tea production across the world, and the people who work in the plantation fields have been kept in miserable condition.

Second, the British planters settled the labourers inside the tea estate, but even after independence, they were not the owners of the piece of land. Therefore, from that point of time till now, the labourer's family can only stay there if any member of the family works in the tea garden. Many labourers in the interview have revealed that they do not want to work in tea gardens but are forced to work to stay in the given place, and as they do not have any resources, they cannot move out ither. Third, demand was to increase the wages as the labourers were working at a very low price, 86/- per day. In November 2006, a group of people under the leadership of the AASAA organisation assembled near the state legislature with these 3 demands. Shortly, the dominant Assamese groups attacked the peaceful protesters and beat them black and blue. In the complete situation, the goons from Assamese society stripped naked one young woman protester named Laxmi Oraon. The inhumane and undignified incident angered the community to such an extent that they mobilised among themselves and agitated more against the authority for the three demands. The government during that period to pacify the group of people immediately increased the wage of the labourers from 85/- to 162/-. Since then, the workers were paid 162/- for many years, but recently, due to ongoing protests, the wage was increased up to 250/- per day. Still, the labourers interviewed said that at today's time, 250/- every day is negligible, especially if we compare the work they do. The labourers talked about the multiple problems they face due to low wage payments. They are pushed to poverty and poor situations permanently since the whole generation was working in tea estates and all were paid less. The labourers fail to meet even the daily expenditure, even if all the members of the family work. The low wage payments have pushed them into malnutrition. They are entitled to get food from the ration shops controlled by the tea garden management, but there they get only 3 kg of rice, 3 kg of wheat, sometimes kerosene, and one packet of tea (only to permanent workers). With very low wages, they are unable to buy nutritious food from the open market, such as vegetables, eggs, meat, etc. Most of the labourers in the tea estate are non-vegetarian by the eatery habit, but they mostly have rice with salt and boiled potatoes in 3 meals. Lack of a proper balanced diet has pushed them into malnutrition and thinness. The permanent thinness and malnutrition further lead to other health consequences such as anaemia, tuberculosis, etc. While asking why the labourers don't continue to protest against the authority to listen to their basic demands, the respondent answered that "Even if we try to assemble near the manager's office and meet our demand, the manager will immediately take disciplinary ction." Further, he said that the labourers who try to protest or assemble against the manager stop their entire family's work to punish them. Even the manager said once to the protesting labourers, "I will starve you to death; let me see how you can work and earn even to at." Later, the female family members of the labourers went to the manager and asked for pardon with the promise that they would never indulge in any such disciplinary action. The respondent said that since then the labourers are also afraid to protest as they have no other option to work anywhere and they have to work here, so they have adjusted to the lifestyle.

Another worker said, “Our life is no different than the life our previous generation had during the British period; British rules are continuing in tea gardens." These narratives prove the helplessness of the labours that they are placed in. Since 76 years of independence, the labourers are kept at the mercy of the brutal managers who exploit them in every condition. The labourers are not only deprived of low wage payment but are also deprived of other human rights, which were promised to them as per the Plantation Labour Act 1951. The labourers working in the tea estate are settled in inhumane living conditions. They are provided with very small and congested quarters without proper windows and ventilation. The minimum number of people in an average family is 6-7. The large number of family members in small and congested quarters increases high population density occupations. Many labourers do not have toilets and bathrooms in their quarters, and they use community toilets and bathrooms. The rest of the people have Kutch (pit toilet) and no properly constructed bathroom. They made a separate place with four bamboos and clothes and used it as a bathroom. Usually, the locality of the living quarters is unhealthy, with clogged drains with overflow of dirty water, which make the surrounding environment unhealthy and unhygienic.

The labourers trapped in odd work conditions, paid less, and settled in an unhygienic environment were mostly poorly educated. As per the 1951 Plantation Labour Act, the employers are responsible for the education, health, and recreation of the labourers and their families inside the gardens, but the conditions of the schools and the health centres in the tea gardens are worse. The schools mostly suffer from a lack of classrooms and teachers. The health centres too suffer from a lack of quality workforce, resources, and quality health care. Many labourers even said that they suspect the hospitals provide them with expired medicines. Many too complained that after taking the medicines from the garden hospitals, they never were cured. After prolonged illness, they ought to visit government, health care centres, or private hospitals and get treatment. Many labourers who failed to go to town from the tea estate, which is situated geographically at odd and rural places without much transport connectivity, suffer from long and prolonged illness. Many people even died without treatment, or they try to relate illness with superstition and do rituals to counter the black magic.

The uneducated labourers are often ignorant about their health and lifestyle. Most of the labourers in the tea estate are addicted to alcohol, irrespective of gender. Cheap and bad-quality alcohol is easily available in the tea gardens. It is available in any general store inside the tea gardens and in many households to make alcohol. The interviewer herself is a witness to the phenomenon of the sale of alcohol inside the tea garden. Two general stores in Sirajhuli and Addabarie tea estates were there, and both the store’s owners (women) sold homemade alcohol, which they call "Haria." In the informal conversation with the women about the sale of alcohol, they revealed that it is okay for them to sell alcohol.

They do not feel it is an immoral job as the wage in the tea garden is too low and they can't meet the expenditure of their family, but while selling alcohol, they are at least earning better, and with that money, they can meet the education expenditure of their own family. Alcoholism is a very common behaviour of the labourers inside the tea garden. Many people rationalise the drinking behaviour by saying that since the work in the tea garden is odd and hard and they do not have any recreation, alcohol is the only way to meet with other labourers and have fun. Other people rationalise it by saying that alcohol is good for their health as it causes their body pain and headaches after a long day of work. One worker in the interview even said that during the COVID period in the tea garden, there were no single COVID cases, even though tea garden health centres are too bad. He said, "It is because they drink alcohol, which increases their immunity to resist alcohol." The instances of teenagers drinking are also too common in the tea estate. The excess consumption of alcohol and sharing the alcohol with others in the same utensils increases the chances of the spread of tuberculosis and increases health problems such as blood pressure and others.

8. The social determinants influencing TB cases in selected tea estate of Assam – Analyzing the findings:

8.1 Neighbourhood and built environment

W.H.O. has identified that the neighbourhood and physical environment influence health among the community people, particularly communicable diseases. The community with more TB burden puts the people at risk of being infected with TB. W.H.O. research reports have shown that TB is a poor people's disease. The countries with low or middle income are mostly under the TB burden. The history of the tea garden discussed above reflects that tea garden labours as a community have been physically constrained within the tea garden areas since the beginning until now. It has led to the social exclusion of the community from other populations. Due to social exclusion, the tea garden's laborers as a community have negligible influence over the politics of the state and the benefit of the policies. The socially excluded community, employed as menial laborers in the tea gardens is the least educated. They have negligible awareness about health and its importance. The British planters settled the tea garden laborers in an unhygienic condition, and they suffered from multiple health problems such as Tuberculosis, Malaria, yellow fever, cholera, etc. The records from RNTCP data also reflect that the tea garden is burdened with Tuberculosis. Due to social exclusion, less education, and lack of awareness and belonging from tribal backgrounds, they have their own set of cultural beliefs about Tuberculosis. Therefore, most TB patients are their family members who fail to understand the early symptoms of TB or they relate TB with black magic or some other superstition. So, rather than visiting doctors at times they perform counter black magic.

The lack of education, relating TB with other diseases or superstitions makes the patient more vulnerable and it puts all other surrounding human beings at risk of TB. The quarters in tea gardens are also very small. It lacks windows and proper ventilation. The people living under limited space and sharing utensils, and food with TB patients make all the people living under that space equally vulnerable.

8.2 Healthcare facilities and access to healthcare services

According to the 1951 Plantation labour Act, every tea estate must have a health center and should have at least one doctor, nurse, and pharmacist. The three-tea estate covered for the study Deckiajhuli, Sirajhuli and Addabarie tea estate have their health centers but the condition of the health centers in terms of infrastructure and services provided to them is below average. The laborers in the tea estate and other TB patients interviewed said that the treatment provided to them is free but the quality is too poor. Many laborers complained that without listening to their health problems properly, the doctors write randomly any medicines and they are not cured by taking those medicines. The tea estate hospitals suffer from the lack of workforce. Even the doctors appointed in the tea estate hospitals are often unavailable in the hospital. The health care experts are supposed to attend the hospitals sharp at 9:00 AM but mostly they report late. The laborers suffering from health problems have to wait for a long time to be treated even when their condition is severe. Even the researcher herself is witness to these phenomena. The menial labourers are least educated and they have minimum power to even complain about the unavailability of the appointed staff within the hospitals. Many laborers in the tea estate interviewed complained that the behavior of the hospital staff with them is often rude and they are disrespected. Other people complained that mostly due to lack of health staff and the infrastructure they are referred to the government hospital in the town which is Tezpur Medical College. The medical college is far away from the tea estate. The permanent laborers and their family members are provided with ambulance facilities but the temporary labourers are not provided with such facilities. Therefore, even with severe health problems people do not visit the medical college if they are referred. Then they mostly depend on other sources to get sure one such is performing religious rituals. On the other hand, the managers and the health care staff interviewed blamed the laborers for their health condition and said, “As they are illiterate they are superstitious so they do not avail the services which are available”. One of the managers of the tea estate even said, “We can’t visit every house to determine who has what problem. The hospitals are there, free treatment is provided if they do not avail, it is their fault. We can't force them to take medicine”.

8.3 Risky lifestyle behaviour

The tea garden workers residing inside the tea garden are inherently poor. The reasons behind the inherent poor condition of the labourers are exploitative working conditions inside the tea estate and low wage payment. Dasgupta stated that the authority of the tea estate as “controlling the labour indolence” rationalises the low wage payment of the workers in the tea estate. Sonowal argued that the labourers often suffer from extreme poverty because of the exploitative nature of garden owners. The labourers are paid extremely low. (Sonowal, 2018). The labourers continue to work in the tea estate. The respondent in the interview said that because of two main reasons the labourers continue to work in the tea garden, they do not have land rights over the quarters they are staying; they are permitted to stay in the land only when any member of the family works in the tea estate as permanent labour. Second, the labourers are least educated and low-skilled. Therefore, it is difficult for them to get a job. The labourers working in the tea estate often complain about their monotonous ives. In the early morning, they wake up and join work, and in the evening they come back home. They lack recreation in their lives. The authorities do not provide any recreation facilities to the tea garden laborers. Due to a lack of resources and low wages, they spent their entire earnings on buying food and meeting the basic needs of life. Therefore, they hardly go out of the tea estate for recreation. The labourers in tea estates, irrespective of their gender identity, consume alcohol. The respondent in the interview said that as their life revolves around only work, consumption of alcohol, and the time when they consume alcohol, it is the only way to divert from their monotonous life. The respondents said that the alcohol available in the tea estate is cheap, so it is easily affordable. Inside the tea estate, there are general shops, but in the evening, shops inside the tea estate sell alcohol, and they do not hold any license to sell alcohol. Other than the general shops, there are many homes inside the tea estate where they make alcohol. It is also known as "Haria." They make alcohol with rice and bananas. The respondent said that the family, which makes and sells alcohol in the evening, lights candles near home. The lighting candles near the home are an indication to the people that alcohol is available there. People rationalise their drinking behaviour in many ways. One such thing is that they say it cures their body ache. The household that sells alcohol rationalises the sale of alcohol as a way to earn money and meet the basic needs in their life, particularly the education of their children. In an interview, the woman who sells homemade alcohol said, “The wage of the tea estate is too low. It is very difficult to meet the need in today’s time. I do not want my children to work in a tea estate. Therefore, I have put them in English-medium school. Therefore, I sell alcohol. Through this, I at least earn a good amount, and I invest it in my child’s education." Tea gardens are a TB-burden community. Even TB patients do not resist themselves from consuming alcohol. The consumption of alcohol while receiving TB treatment (DOTS) fails the treatment. The failure of treatment often leads to relapse TB cases, drug resistance, and death. The household that sells alcohol often provides the facility of consuming the alcohol there in-group.

Therefore, many people share alcohol and utensils. The TB patients with active symptoms are infected, and TB spreads from one person to another. The patients lately diagnosed or reported consuming alcohol in the same environment and drinking with the same utensils, which put all the people at risk of being infected. In Addabarie Tea Estate, the researcher has met with one such TB patient. The TB patients interviewed responded they sell homemade alcohol (haria); the undetected TB patients consume alcohol in the same utensils. Her husband regularly consumed alcohol from the shared utensils. He was symptomatic of TB after a few months. After a visit to the health centre, I was tested positive for TB. Due to irregularity in treatment, he expired. Therefore, there are many such incidences where risky lifestyle behaviours such as consumption of alcohol and tobacco, chewing of tobacco and sharing them with others, and sharing the same utensils with suspected TB patients have put the people at risk of TB and increased the chances of severity.

8.4 Psychological constraint

The workers in the tea estate have been working there for generations. The physical containment of the labourers inside the tea estate, lack of communication with the outside world, social exclusion, low wage payment, and negligible education have affected the psychology of the aborers. In the interview, the labourers referred to themselves as “just menial labour” without any power or any human demand other than to work. Many labourers even complained about the way they are treated in their workplace. If the labourers once fail to produce the standard quality of work or for small mistakes, they are subjected to verbal abuse. The line chowkidars are appointed in the settlement lines of the tea estate, and sardaars are there in the plantation field. The line chowkidars (guards) and the sardaar (guard and informer of management) control their lives. They are subjected to verbal and physical abuses from the higher authority, often for smaller misconduct, according to the management. When the labourers from the tea estate once visit the urban areas or town for any work, they are treated as low class, and many people even use their ethnicity “Adivasi " as a slur. (Sonowal,2018). They are still treated as outsiders because of their age-old migration history and they are denied integration with Assamese society. They are referred to as “Baganiya or "coolie." (Sonowal,2018). The continuous mistreatment has included an inferiority complex within themselves. The community burdened with TB, having difficulty accessing treatment, and facing mistreatment while visiting the hospital fails to unite among themselves and mobilise to demand their rights. Many people accept suffering and TB as their fate and take no steps to recover.

9. Conceptualizing the findings based on the concept framework provided by WHO to analyze the social determinants of health

9.1 Socio-economic position (Social structure)

The socio-economic position have implication over individual's health. The socio-economic position of the individual determines individual's access and affordability to health care services. The inaccessibility to health are services create further inequity in public health.

The tea garden laborers are socio-economically positioned backward. The Adivasi community are workers in the tea garden. They are still left with complete dependency on the tea garden management for basic things such as quarters, food, work, and earning wages. The complete dependency of the workers on the management has kept the laborers at the mercy of management preventing any protest or resistance from the labour's side against the management. So, they are a working-class category and marginalized for several decades. The laborers are mostly illiterate and unaware which makes them in the position of unawareness about their rights. Socio-economic position determines their wage, living pattern, and food choices. They are the victims of poverty, pathetic living conditions, illiteracy, and poor food intake which have also made them vulnerable to several other health consequences as discussed above such as malnutrition, underweight, thinness, night blindness, Tuberculosis, etc.

9.2 Hindrances in receiving health care facilities

1951 Plantation Labour Act, made it mandatory for the tea garden management to provide proper health care services to the laborers. Every tea estate must have its healthcare centers comprising qualified full-time doctors, nurses, pharmacists, and assistants. The tea garden covered for the study too has its health care centers comprising doctors, nurses, and pharmacists. But the quality of the health care centers is not enough. Mostly the health care centers lack enough man-power and the patients complain that they don't receive proper medicines from the centers. They are not checked properly either. Among the interviewed TB patients many complain about the bad behaviour of the staff and they are even referred to a medical hospital in town for a simple sputum test. The medical hospital in town is far away from the remote tea gardens. The tea gardens often suffer from a lack of transportation. People with their vehicle can only access it at a given time. Many interviewed patients complained about the delay in tests because of the distance between the medical college and their house, no transportation, lack of ambulance facilities for the temporary workers in the tea estate, and the cost of the medicines in private medical shops create hindrances in receiving the health care services which also cause non-adherence to TB treatment.

9.3 The differential consequences

The labours positioned in the lower strata of society face different consequences than any other class in society. The laborers in the tea gardens face adverse effects due to health problems and TB infection.

As TB is a communicable disease and people are stigmatized against the disease, once people are infected they are put out of job. The permanent labour can continue work after getting a cure and full treatment but the temporary laborers lose their jobs once they are diagnosed with TB. The people who are put out of work remain without wages which pushes them into further financial constraints and poverty. The financial constraints have unavoidable problems in their family such as pushing the children out of school, poorer quality of food, etc. Therefore, health problems such as TB put the laborers into a vicious circle of misery.

10. Conclusion

The analytical framework of WHO in the context of tea gardens in Assam explains the layers of vulnerability among the tea garden labourers. The vulnerabilities leading to non-adherence to TB treatment. The first layer shows the socio-economic status of the tea garden labourers. The tea garden labourers are socio-economically poor, ethnically tribe, migrant labourers. It shows that they are socio-economically lower in status. Next, in terms of occupation, they are employed as tea garden labourers; they are paid a low wage as compared to state guidelines of the Minimum age Act. They are presently paid only Rs. 250/-. They do hazardous work such as lifting heavy weights, spraying chemicals without proper protection, etc. They are placed in small quarters, with a maximum two rooms without proper ventilation. Therefore, it shows a crowded living condition. Further, the tea garden workers are ethnically tribal, so they have different sets of beliefs. They attach TB with lots of superstitions; relate cause of TB as warmth of deity, etc. So, the TB patients among tea garden workers fear stigmatisation, isolation, and discrimination. So, the TB patients do not open up in front of the community and avoid going to the hospital, which causes delays in identification and treatment. The TB patients in the tea garden are further vulnerable based on their genetic characteristics, such as sex/gender (women fear further marginalisation), senior citizen, etc.

Therefore, clubbing all the socio-economic status, hazardous occupation, their cultural belief regarding TB, stigmatisation, etc. increases the vulnerability of the tea garden labourers to exposure of TB germs and increases the health inequity. The vulnerabilities of the tea garden workers increase the gap between achieving health equity. The tea garden labourers face challenges in accessing, affording, and accepting the modern treatment. Further, it leads to poor health outcomes, such as increased mortality, morbidity, and disability due to TB.

The tea garden labourers were forcefully migrated from the tribal heartland to Assam by the British planters. They were settled inside the tea gardens. During the colonial period, the condition of the Adivasi labourers was the worst. They were denied basic human rights such as low wage payment, poverty, filthy living conditions, and harsh working conditions.

The labourers were kept in extremely unhygienic and filthy conditions; it pushed them into suffering from various diseases such as malaria, cholera, typhoid, tuberculosis, etc. The labourers were ill-treated in such conditions that they were not provided basic health conditions. The existing literature well shows that the ill-treatment of the labourers and the disease have increased deaths among the tea garden workers from 1870-1905. The harsh treatment of the workers also has increased the rate of abortion and birth of still babies among the women in the tea gardens. The colonial government helped the British planters grow and dominate in the market. It introduced laws like the indenture labour act and immigration of islands, which legalised the forceful migration of the labourers, imprisonment of the labourers, and inhumane punishment by the British employer. The labourers were not allowed to leave the workplace before the period allotted, and if they tried to elope, then they were punished. Often the labourers who were caught while eloping were beaten black and blue. So, the labourers never thought of moving out of the tea estate, even after lots of suffering. After independence, the labourers in the tea estate were Adivasi but were denied ST status due to the migration history. In 1951, the Plantation Labour Act was passed, which put responsibility on the employer to provide the rights to the employee. After independence, the ownership of the tea estate shifted from British planters to Indian private companies. The plantation labour act changed the status of the aborers. The plantation labour act made it compulsory for the tea garden companies to provide the basic rights to the labourers working in the tea estate, such as that each garden must have a primary school, living quarters, a health centre, and provide a decent working environment. Yet the situation did not change for the labourers even after years of independence. The condition of the schools is very poor and suffers from a lack of quality teachers. The health centres are also below average in terms of quality and infrastructure. They are still paid very little, which pushes them into poverty-prone situations. They are still regarded as outsiders by the Assamese population and are socially excluded. Tea Garden is a TB-burdened community. Several situations like poverty, malnutrition, filthy living conditions, and risky lifestyle behaviours such as alcohol and tobacco chewing influence TB among the tea garden workers. The poor quality of health services and poor access to the health care system in urban areas affect their treatment-seeking behaviour. Cultural practices such as performing rituals, relating TB with black magic, and confusing its symptoms with other diseases cause delays in treatment. They are menial labourers for several reasons; they lack the bargaining power to demand rights from the authority. The labourers are also victims of the uncertainty. Once the labourers suffer from a communicable disease such as TB, it puts them into a vulnerable situation as they lose their job. It pushes them into the vicious circle of poverty. So, the tea garden labourers in different communities are at risk of getting infected with TB because of the various social and economic situations they are placed into, and they are more vulnerable to the situation as it creates unemployment and poverty among the labourers.

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