

Research Article

Socioeconomic Disparity in Health of Rural Communities in the Himalayan Foothills: Mahananda Wildlife Sanctuary, West Bengal

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A B S T R A C T

Introduction: People with lower education have been found to have poor health. Lack of schools and universities is linked to unemployment, self-service, counselling, nutrition, and other ailments. As a result, several hygiene-related disorders impact common people, especially children and young ladies.

Purpose of the Study: The purpose of this study was to contribute to socioeconomic research by determining the relationship between people and natural resources.

Locations: The research is concentrated in the hamlets of Mohorgon, Damra gram, Mirjungla, Dhukuria, Khoklong, and Laltong. This is the first time that the socioeconomic studies of the MWS lower area have been prioritised.

Methods: A mixed-methods strategy was used to collect primary data, including gathering background baseline information, arranging interviews with local communities, and conducting field observations. It also contains information on household expenditures, potentials, daily needs, and other topics.

Results and Conclusion: It provided information on the potential effects of a planned development project. Our report recommends that the Government closely look at the region's current development status and potential future challenges and opportunities. Wages and living conditions rose as a consequence of the village economy. This article looks at the challenges that healthcare faces and various programmes that address socioeconomic factors. As a result of this research, more equitable development is possible.

Keywords: Mahananda Wildlife Sanctuary, Forest, Resource Management, Socio-economic

Introduction

The Mahananda Wildlife Sanctuary is a beautiful wild forest situated on a series of high mountains in rows of high hills. Only 158 square kilometres of woodland homes are included in the project. The Royal tiger and the Gaur were designated endangered species in 1958, and the area became a sanctuary to protect them. The extinction of any species is a real possibility. 70% of Indians live in rural regions and rely on natural and local resources for their daily needs.¹ The natural resources of the Eastern Himalayas are vital to the livelihoods of millions of people living in the lower regions of Eastern Himalayas.² In several communities in the Eastern Himalayas, families historically entrusted the head of the family with social and economic decision-making.³

The human-free hamlets and the residential areas surrounding them were the primary focus of this investigation. Using relevant material, the authors combed through all the villages below the lower Mahananda Wildlife Sanctuary in quest of essential data on urban life from the perspective of its socio-economic characteristics. The research had to rely only on field investigations and was specially designed and delivered by the author's questionnaires based on the idea of a door-to-door survey. Mohorgon, Damra gram (nearest Khetjhora forest settlement), Mirjungla, Dhukuria, Khoklong, and Laltong were the hamlets studied. This study article addresses important issues affecting the economy, politics, and society using the database analysis results in spatial economics and human natural science. These fields include organism biology, ecology, nature conservation and environmental protection.⁴ Figure 1 shows a graphical representation of the study.



Figure 1. Graphical Representation of the Study in the Villages below the Lower Mahananda Wildlife Sanctuary, West Bengal

It is important to point out that the research was limited to the lower reaches of the MWS's boundaries. However,

the capacity to move around in rural areas is absolutely necessary for its development. Water, energy, land, healthcare, education, transportation, and the market are necessities for everyone. Ultimately, the goal is to get a better knowledge of rural life's challenges and difficulties.⁵ Due to these problems and challenges, people's lives are harmed, and barriers are placed in their way to advancing their careers and improving their quality of life. Therefore, to alleviate the issue and improve the livelihood possibilities for rural residents, our article urged the Government to take various steps to build villages that must focus on the well-being of people who would live there. Consequently, communities will be transformed into sustainable model villages after a thorough reassessment and reconnaissance by architects.

Materials and Method

The study concentrated on sociological and economic problems as its primary topics viz., education, health, hygiene, etc. Socio-economic variables may impact how long someone lives and how well they live. In addition, these factors have an impact on the capacity to make a sound decision. We selected the bottom part of the MWS zone for this project, home to many communities. Our research has primarily focused on six hamlets: Mohorgon, Damra gram, Mirjungla, Dhukuria, Khoklong, and Laltong in the Dhukuria district. We intended to look at every element of these three locations' socioeconomics. We considered variables including educational attainment, employment, access to safe drinking water, healthcare, and availability of reliable power sources.

Conducted from 2019 to 2021, the research depended mainly on primary data acquired through direct personal interviews in the MWS zone districts of Mohorgon, Damra gram, Mirjungla, Dhukuria, Khoklong, and Laltong. In addition, secondary data were gathered from various sources, including yearly reports and reports from local panchayat offices.

Survey Details

Survey Site 1: Two Hamlets: Mohorgon and Damra gram

Mohorgon encircled 854 hectares (Figure 2), with about 673 total households consisting of 3169 inhabitants (Figure 3). In the vicinity of Mohorgon, barely two primary schools and only one secondary school (Figure 4) were situated within approximately 5 km. The key employees in this region, the settlers, were employed in the tea estate, with their wages around INR 6000-7000 (Figure 5) per month. This locality possessed water wells, handpumps, and tube wells, but did not have tap water. An estimated 53-55% of residents utilised gas for cooking. Electricity was available here but not for farming.

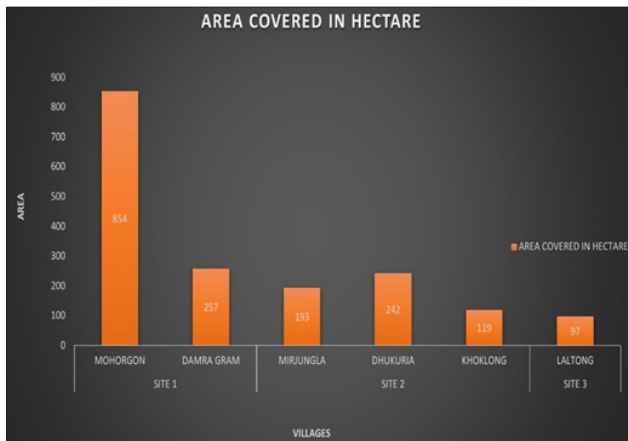


Figure 2. Area Covered by Villages (in Hectares)

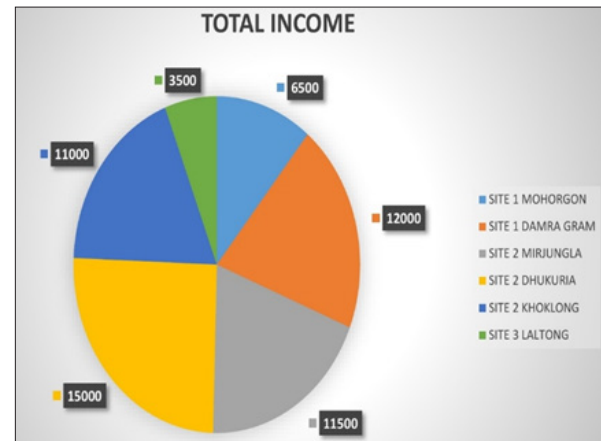


Figure 5. Total Household Income of the Villagers in the Hamlets per Month at Sites 1, 2, and 3

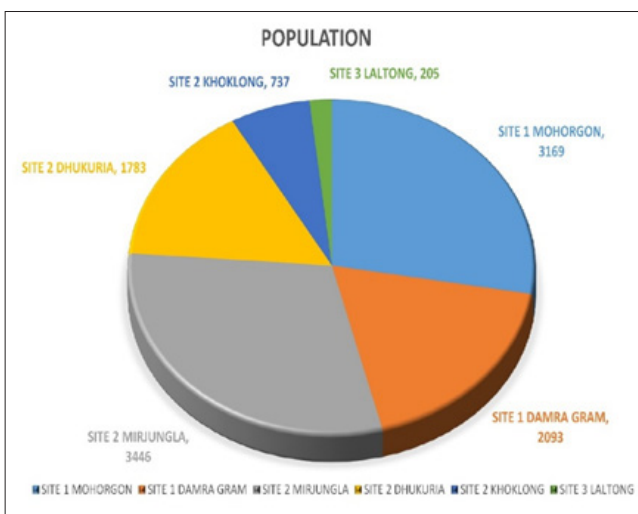


Figure 3. Populations of Sites 1, 2, and 3

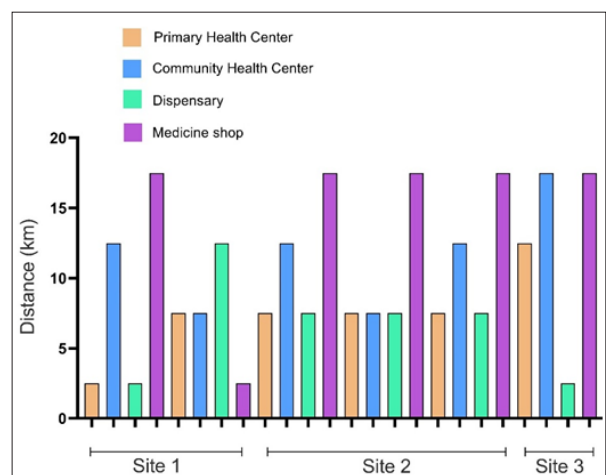


Figure 6. Primary Health Centre, Community Health Centre, Dispensary, and Medicine Store (Median Value) within a 20-kilometre Radius of Sites 1, 2, & 3

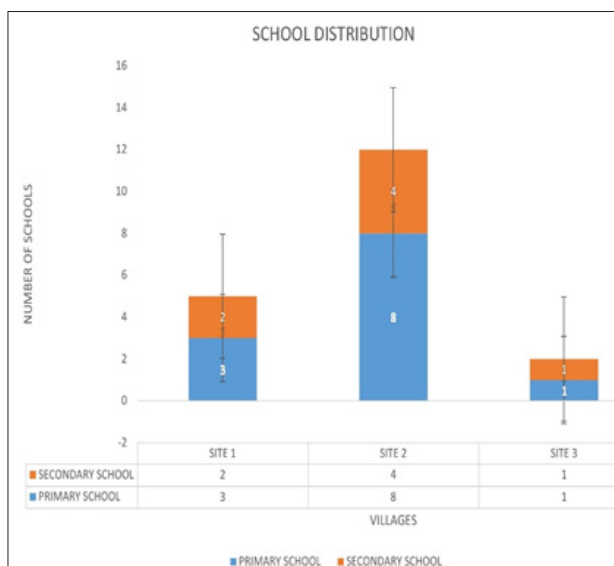


Figure 4. Number of Elementary and Secondary Schools within a 15-kilometre Radius at Sites 1, 2, and 3

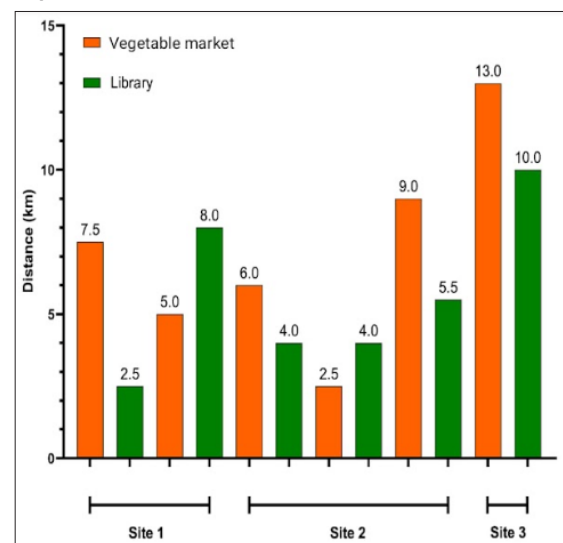


Figure 7. Location of a Vegetable Market and a Library within a 15-kilometre Radius at Sites 1, 2, and 3

Regarding the health services, there was only one primary health centre, one dispensary in the village circle, and no drug stores within a 15 km radius of the village. The community health centre was 10-15 kilometres away (Figure 6), with one MBBS doctor on staff. No community bathroom was available. Workers from ICDS and ASHA were readily available in these regions. The public library and vegetable market were situated at a distance of 7-8 km and 2-5 km intervals respectively (Figure 7).

Damra gram is situated near Khetjhora forest village, confined in 257 hectares (Figure 2), which enclosed 430 families that incorporated 2093 settlers (Figure 3). In the territory of Damra gram, one primary school and one secondary school (Figure 4) were present. The habitants of this zone to a crucial extent were wage earners, employed in the tea estate, nursing, and business. Other jobs done by these people were municipal corporation employees and painters. Labour construction was the principal occupation of this realm. The primary occupation was labour for construction, where they earned around INR 15000 per month. Income in tea gardens was

approximately INR 6000 to 7000, while the monthly payment in nursing was about INR 9000 to 12000 (Figure 5). This vicinity had wells, hand pumps, and tap water, but did not have tube wells. Natives of this zone (65-70%), used gas for cooking. Electricity was accessible but not for agricultural work. Only one medicine shop and one primary health centre were situated in the village at a distance of 6-10 km. Moreover, there was neither an MBBS doctor nor any dispensary. However, the community health centre was located at a distance of 6-10 km (Figure 6).

In the Government sector, women did work such as Anganwadi, Asha, and ICDS. The vegetable market was 5 km away, and the public library was located within a 10 km distance (Figure 7). No community bathroom was available. In Damra gram east, women worked in hospitals but faced street light issues.⁶ In Damra gram west, females were not engaged in any outdoor work. Villagers were dealing with healthcare issues. One significant issue they had was the frequent arrival of elephants but the inconsistent payment (Table 1).

Table 1. Survey Reports of the Central Part of Mahananda Wildlife Sanctuary's Lower Area

Villages Covered	Latitude and Longitude	Agricultural Land	River	Area	Pin code
Mohorgon	26°47'15.8"N 88°22'33.0"E	Yes	Panchai River	854 hectare	734009 Matigara block
Damra gram (near Khetjhora forest village)	26°48'05.5"N 88°24'14.9"E	Yes	Mahananda	257 hectare	734010 Matigara block
Villages	Total families	Total population	No. of schools	Occupation	Total income (INR)
Mohorgon	673	3169	2 primary schools, 1 secondary school (around 5 km)	Tea garden	6000-7000
Damra gram	430	2093	1 primary school 1 secondary school	Labour, construction primary occupation	15000
				Tea garden	6000
				Nursing	7000
				Business (grocery)	9000-10000
Drinking water	Wild honey	Gas	Electricity	Health centre	Others
Mohorgon					
Tap water - No	No	45-50%	Yes, but not for agricultural purposes	Primary health centre in the village,	

Well water - Yes Hand pump - Yes Tubewell - Yes				Community health centre (10-15 km), Dispensary in the village, No medicine shop within a 15 km radius, One MBBS doctor	Availability of ICDS, Anganwadi, and Asha workers, No community toilet, Availability of vegetable market in a 7.5 km area, Availability of public library within a 2.5 km radius
Damra gram					
Tap water - No Well water - Yes Hand pump - Yes Tubewell - Yes	Very low	65-70%	Yes, but not for agricultural use	Primary health centre (6-10 km in radius), Community health centre (6-10 km in radius), No dispensary (10-15 km in radius), 1 medicine shop in the village (within 5 km), No medical practitioner	No community toilet, Availability of ICDS, Anganwadi, and Asha workers, Availability of vegetable market in a 5 km area, Availability of public library within a radius of 8 km

Survey Site 2: Three Hamlets: Mirjungla, Dhukuria, and Khoklong

Mirjungla village occupied a range of 193 hectares (Figure 2) in which 700 families comprised a population of 3446 (Figure 3). Three primary and one secondary schools (Figure 4) were being established in context with literacy. The sources of income of these people were driver jobs and small businesses. Labour and Rajmistri-related aspects of construction constitute the primary skill set. They earned nearly INR 11000 -12000 in a month (Figure 5).

Mirjungla village had three types of potable water: tap water, water from wells, and from hand pumps. This locality did not possess any tube well. Gas was available for cooking, but they preferred mud Chula more. The power supply was not there not agricultural use. One primary healthcare centre and one dispensary were located within 6-10 km. The neighbourhood health centre was located 12 km away. Within a 5-km radius of the area, there was no MBBS doctor and no pharmacy (Figure 6). Women got jobs in Government sectors such as Asha, ICDS, and Anganwadi. The vegetable market and public library were available

within 6 km and 4 km respectively (Figure 7). There was no community bathroom.

Village Dhukuria covered a total of 242 hectares (Figure 2), with 373 total households and a population of roughly 1783 people (Figure 3). The locality had three primary and two secondary schools (Figure 4). The tribe of this area was sustained mainly by construction work and migrant labour, which was their primary occupation, whereas farming was their secondary occupation. They received a salary of INR 15000 a month (Figure 5). On the subject of potable water, the region had wells and hand pumps. There was no facility for getting tap water or tube well water. Electricity was available yet not for farming.

Regarding health services, primary healthcare and dispensary were set up in the middle of almost 10 km. The drug store was not situated within a 15 km radius. The village did not have any MBBS doctors. The location of the community healthcare centre was within a 6-10 km radius (Figure 6). The community bathroom was unavailable in the village. The vegetable market and public library were built at a distance of 2 km-4 km (Figure 7). Government

jobs like Asha, Anganwadi, and ICDS were open for females. Khoklong village was restricted to an area of about 119 hectares (Figure 2). The total number of households in the village was estimated at 136. There were approximately 737 people in the village (Figure 3). According to the education field, the region had 2 primary schools and one secondary school (Figure 4). The livelihoods of the settlers were steadily dependent on labour at army base camps, and female workers worked in tea factories. Their net monthly salary was nearly INR 10000-12000 (Figure 5). The sources of income in the manner of Asha, Anganwadi, and ICDS were acceptable for women. The village contained water wells and hand pump water for drinking purposes, but the

area did not have tap water or tube wells.

Furthermore, gas was being used by 60-65% of the villagers. The power supply was available, moreover, the people of this territory utilised electricity even in farming too. In a health facility, the locality possessed one primary health care centre and dispensary, which was found within 6-10 km. No medicine shop was situated within a 15 km radius, along with no MBBS doctors there. Community Government healthcare was located at a distance of 10 km (Figure 6). There was no community bathroom and the public library and vegetable market were situated at distances of 5-6 km and 8-10 km respectively (Figure 7 and Table 2).

Table 2. Survey Reports of the West Part of Mahananda Wildlife Sanctuary's Lower Area

Villages Covered	Latitude and Longitude	Agricultural Land	River	Area	Pin code
Mohorgon	26°47'15.8"N 88°22'33.0"E	Very few	Panchai	193 hectare	734009 Matigara block
Dhukuria	26°45'19.0"N 88°22'50.2"E	Yes	Panchai	242 hectare	734010 Matigara block
Khoklong	26°46'50.2"N 88°20'14.0"E	No	Umrao sing lake	119 hectare	734010 Matigara block
Villages	Total families	Total population	No. of schools (in 15 km radius)	Occupation	Total income (INR)
Mirjungla	700	3446	3 primary schools, 1 secondary school	Labour and Rajmistri related to construction - primary	11000-12000
				Driver	
				Business	
Dhukuria	373	1783	3 primary schools, 2 secondary schools	Mistri, migrant labour - primary occupation	15000 (avg)
				Farming - secondary occupation	
Khoklong	136	737	2 primary schools, 1 secondary school	Labour at army base camp, females work in the tea factory	10000-12000

Drinking water	Wild honey	Gas	Electricity	Health centre	Others
Mirjungla					
Tap water - Yes Well water - Yes Hand pump - Yes Tubewell - No	No	Yes (40-45%) (but they don't use this all the time)	Yes but not for agricultural purposes	Primary health centre (6-10 km), Community health centre (10-15 km radius), Dispensary (6-10 km), No medicine shops within a radius of 15 km	No community toilet, Availability of Anganwadi, ICDS, and Asha workers, Availability of vegetable market in a 6 km area, Availability of public library in a 4 km radius
Dhukuria					
Tap water - Yes Well water - Yes Hand pump - Yes Tubewell - No	No	Yes (75-80%)	Yes but not for agricultural use	Primary health centre (6-10 km in radius), Community health centre (6-10 km in radius), Dispensary (6-10 km in radius), No medicine shops within a radius of 15 km	No community toilet, Availability of Anganwadi, ICDS, and Asha workers Availability of, vegetable market in a 2-3 km area, Availability of public library in a 4 km radius
Khoklong					
Tap water - No Well water - Yes Hand pump - Yes Tubewell - No	No	Yes (60-65%)	Yes and available for agricultural use	Primary health centre (6-10 km in radius), Community health centre (10-15 km in radius), Dispensary (6-10 km in radius), No medicine shops within a radius of 15 km	No community toilet, Availability of Anganwadi, ICDS, and Asha workers, Availability of vegetable market in a 9 km area, Availability of public library in a 5-6 km radius

Table 3. Survey Reports of East Part of Mahananda Wildlife Sanctuary's Lower Area

Villages Covered	Latitude and Longitude	Agricultural Land	River	Area	Pin code
Laltong	26°48'53.9"N 88°31'09.0"E	Very poor	Teesta	97 hectares	734008
Villages	Total families	Total population	No. of schools (in 15 km radius)	Occupation	Total income (INR)
Laltong	37	205	No government school within a 10 km radius, one primary and one secondary school in a 12-15 km radius	Depends on cows (milk, dung, hays)	3000-4000
Drinking water	Wild honey	Gas	Electricity	Health centre	Others
Laltong					
Tap water - Yes Well water - Yes Hand pump - Yes Tubewell - No	Yes but low	No, only wood	Yes (solar light was introduced last year)	Primary health centre (10-15 km), Community health centre (15-20 km), Dispensary in the village, No medicine shops within a radius of 15 km, No MBBS doctor	No community toilet, Availability of ICDS only, Unavailability of Asha workers and Anganwadi workers, Availability of vegetable market in a 13 km area, Availability of public library in a 9-10 km radius

Survey Site 3: Single Hamlet: Laltong

Laltong was at the bank of river Teesta deep down in the forest that confined 97 hectares of area (Figure 2). The village was situated in the Dabgram-Fulbari assembly constituency and became a part of the Dabgram-1 panchayat. This primitive village comprised approximately 205 people (Figure 3). Though very few families lived here earlier, the number had gone up to 47 families. The literacy rate here was very poor, and the hamlet constituted no Government school within 10 km; only one primary and secondary school were situated 15 km (Figure 4). ICDS was made available, but the educational infrastructure could only support students up to the fourth class only. People of this village were entirely dependent on cows for milk, dung, and hay farm for their livelihoods. Their salary was nearly INR 3000-4000 (Figure 5). Neither part of the hamlet had any tap water nor water from a hand pump or tube well. However, wells were the chief source of drinking water for

them. In recent times also, their supply of gases has been the most challenging thing. They used wood for cooking or for any heating of the ingredients. Electricity was a luxury for the villagers, and so far, the only light at the tunnel's end was installing solar panels last year. Laltong village's lack of a primary and community healthcare centre within 10 km can also be gleaned from its remoteness. The medical shop was available beyond a 15 km radius (Figure 6). The community bathroom was unavailable in the village. The vegetable market and public library were built at a distance of 13 km and 9-10 km (Figure 7). The locality was mainly composed of wooden houses as the houses were protection against herds of marauding elephants, who raided routinely (Table 3).

Result and Discussion

The villages, as mentioned above, had individual problems. One had outstanding ploughland whereas one had neither. Village Mohorgon possessed good ploughland, and drinkable

water was accessible. In addition, the village of Damra gram contained fertile soil for farming. The potable water was unavailable, yet the Government scheme launched did not consider it worth a hill of beans. Mirjungla covered 193 hectares. At this spot, the land was acquirable for cultivation. Although limited in quantity, potable water was available. The arable land in the Village of Dhukuria had run dry, and the availability of drinkable water was limited. No ploughland was available in Village Khoklong. There were only two pumps run by motors within the village space for drinking water. Village Laltong had agricultural land which was extremely poor and water which was unfit for drinking. Solar lights provided the area with its first source of electricity in the year 2020. There were no paved roads. Elephants used to attack the village many times a year. Many casualties occur due to this, and the Government offers Rupees two lakh as compensation if any fatality occurs. Almost no one was employed in Government jobs.

The familiar issues for all villages were that electricity was not provided for agriculture, there was no community bathroom, and the vegetable market and library were present at a distance of 5 to 10 km.

Though previously enlightened about the complexity faced by the local people in the material technique part, the main goal of the research is to examine the topic dealt with by the native people, out of sight of the hamlets, and the causes of a recession in the interior side of the forest region. They are unable to access their fundamental requirements. Education has long been acknowledged for its power as a change agent and catalyst. The level of education a person possesses impacts their aspirations, technical competence, productivity, and efficiency, all of which are influenced by socioeconomic circumstances.⁷ Our research aims to improve the lives of people living in rural areas who lack access to basic resources, such as education and medical care, as well as improve their living conditions. If we talk about the literacy rate, several hamlets we studied chiefly confer about Mohorgon, Damra gram, Mirjungla, Dhukuria, Khoklong, and Laltong. Among these, Laltong village has a very poor literacy rate. Not a single Government school is established in the 10 km region. Nevertheless, other towns also have low literacy rates according to their population size. So, with the help of the local responsible volunteers, who understand the actual issues, the Panchayat should plan to set up primary and secondary schools.

Standard, safe, risk-free potable water near their homes, enough power supply in their locality, and regional schools with adequate learning tools should be made accessible to them. The development process is ongoing and multifaceted, including the restructuring and realigning of the whole economic and social system. A larger emphasis

has been placed since the early 1990s on development and planning to improve human wellbeing and reduce disparities while also increasing per capita income, primarily for disadvantaged socio-economic groups. While working in a village, one may be able to infer the major underlying causes and demonstrate how the hamlets are affected, which may or may not result in a positive conclusion. However, this outcome is highly unexpected. The condition of drinking water in Laltong hamlets is worse than in other hamlets where at least two types of water, tube well water and hand pumps, are available, but Laltong's people are still entirely dependent on well water only. Therefore, the requirement of tube wells and hand pumps is essential for the natives of Laltong. However, as per our survey, none of the hamlets had proper facilities regarding potable water. Therefore, with the help of our research, we request the local Government to provide their necessities.

Electricity is accessible but not for irrigation in every hamlet except Laltong, where electricity is a luxury for the settlers. As the population increases in Laltong, youngsters demand development. So far, the only light at the end of the tunnel has been installing solar panels, an initiative launched to power. Such essential requirements are very much crucial for livelihood nowadays. Our article appeals to the local Government to assemble with local natives and confer about their issues and obstacles to implement their prerequisite needs for better survival. Factories should be constructed; schools should be implemented. Therefore, many job opportunities will turn up. In addition to that, the literacy rate will go higher, and it is beneficial not only for the villagers but also for the nation. The salary paid to them is a minimal amount in which they are forced to survive for a living as they do not have more options for a job. Sometimes they are not able to even buy food or fulfil their other demands.

Conclusion

The article intends to improve the villagers' living conditions sustainably by taking measures that address several aspects of their lives, such as education, health, power, and basic needs. This work shows that a wide range of health problems are linked to socioeconomic status, as defined by income, education, or occupation. The low socioeconomic position is also related to a more sedentary life. Occupational status is a more complicated variable. The manner in which it is measured is contingent on the theoretical perspective one holds regarding the relative significance of the many aspects of one's working life. It also gives knowledge and life skills that enable better-educated people to have easier access to health-promoting information and services.

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