

Original Article

Tea Plantation Worker's Access to Sanitation Services and Their Health Condition: A Case of Tea Plantation Workers of Kurseong Tea Estates, Darjeeling, West Bengal

¹Sandeep Sundas, ²Subrata Saha

¹Assistant Professor, Department of Economics, Kaliyaganj College) & Ph.D Research Scholar, Department. of Economics Raiganj University, West Bengal, India.

²Professor, Department of Economics, Raiganj University.

Received Date: 12 August 2023

Revised Date: 18 August 2023

Accepted Date: 23 August 2023

Published Date: 29 August 2023

Abstract: Sanitation and health are interrelated. Life expectancy, one of the important indicators of human development, is directly related to access to sanitation services, which thereby augments the health condition and increases the life span of the people. Among many such essential conditions of transition of the nation is the transition from high birth and death rates to lowered birth and death rates. Life expectancy depends on factors like improved food grains, better medical facilities, and access to basic sanitation services. Proper sanitation not only increases the environmental conditions but also increases productivity as people are less prone to diseases. The tea plantation workers' households are oblivious to keeping clean and accessible sanitation services and deprived of easily accessible drinking water and other basic life amenities, which affects their health condition, lowering their life expectancy and welfare. The spread of chronic diseases is the root cause of the inaccessibility of drinking water among tea plantation workers. This paper attempts to study the sanitation services available to tea plantation workers' households and investigate their health conditions. The random selection of 3 tea gardens from the Kurseong sub-division district of Darjeeling was considered for the study, and attempts were made to analyze the effect of bad sanitation practices by the household, if any, and the direct consequences on their health.

Keywords: Tea Garden Workers, Drinking Water, Sanitation, Health, Vulnerability, Chronic Diseases.

I. INTRODUCTION

The development of an individual or the community group basically relies on the importance of having access to basic amenities, including drinking water availability and sanitation services. For instance, Human Development with the resources of the United Nations Development Programme (UNDP) is measured with three broad indicators: life expectancy measured at birth, adult literacy rate and gross national income to estimate the standard of living. The study does not focus on all three indicators but tries to relate the extent of bad sanitation to indicators. Sanitation and health, though not the direct indicator of human development, is greatly influenced by the three indicators of human development. With improved sanitation and health, the efficiency level of the individuals remains intact and urges them to higher productivity, which, therefore, increases their income level and augments the standard of living. Secondly, better sanitation and health also augment individuals' life expectancies due to elevated health standards. Thirdly, the most important indicator of human development, i.e. literacy among individuals, which allow them to fight for their right, also enables the individuals to learn the importance of better sanitation and drinking water for their health. Therefore, it becomes crucial to investigate the sanitation practices among individuals for unified development. Sustainable development goals 3 and 6 emphasize superior fitness and comfort access to improved water and sanitation as important and urgent calls for nations.

In 2010 and 2013, the U.N. General Assembly and U.N. Deputy Secretary-General, respectively, recognized access to safe drinking water and sanitation and curbing open defecation by 2025. Global integration is sought to achieve the above targets.

As per the record posted with the aid of way of the utilization of the World Health Organization, in 2017, 45% and 31% of the worldwide population had access to standard sanitation services and shared sanitation services, respectively. 14% of the global population have had access to bathrooms or latrines, while 74% of the world's populace has indispensable sanitation service. The report further added that two billion people are deprived of latrines, of which 673 million had no option left but to excrete in the open. Sanitation and health are quite correlated. Poor sanitation is as soon as associated with negative health. The report further highlighted that 827000 people had died in low- and middle-income international locations due to unsuitable water, sanitation, and hygiene every year, accounting for 60% of whole diarrhoeal deaths. Lack of proper sanitation is the



cause of such deaths. The transmission of ailments due to open defecation can be reduced through government interference through the capability of imparting focus on proper sanitation, health, water and hygiene. Adequate and equitable sanitation for all is the purpose of the Sustainable Development Goal. Efforts are made through constant monitoring of the access to exclusive, safely managed sanitation services and excrete are efficiently disposed of. According to Global Health Observatory (GHO) data, in 2015, 89% of the global population had access to adequate drinking water services with fetching time not exceeding 30 minutes round-trip. At the same time, 68% of populaces have access to basic sanitation services such as toilets with septic tanks/pit/composting latrines, etc.

Women are more prone and at higher risk of substandard sanitation. Open defecation among women may generate the tension of sexual cruelty, barring movement and uniform chance. Secondly, the correlation between clean water and women's health cannot be overlooked.

Research in India refers to a high correlation between open defecation and adverse pregnancy outcomes. The study becomes conducive in suggesting that the households' easy access to water, sanitation and toilets actually reduces sudden birth and low birth rates. Inadequate access to sanitation, hygiene and water at school, household and medical facilities deteriorates development, especially for women, making them more vulnerable.

The paper tries to investigate the condition of sanitation and drinking water accessibility among tea plantation workers in Kurseong tea plantation and to check whether they are sanitation oblivious. The paper also tries to examine their health condition and to relate the effect of bad sanitation on their health, if any.

Life expectancy can be improved by having access to basic sanitation services, thereby improving health conditions. Improved sanitation may result in increasing the life expectancy as the people are less prone to diseases. Diseases like cholera, diarrhoea, dysentery, hepatitis A, typhoid, polio etc., can be curbed by having better sanitation services; on the contrary, poor sanitation retards human welfare and social and economic development.

The tea plantation industry, one of the oldest agrarian labour-intensive organized industries, shoulders the responsibility of employing nearly a million workers and their dependents in India, initially starting in Assam. The experiments were stretched to the Darjeeling region and followed by Terai and Dooars. The tea plantation workers were deprived of basic amenities of life with less or no knowledge of their health standards, the essence of education and an isolated residential set-up. Particularly if concentration on health and sanitation were to be identified, the workers would be more prone to diseases as they are unaware of the importance of keeping the surroundings clean and having easy availability of clean drinking water and sanitation, avoiding open defecation. The workers and their massive dependents are at a vulnerable stage of getting caught in contagious diseases due to illiteracy, lack of communication, and financial constraints in keeping well-equipped sanitation facilities. The worker's biggest problem is the collection of drinking water, which is not easy for the resident workers with immoderate sanitation services, and the practice of open defecation also resulted in the spread of contagious diseases along with the workers getting caught in waterborne diseases.

Moreover, illiteracy and low consciousness are the biggest issues among tea plantation workers. As per the report published via the resource of West Bengal Labour Commission in 2013, the renowned tea estates in Darjeeling hills, Terai and Dooars once had 2.62 lakhs of workers on a permanent basis and 70 thousand temporarily with a total population including the dependants in these tea estates exceeding million. The tea plantation in Darjeeling was commenced in 1841 with the genuine initiative of Dr. A Campbell on an experimental basis. The first tea garden in Darjeeling was established in 1852 at Tukvar, Steinthal and Aloobari. The tea industry in Darjeeling is around 170 years old. Still, the condition of the workers has not changed much since the time of the recruitment of indentured labour in the tea estates of Darjeeling during the colonial period. The tea plantation workers have chronic health issues arising out of negligence at work and the absence of basic amenities of life. One health issue common among tea plantation workers is back pain and gastric and eye irritation due to ignorance while spraying pesticides without safety protection measures. The traditional cooking habits of the workers, mainly in firewood, may also have some effect on their health. Even if the workers can access LPG, they prefer to cook some part of their meal in firewood. The lack of literacy among workers has a strong bearing on their health as the workers are oblivious to their rights, oblivious to the basic nutritional requirement that must be incorporated into their meals and oblivious to keeping clean and hygienic sanitation, leading to various ailments. Furthermore, the household members of the tea plantation workers, on a majority, have dropped out of their school and are also not conscious of the rights of workers. In addition, the closed and abandoned tea estates are in very bad shape with non-functioning hospitals, poor and unhygienic living and, most importantly, workers' addiction to consuming alcohol.

For the purpose of the study, three tea gardens from Kurseong, a subdivision of Darjeeling district, are being chosen, namely, Castleton tea estate, Makaibari tea estate and Goomtee tea estate. Health is a dynamic issue that must be considered with plenty of time. Had they been educated, they would have taken care of their health. So, to some extent, health negligence

occurs because the majority are uneducated. Every other member of the family suffered from a major disease; this shows the lack of proper medical assistance for the tea plantation workers.

II. REVIEW OF LITERATURE

Sharma, 2005 revealed that around 98 per cent of the tea plantation workers or their family members had seen doctors or conventional curers for immediate healing on the part of ethno-spiritual faith. Lack of proper sanitation and ignorance deteriorate the health condition. The study highlighted tea plantations have impoverished health centres and medical facilities. The study asserted that substandard medical facilities and health planning resulted in deteriorating health conditions. Though people are not oblivious to medical advice, the problem is the poor accessibility of health centres. Most of the garden workers live in kutchha and semi-pucca houses. Drinking water, as pointed out in the study, is a real plight for the workers, who eventually depend on spring water. Moreover, firewood is still the major preferred fuel for cooking. The women workers have to work long distances to get drinking water.

According to the Plantation Labour Act 1951, management must provide proper housing and improved sanitation, which the management often violates. The tea gardens of the hilly areas show it all with the decreasing trend in the production of tea and the social cause of the tea garden workers that the workers expect proper justice. Better education facilities, medical facilities and other essential requirement has always been a never-ending quest for the plantation workers.

Thapa, 2012 highlighted sanitation in terms of the availability of toilet and bathroom facilities and drinking water sources as an improvement in sanitation researcher's study is categorized between three different types of garden workers viz, permanent workers, casual workers, and small growers researchers' findings were 44 percent had semi pucca-house, 19.5 per cent had the pucca house and 36.5 per cent had the kutchha house. 48 per cent of the respondents had access to bathroom facilities. 69 per cent had access to a toilet facility.

Khawas, 2006 revealed that most tea estates lack basic medical health centres and operate only occasionally. The researcher affirms that as per the Plantation Labour Act 1951, access to basic health and medical facilities is the owner's or planter's utmost responsibility. The researcher also highlighted the major health problems with the tea garden labourers across 3 randomly selected tea gardens of Darjeeling viz Ambik, Teesta Valley and Peshok tea garden. Among respondents from surveyed tea gardens, the diseases commonly found were liver jaundice, pressure, heart issues, asthma, gastric and tuberculosis.

Khawas, 2006 brought to notice that labourers in some tea gardens still defecate in the open. Non-accessibility of toilets leads to numerous health problems. Worm infection is one common disease of all. According to the researcher from the surveyed households from tea gardens of Darjeeling, 26 per cent still defecate in the open, and 74 per cent have access to toilets, either locally made or eastern type of latrines.

Joint Labour Commissioner, North Bengal Zone, the quality and the quantity of water source is very bad. There are 1,32,379 out of 1,66,591 houses covered by drinking water supply through different modes. The drinking water supply is through deep tube wells, hand tube wells, ring wells, Kucha wells, and Pipelines. Introduction of "ajal Dha" in 61 Tea Estates /gardens, only 5 in the hilly areas of Darjeeling, 24 and 32 in Terai and Dooars, respectively. The tea estate of Darjeeling hills has a deep scarcity of water. The household mainly depends on the natural spring water and jhora in the hilly areas. The majority of tea estates in hilly areas are not distributed properly through pipeline sources.

The study also revealed that only 166 tea estates/gardens out of a total of 273 tea estates/gardens have access to hospitals. Further, only 56 out of the 166 tea estates/gardens have full-time residential doctors. The majority of tea estates/gardens have visiting doctors. The data found under the study showed that out of 107 Tea Estates/gardens, 64, 20 and 23 tea estates/gardens in Darjeeling hills, Terai and Dooars, respectively, do not have medical facilities or hospitals. From 113 Tea Estates, 38 tea estates in hilly areas of Darjeeling, 23 tea estates in Terai and 52 in Dooars lack primary health centres.

Bora, 2015 The studies revealed the miserable living conditions of women workers who are mostly affected by contagious chronic diseases.

Sahoo, Konwar and Sahoo, 2010 The study made through this paper was of immense help in analyzing nutrition intake and, therefore, identifying deficient respondent workers. The intake of carbohydrates, calories and protein was considered below the standard requirement because of the oblivion characteristics of the workers. The study also highlighted that due to nutritional deficiency and ignorance, workers across the tea estates caught diseases such as anemia, fever, cough, and hypertension, among which gastric is the most common problem. The workers also seem ignorant of the health facilities services that ought to be received by them.

S. Paul and H. Paul, 2012 The authors tried to identify the health scenario of tea plantation workers under their study. The paper highlighted certain facts such as improper implementation of PLA 1951, non-operative hospitals in closed and abandoned tea estates, open defecation prevalence among workers and poor & unhygienic living conditions. The author mentioned that alcohol addiction among workers is also the reason for their deteriorating health condition. They found that most of the workers belong to Schedule Tribe communities.

Paul and Rohatgi, 2014 The paper focuses on the essence of education, income generation, and, most importantly, the health and hygiene of tea plantation workers. The observation made in the study was immense difficulty in collecting drinking water, and the sanitation services accessible were of substandard form. The study highlighted that workers excrete in open spaces due to the unavailability of toilets within or nearby residential premises. Waterborne diseases were among the major ones that affected the workers.

III. OBJECTIVES OF THE STUDY

1. To investigate the health standards of tea plantation workers.
2. To examine the sanitation practice in the household.

IV. STUDY AREA

Samples of 90 households from three randomly chosen tea gardens mentioned above were studied. All the tea gardens are from Kurseong, a sub-division of Darjeeling district.

V. METHODOLOGY

Both primary and secondary data were used for the purpose of the study. Three tea gardens were randomly chosen, and a sample of 30 households from each tea garden was collected. The study is conducted with 90 respondents overall or, in other words, 90 households.

As consumption plays a vital role in productivity, the consumption pattern of the respondent must be an area under study. Type of consumption includes consumption of essential commodities like rice, wheat, etc. and consumption of non-essential nutritional food like milk, fruits, etc. The monotonous work may reduce productivity, so leisure time may also directly influence productivity and health. Sanitation and drainage systems and the availability of drinking water are some of the common needs that the tea garden workers must pursue. The type of cooking includes firewood cooking, which is the root source for diseases like lung cancer, bronchitis, eye irritation, etc., to be studied in the tea garden. Most of the plantation workers still cook food with firewood. Hence, the data collection method is based on the questionnaire prepared by the author.

VI. RESULTS AND DISCUSSIONS

The tea garden workers can avail of 14 days of sick leave per annum. The workers also get their medical expenditure reimbursed by 50 percent if they workers take treatment in a government hospital. The leaves, if not taken by the worker, can be accumulated for a maximum period of one year. The tea garden in Kurseong has dispensaries but lacks hospitals, unlike the tea gardens in the Terai and Dooars regions. The workers have a weekly off on Sunday, but the wages for that day will not be paid to the workers. The per day wage of the workers at the time of data collection was Rs. 202, including Rs. 9 as ration allowances.

The study was conducted in 3 tea gardens of the Kurseong sub-division of the Darjeeling district. A total of 90 households of tea garden workers were surveyed, of which 42.2 per cent were male respondents and 57.8 per cent were female respondents.

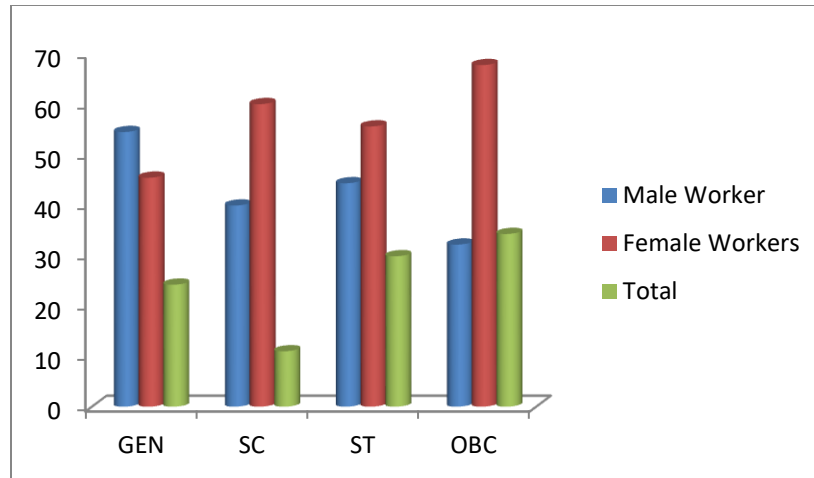


Figure 1: Figure showing the caste category of workers.

Source: Field Survey 2022

The majority of the respondents belong to the OBC category with 34.4 per cent, followed by the Schedule Tribe community with 30 per cent, 24.4 per cent of general category respondents, and 11.1 per cent of the respondents from the Schedule Caste category.

Let us now analyze the housing facility of the tea plantation workers. The management provides the workers with the land for house construction, but renovation and construction are solely the workers' responsibility. The workers, however, get assistance from the state government through various sub-caste-based development boards prevalent in the hilly areas of Darjeeling.

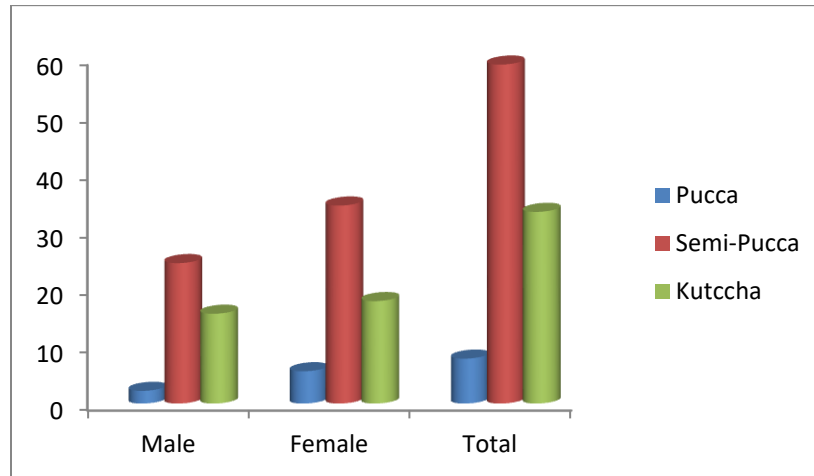


Figure 2: Figure showing the type of house of the workers

Source: Field Survey 2022

From the above data, it has been observed that most of the workers have their own houses constructed within the tea estate. The respondents having mostly semi-pucca house accounts for the maximum, which is 58.9 percent, followed by respondents having the kutchcha type of house, which is 33.3 percent. Only 7.8 per cent have pucca houses.

The following information was collected while analyzing the availability of toilet facilities from the surveyed tea gardens. The type of Kutchcha toilet is among 36.7 per cent of the respondents. 62.2 per cent of the respondents have access to proper pucca toilets with proper disposable of excreta in the septic tank. It is also to be noted that the kutchcha toilet type is among those who have constructed toilets in kutchcha style, with some having proper disposal of excreta in septic tanks or pits. One respondent from the above 90 samples collected does not have access to a toilet and uses a common toilet. This accounts for 1.1 per cent.

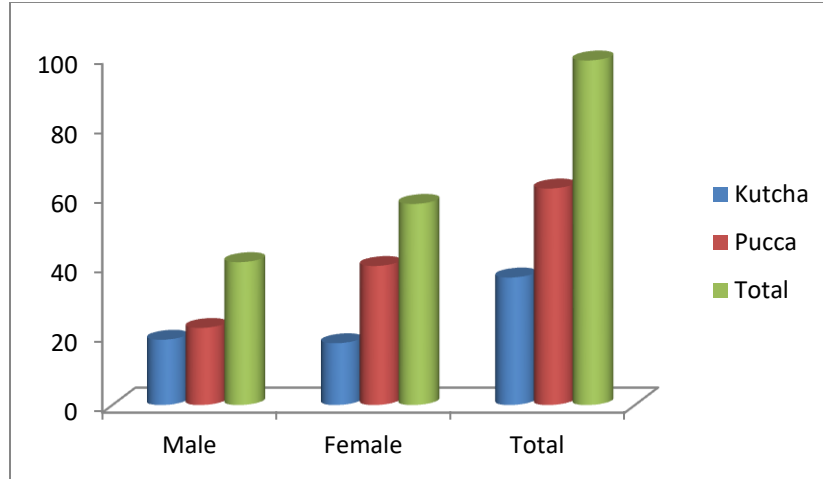


Figure 3: Figure showing the availability of the type of toilets of the workers.

Source: Field Survey 2022

It is to be noted from the above figure that female respondents' households have the maximum percentage of pucca toilets compared to the male respondents. Hence, from the field of study, it is observed that toilet availability seems fine.

Let us now look into the drainage condition of the household. The drainage condition of tea garden workers seems perfectly okay, with 92.2 per cent of the households having good drainage systems and the rest having bad drainage systems.

From the tea gardens surveyed, it was known that some tea gardens make drinking water available at the ease of the workers and their family members while so didn't own up to the responsibility of providing or supplying the water, and all the necessary arrangements had to be borne by the workers themselves. While some provide water, the workers would still have to bear the maintenance cost. The researchers also note that almost all of the households use LPG and firewood as a source of fuel for cooking food. The workers get a weekly off on Sunday, but the day's wage is not included in their weekly, bi-monthly or monthly salary.

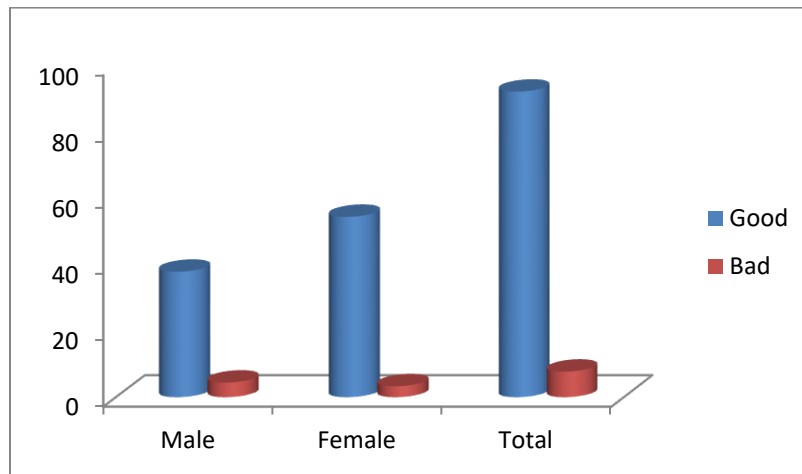


Figure 4: Figure showing the drainage condition of the household above.

Source: Field Survey 2022

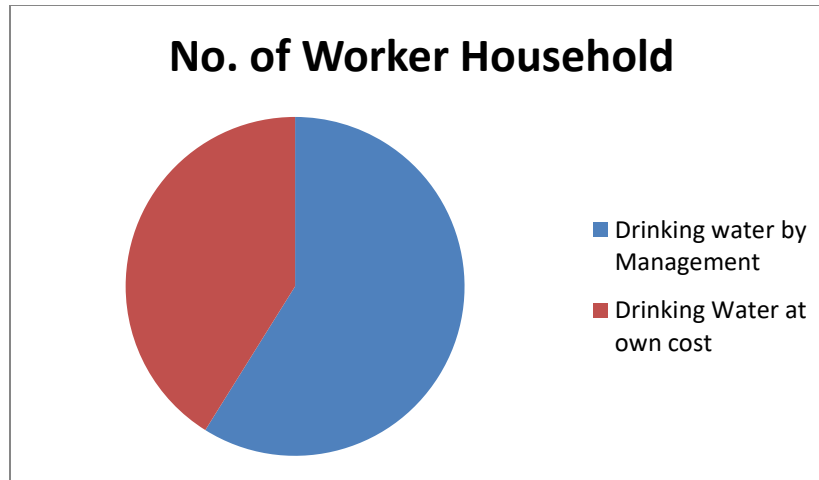


Figure 5: Figure showing the drinking water connection of the household

Source: Field Survey 2022

The majority of the worker household has installed water at their own cost, while some workers in some tea gardens get water installed at the convenience of the workers at the management cost.

Finally, we will investigate the health condition of the respondents. It is very crucial from the viewpoint of workers and their family members that primary health centres are within their reach, but all three tea gardens do not have primary health centres and hospitals; they only have a dispensary which is operational throughout the week and some tea gardens have visited the doctor on Sunday at the dispensary for the workers and their family members. The workers are referred to the sub-divisional hospital for any kind of chronic disease that cannot be cured in the dispensary. Apart from this, there should have been regular awareness of health, hygiene, and sanitation to be organized by the management, but it seems lacking.

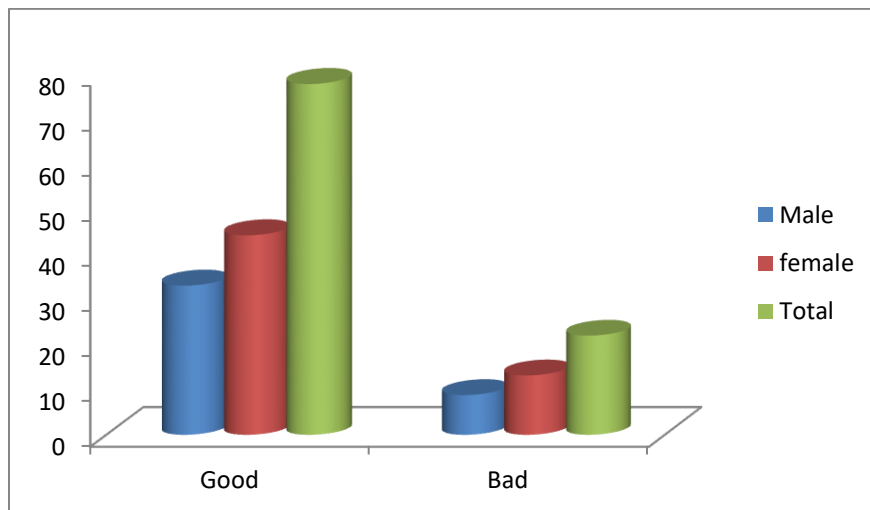


Figure 5: Figure representing the health condition of workers

It is observed from the above diagram that 77.8 per cent of the respondents have good health conditions, while 22.2 per cent have bad health conditions. Female's health condition compared to male workers is good. The common health problems among workers are high blood pressure, gastric, back pain, asthma and Gout. Though these health conditions are not worse, workers regularly have to take medicine or visit the doctor frequently. Some of the health diseases are also due to work since the workers have to pluck tea for 6-8 hours standing all day, so back pain and body aches are common consequences. Comparatively, femarespondents' health is better than their male counterparts. Apparently, the percentage of women suffering from bad health issues is also higher than that of male respondents.

VII. CONCLUSION

In Darjeeling's case, most tea plantation workers have access to proper sanitation facilities, and the assets under possession are a house, mobile phone and T.V. on average. There is only a dispensary available in the tea garden and no primary health centre. According to the Plantation Labour Act 1951, the tea estates must have a primary health centre, which should be operational throughout the week, and the doctor should be available to attend to the patient. But this seems a little violation of the Act, with only a dispensary available for a doctor's visit once a week. There have to be frequent awareness programmes, that the management has to take responsibility for better disseminating information on proper sanitation, drainage and hygiene. Water is a problem since most workers must get the water connection done at their own cost. It is quite unfair for the workers who already have lower incomes to get it installed at their own cost. Management has to make provisions for safe and drinkable water accessible at the convenience of workers and their families because water is essential for healthy living, and improper water is the source of many mortal diseases. The garden workers consume nutritional products because of their daily hard work. The workers enjoy free time on Sunday, but the wage for that day is unpaid. The management provides the house that they live in, but renovation needs to be checked at frequent intervals.

It is observed that the garden workers still cook with traditional style in firewood, which may be the issue of bad health over time. Even if they have the LPG connection, they haven't given away firewood cooking altogether. Proper drainage is another line of concern that the tea plantation workers must be aware of. Hence, regular check-ups and time-to-time awareness can help workers fight contagious diseases.

VIII. REFERENCES

- [1] Baker KK, Story WT, Kuntz EW, and Zimmerman M "Impact of Social Capital, Harassment of Women and Girls, and Water and Sanitation Access on Premature Birth and Low Infant Birth Weight in India" *PLOS ONE*, 13(10) (2018).
- [2] Thapa. "Employment Status and Human Development of tea plantation workers in West Bengal" In *Globalization, Development and Plantation labour in India*, Routledge, India, pp. 82-108, (2012).
- [3] BorBRB "Socio-economic Condition of Tea Garden Workers and its Impact Women's Health with Special Reference to Teok Tea Estate, Assam" *The International Journal of Humanities and Social Studies*, Vol. 3, No. 12, (2015).
- [4] Sahoo D. K. "Health Condition and Health Awareness Among Tea Garden Laborers: A Case Study of Tea Garden in Tinsukia District of Assam" *The IUP Journal of Agricultural Economics*, 0(4), 50-72, (2010).
- [5] Paul S and Paul "Level of Health and Economic Scenario and its Interaction of Tea Plantation Workers: A Case Study of Dooars Region, West Bengal" *Journal of Geo-Environmental Observer*, Vol. 1, No. 1, 61-66 (2012).
- [6] Paul S, Rohatgi "Socio-economic status and health behaviour of tea plantation workers of Dooars region, West Bengal" *Geographical Thoughts*, 12, (2014).
- [7] Sharma K, *Sociology of Indian Tea Industry- A Case of Inter-ethnic Relationship*, Mittal Publication, (2005).
- [8] Khawas. "Status of Tea Garden Labourers in Eastern Himalaya- A Case of Darjeeling tea industry" *Non-ICIMOD Publication*, (2006).
- [9] Khawas. "Socio-economic Condition of Tea Gardens Labourers in Darjeeling hill" *Council for Social Development*, 53 Lodi Estate, New Delhi 110003, (2006).
- [10] Synopsis of Survey of Tea Gardens Conducted by Regional Labour Offices under the Jurisdiction of Joint Labour Commissioner, North Bengal Zone.
- [11] Progress on drinking water, sanitation and hygiene: 2017 update and SDG baselines. Geneva: World Health Organization and the United Nations Children's Fund, 2017. Available from: https://www.unicef.org/publications/files/Progress_on_Drinking_Water_Sanitation_and_Hygiene_2017.
- [12] Census 2012
- [13] Report of World Health Organisation, 14th June 2019
- [14] Global Health Observatory data
- [15] Plantation Labour Act 1951.
- [16] Surjapada Paul and Sushma Rohatgi, 2014
- [17] Darjeeling's tea garden workers are struggling to make ends meet, Scroll.in, Niladry Sarkar, January 27, 2023
- [18] Vimal Khawas, status of tea garden labourers in eastern Himalaya: A case of Darjeeling tea industry, 2006
- [19] D.sahoo, Konnaki Konwar and B. Kishore sahuo, 2010
- [20] Surjapada Paul and Haripada Paul, 2012
- [21] Synopsis on Survey of Tea Gardens Conducted by Regional Labour Offices under jurisdiction of Joint Labour Commissioner, North Bengal Zone.