

রুরাল পাওয়ার কোম্পানী লিমিটেড

RURAL POWER COMPANY LIMITED



Social Impact Assessment (SIA) for 2x660 MW Coal Based Thermal Power Plant to be Constructed at Kalapara, Patuakhali



Volume - IV

0

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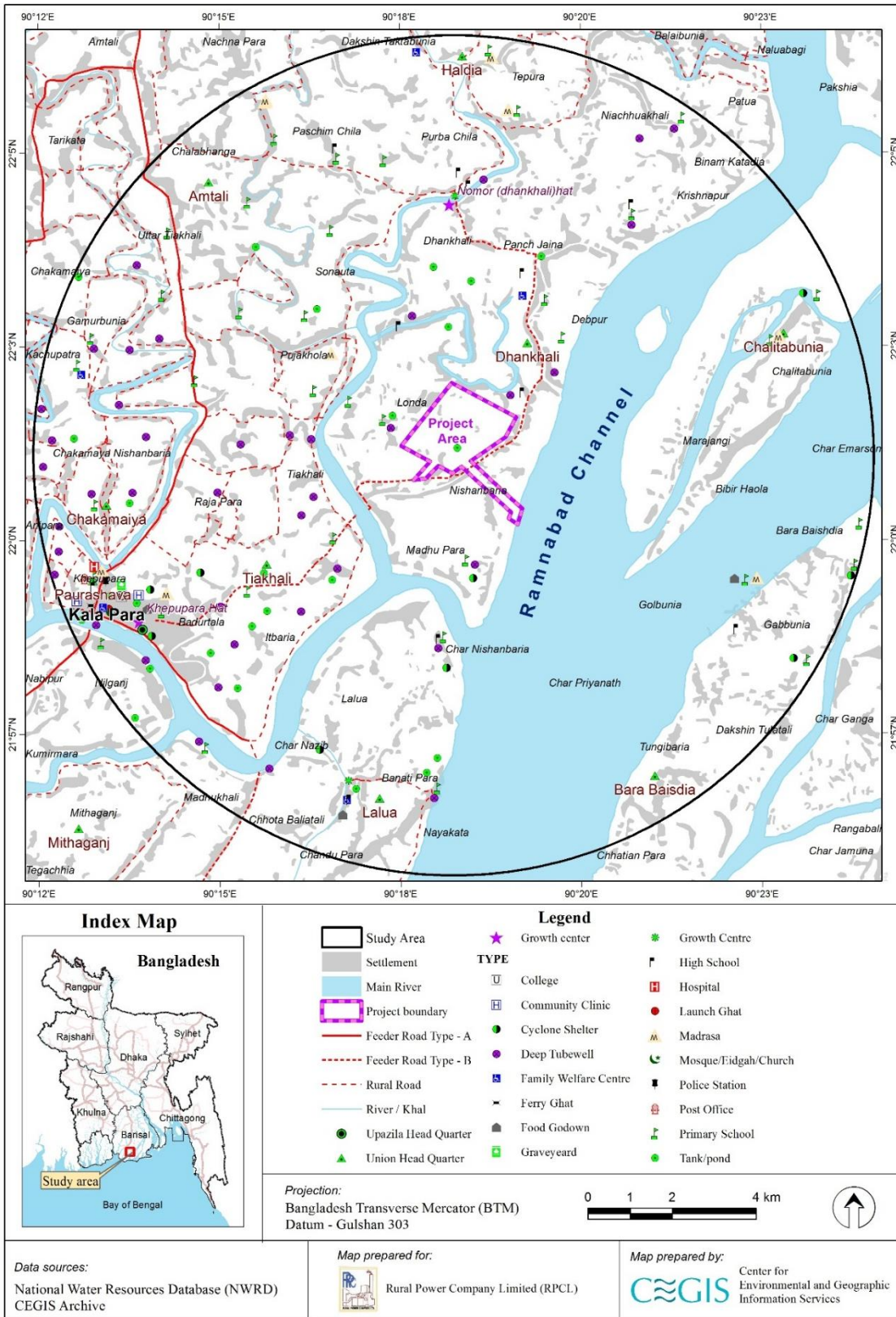
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1 Introduction

Electricity is the driving force of modern civilization as well as the back-bone of all development activities of the country. The vision of Bangladesh Government is to provide access to affordable and reliable electricity to all by the year 2021 and in line with this government's mission is to ensure uninterrupted and quality power supply for all by 2021 through improvement in generation, transmission and distribution systems. Present generation capacity of the country is not sufficient enough to meet the prevailing demand of the country and causes insurmountable impedance to the development activities in industrial, commercial, agricultural and other social sectors. Furthermore, the demand is increasing at a faster rate and needs more power plants to generate electricity for supporting the development activities for total development of the country. To cope-up with the growing load demand as well as to comply with the policy of the Government enough generation of electricity needs to be added. The government has further extended its vision targeting the upcoming years up to 2030 and prepared the Power System Master Plan 2010 (PSMP). This plan states that in 2030 the demand of power would be around 34,000 MW while the generation capacity would be about 40,000 MW. Different government, semi-government and other organizations are contributing towards addition and expansion of power generation in the country. Rural Power Company Limited (RPCL) is a vital organization in this arena. RPCL, a Generation Company in Bangladesh under Power Division, Ministry of Power, Energy and Mineral Resources. At present RPCL has three generating station in Bangladesh at Mymensingh, Gazipur and Chittagong.



Map 1.1: Base map of the proposed project site

2 Objective

The social impact assessment study along with this project is to generate electricity through coal as fuel source and also to support economic growth to meet up the maximum target to reduce poverty in a period as swift as possible by achieving growth of Bangladesh. Objectives of the study are to:

1. Establish the social baseline condition of the power plant study area in general
2. Develop understanding of the land owners/ institutions for the implementation of this project
3. Motivate people through information campaign for proper management of the project activities
4. Assess the social impact of the project
5. Develop a Social Management Plan (SMP) for the project

3 Scope of work

The scope of work for the Social Impact Assessment study of the Power plant Project includes the following:

- Heritage site (if any), in the site selected for the power plant;
- Primary and Secondary Socio-economic data collection;
- Establish the social baseline condition socio-economic status
- Conduct public consultation meetings;
- Identify the Important Social Components (ISCs);
- Assessment of initial impacts of the proposed power plant on the social components;

Preparation of preliminary Social Management Plan (SMP) by suggesting:

- mitigation measures for minimizing the effect of the negative impacts,
- enhancement measures for increasing the benefit of the positive impacts,
- compensation measures for negative impacts which cannot be mitigated
- Preparation of preliminary Resettlement Action Plan;

4 Study Team

The following multidisciplinary professionals are directly involved in this study according to terms and conditions of the study:

Name of Professional	Position Assigned
Mr. Md. Sarfaraz Wahed	Water Resources Engineer/ Team Leader
Dr. Dilruba Ahmed	Sociologist
Engr. Jalal Ahmed Choudhury	Electrical Engineer
MD. Ebrahim Akanda	Soil and Agriculture Specialist
Mr. Mohammed Mukteruzzaman	Fisheries Specialist
Pronab Kumar Halder	Environmental Modeller
Kazi Kamrull Hassan	Urban Planner
Mohammad Kamruzzaman	Ecologist
Faisal Ahmed	Anthropologist
Tanveer Ahmad	Junior water Resources Engineer
Muhammad Azizur Rahman	Resettlement Plan (RP) Expert
Md. Farid Hosen	Fisheries Biologist
Abdul Halim Farhad Sikder	Soil and Agriculture Specialist

5 Limitation of the Study

Time constraints would be one of the major limitations of the study as it is not sufficient to consider seasonal (wet and dry season) variability. However, mostly secondary data has been used to analyze the social condition. Non-availability of good roads to the project site has been another constraint of the study. Presently, the access road of the project site is not good enough to reach the project site without difficulties. Furthermore, due to the existing social conflict regarding compensation in exchange of the acquired land for other existing projects in that area, this study faced limitations in collecting social data in details.

6 Social Baseline: Historical perspective

6.1 Area and location

Administratively, the study area consists of 10 unions and 1 municipality either partially or fully. The municipality falls in the Kalapara Upazila while unions are dispersed as follows: Six (6) unions in Kalapara upazila, two (2) unions in Galachipa upazila, and two unions in Amtali Upazila under Barguna district. Percentages of unions in the study area are shown in the following Table 6.1.

Table 6.1: Unions and upazilas under the study area

Name of district	Name of upazila	Name of unions	Percentage of union within study area
Barguna	Amtali	Amtali	62.98
	Amtali	Haldia	43.62
Patuakhali	Galachipa	Bara Baisdia	18.21
	Galachipa	Chalitabunia	68.08
	Kala Para	Chakamaiya	49.40
	Kala Para	Lalua	68.32
	Kala Para	Dhankhali	88.90
	Kala Para	Mithaganj	9.99
	Kala Para	Nilganj	5.72
	Kala Para	Tiakhali	100.00
	Kala Para	Kalapara Paurashava	96.48

Source: *Spatial GIS Analysis, CEGIS, 2016*

6.2 The people

According to the BBS 2011, the area has 28,399 number of households, having a total population of 117,967 of which 58,888 (49.9%) are male marginally dominant over female 59,080 (50.1%). The present population (year 2016) of the study area is 126,272¹. The average male-female sex ratio² is 100, which is slightly lower than the national figure of 100.3 (HIES) 2010]. The average population density is 422 in compared to the national density of 1,015 persons per sq. km. (excluding the population density of kalapara paurashava). The inhabitants belong to two main religious groups; i.e. the Muslim and the Hindu. Indigenous people has not been found in the project area. Near about 150-200 of Rakhain households are residing in the Modhupara, char Nishanbaria and Boratpur village under Dhankhali union. The demographic data of this area is presented in Table 6.2.

¹ This estimation is based on BBS, 2011 Census data and 1.37 linear national growth rate; $Pop_{Future} = Pop_{Present} (1+r)^n$ [Where: Pop Future = Future Population, Pop Present = Present Population, r = Growth Rate and n = Number of Years]

² Number of males per 100 females in a population, using the formula: Sex Ratio SR = $M \times 100 / F$

Table 6.2: Demographic data of the study area

Households	Population			Sex ratio	Population density
	Total	Male	Female		
28,399	117,967	58,888	59,080	100	422
	100 (%)	49.9 (%)	50.1 (%)		

Source: Population Census 2011, BBS

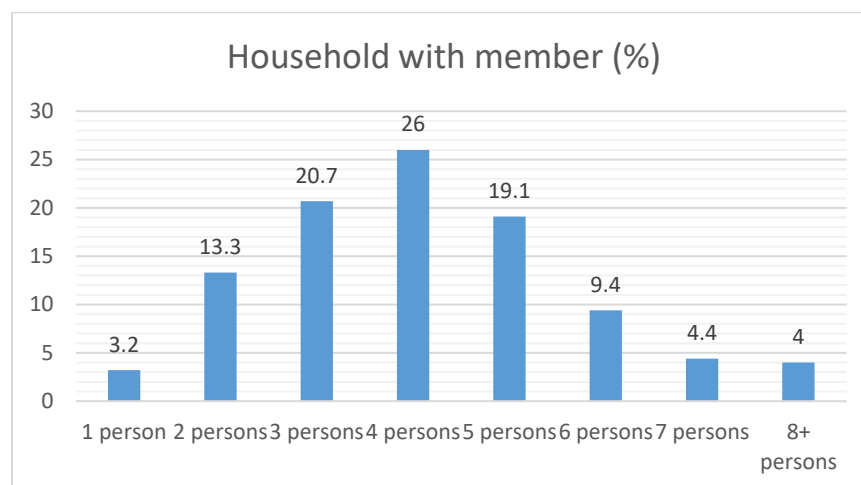
Table 6.3: Demographic scenario of Project area

Name of Mauza	Key Features	Numbers	Description
Dhankhali, Londa and Nishanbaria	Number of population	560	Male, Female, Children
	Number of Households	121	No indigenous and Minority community
	Number of Houses	230	Semi pukka and kutcha
	School	2	A girls school and a primary school
	Graveyard	8/10	Family graveyard

Source: CEGIS field visit June (FGD and KII), 2016

6.2.1 Household size

The average household (HH) size of the study area is 4.1 while it is 4.48 nationally. The size of highest percentage (about 26%) of HHs is 4 and the lowest percentage (about 3.2%) of HHs is 1 as shown in the following Figure 6.1.



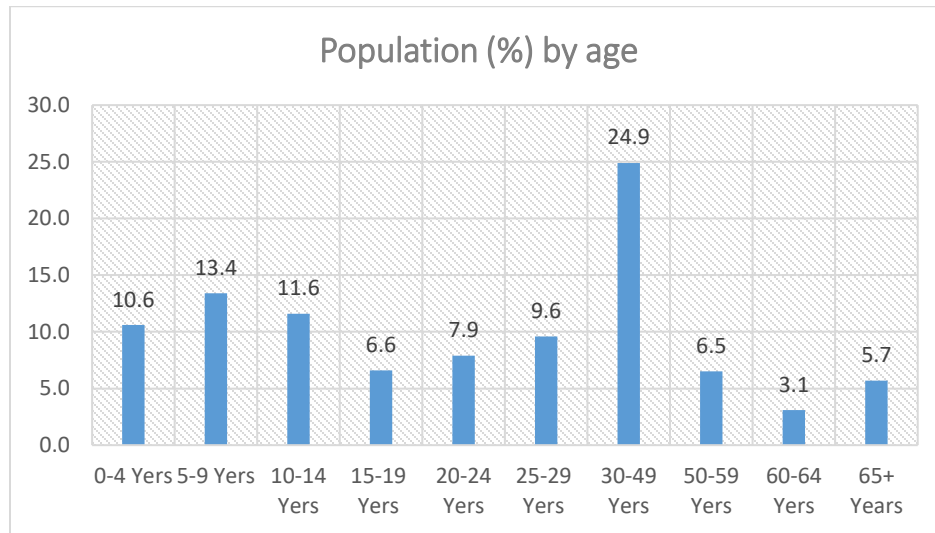
Source: Housing and Population Census, BBS, 2011

Figure 6.1: The household sizes of the study area

6.2.2 Age structure

In the study area, the highest number of population (about 24.9%) belongs to age group of 30 to 49 years while the lowest number (about 3.1%) belongs to 60 to 64 years age group as shown in Figure 6.2. Age groups of 0-14 years is defined as children, 15-24 years as early working age, 25-59 years as prime working age, above 60 and over as elderly people. This classification is important as the size of young population (under age 15) would need more investment in

education, while size of older populations (ages 65 and over) would need for more invest in health sector.

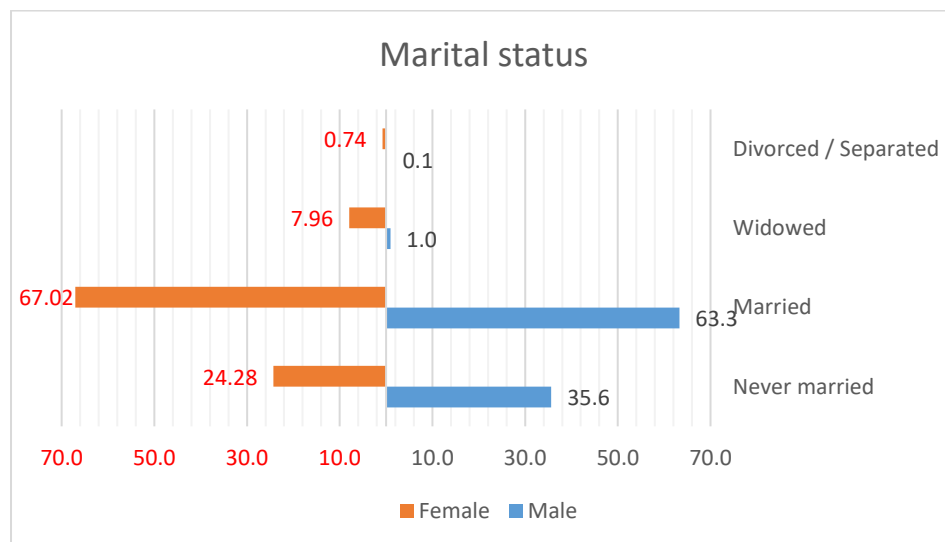


Source: Housing and Population Census, BBS, 2011

Figure 6.2: Age structure of the studied population

6.3 Marital Status

As per the BBS, over 65% of people are married in the study area. The percentage of married female is higher than that of the male because in many cases females get married in early ages in the study area. The widowed female percentage is also higher than that of the male in the study area and the reason behind that might be the higher mortality rate of male



Source: BBS, 2011

Figure 6.3: Marital status in the study area

6.4 Religion

In the project area it is found that most of the people are the Muslim. Near about 150-200 Rakhain family have also been found in the Modhupara, char Nishanbaria and Boratpur village under Dhankhali union. Social and religious solidarity has been found among the different religious people.

6.5 Education

6.5.1 Accessibility

In consistent with the education policy of Bangladesh, the people of the study area have largely favourable access to education. Accessibility refers to equal opportunities to be enrolled in the educational institutions, pre-school attendance rate, and assistive technologies in institutions, adequate health care and nutrition services and communication facilities to the institutions. Accessibility is obviously higher in urban areas such as municipal town, compare to rural areas. Data on male-female attendance ratio confirms that both sexes have equal opportunities in education. Field findings show that each institution, irrespective to rural and urban, is connected with road networks giving the student opportunity to use public or private transport.

There are a few privately owned preschools facilities located mostly in municipal areas. These schools are expensive and largely unaffordable for the poorer classes of people. Data confirms that preschool attendance rate is 1.1% whereas not attending rate is 13.1% (3 to 5 years), which suggest a class bias.

Most of the urban institutions and a limited number of rural institutions are assisted with technologies (computer and internet facilities) by the government. Computer and internet facilities are inaccessible to the students, as in most institutions, there are no suitable operator to orient the students on the use of these modern technologies.

6.5.2 Enrolment and Year of Schooling

School attendance rate is measured by BBS from 3 years to 29 years by six clusters of age groups. 3 to 5 years is defined as preschool attendance, 6 to 10 as primary, 11 to 19 years as secondary and higher secondary and finally 20 to 29 years as higher as well advanced level attendance at educational institutions. Comparative picture of attending and not attending rate shows that net attendance rate is the highest (19%) at primary level then the rate starts declining.

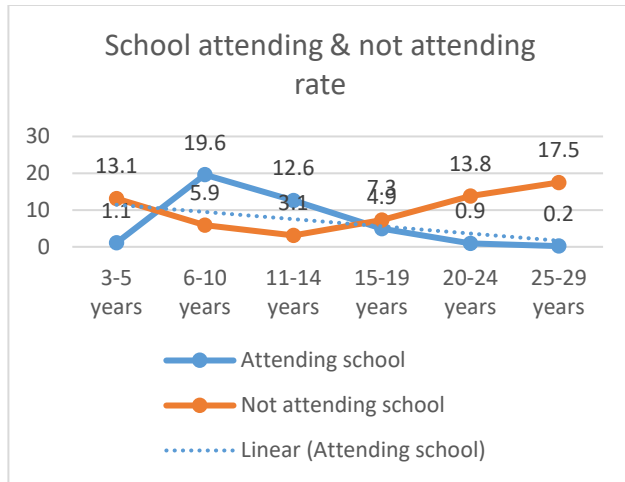


Figure 6.4: Portrayal of school attending and not attending rate in terms of age groups

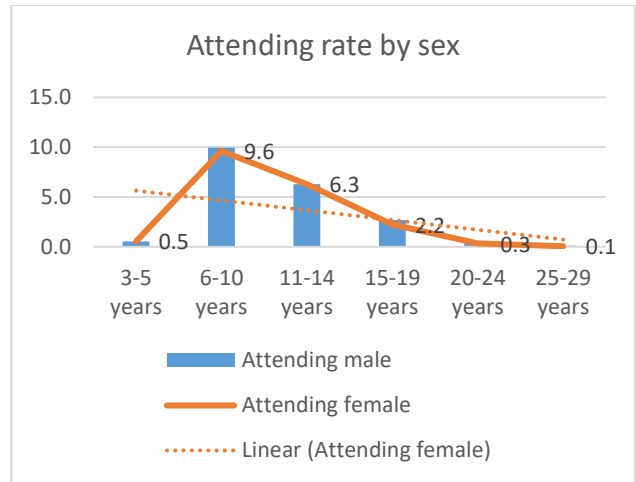
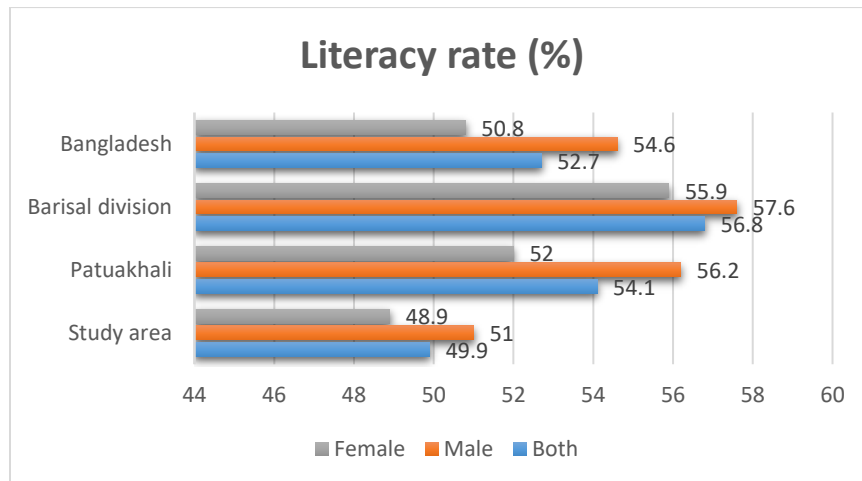


Figure 6.5: Comparative picture of male-female attendance rate

6.5.3 Literacy rate

The statistics shows that, the literacy rate of the study area is moderate. The literacy rate of Barisal division is better than the national literacy rate. Comparing to that the status of the study area is not satisfactory. But gradually the literacy rate is increasing. Comparison among the percentages of literacy rate is presented below:



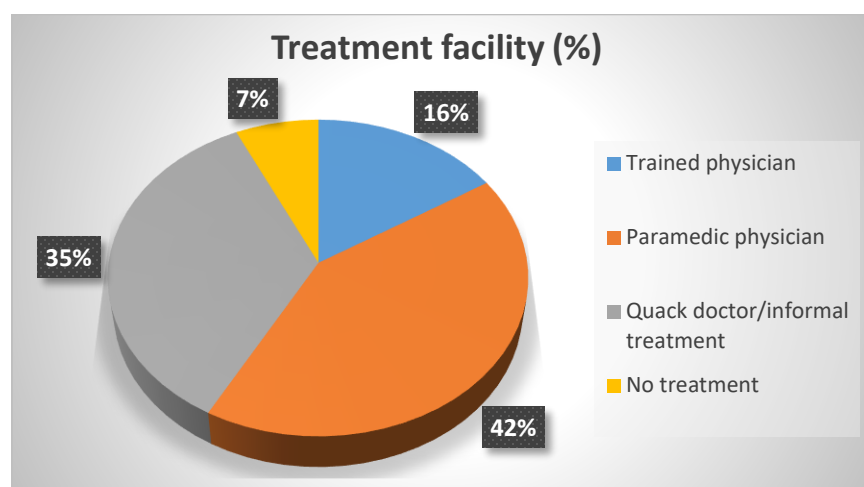
Source: Housing and Population Census, BBS, 2011

6.5.4 Comparison of literacy rate (%)

Access to Health

According to the Health Bulletin 2015, a 50 bed upazila health complex, 1 union sub centre, 1 private clinic and 30 community clinics in this upazila. The report says that, the rate of under 5 mortality is 5.878 (Per 1,000 live births), infant Mortality Rate: 3.558 (Per 1,000 live births), maternal Mortality Ratio (MMR) is: 61.87 per 100,000 live births.

According to local inhabitants, the existing services are almost inaccessible to rural poor people. Therefore, local people have been receiving services from local chemist, paramedic or village trained physicians Figure 0-00 shows the status of receiving treatment facilities by households



Source: Field Survey, 2016

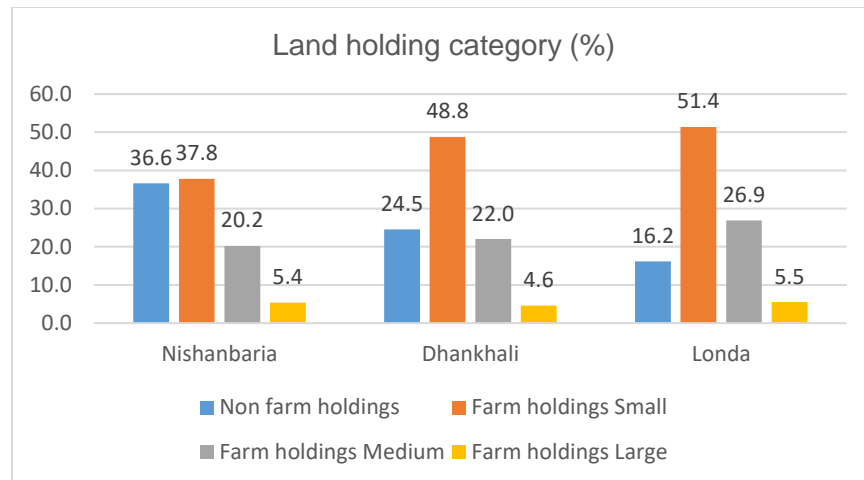
Figure 6.6: Status of receiving health treatment facilities by household

6.6 Community health condition and common diseases

The Population Census, 2011 identified almost six types of disabilities and their proportionate distribution in the respective area. It is found that the study area comprises 1.5% of all types of disabilities and 0.7% people reported that they are physically challenged. 0.1% mentioned speech and 0.2% mental disorder. Local people claimed that diseases like dysentery, skin diseases, diabetes and common fevers are commonly found in the study area.

6.7 Utilization of Land

Out of total land holdings, about 74.02% are farm-holdings and the remainders are non-farm holdings. Land holding patterns of the area are as follows: about 46.0% households are in small farm holdings category, about 23.1% households belongs to medium land holdings category and other land holdings are shown in the Figure 6-25 and land tenure arrangement of the area are presented in Table 0-00.



Source: The Census of Agriculture, 2008, BBS

Figure 6.7: Households by land holdings

Table 6.4: Land tenure arrangement in the study area

Tenancy type	Farmers by holding category (%)			
	Marginal	Small	Medium	Large
Owner	31.8	34.4	26.5	7.3
Owner-cum-tenant	3.2	34.6	47.4	14.8
Tenant	50.0	28.6	18.9	2.6

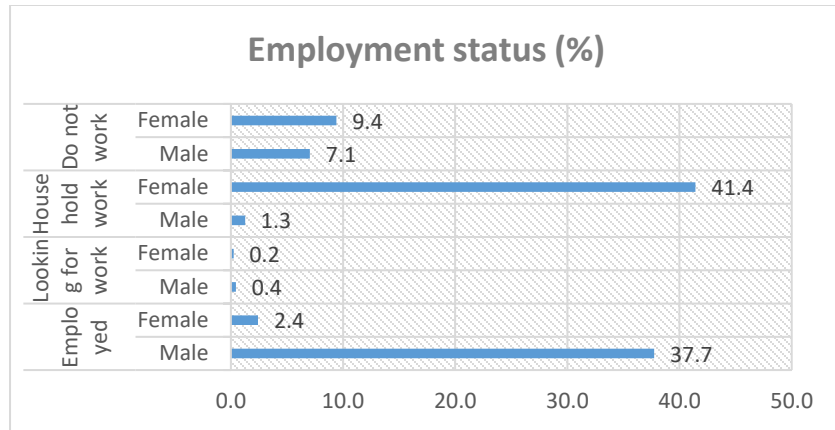
Source: The Census of Agriculture, 2008, BBS

6.8 Land Price

Price of the land of this area has been raised after the establishment of Payra port and another development activities. The communication and transportation facilities has also developed in this area. The current market price of the project area is 15000 tk. per decimal for agricultural land and 25000 tk. per decimal for homestead land.

6.9 Occupation and Livelihood

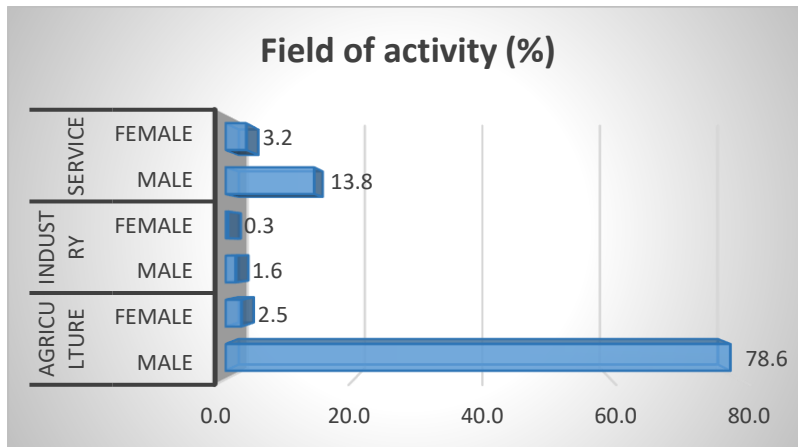
According to the BBS 2011, about 40.16% (male- 37.74% & female- 2.43%) of local people are employed, about 42.69% (male- 1.26 %, female- 41.43 %) are occupied in the household activities and about 16.47% (male- 7.05% & female- 9.42%) people do not work in the study area (Figure 6.8). Here, household work particularly for women participation is accounted in terms of household activities as well as alternative income generation such as livestock rearing, poultry farming, small cottage industry, local cigarette (biri), etc.



Source: Housing and Population Census, BBS, 2011

Figure 6.8: Employment status of the study area

The distributions of employment of the area at reference period of census are as follows: about 81% are engaged in agricultural activities, about 2% in industrial and about 17% in service sectors. Agricultural activities includes broadly crop farming, fishery and livestock and poultry farming, business (fishery business, rice and dal business, tree business etc). Presently, industrial activities are seen in the study area as the entire area is being developed as business and industrial area.



Source: Housing and Population Census, BBS, 2011

Figure 6.9: Field of activity

6.10 Labor market

The present wage rate varies between BDT 300 to BDT 400 per day for male agriculture laborer. The laborers are mainly eligible for earthwork, agricultural activities, fishing etc.

6.11 Migration

During field visit, people stated that out-migration of laborers is commonly found around 25% while in-migration is 12%. The out-migrants usually go to Chittagong, Dhaka, Barisal and Khulna

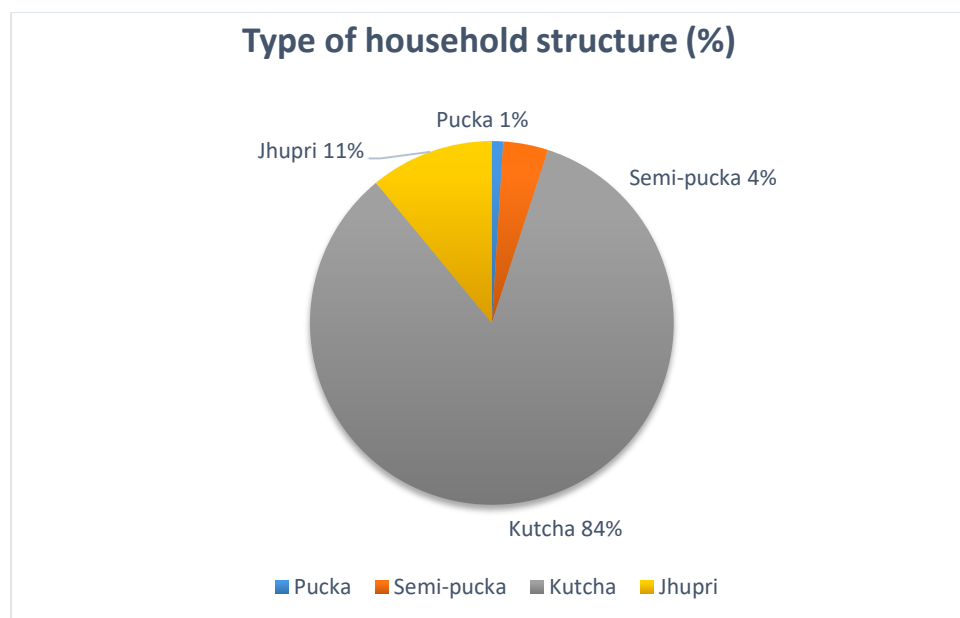
for diversified jobs predominantly in the garments and business sectors. Besides, a remarkable number of out migrants are engaged in the existing other development activities. Moreover, there are trivial international out-migrants (about 2%) who tend to go to Middle East for searching of better livelihood options

6.12 Standard of Living

Standard of living indicates the level of wealth, comfort; material goods and necessities available to the study are population.

Electricity facility is very poor (about 29.2%) in the area. BBS data shows that Kalapara Paurashava comprises the highest (87.1%) electricity coverage whereas Haldia union has the lowest (14.4%) coverage. The people of the char areas are yet not receiving electricity connection.

The overall housing condition³ is not satisfactory. The housing pattern of the area is as follows: Kutcha houses (about 84%) followed by Semi-pucca houses about 4%, Pucca houses about 1% and Jhupri houses about 11%.

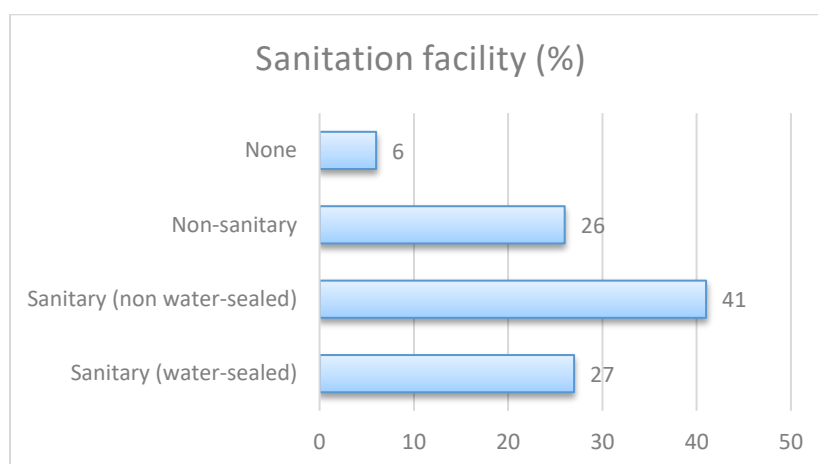


Source: Housing and Population Census, BBS, 2011

Figure 6.10: Type of household structure

³ BBS distinguishes housing structures into four classes such as- i) **Jhupri**: House which consist mud walls of 1.5 to 3.0 ft thickness, which carry the roof load. Earthen floor, thatch or CI sheets are used as roofing materials. . There is no monolithic joint between the wall and the roof. ii) **Kutcha**: Walls: Organic materials like jute stick, catkin grass, straw, and bamboo mats. Split are bamboo framing. In some areas wall are made by earth. Foundation: Earthen plinth with bamboo or timber posts. Roof: Thatch-rice or wheat or maize straw, and catkin grass, with split bamboo framing; iii) **Semi-pucca**: Walls: Bamboo mats, CI sheet, Timber or bamboo framing. In some areas wall are made by earth, sometimes part or full brick. Foundation: Earthen plinth; Brick perimeter wall with earth infill; Brick and concrete also use. Roof: CI sheet with timber or bamboo framing; and iv) **Pucca**: House which is made by fully concrete, cement, and iron

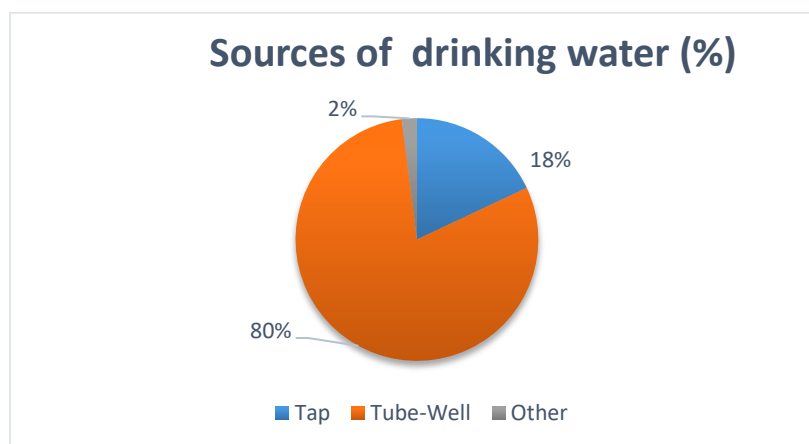
Sanitation⁴ facilities of the area are is non-sanitary latrine households about 26%. Non-water sealed sanitary latrine households about 41%, water sealed sanitary latrine households about 27% and the rests have no latrine households.



Source: Housing and Population Census, BBS, 2011

Figure 6.11: Sanitation facility in the study area

Drinking water source of the area is ground water and is generally abstracted using tube-well. About 80% of the households use ground water as drinking water through tube-well. 18% of households collect drinking water from tap. And 2% of households collect drinking water from other (pond, river, etc) sources.



Source: Housing and Population Census, BBS, 2011

Figure 6.12: Sources of drinking water

⁴ BBS defined four types sanitation in Bangladesh such as (i) Sanitary (water-sealed): A water sealed latrine is simply a pit latrine that has a water barrier to prevent odors. These latrines are simply pits dug in the ground in which human waste is deposited. (ii) Sanitary (not water-sealed/ring slab), latrine with a slab or other secure cover over the drop hole, or a polyethylene flap preventing in-sects from flying into or coming out of the pit; and (iii) Non-sanitary (Kucha): latrine is a frame or platform extending over earth or water; an “open pit latrine” does not have a squat platform or slab on the pit and (iv) No facilities: Defecation in bushes or fields or other outdoor locations.

Household income and expenditure is an important indicator to assess the socio-economic condition of the people. The following Table 6-5 describes the income and expenditure level of the people of the area.

Table 6.5: Distribution of income and expenditure

Range (Tk./month)	Percentage of Households	
	Income	Expenditure
< 1,000	-	-
1,000 - 2,000	-	-
2,000 – 5,000	10	13
5,000 - 9,000	40	65
9,000 - 20,000	42	20
> 20,000	8	2

Source: RRA, 2016

6.13 Roads/ Railway/Waterway

It is found that the main mode of communication in this area is roadway and waterway. The main roadway of the project area is from Khuriar kheyaghat to Londa kheyaghat road. Tentatively the length of this road is 15 km. On the other hand, the waterway communication is mainly maintained throughout the river Andharmanik and Rabnabad channel in this area. This area is very much supportive for the expansion of business and industrial sector due to having a sound waterway network facility.

6.14 Poverty Situation

Poverty of the study area has been measured following the Multidimensional Poverty Index (MPI) method. The process intended to identify multiple deprivations at the household level in three broad dimensions such as education, health and standard of living. The index uses the same three dimensions as the Human Development Index: health, education, and standard of living. These are measured using ten indicators. Of them, eight indicators were selected to be analyzed for this study based on data availability and accordingly adapted to the prescribed methodology. The indicators and the threshold for defining poverty are presented in the following table.

Table 6.6: Indicators thresholds along with data sources for MPI calculation

Dimension	Indicator	Definitions/ threshold	Deprivation per indicator (%)	Contribution of deprivation in dimension to overall poverty	Data Source	Factor H ⁵	Factor A ⁶	MPI= H x A
Health	Child Mortality	A child has died in the household within the five years prior to the survey	2	1.6	Upazilz Health Bulletin 2015	0.61	0.47	0.29
Education	Years of schooling	No household member has completed five years of schooling.	61	41.5	Housing and Population Census, BBS 2011			
	Child school attendance	No child is attending school up to the age at which they should finish class 6.	40		Housing and Population Census, BBS 2011			
Living Standards	Cooking fuel	The household cooks with dung, wood or charcoal.	91	56.9	CEGIS fieldwork, 2016			
	Toilet	The household's sanitation facility is not improved or it is improved but shared with other households.	68		Housing and Population Census, BBS 2011			
	Water	The household does not have access to safe drinking water or safe drinking water is more than a 30-minute walk from home, roundtrip.	20		Housing and Population Census, BBS 2011			
	Electricity	The household has no electricity.	71		Housing and Population Census, BBS 2011			
	Floor	The household has a dirt, sand or dung floor.	96		Housing and Population Census, BBS 2011			

⁵ H= Percentage of people who are MPI poor (incidence of poverty)

⁶ A= Average intensity of MPI poverty across the poor (%)

Analyzing poverty status, it is found that about 29% households are multidimensional poor (index value 0.29 out of 1= MPI). About 61% populations are living in these poor households [poverty head count =H] and on average 47% poor people are deprived of any indicator (intensity of deprivation=A).

The highest deprivation is found in the dimension of standard of living (56.9%). Among them 68% population have no access to improved sanitation facility (water-sealed sanitation), 96% people are living on dirt floored household (considering kutchra and jhupri), 91% of people are using dirt fuel (considering all types of traditional fuel), 71% households have no grid electricity coverage and 20% households are still collecting drinking water from unsafe sources (ponds, river etc.)

The second highest deprivation (41.5%) found in the dimension of education. Considering two dimensions it is found that 61% household members have not completed at least Six years of schooling, and 40% school-age children (up to grade 6) are not attending school.

In case of the dimension of health, it has an indicator (child mortality), as nutrition data is not available. It contributes 2% in overall poverty as 1.6% children found to be dead in the households within the five years prior to the survey (considering both IMR and U5MR). Show Methodology Multidimensional Poverty Index in **Appendix 2–Table A2.1**

6.15 Safety nets

The major social safety nets and poverty reduction programs initiated in the area include the Vulnerable Group Development (VGD), Food/Taka for Work (F/TFW), Food for Education/Cash for Education, Rural Maintenance Program (RMP), Old Age Allowance, Freedom Fighter Allowance and Integrated Poverty Reduction Program. According to local people, these programs have created food security as well as social safety nets among the targeted poor households and vulnerable communities to some extent. Table 6-7 shows the current social services and facilities for alleviating poverty in the study area.

Households served by different social safety nets programs

Table 6.7: Households served by different social safety nets programs

Social Safety Net Programs	Households/Communities Served (%)
Vulnerable Group Development (VGD)	6
Food/Taka For Work (F/TFW) of PIO	4
Food for Education/Cash for Education	10
Rural Maintenance Program (RMP)	6
Old Age Allowance	5
Freedom Fighter Allowance	3
Integrated Poverty Reduction Program of BRDB	6

Source: CEGIS Fieldwork, 2016

A number of local, national and international NGOs are working in the study area. The main activities of these NGOs are operating micro credit programs among the rural poor and landless women/men.

6.16 Market/growth centres

Three markets have been found which are very adjacent to the project area. These are Shombaria bazar, Gilatola bazar, Dhankhali bazar, Laluea bazar etc.

6.17 Social relations

In this area there is a strong bonding among the people. Social, political, religious and behavioural relations are very good. Sometimes it occurs some problems about land issues. They try to solve those problems by themselves. It may be said that, people of this area are very much peace loving.

6.18 Gender concerns

Gender issue holds most important place in recent research question. It is found in the study area that women have very little contribution in income generating activities. However, they enjoy other rights like men such as education; health etc. In the study area, women's activities are considered trivial and tend to confine them to household chores only. Male members are responsible for providing all sorts of amenities for household members. They consider themselves as the sole bread earners in the family. Usually women's activities are recognized as secondary since they are not linked directly to income generating activities. However, this scenario, though slowly, is changing nowadays. Women's literacy rate is increasing gradually. They can join social activities outside of their home. It is assumed that this will change in near future.

7 Socio-economic ISCs

Involuntary displacement

Mostly the project area is agricultural area and populated. Approximately 121 household will be affected due to the Project intervention. So it may be needed to displace permanently the people those who are residing in this area. It is a great challenge for the implementation of the project. So it has been taken as an ISC.

Social and cultural Conflict

An unrest situation among local people may be raised if they are not rehabilitated properly. People of the project area are anxious about the fact that, they may not get proper compensation for land acquisition. Moreover, they didn't get their land price of previous projects. On the other hand, implementation of this project may gather a large number of outsiders. They may not be adapted to the local social and cultural manners initially. It may appear as a disturbance to the native people. So, they are showing negative attitude to this project. Considering this matter social conflict has been taken as an ISC

Land price

Construction of the power plant may increase the price rate of land. Moreover, due to the initiation of different projects in the study area it may be turned into an industrial zone. All facilities and development will be improved in this area. So both for the implementing authority and land owner it would be a matter of importance. Therefore, land price has been selected as an ISC

Diversity of Occupation

Diversity of occupation is an indicator for wealth economy. For implementation of the power plant, different industrial and infrastructural development will take place in this area. As a result, direct or indirect changes in occupation sectors would be increased than those of other sectors. It would also be supportive to increase the income opportunity for the local people.

Industrialization

Industrialization is an indicator for improvement of socio-economic condition. Installation of power plant will ensure continuous and smooth supply of electricity and will encourage industrialization. Such industrialization would create a scope of available works for the community and ultimately a better change in the society may come out. The total way of life and the economic system may be improved due to the implementation of this project. As such, industrialization is selected as an ISC.

8 Impacts on Socio-Economic issues

Pre-construction phase

Approximately 121 no. of households would be displaced due to acquisition of homestead land. There would be loss of properties of the households and landlords. One school and many family graveyards will be acquired. Labour sheds will be established on the project area. This will create pressure on the natural environment, sanitation facilities, potable water facilities, market price, prevailing socio-cultural situation, etc. of the locality. An unrest situation among the local people may be raised if they are not rehabilitated properly. The process of getting compensation for the affected people is very difficult. The people may lose their existing employment opportunities such as agriculture and livestock rearing. On the other hand, the employment opportunities would be created significantly for the labour class people due the pre - construction activities.

Construction Phase

Labour in-migration may be increased due to the increased opportunities of employment in the power plant. A number of local people will be engaged in project related activities and may have employment opportunity. A segment of traditional occupation/resource user groups have to adopt alternative occupation. The mode of livelihood will be impacted due to creation of the facilities of new business and services sectors. Contamination of water and sanitation system. Handling of heavy construction machineries may create health injury in the project sites. Accidental events during construction. Unsafe and unhygienic labour shades may create a very hazardous health problem.

Operation phase

Implementation of the project will create new employment opportunities and ensure employment opportunities for the communities as well as in the country as electricity is the main need for industrial development. This Project will encourage in establishing industries which will obviously provide employment opportunities to a large number of population. The affected people may face a temporary unemployment situation. Newly developed industries may appear as a strong source of livelihood. Land price of the adjacent areas of the project will increase significantly. The sale value of land will be increased due to immigration of people as well as technical people in this area. A variety of new industries may be developed for the availability of electricity to meet the demand of industries. Environment especially water and sanitation may be disturbed by the labours. Health injury may be occurred in power plant for handling of heavy machineries.

9 Mitigation of impacts

Pre–construction phase (Land /acquisition/development and resettlement)

Land price should be considered as per current market price of land. The affected families should be resettled in better places especially in Londa mauza or at Panchjonia mauza as early as possible. Resettlement and compensation plan should be governed by the Resettlement Action Plan (RAP) study. The compensation process should be easier and it would be helpful for the local people if the activities could be done by local Union Parishad. New resettled village should include allied facilities as roadway communication, Madrasah, school, mosque and cyclone shelter. The project activities should be initiated after compensating properly to the affected people. Local labor both for technical and non-technical should be recruited for the Project related activities. Working code of practice should be developed and maintained properly. The contractor will put in place a referral healthcare facility to deal with medical aspects of HIV/AIDS treatment with specialized services. The in-house medical facility will diagnose for STD/STI and TB infection among the workers and provide treatment as necessary. Ensure working opportunities for the local people in different sectors. Bangladesh Labor Act, 2006 and ILO act must be followed. Child labor and Forced labor must be abandoned. Compensation should also be provided to the persons those who are dependent on the activities of the land for income generating activities.

Construction phase (Civil Works, Jetty Construction, Mechanical Structure, Power Evacuation System)

The labor should follow the environmental code of practice during construction. Local people (both technical and non-technical) especially landless, poor, destitute people should be engaged in execution of the project. Labor working condition must be guided with best practices. The worker colonies must follow good housekeeping. Development of grievance redress mechanisms for both the community in the study area and labor in the project area. Engaging the affected people in different Project activities with highest priority. Incentives like training, micro-credit etc. may be given for alternative livelihood activities of the PAPs. Take policy level initiatives by the proponent to intrude “Taka for work (TFW)” in the study area. Special attention should be provided for supplying safe drinking water, safe sanitation system for the labor sheds. Registered doctor and assistants should be employed during construction phase. Emergency team and ambulance will be in place to transfer injured people from the accidental spots to the nearest hospitals and clinics. Special or contingency fund should be created for health and safety management if any accidental incidences occur. The construction worker must use appropriate PPEs at site. Health and safety trainings should be provided regularly.

Operation phase

Facilitate to recruit local people according to their skill. Different types of business will be initiated where numbers of people will be employed. Development of infrastructure, transportation and communication systems and electricity in the area will obviously create business opportunity which will create new employments to a number of local people. That is why the government should take extra infrastructural development projects in this area. Training programs should be provided for assisting easy adoption of newly generated employment. The proponent may assist

in policy level for establishing new educational and technical institute. The proponent may assist the LGIs in protecting the vulnerable groups from land grabber. Further acquisition or procurement should be made under contemporary land values. Need to establish planned housing area and ensure all facilities like water, sanitation, electricity and road facilities for proper development of the area. Local resource based industries should be given the highest priority. Industrial development should be made under the guidance of regional development program. Policy level action should be provided for easy loan. Steps should be taken for supplying safe drinking water and Safe sanitation system. Special or contingency fund must be available for health and safety management. PPEs must be used during work. Emergency team, ambulance, contact number and hospital should be available. Emergency response plan should be implemented during operation periods.

10 Environmental Management Plan

Pre-construction phase:

Stakeholder engagement plan

The stakeholders must be engaged for smooth continuation of the Project in all the initiation, construction and operation stages. The project authority will identify the range of stakeholders who are directly and indirectly impacted and relevant with the project related activities. The authority will develop a stakeholder engagement plan in detail before implementation of the project construction works. The proponent will disclose the relevant project information and securing their opinions to overcome the adverse situation for project implementation. The project authority will prepare the grievance redress mechanism to resolve the social problems related to the project implementation. In this regard they may prepare formal grievance redress cell to address the issues and resolve them on early basis. The stakeholders will be engaged at every steps of the project development in integrated way.

Land and resettlement action plan

Land acquisition is the prime issue for successful implementation of this project. NWPGL has already acquired around 1000 acres of land for the 1320 MW power plant project. The land acquisition process was completed according to the Land acquisition and antiquity act, 1982 of GoB. The project authority has demarcated an area for the resettlement of the people from their project cost but not yet been ready. Therefore, the population of Dhankhali Union are very much anxious to the existing one as well as to the upcoming projects also. Considering these issues, the proponent should exercise land acquisition and resettlement action plan in more realistic and pragmatic way.

Drinking Water Supply and Sanitation Plan

A separate water supply and sanitation provisions might be needed for the temporary facilities, labor camp and workshops, in order not to cause shortages and/or contamination of water. A Plan will be prepared by the Contractor on basis of ECP 3. The Plan will be submitted to the OE for review and approval before contractor mobilization.

Construction phase

Labour recruitment plan

The labor recruitment policy should be formulated in such a way so that the local laborers especially the PAPs in the Dhankhali Union can get preference in employment in the project activities. If these laborers are found to have no previous experience on such type of technical jobs, it is suggested that, the authority can recruit them for non-technical activities of the project or the authority can facilitate technical trainings for them.

Operation phase

Community exposure to diseases

The project authority will evaluate the risks and impacts to the health and safety of the affected communities during the project life cycles. They will design, construct and decommission the structural elements or components of the project considering the safety risk to the communities.

An emergency preparedness and response mechanism should be developed accompanying with the affected community people so that immediate initiative can be taken.

Grievance Redress Mechanism

A grievance redress mechanism should be developed by the project authority in combination with the local people. All sorts of encountered problems during operation period will be placed to the grievance redress cell. The authority, therefore, will take necessary immediate action to mitigate the problems.

The implementation and monitoring of EMP shall have to be ensured. Therefore, a team of Environmental Specialist and Environmental Auditor has to be engaged with responsibility of strong monitoring during implementation of EMP and their environmental and social consequences.

11 Stakeholder Consultation

Introduction

Stakeholder consultation is the way to involve the stakeholders (both direct/indirect and/or primary/secondary) in the project cycle. In preparation and execution of the Social Impact Assessment (SIA) and Resettlement Plan (RP) of a development Project, the Public and stakeholder consultation and their participation is mandatory.

Public and stakeholder consultation is a part of SIA and RP aimed at involving the Project stakeholders into the Project development and implementation process. During the consultation process of the proposed “Power plant”, the Project interventions and their likely impacts were shared with the Project stakeholders in the formal/informal meetings/discussion sessions.

In the consultation process, the stakeholders got involved with the Consultants and Project Proponent, and share their problems, needs and aspirations in a participatory way. In this process RPCL as the Project Proponent would obtain stakeholders’ views and feedbacks on the proposed interventions and perceptions on the probable changes likely to be happened in future within the Project area.

Approach

Participatory approach was followed for identifying the participants as well as conducting the consultation meetings/discussion sessions. Initially, the study team consulted with the Project Proponent for understanding the Project interventions and the potential stakeholders. The key stakeholders including occupational groups were identified through consultation with local knowledgeable people and representatives of the local government institutions (LGIs). The meeting ensured common and equal platform of the participants so that stakeholders can express their opinion in an enabling environment. The Consultants unfolded the issues and in return, the participants gave feedback on these issues and in some cases opened two-ways discussions in the meeting. The consultation process was intended to generate an enabling participatory environment between the Project Proponent and the potential stakeholders through the intermediaries of the Consultant.

Methodology

Identification of stakeholders

Stakeholders include all those who are being affected by policies, decisions or actions within a particular system. Stakeholders can be groups of people, organizations, institutions and sometimes even individuals. Stakeholders can be divided into primary and secondary stakeholder categories.

Primary stakeholders

Primary stakeholders are those people who would be directly benefited or impacted by a certain project intervention. In the context of the proposed Project, the primary stakeholders include the people living within the vicinity of the Project area. The primary stakeholders of the Project include the farmers, fishermen, local business community who would lose their land, crop and trees.

Secondary stakeholders

This category of stakeholders pertains to those who may not be directly affected but have interests that could contribute in preparing the project; play a role in implementation of RP at some stage; or affect decision making on Project aspects. NGOs, government departments concerned, and line agencies fall under this category.

Secondary stakeholders for this Project include RPCL, LGIs, NGOs, local knowledgeable/influential persons and general stakeholders.

Venue, date and time of consultation

Venue, date and time of meeting/discussion was selected in consultation with the representatives/officials of LGIs, local knowledgeable people, and the Project Proponent. The venue was selected considering the closeness to the proposed interventions, easy accessibility to the venue and which is likely to be neutral. Date and time was also finalized in this way considering availability of the participants, ensuring the maximum participation, weather and compliance with other arrangement.

Enlisting and Invitation

A comprehensive list of potential stakeholders was prepared through the consultation with local knowledgeable people. This list was intended to cover all sorts of interest groups, occupational groups, socially acceptable and knowledgeable people. Using the LGIs channel and local influential people, necessary invitation was made to the participants and also communicated by the study team over telephone for ensuring their presence in the meeting.

Consultation Instrument

Checklist: A comprehensive checklist covering all possible issues was prepared through consultation with the study team. This checklist was used in the meeting/discussion to unveil peoples' perception and opinion along with suggestions.

Attendance list: An inventory of the participants was maintained in attendance sheet containing name and contact number.

Camera: For visualizing the participants, photographs were taken using camera. These photos are presented in this chapter.

Consultation Process

The EIA study team conducted the meeting/discussion. During consultation meeting, the following process was followed.

Greetings: At the outset of consultation meeting, the team exchanged greetings with all participants, welcomed them for attending the meeting and explained the entire design of the meeting/discussion.

Introduction: The team members introduced themselves to the participants and gave detail description of the Project, spelled out about the objectives and anticipated outcome of the meeting/discussion.

Respect to the participants: The study team showed respect to all participants. They respected not only to the individuals but also to their values, cultural practices and social structures.

Ensuring peoples' voice: generally, not all participants can participate equally. In fact, a large number of participants tend to remain silent in any meeting. However, the study team encouraged all to participate willingly through explaining the ethics of the study.

Note taking: Study team discussed issues and wrote opinions in notebook carefully giving equal importance to all issues.

Recapitulation and closing the session: At the end, the study team recapitulated the session and responded to the queries. Finally, the facilitator closed the session thanking the participants.

Objectives of the Consultation

The main objective of the stakeholder consultation is to involve the stakeholders in the project cycle and explore stakeholders' perception and attitude regarding the proposed Project. The specific objectives were to:

- Ensure peoples' participation in the proposed Project;
- Share experiences of the participants regarding such project over the years;
- Explore problems of the Project area;
- Understand probable solution of the problems;
- Unfold stakeholder's attitudes towards the project;
- Unveil the potential negative or positive impacts of the proposed project;
- Outline potential mitigation measures for negative impacts and enhancement measures for the positive impacts;
- Obtain the demand and aspirations of the stakeholders; and
- Create highest possible advancement from the project.

Locations of Stakeholder Consultation Meetings

A number of formal and informal consultation meetings/discussions were conducted at different locations in and around the proposed Project area. The meetings/discussions locations are presented in the table below:

Table 11.1: Different locations of consultation meetings

District (s)	Upazila (s)	Unions	Meeting Place	Date
Patuakhali	Kalapara	Dhankhali	South Dhankhali	26/06/2016
Patuakhali	Kalapara	Dhankhali	Londa	28/06/2016

People's perceptions on Project problems and suggested measures

The Consultants have discussed with the participants about the proposed Project interventions and the process of peoples' participation in preparing the EIA and RP. The people of the Project area have already learned about the proposed Project from the officials of RPCL and Consultants who frequently visited the Project area. The people of the Project area are aware of probable impacts of the Project.

Local people identified some problems in the consultation meeting. Major problems likely to be happened are:

- Number of farmers will lose agricultural production land;
- The Power plant may damage the agricultural lands permanently;
- A number of people will be venerable due to land acquisition;
- Some peoples occupation may be change; and
- Number of households will be disturbed during Project implementation.

The local people also expressed concern that it may be difficult to cultivate crop close to the power plant area. It also may create problems for cattle rearing throughout the year.

Feedbacks on consultations

The stakeholders identified the prediction as well as problems of the Project and recommended solutions as per their perceptions. The recommendations were duly recorded in the meeting, and documented in the EIA and RP. The concerns, issues, and recommendations are presented in various tables below.

During the consultations, the stakeholders perceived the overall benefit and adverse impacts of the Project. The Table presents the perceived outcomes of the proposed Project as discussed in the meetings/discussions.

Table 11.2: Perceived outcomes of the Project

Issues	Observations by the participants
Benefits of the Project	<ul style="list-style-type: none"> • Generating electricity and added to national grid • Ensure continual electricity supply with full voltage; • Setting up new industrial area along with heavy and medium industry using the generated power; • Creating probability to grow up commercial; • Deep sea port will be promoted more efficiently • Communication (roadway and waterway) facility may be developed
Adverse impacts of the Project	<ul style="list-style-type: none"> • Local people will lose their lands; • The number of jobless families (land based) will increase due to the land acquisition; • Affected people will lose their work, wages and employment which will have an impact on income and livelihood; • Sound and air pollution will increase during construction of the Power Plant; • Fertile land, crops and perennials will be lost due to the establishment of Power Plant.

The general issues and concerns that were discussed in the consultation meetings are presented in Table 1.3. The stakeholders opined that, the selection of area for the Project interventions should be done properly through intensive surveys in the field along with necessary consultation with the local community. The effect of the land acquisition on asset and income of the communities as perceived by the community are given below in the table.

Table 11.3: Impacts of land acquisition as perceived by the stakeholders

Issues	Observations made at the stakeholders meetings/discussions
Project area (Power plant)	<ul style="list-style-type: none"> • The Project implementers should consider avoidance of settlement, local establishments, crops and other assets as much as possible; • Consider barren agriculture field/fallow land for Power Plant;
Effect of the land acquisition on asset	<ul style="list-style-type: none"> • Some affected person (AP) will lose their land , crops • Project affected people will lose their livelihood • As a result of land acquisition, agriculture/fish production/income will be reduced to some extent.
Effect of the land acquisition on work /source of income	<ul style="list-style-type: none"> • Acquisition of agricultural land will reduce the current scope of employment; • The APs would lose their jobs, income and wages to some extent; • Temporary loss of jobs/work will hamper income sources to some extent from agricultural crop/labor wage; • Disturbance of income sources will cause insecurity of food, accommodation, education facilities etc. for some of the APs. • Day laborers/landless people will lose work; therefore, livelihoods

The opinion on compensation issues e.g. type and form of compensation; mechanism and modalities of compensation payment including suggestions offered by the people are given in Table 11.4.

Table 11.4: Issues and concerns regarding compensation

Issues	Concerns regarding compensation and suggestions
Compensation against loss	<ul style="list-style-type: none"> • Real land owners and sharecroppers should be identified through proper survey; • APs should be provided replacement value of land and other assets according to the current market price considering the land value of the external area of the project; • Loss of standing crop, trees, ponds etc. should be compensated at market price; • Transparent and hassle-free compensation payment mechanism is expected by the APs; • At a time the compensation for land has to be paid in full to the poor APs; • The payment of compensation should be accomplished without any harassment.
Compensation for vulnerable population	<ul style="list-style-type: none"> • The needs of women and vulnerable groups (VGs) should be identified properly and special attention should be given to them; • Employment and income of subsistence to improve VGs' status/livelihoods; • Potential VG members should be engaged as unskilled laborers during the construction period; • Provision should be kept for social and economic development support, • Alternative assistance should be given to affected small/marginal/tenant farmers so that they can become resilient. • Creating income generating opportunities for the vulnerable population;
Mechanism of compensation	<ul style="list-style-type: none"> • A neutral monitoring agency should be engaged for monitoring the compensation activities; • Compensation money should be given to the APs in the presence of LGIs;

Issues	Concerns regarding compensation and suggestions
	<ul style="list-style-type: none"> • External monitoring agency should be engaged for monitoring the compensation activities to be conducted by INGOs; • Payment of compensation by bank check or by deposit into the bank account may be introduced to reduce immediate opportunities of extortion; • The grievance redress committee should play a proper role in determining the ownership of land.

Summary of Consultation Output

Based on the discussions at the consultation meetings, the Project stakeholders have identified probable losses, potential impacts and mode of compensation payment for the affected households (AHs). It was explained clearly at the meetings that land for land as an alternative was not an option in this Project; however, adequate compensation will be paid against the losses. The following summary findings of the consultation meetings/discussions would help the Project Proponent in carrying out the RP properly:

Table 11.5: Summary findings from the consultation meeting/discussion

Issues	Problems	Suggested measures
Socio-economic impact	<ul style="list-style-type: none"> • Farmer can't buy agricultural land; • Lack of employment opportunity due to impact on agriculture sector • The people opined not to acquire more lands from Dhankhali union as the soil is very productive in this union. • A socio-cultural problems may raise for the engagement of outsiders in this project. • The process for getting compensation is full of difficulties and lengthy. 	<ul style="list-style-type: none"> • Distribute Khas land to the APs of small/marginal farmers; • Give proper compensation to the land losers; • Avoid the homestead areas; • Local people should be engaged in the construction activities, thus employing them; • Compensating the affected people who would be losing their lands • They urged to make the compensation process easier and it should be implemented throughout the union parishad.

Grievance Redress

Grievance is an issue, concern, problem, or claim that an individual or community group wants to be addressed and resolved by the Project Authority. The fundamental objectives of the Grievance Redress Mechanism (GRM), implemented through the Grievance Redress Committees (GRC) serving as a para-legal body, are to resolve any resettlement-related grievances locally in consultation with the aggrieved party to facilitate smooth implementation of the social and environmental action plans.

Guideline to Redress Grievances

The Project Proponent would establish a procedure to deal with and resolve any queries as well as address complaints and grievances about any irregularities. In this regard, a policy and/or guideline and grievance redress mechanism (GRM) will be prepared. Grievance Redress

Committees (GRC) will be formed to receive and resolve complaints as well as grievances from aggrieved persons from the local stakeholders including the Project-affected persons.

Composition of Local GRC

The Grievance Redress Committee (GRC) will be established locally at Project sites and centrally at the Project level to receive as well as settle grievances from the affected persons and other local stakeholders. Two type of GRC will be established such as union/municipal level (LGRC), the first tier, and Project GRC at the central level (PGRC), the second-tier. The local level GRC will be constituted with representation of the local UP Chairman and affected people ensuring women's representation. The Project-level GRC will be constituted with representation from the Project Management Unit (PMU) and one independent person from the civil society having knowledge about land acquisition law of Bangladesh and involuntary resettlement.

Grievance Resolution Process

The implementing agency will keep a close liaison with the affected people and discuss any type of issues, observation, complaints at focus group meetings on a weekly or fortnightly basis. Most of the issues will hopefully be settled in the focus group meeting but some issues requiring formal hearing and resolution will be brought to the Grievance Redress Committee (GRC) for resolution in form of a formal complaint. All complaints will have to be received at the local (Union) level GRC (LGRC) and resolved within a certain period as per circular of the MPEMR (gazette notification). The GRC will request the aggrieved person to apply to the Deputy Commissioner (DC) for resolution or the GRC may refer such issues to the DC office for consideration. All cases will be heard at LGRC within four weeks from the date of receiving the complaints.

If the resolution attempt at the local level fails, the LGRC will refer the complaint with the minutes of the hearings to the Project Grievance Redress Committee (PGRC). In case of failure at PGRC, the complaint with the minutes of the hearings of PGRC will be sent to the Project Director at PMU for further review. The Project Director will assign the Environment and Social Development Unit (ESDU) under the PMU to review the grievance cases and to assist the Project Director in making decision. The cases are to be resolved at PGRC within five weeks from the date of receiving the file from the LGRC. If a decision at this level is found unacceptable by the aggrieved person(s), he/she may go to court for verdict. Aggrieved persons are always allowed to go to court of law for settlement of any unresolved issues.

Participant List

The total numbers of meeting/discussion participants were 41 (Forty-one). The name of the participants of different meetings, and address including cell phone number are provided in the **Table 11.6** below.

Table 11.6: List of Participants in Different Meetings

Sl. No.	Name	Age	Occupation	Phone/ Address
1	Md. Hafizur Rahman	65	Retired Teacher	01710622134, Village: Fultoli, Union: Dhankhali, Kalapara, Patuakhali
2	Md. Zahangir Hossain	45	Teacher	01727465149, Village: Fultoli, Union: Dhankhali, Kalapara, Patuakhali
3	Md. Shihab Uddin	55	Teacher	01787245657, Village: Fultoli, Union: Dhankhali, Kalapara, Patuakhali

Sl. No.	Name	Age	Occupation	Phone/ Address
4	Md. Pani Sardar	45	Teacher	01713961866, Village: Fultoli, Union: Dhankhali, Kalapara, Patuakhali
5	Md. Nurul Islam	32	Teacher	01723424973, Village: Fultoli, Union: Dhankhali, Kalapara, Patuakhali
6	Md. Joshim Uddin	38	Teacher	01734261261, Village: Fultoli, Union: Dhankhali, Kalapara, Patuakhali
7	Md. Hafizur Rahman	55	Agricultural	Village: Fultoli, Union: Dhankhali, Kalapara, Patuakhali
8	Md. Shamim Talukder	35	Agricultural	Village: Fultoli, Union: Dhankhali, Kalapara, Patuakhali
9	Md. Solaiman Sardar	25	Agricultural	Village: Fultoli, Union: Dhankhali, Kalapara, Patuakhali
10	Md. Imran	22	Student	01714399375, Village: Fultoli, Union: Dhankhali, Kalapara, Patuakhali
11	Md. Shuvo Gazi	20	Student	01737119917, Village: Fultoli, Union: Dhankhali, Kalapara, Patuakhali
12	Md. Robin	18	Student	017878245688, Village: Fultoli, Union: Dhankhali, Kalapara, Patuakhali
13	Md. Rakibul Islam	20	Student	01725069506, Village: Fultoli, Union: Dhankhali, Kalapara, Patuakhali
14	Md. Zihad	20	Student	01781210923, Village: Fultoli, Union: Dhankhali, Kalapara, Patuakhali
15	Md. Rasel Gazi	30	Agricultural	01728632874, Village: Fultoli, Union: Dhankhali, Kalapara, Patuakhali
16	Md. Sojib Sarkar	35	Agricultural	Village: Fultoli, Union: Dhankhali, Kalapara, Patuakhali
17	Md. Mojid Gazi	50	Agricultural	Village: Fultoli, Union: Dhankhali, Kalapara, Patuakhali
18	Md. Moynul Islam	25	Student	01737374250, Village: Fultoli, Union: Dhankhali, Kalapara, Patuakhali
19	Md. Riaz Halder	30	Agricultural	Village: Fultoli, Union: Dhankhali, Kalapara, Patuakhali
20	Md. Nur Islam	30	Agricultural	01720366021, Village: Fultoli, Union: Dhankhali, Kalapara, Patuakhali
21	Md. Rakibul Islam	25	Student	01719080822, Village: Fultoli, Union: Dhankhali, Kalapara, Patuakhali
22	Md. Mofij Uddin	30	Agricultural	01762189900, Village: Fultoli, Union: Dhankhali, Kalapara, Patuakhali
23	Md. Younush	25	Choukidar	01772342964, Village: Fultoli, Union: Dhankhali, Kalapara, Patuakhali
24	Md. Sultan Sardar	40	Surveyor	01745319217, Village: Fultoli, Union: Dhankhali, Kalapara, Patuakhali
25	Md. Polash	30	Driver	01763750678, Village: Fultoli, Union: Dhankhali, Kalapara, Patuakhali
26	Md. Hiron Halder	30	Agricultural	01740260407, Village: Fultoli, Union: Dhankhali, Kalapara, Patuakhali
27	Md. Kalam Talukder	45	Agricultural	Village: Fultoli, Union: Dhankhali, Kalapara, Patuakhali

Sl. No.	Name	Age	Occupation	Phone/ Address
28	Md. Kached Talukder	50	Agricultural	Village: Fultoli, Union: Dhankhali, Kalapara, Patuakhali
29	Md. Sultan Khan	40	Agricultural	01791637400, Village: Fultoli, Union: Dhankhali, Kalapara, Patuakhali
30	Md. Sojol Kholifa	35	Agricultural	01747598818, Village: Fultoli, Union: Dhankhali, Kalapara, Patuakhali
31	Md. Ibrahim Sarkar	35	Agricultural	01722541663, Village: Fultoli, Union: Dhankhali, Kalapara, Patuakhali
32	Md. Hiron Halder	30	Agricultural	01620758574, Village: Fultoli, Union: Dhankhali, Kalapara, Patuakhali
33	Md. S.M. Sohedul Alom	30	President Aumalig	01724287940, Village: Gilatola, Union: Dhankhali, Kalapara, Patuakhali
34	Md. Nantu Miah	25	Driver	01719664535, Village: Gilatola, Union: Dhankhali, Kalapara, Patuakhali
35	Md. Fokruddin	65	Village police	01791563279, Village: Dhankhali, Union: Dhankhali, Kalapara, Patuakhali
36	Md. Jafor Uddin	50	Business	Village: Dhankhali, Union: Dhankhali, Kalapara, Patuakhali
37	Masum Khan	48	Agricultural	Village: Dhankhali, Union: Dhankhali, Kalapara, Patuakhali
38	Jakir Hossain	66	Agricultural	Village: Dhankhali, Union: Dhankhali, Kalapara, Patuakhali
39	Adam Ali Munshi	24	Agricultural	Agricultural Village: Dhankhali, Union: Dhankhali, Kalapara, Patuakhali
40	Foyisal Mahmud	28	Agricultural	Village: Dhankhali, Union: Dhankhali, Kalapara, Patuakhali
41	Shahin Munshi	35	Agricultural	Village: Dhankhali, Union: Dhankhali, Kalapara, Patuakhali
42	Robiul Mridha	24	Unemployed	Village: Dhankhali, Union: Dhankhali, Kalapara, Patuakhali
43	Md. Saiful Islam	37	Service	Village: Dhankhali, Union: Dhankhali, Kalapara, Patuakhali

Source: FGD and KII by Field survey, CEGIS, 2016

Photo: Stakeholders Consultation Meeting



Photo 11.1: Consultation Meeting at South Dhansagor and Londa



Photo 11.2: Consultation Meeting at Londa

12 Public Disclosure Meeting

Introduction

Public Disclosure is a meeting by which the probable project affected people came to know about the findings of ESIA study. It took place after the completion of all study. It is a process to involve the stakeholders in the project activities. The Center for Environmental and Geographic Information Services (CEGIS) organized a public disclosure meeting for exposure of the proposed “Kalapara 1320 MW coal based power plant Project” at the Kalapara Upazila Parishad conference room on August 18, 2016.

Objectives

The overall objective of the consultation was to explore the peoples’ perception and attitudes towards the proposed project. The specific objectives were to:

- aware the local people about the proposed project
- explore the problems of the study area;
- share experiences of the participants over the years;
- unveil the potential negative or positive impacts of the proposed project;
- Outline potential mitigation measures for negative impacts and enhancement measures for the positive impacts.
- ensure the peoples’ participation in the proposed project;

Approaches of the Public Disclosure Meeting

The main purpose of the PDM was to disclose the findings of EIA study to the key stakeholders and take suggestions from them. To serve that purpose it was mandatory to gather key stakeholders at a certain venue (Upazila Parishad conference room).

Identification of Stakeholders

Stakeholders included all those who would affect and/or would be affected by policies, decisions or actions within a particular system. Stakeholders included groups of people, organizations, institutions and sometimes-even individuals. Stakeholders can be divided into primary and secondary stakeholder categories.

Primary Stakeholders

Primary stakeholders are people who would be directly benefited or impacted by a certain project intervention. In case of the proposed project, the primary stakeholders include the people whose land will be affected and who are living within the project area. Farmers, fishermen and other occupational group reside in the project site and peripheral of the project site is considered as primary stakeholder for this project.

Secondary Stakeholders

This category of secondary stakeholders pertains to those who may not be directly impacted but have interest to contribute in the study, play a role in implementation at some stage, or decision

making on project aspects. In this project, secondary stakeholders include RPCL, local government institutions (LGIs), local public representatives, other relevant government agencies, academia, journalists, NGOs and general public at large.

Time, Date and Venue Selection

Venue, date and time of meeting was selected in consultation with the local administration, local government, local people, the project proponent and the consultant. The local people and local government selected an agreed venue e.g. Kalapara upazila parishad conference room, having easy accessibility and which is likely to be neutral. Date and time was also finalized in the similar way considering availability of the participants, ensuring the maximum participation and compliance with the other arrangement.

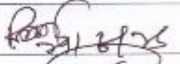

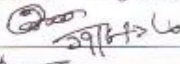
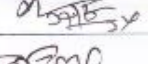
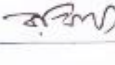
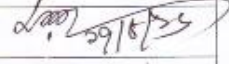
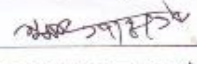

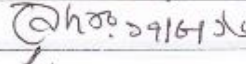
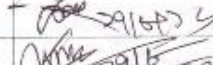

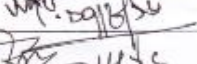
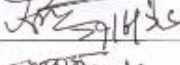
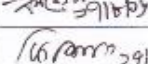
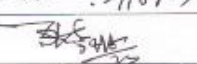

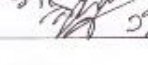

Enlisting and Invitation

A comprehensive list of potential stakeholders was prepared through the consultation. This list was intended to cover all sorts of interest groups, occupational groups, socially acceptable and knowledgeable peoples.

Invitation cards were distributed to the above key stakeholders including the local PAPs (Project Affected Peoples):


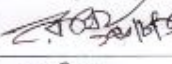
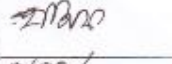
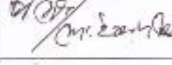
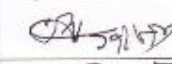
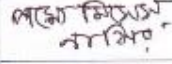
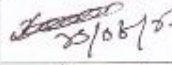
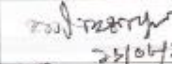
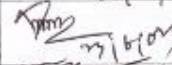
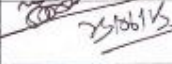
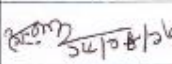
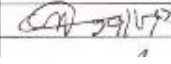


পত্র প্রাপ্তির কমান্ড (ফেটভার ভিত্তিতে নহে)

ক্রমিক নং	পদবী ও ঠিকানা	পত্র গ্রহণ কারীর স্বাক্ষর ও তারিখ
১	উপজেলা মৎস্য অফিসার, কলাপাড়া।	 ১৯/৬/১৬
২	উপজেলা কৃষি অফিসার, কলাপাড়া।	 ১৯/৬/১৬
৩	প্রাণি সম্পদ কর্মকর্তা, কলাপাড়া।	 ১৯/৬/১৬
৪	উপজেলা প্রাকৌশলী, কলাপাড়া।	 ১৯/৬/১৬
৫	উপজেলা ভাইস-চেয়ারম্যান (পুরুষ), কলাপাড়া।	 ১৯/৬/১৬
৬	উপজেলা ভাইস-চেয়ারম্যান (মহিলা), কলাপাড়া।	
৭	মুক্তিযোদ্ধা কমান্ডার, কলাপাড়া।	 ১৯/৬/১৬
৮	সভাপতি, উপজেলা আওয়ামীলীগ, কলাপাড়া।	 ১৯/৬/১৬
৯	সাধারণ সম্পাদক, উপজেলা আওয়ামীলীগ, কলাপাড়া।	নতুন রাতি ১৯/৬/১৬
১০	স্বাস্থ্য ও পরিবার পরিকল্পনা কর্মকর্তা, কলাপাড়া।	 ১৯/৬/১৬
১১	মাধ্যমিক শিক্ষা অফিসার, কলাপাড়া।	 ১৯/৬/১৬
১২	পল্লী উন্নয়ন কর্মকর্তা, কলাপাড়া।	 ১৯/৬/১৬
১৩	মহিলা ও শিশু বিষয়ক কর্মকর্তা, কলাপাড়া।	 ১৯/৬/১৬
১৪	সমবায় অফিসার, কলাপাড়া।	 ১৯/৬/১৬
১৫	সমাজসেবা অফিসার, কলাপাড়া।	 ১৯/৬/১৬
১৬	আনস্কার-ভিজিপি কর্মকর্তা, কলাপাড়া।	 ১৯/৬/১৬
১৭	প্রকল্প বাস্তবায়ন কর্মকর্তা, কলাপাড়া।	 ১৯/৬/১৬
১৮	উপজেলা যুব উন্নয়ন অফিসার, কলাপাড়া।	 ১৯/৬/১৬
১৯	প্রাথমিক শিক্ষা অফিসার, কলাপাড়া।	 ১৯/৬/১৬
২০	মেয়র, কলাপাড়া পৌরসভা, কলাপাড়া।	 ১৯/৬/১৬



পত্র প্রাপ্তির কমান্ড (জেষ্ঠাতার ত্রমাদ্বারা নয়)ঃ

ক্রমিক নং	পত্র প্রাপকের নাম ও ঠিকানা	পত্র গ্রহনকারীর স্বাক্ষর ও তারিখ
১	জনাব মোঃ সুলতান মাহমুদ, সাবেক ভাইস চেয়ারম্যান, উপজেলা পরিষদ, কলেজ রোড, খেপুপাড়া	 ২১/৫/১৩
২	জনাব এস এম রাকিবুল আহসান, সাবেক মেয়র, কলাপাড়া পৌরসভা, এতিমখানা রোড, কলাপাড়া	 ২১/৫/১৩
৩	জনাব এস এম মনজুরুল আহসান, সভাপতি দৃশ্যিত প্রতিরোধ কমিটি, ফেরীঘাট, কলাপাড়া	 ২১/৫/১৩
৪	জনাব এবি এম মোশাররফ হোসেন, সভাপতি, উপজেলা বিএনপি, এতিমখানা রোড, কলাপাড়া	 ২১/৫/১৩
৫	জনাব মোঃ দেলোয়ার হোসেন, অধ্যক্ষ, এমবি ডিগ্রী কলেজ	 ২১/৫/১৩
৬	জনাব সৈয়দ নাসির উদ্দিন, সাবেক অধ্যক্ষ, মহিলা কলেজ, নতুন বাজার, খেপুপাড়া	 ২১/৫/১৩
৭	জনাব নূর বাহাদুর তালুকদার, সাবেক উপাধ্যক্ষ এমবি ডিগ্রী কলেজ, এতিমখানা রোড, কলাপাড়া	 ২১/৫/১৩
৮	জনাব হাজী মোঃ ছাম্মান সিকদার, সাবেক মেয়র, কলাপাড়া পৌরসভা, মাদরাসা রোড, কলাপাড়া।	 ২১/৫/১৩
৯	জনাব নূরুল হক মুন্সি, সভাপতি ব্যবসায়ী সমিতি, পশু হাসপাতাল রোড, কলাপাড়া	 ২১/৫/১৩
১০	জনাব দিদার উদ্দিন মাসুম বেপারী, সহ সভাপতি, পৌর আওয়ামীলীগ, মাদরাসা রোড, কলাপাড়া।	 ২১/৫/১৩
১১	জনাব সৈয়দ আখতারুজ্জামান কোকা, সাবেক ইউপি চেয়ারম্যান, টিয়াখালী, এতিমখানা, কলাপাড়া	 ২১/৫/১৩
১২	জনাব মোঃ মনজুরুল আলম, সাংগঠনিক সম্পাদক, উপজেলা আওয়ামীলীগ, রহমতপুর, কলাপাড়া	
১৩	জনাব মোঃ শহিদুল আলম, উপাধ্যক্ষ, এমবি ডিগ্রী কলেজ, কলাপাড়া	 ২১/৫/১৩
১৪	জনাব মোঃ হোসেন হোসেন, সভাপতি, আওয়ামীলীগ, কলেজ রোড	

To make the meeting successful and to ensure maximum participation, an advertisement was published in the local daily newspaper:

আল্লাহু ছাড়া কাউকে ভয় করে না
আজকের বার্তা
 বরিশালের সর্বাধিক প্রচারিত রঙ্গীন দৈনিক প্রতিষ্ঠাতা : কাজী নাসির উদ্দিন বাবু

হজুরাসের মাথা ব্যথা কারণ নেইমার
 বার্তা ডেস্ক : এভাবে অসুস্থতায় হুটকো কটা ক্রিকেট খেলার পরেই প্রথম দুই ম্যাচে ৩০ ক্রিসটিয়ান রোনালদো
 লস লাজ ২ জুলাই ২

সোনালী অগ্রণী রূপালী ব্যাংকে নতুন এমডি
 বার্তা ডেস্ক : সরকারি মালিকানাধীন ষোল্ল বার্মিংহাম ব্যাংক সোনালী, অগ্রণী ও রূপালী ব্যাংকে নতুন ব্যবস্থাপনা পরিচালক পদে কাজ ২ জুলাই ২

জেএমবির ৪ নারী সদস্য গ্রেফতার
 বার্তা ডেস্ক : রাজধানীর বিভিন্ন এলাকা থেকে সিলিং ডাক সংক্রান্ত অভিযোগের মুকামিলীন বাংলাদেশের জেএমবি
 লস লাজ ২ জুলাই ২

প্রতিষ্ঠাবার্ষিকীতে সরকারের সহযোগিতা চায় বিএনপি
 বার্তা ডেস্ক : দলের ৩৮তম প্রতিষ্ঠাবার্ষিকী উপলক্ষে রাজধানীতে অনুষ্ঠিত হওয়া কংগ্রেসে বিএনপি
 একইভাবে লস লাজ ২ জুলাই ২

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বিজ্ঞপ্তি

রূপকল্প-২০২১ অনুযায়ী 'পাওয়ার সিস্টেম মাস্টার প্লান, ২০১০' এর আলোকে দেশের সকল ঘরে বিদ্যুৎ সরবরাহ করতে বর্তমান সরকার প্রতিশ্রুতিবদ্ধ। সে লক্ষ্যে রূরাল পাওয়ার কোম্পানী লি: (RPCL) পটুয়াখালী জেলার কলাপাড়া উপজেলাধীন ধানখালী ইউনিয়নে কয়লাভিত্তিক তাপ বিদ্যুৎকেন্দ্র নির্মাণ করে ১৩২০ মেগাওয়াট বিদ্যুৎ উৎপাদনের লক্ষ্য নির্ধারণ করেছে। উক্ত প্রকল্প বাস্তবায়নের ফলে উন্নত পরিবেশগত ও আর্থ-সামাজিক প্রভাব সমীক্ষা নিরূপণের জন্য পানি সম্পদ মন্ত্রণালয় অধীনস্থ সরকারী ট্রাস্ট, CEGIS-কে দায়িত্ব দেয়া হয়েছে। এরই অংশ হিসেবে জনগণের সুচিন্তিত মতামত ও পরামর্শ গ্রহণের লক্ষ্যে আগামী ১৮ আগস্ট, ২০১৬ ইং তারিখ রোজ বৃহস্পতিবার বেলা ১০:০০ ঘটিকায় কলাপাড়া উপজেলা পরিষদ সম্মেলন কক্ষে একটি মতবিনিময় সভার আয়োজন করেছে। উক্ত মতবিনিময় সভায় উপস্থিত থেকে উপরোক্ত বিষয়ে আপনাদের সুচিন্তিত মতামত প্রদান করার জন্য সাদরে আমন্ত্রণ জানানো যাচ্ছে। ধন্যবাদ।

Consultation Instrument

Checklist: A comprehensive checklist and questionnaire covering all possible issues to be addressed was prepared through consultation with the multidisciplinary study team. This checklist was used in the meeting to unveil peoples' perception and opinion along with suggestions

Attendance list: An inventory of the participants was maintained in attendance sheet containing contact number. Scanned list of participants is attached in Appendix-VI (Volume-III).

Camera: For visualizing the participants, photographs were taken using camera. These photos are presented in this chapter. Photos of the meeting participants are presented at the end of this chapter.

The stakeholders have right to know about the activities, pattern and impacts of the project. In doing so, a brief description on project was distributed to each participants:

কলাপাড়া ২x৬৬০ মেগাওয়াট কয়লা ভিত্তিক তাপ বিদ্যুৎ প্রকল্প, কলাপাড়া, পটুয়াখালী

আজকের সভার মূল উদ্দেশ্য হচ্ছে প্রস্তাবিত ২x৬৬০ মেগাওয়াট কয়লাভিত্তিক তাপ বিদ্যুৎ প্রকল্প স্থাপিত হলে প্রকল্প সংলগ্ন এলাকায় কী ধরনের পরিবেশগত ও আর্থ-সামাজিক প্রভাব পড়তে পারে এবং নিরূপিত প্রভাবের প্রতিকার সম্বন্ধে এলাকার জনগোষ্ঠীর মতামত গ্রহণ করা। একই সাথে প্রকল্প নতুন ও নির্মাণ পর্যায়ে জনগণের প্রত্যক্ষ নেওয়া যাতে প্রকল্প বাস্তবায়নে তাদের আকাঙ্ক্ষার প্রতিফলন ঘটে।

- বাংলাদেশ সরকার ক্রমবর্ধমান বিদ্যুতের চাহিদা মেটানোর নিমিত্তে একটি মহাপরিচালনা (PSMP) বা জ্বালানী নীতিমালা প্রণয়ন করে যার মূল প্রতিপাদ্য বিষয় সমূহ ছিল:
 - জ্বালানীর বিভিন্নমুখী করণ যেমন: গ্যাস, কয়লা, ফার্নেস অয়েল, এলএনজি ইত্যাদি
 - জ্বালানীর উৎস সনাক্তকরণ ও এর সর্বোত্তম ব্যবহার নিশ্চিত করণ
 - জ্বালানী উৎসের ও সরবরাহের সুবিধাদির ভিত্তিতে বিদ্যুৎ প্রকল্প নির্মাণের স্থান নির্বাচন করণ
 - বিদ্যুতের ক্রমবর্ধমান চাহিদার উপর ভিত্তি করে উৎপাদন ক্ষমতা বৃদ্ধি করা যা জাতীয় বিদ্যুৎ শ্রীতকে সংহত করার মাধ্যমে নিরবিচ্ছিন্ন বিদ্যুৎ সরবরাহ ঘাটতি মেটাতে পারে।
- রূপকল্প-২০২১ অনুযায়ী 'পাওয়ার সিস্টেম মাস্টার প্লান, ২০১০' এর আলোকে দেশের সকলের নিকট বিদ্যুৎ সরবরাহ করতে বর্তমান সরকার প্রতিশ্রুতিবদ্ধ। সে লক্ষ্যে রূপাল পাওয়ার কোম্পানী লি: (RPCL) পটুয়াখালী জেলার কলাপাড়া উপজেলাধীন ধানবাড়ী ইউনিয়নে কয়লাভিত্তিক বিদ্যুৎকেন্দ্র নির্মাণ করে ২x৬৬০ মেগাওয়াট বিদ্যুৎ উৎপাদনের লক্ষ্য নির্ধারণ করেছে।
- এ কথা সত্য যে প্রস্তাবিত প্রকল্পে প্রায় ৯১৫ (নব্ব্বিশত পনের) একর জমি ছুফুম তখল করা হবে যার বিনিময়ে সরকারি নিয়মে ক্ষতিপূরণ প্রদান করা হবে। এসব বিষয়ের প্রতি লক্ষ্য রেখেই সিইজিআইএস (CEGIS) পরিবেশগত ও আর্থসামাজিক সমীক্ষা প্রতিবেদন তৈরি করেছে যাতে এ ব্যাপারে বিস্তারিত আলোচনা ও প্রস্তাবাদি সন্নিবেশিত করা হচ্ছে।
- প্রস্তাবিত বিদ্যুৎ প্রকল্পের মূল বিষয় বস্তু সমূহ হলো:
 - কয়লা বিদেশ থেকে আমদানী করা হবে
 - মান অনুসারে এক টন কয়লা ব্যবহারে প্রায় ৯.৪-১০ মে.ও. বিদ্যুৎ পাওয়া যাবে
 - এই প্রকল্পে ১টি Steam টারবাইন, ১টি Ultra-supercritical Boiler থাকবে।
 - প্রাপ্ত মেক-আপ ও অন্যান্য কাজে পানির প্রয়োজন: ৩১৪৭ ঘনমিটার/ঘণ্টা
 - চিমনির উচ্চতা ন্যূনতম ২৭৫ মি. হবে যাতে প্রাপ্ত হতে নিঃসরিত ধোঁয়া বৃহত্তর এলাকায় ছড়িয়ে পড়বে ফলে পরিবেশকে ক্ষতিকর প্রভাব থেকে রক্ষা করবে
- CEGIS এ প্রকল্পটির পরিবেশগত ও আর্থ-সামাজিক প্রভাব বিশ্লেষণে দায়িত্বপ্রাপ্ত হয়ে বিভিন্ন পর্যায়ে এলাকার জনগণের সাথে এ বিষয়ে আলাপ করে পরিবেশ ও আর্থ-সামাজিক প্রেক্ষাপটের বর্তমান অবস্থা বিশ্লেষণ করার চেষ্টা করেছে।
- CEGIS এই বিষয়টির গভীরভাবে পর্যবেক্ষণ করার জন্য সংশ্লিষ্ট অফিসগুলো থেকেও তথ্য সংগ্রহ করে, যেমন:
 - কৃষি অফিস থেকে ফসল, ফসলী জমি ও সেচ সংক্রান্ত তথ্য
 - মৎস্য অফিস থেকে মাছ ও মাছের আধার সংক্রান্ত তথ্য
 - ইউনিয়ন পরিষদ থেকে সামাজিক ও অর্থনৈতিক সংক্রান্ত বিভিন্ন তথ্য
- প্রকল্প এলাকার বিভিন্ন বৈশিষ্ট্য সঠিকভাবে বিশ্লেষণ করার নিমিত্তে নিম্নলিখিত পরীক্ষা-নিরীক্ষা করা হয়:
 - ভূ-ভাটিক জরিপ যার মাধ্যমে প্রকল্প এলাকার মাটি ও ভূ-গর্ভস্থ পানি সর্বক্ষেত্র ধারণা পাওয়া যাবে।
 - Topography Survey এর মাধ্যমে ভূমির বন্ধুরতা/উঁচু-নীচ অবস্থা বুঝা যায় ও কতটুকু মাটি কাটতে ও ভরাট করতে হবে তা জানা যাবে।
 - পানির গুণাগুণ বোঝার জন্য ভূ-গর্ভস্থ ও ভূ-পরিষ্ক পানি পরীক্ষা-নিরীক্ষা করা।
 - বায়ুর দূষণ মাত্রা বোঝার জন্য বায়ু পরীক্ষা-নিরীক্ষা করা।
 - শব্দ দূষণ মাত্রা বোঝার জন্য শব্দ দূষণ পরিমাপক যন্ত্র ব্যবহার করা এবং প্রাপ্ত থেকে ১ কি.মি. চারপাশে শব্দ দূষণ পরিমাপক যন্ত্রের মাধ্যমে শব্দের তীব্রতা মাপা।

- পরিবেশগত ও সামাজিক প্রভাব বিশ্লেষণের জন্য প্রাক্টকে কেন্দ্র করে চারপাশে ১০ কি.মি এরিয়া পর্যবেক্ষণ ও সমীক্ষা করা হয়েছে
- পরিবেশগত ও সামাজিক বর্তমান অবস্থা বিশ্লেষণ:
 - শব্দ দূষণ
 - বায়ু দূষণ
 - খরা মৌসুমে পানির প্রাপ্যতা
 - ধান চাষে পানির প্রাপ্যতা
 - গবাদি পশুর খাবার প্রাপ্যতা
- দূষণ মোকাবেলায় প্রস্তাবিত করণীয় ব্যবস্থাদি:
 - বায়ু দূষণ:
 - বায়ুতে SO_x – এর পরিমাণ নিয়ন্ত্রনের জন্য উচ্চ ক্ষমতাসম্পন্ন FGD-এর ব্যবস্থা থাকবে
 - বায়ুর NO_x নিয়ন্ত্রণ করতে বয়লার Dry Low NO_x Burner লাগানো থাকবে
 - Fly Ash এবং SPM নিয়ন্ত্রনের জন্য উচ্চ ক্ষমতাসম্পন্ন Electro Static Precipitator (ESP)/ ফেব্রিক ফিল্টারের ব্যবস্থা থাকবে।
 - প্লাস্ট এলাকার চতুর্দিকে ও খোলা যায়গায় সবুজ বেটনী তৈরীর ব্যবস্থা রাখা হয়েছে যা বায়ু দূষণের প্রভাবকে প্রশমিত করবে।
 - চিমনির উচ্চতা ন্যূনতম ২৭৫ মি. হবে যাতে প্রাক্ট হতে নিঃসৃত খোঁয়া বৃহত্তর এলাকায় ছড়িয়ে পড়বে ফলে পরিবেশকে ক্ষতিকর প্রভাব থেকে রক্ষা করবে।
 - পানি দূষণ:
 - প্রাক্ট উদ্ভূত পানি যথাযথ পরীক্ষা-নিরীক্ষার পর পুনঃব্যবহার/ জনসেচন কাজে ব্যবহার করা হবে যা পরিবেশের উপর কোন ক্ষতিকর প্রভাব ফেলবে না
 - তেল ও গ্রীজ পানি থেকে আলাদা করণের জন্য সেন্ট্রিফিউগাল যন্ত্রের ব্যবহারের ব্যবস্থা রাখা হয়েছে। আলাদাকৃত তেল এলাকার ড্রেনের কাছে বিল্ডি করা হবে ও পানি যথাযথ পরীক্ষা-নিরীক্ষার পর পুনঃব্যবহার/ জনসেচন করা হবে।
 - কঠিন বর্জ্য পূর্ণ নিখারিত নির্দিষ্ট স্থানে ফেলা হবে।
 - শব্দ দূষণ:
 - আধুনিক প্রযুক্তি সমন্বিত কম শব্দ উৎপাদনকারী মেশিনারী স্থাপন করা হবে
 - ঘূর্ণন মেশিনারীর জন্য শব্দ দূষণ প্রতিরোধী হুড বা ডাকনার ব্যবস্থা থাকবে
 - প্রাক্ট এলাকার চতুর্দিকে ও খোলা যায়গায় সবুজ বেটনী তৈরীর ব্যবস্থা রাখা হয়েছে যা শব্দ দূষণের প্রভাবকে নিয়ন্ত্রণ করবে
 - ঘূর্ণন মেশিনারীর আশেপাশে যারা কাজ করবে তাদেরকে অবশ্যই PPE যেমন: ইয়ার প্লাগ, মাফলার ইত্যাদি পরতে হবে
 - শব্দের মাত্রা কমানোর জন্য মেশিনারীতে সাইল্যান্সারের ব্যবস্থা থাকবে
 - শব্দ প্রশমনীয় দেয়াল নির্মাণ করা হবে
 - মেশিনের রক্ষণ:
 - কম্পন রেবে সীম (গ্রেট ১/১০০০ ইঞ্চি) প্রযুক্তির ব্যবহার করা।

Findings from the Public Disclosure Meeting

The Chief Guest of the Public Disclosure Meeting was Abdul Motaleb Talukder, Chairman, Kalapara Upazlia Parishad. The program was presided over by A.B.M Sadikur Rahman. Upazila Nirbahi Officer (UNO) of Kalapara Upazila. Different government officials, Union Parishad (UP) Chairmen of different unions, NGO representatives, Journalists, political leader, freedom fighter, UP members, farmers and fishermen from the study area were present in the meeting. Mr. Faisal Ahmed, Junior Specialist, CEGIS, started the meeting with an introductory speech. Mr. Pronab Kumar Halder, Junior Specialist, CEGIS, made a power point presentation of the key report of the project.

Following the presentation, all the participants took part in an open discussion. They made various types of comments after the presentation of Mr. Pronab Kumar Halder. Their comments are given below:

The people's opinions and queries shared in the open discussion are given below:

Mr. Abdul Motaleb Talukder, Chairman, Kalapara Upazlia Parishad

- It is good to hear that the power plant will be established in Patuakhali. The proposed power plant can accelerate the development of the area and benefit the local people.
- There is a disagreement about who be affected by the construction of the power plant at Dhankhali union.
- It is not apparent whether the matter has been discussed with local people and how will the existing homesteads and agricultural lands be affected during project implementation?
- There should be a written agreement about compensation method among land owner, implementing authority and Deputy Commissioner.
- Alternative location can be chosen for the establishment of proposed power plant.

A.B.M Sadikur Rahman. Upazila Nirbahi Officer (UNO) of Kalapara Upazila

- Implementation of the project will be supportive to improve the overall socio economic condition of the study area.
- A Land Acquisition section has been activated at the Dhankhali Union parishad due to reduce the sufferings of the land owners and make the compensation process easier.

Abdul Motaleb Talukder, Chairman, Kalapara Upazlia Parishad

- NWPGL authority has not compensated and rehabilitated to the affected people yet
- Is it possible to purchase land for resettlement with the amount of money given as compensation?
- Let us know about the negative environmental impacts of a coal based power plant
- The power plant may be relocated to the Char areas like Char Rangabali and Gongarchar
- What will be the price of proposed land? Will it be possible to purchase land at the current price?
- Although the local people welcome the idea of power plant, it must be ensured that poor affected families are compensated for land acquisition.

Md. Mustafa Kamal, Vice Chairman, Upazila Parishad, Kalapara, Patuakhali

Implementing authority should consider the other unions for this project but what measures have been taken for resettlement of the people of the project area?

Concluding Remarks

The answers to all questions were given by Mr. Md. Selim Bhuiya, Executive Director, and RPCL following the open discussion session. Then the chief guest Abdul Motaleb Talukder, Chairman, Kalapara Upazlia Parishad expressed his opinion and showed his positive attitude towards the project. Then the president of this assembly A.B.M Sadikur Rahman. Upazila Nirbahi Officer (UNO) of Kalapara Upazila concluded the PDM by thanking all the participants.

Including the local PAPs (Project Affected Peoples) invitation cards were also distributed to the above key stakeholders

Appendix -1: Methodology Multidimensional Poverty Index

The Multidimensional Poverty Index (MPI) identifies multiple deprivations at the individual level in education, health and standard of living. Each person is assigned a deprivation score according to his or her household's deprivations in each of the 8 component indicators. The maximum score is 100%, with each dimension equally weighted; thus the maximum score in each dimension is 33.3%. The education and health dimensions have two indicators each, so each component is worth 33/2, or 16.7%. The standard of living dimension is followed by the five indicators, so each component is worth 33.6/ 5, or 6.6%. The thresholds are as follows:

- **Education:** having no household member who has completed five years of schooling and having at least one school-age child (up to grade 6) who is not attending school.
- **Health:** having at least one household member who is malnourished and having had one or more children die.
- **Standard of living:** Not having electricity, not having access to clean drinking water, not having access to adequate sanitation, using "dirty" cooking fuel (dung, wood or charcoal) and having a home with a dirt floor.

To identify the poor in multidimensional way, the deprivation scores for each household are summed to obtain the household deprivation, c . A cut-off of 33.3%, which is the equivalent of one-third of the weighted indicators, is used to distinguish between the poor and non-poor. If c is 33.3% or greater, that household (and everyone in it) is poor in a multidimensional way. Households with a deprivation score greater than or equal to 20% but less than 33.3% are vulnerable to or at risk of becoming multidimensional poor. Households with a deprivation score of 50% or higher are severely multidimensional poor. The MPI value is the mean of deprivation scores c (above 33.3%) for the population and can be expressed as a product of two measures: the multidimensional headcount ratio and the intensity (or breadth) of poverty.

The headcount ratio, H , is the proportion of the population who are multidimensional poor:

$$H = \frac{q}{n}$$

[Where q is the number of people who are poor in a multidimensional way and n is the total population].

The intensity of poverty, A , reflects the proportion of the weighted component indicators in which, on average, poor people are deprived. For poor households only (c greater than or equal to 33.3%), the deprivation scores are summed and divided by the total number of poor persons:

$$A = \frac{\sum_i^q c}{q}$$

[Where c is the deprivation score that the poor experience. The deprivation score c of a poor person can be expressed as the sum of deprivations in each dimension j ($j = 1, 2, 3$), $c = c_1 + c_2 + c_3$.]

The contribution of dimension j to multidimensional poverty can be expressed as

$$\text{Contrib}_j = \frac{(\sum_i^q c_j)/n}{MPI}$$

Appendix-2: Photographs



Photograph-1



Photograph-2



Photograph-3



Photograph-4

List of the Participants

“প্রস্তাবিত কলাপাড়া ১৩২০ মেঘাওয়াট বিদ্যুৎ কেন্দ্র স্থাপন” উন্নয়ন প্রকল্পের পরিবেশগত ও সামাজিক প্রভাব
নিরূপণ, প্রশমনের উপায় ও ব্যবস্থাপনা বিষয়ক
মতবিনিময় সভায় অংশগ্রহনকারীদের তালিকা

স্থান : কলাপাড়া উপজেলা পরিষদ মিলনায়তন, কলাপাড়া

সময় : সকাল ১০:০০

তারিখ: ১৮ আগস্ট, ২০১৬

ক্র.নং	নাম	পদবী/ ঠিকানা	মোবাইল নং	স্বাক্ষর
১/	শ্রী: মোতাহেদীন হাফিজ	চেয়ারম্যান কলাপাড়া - উপজেলা	০১৭১৬৫৩৪১৫৭	
২/	শ্রী: মেনিম হুসেইন	নির্বাহী পরিচালক R.P.C.L	০১৭৫৪৩৩২৫৭৫	
৩/	বিলকিস জাহান	V.O. উদ্যোগ পরিচালক	০১৭১০৭০৩২৭১	
৪/	শ্রী: মোঃ মাহমুদ হোসেন	V.O. উদ্যোগ পরিচালক	০১৭১৪৬৪০৭৭৫	
৫/	এ.বি.এম, মাদিকুর রহমান	UNO, Kalapara	০১৭৩৩৩৩৪১৫৫	
৬/	এম.এম. মাদিকুর রহমান	সাবেক উপায়ক	০২০৭৩৩৩৪২৮২	
৭/	মুহম্মদ হোসেন	মহান উন্নয়ন কমিশনার	০২৪২২৪২৮২৮২	
৮/	ড: জাহাঙ্গীর হোসেন	Environmental Advisor, CEGIS	০১৮১৭৫৪৭৬১৭	
৯/	শ্রী: মাহমুদ হোসেন	সি.বি.এম. সুপারভাইজার	০১৭০৩৩৩৬৭৭৬	
১০/	শ্রী: বখিতুল ইসলাম	অফিসি চফর	০১৭৫৪৭৫৭৩৬৬	
১১/	শ্রী: মোঃ মাহমুদ হোসেন	চফর	০১৭৪৬৪৫৩৫৫	
১২/	আব্দুল বাকুর	সি.বি.এম. চফর	০১৭৭৭১৩২৫৭	
১৩/	শ্রী: মোঃ মাহমুদ হোসেন	F.S. উদ্যোগ পরিচালক	০১৭১৪-৬৬৩৭৪৩	
১৪/	শ্রী: মোঃ মাহমুদ হোসেন	সি.বি.এম. চফর	০১৭১৭৪৩৫২৭৬	
১৫/	শ্রী: মোঃ মাহমুদ হোসেন	চফর		
১৬/	শ্রী: মোঃ মাহমুদ হোসেন	চফর	০১৭২৭৬৫৪২৮৬	
	শ্রী: মোঃ মাহমুদ হোসেন	চফর	০১৭১৬৪০৭৫৫	

আয়োজনে :



Center for Environmental and Geographic Information Services

House 6, Road 23/C, Gulshan-1, Dhaka-1212, Bangladesh. Tel: 88 02 58817648-52; 9842581; 9842551; 9842542. Fax: 880-2-8823126; 9855935

“প্রস্তাবিত কলাপাড়া ১৩২০ মেঘাওয়াট বিদ্যুৎ কেন্দ্র স্থাপন” উন্নয়ন প্রকল্পের পরিবেশগত ও সামাজিক প্রভাব
নিরূপণ, প্রশমনের উপায় ও ব্যবস্থাপনা বিষয়ক
মতবিনিময় সভায় অংশগ্রহনকারীদের তালিকা

স্থান : কলাপাড়া উপজেলা পরিষদ মিলনায়তন, কলাপাড়া
সময় : সকাল ১০:০০

তারিখ: ১৮ আগস্ট, ২০১৬

ক্র. নং	নাম	পদবী/ ঠিকানা	মোবাইল নং	স্বাক্ষর
১	আবুল হাফিজ	পাটেল ডিন ২ কমান্ডার পু. প্র.	০১৭২৮৮৩৪৩৭	
২	মুন্সীরাম মাহমুদ	ডেপুটি প্রিন্সিপাল	০১৮২২৪৫২০৬	
৩	জামিল	বহুতালিকা	০১৭৩৪২৫৪১৫০	
৪	সাব্বান্না হোসেন	ইনস্পেক্টর	০১৭৬১৫০৭৩৩৭	
৫	ডাঃ হুমায়ুন কবীর	মেডিক্যাল	০১৭৩৩২৬৭৭৬	
৬	ডাঃ আবুল কালাম	ইনস্পেক্টর	০১৭১৩৭৫৭৭৭	
৭	ডাঃ সুনাম কবীর	কমিউনিটি	০১৭৪৫০৩৩২৫৭	
৮	ডাঃ জামিল হোসেন	AFO (CLEVE) Caritas, Kalapara	০১৭১৭৩৩৩৩৬০	
৯	ডাঃ জামিল হোসেন	মেডিক্যাল	০১৭১৩৭৬১৮৬৬	
১০	ডাঃ আহিদা বেগম	ডাঃ মেমোরিওরাল আফিস, কলাপাড়া	০১৭২১০৫৩৪৩৭	
১১	ডাঃ মোহাম্মদ হোসেন	মেডিকেল পাটেল ডিন	০১৭১৫৫২১৩৫ mota_pus@yahoo.com	
১২	ডাঃ আবুল কালাম	ইনস্পেক্টর	০১৭১২৬৭৩৪৩৪	
১৩	ডাঃ হুমায়ুন কবীর	ডাঃ মেমোরিওরাল কোম্পিউটার	০১৭১৭৪৪৬১১৬	
১৪	ডাঃ হুমায়ুন কবীর	UWA	০১৭২০৭৭৭৭৩৭	
১৫	ডাঃ আবুল কালাম	মেডিকেল (মেডিক্যাল) কোম্পিউটার	০১৭১৭৩২৭৭১২	
১৬	ডাঃ আবুল কালাম	ইনস্পেক্টর	০১৭৩২১০৭১১	
১৭	ডাঃ আবুল কালাম	ইনস্পেক্টর	০১৭২৫৭৭৭৭৬৬	

আয়োজনে :



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“প্রস্তাবিত কলাপাড়া ১৩২০ মেঘাওয়াট বিদ্যুৎ কেন্দ্র স্থাপন” উন্নয়ন প্রকল্পের পরিবেশগত ও সামাজিক প্রভাব
নিরূপণ, প্রশমনের উপায় ও ব্যবস্থাপনা বিষয়ক
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স্থান : কলাপাড়া উপজেলা পরিষদ মিলনায়তন, কলাপাড়া
সময় : সকাল ১০:০০

তারিখ: ১৮ আগস্ট, ২০১৬

ক্র.নং	নাম	পদবী/ ঠিকানা	মোবাইল নং	স্বাক্ষর
১৮	এম এম রাবিউল হুসেইন	সাবেক মেয়র	০১৭২৬৩৪৪২৮২	রাবিউল হুসেইন
১৯	মোস্তাফিজ উদ্দিন আমিন	মহাপরিষদ প্রমোদ	০১৭২৫৬০৫৬৪৭	মোস্তাফিজ
২০	ডাঃ হানিউর রহমান	ডায়ালগ স্বাস্থ্যকর্মী	০১২১৬১২২২৬৫	হানিউর রহমান
২১	ডাঃ সুলতান শাহ	স্বাস্থ্য কেন্দ্র	০১৭৫৩১৩২১৭	ডাঃ সুলতান শাহ
২২	ডাঃ মনিরুজ্জামান চৌধুরী	স্বাস্থ্য কেন্দ্র	০১৭৫৭১৫৭৩৪৬	ডাঃ মনিরুজ্জামান
২৬	ডাঃ মনিরুজ্জামান চৌধুরী	স্বাস্থ্য কেন্দ্র	০১২৩৭২৬১২৬১	ডাঃ মনিরুজ্জামান
২৮	ডাঃ মনিরুজ্জামান চৌধুরী	স্বাস্থ্য কেন্দ্র	০১৮২৬২৬২৫৫	ডাঃ মনিরুজ্জামান
২৯	ডাঃ মনিরুজ্জামান চৌধুরী	স্বাস্থ্য কেন্দ্র	০১৭৫৭১৫৭৩৪৬	ডাঃ মনিরুজ্জামান
৩০	ডাঃ মনিরুজ্জামান চৌধুরী	স্বাস্থ্য কেন্দ্র	০১৭৪৪১২২৩৭৫	ডাঃ মনিরুজ্জামান
৩১	ডাঃ মনিরুজ্জামান চৌধুরী	স্বাস্থ্য কেন্দ্র	০১২১০০২১১১৪	ডাঃ মনিরুজ্জামান
৩২	সাব্বী নিজামুজ্জামান	PC P&WK	০১৭১৭৫২২৫৪৩	সাব্বী
৩৩	ডাঃ মনিরুজ্জামান চৌধুরী	AM DAM	০১৭১২৪৬১৩৩৩	ডাঃ মনিরুজ্জামান
৩৪	ডাঃ মনিরুজ্জামান চৌধুরী	UTL CODEC	০১৭১৪৭৪৭৭৫৩	ডাঃ মনিরুজ্জামান
৩৫	ডাঃ মনিরুজ্জামান চৌধুরী	WORLDPEOPLE DANGLEDISEIT	০১৭২৫০২৩৭৪২	ডাঃ মনিরুজ্জামান
৩৬	ডাঃ মনিরুজ্জামান চৌধুরী	UPD স্বাস্থ্য কেন্দ্র	০১২১২৬২৬৫৪০	ডাঃ মনিরুজ্জামান
৩৭	ডাঃ মনিরুজ্জামান চৌধুরী	স্বাস্থ্য কেন্দ্র	০১৭২৫৭৭৪৫৬৩	ডাঃ মনিরুজ্জামান
৩৮	ডাঃ মনিরুজ্জামান চৌধুরী	স্বাস্থ্য কেন্দ্র	০১৩২২৫৪২২৬	ডাঃ মনিরুজ্জামান

আয়োজনে :

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"প্রস্তাবিত কলাপাড়া ১৩২০ মেঘাওয়াট বিদ্যুৎ কেন্দ্র স্থাপন" উন্নয়ন প্রকল্পের পরিবেশগত ও সামাজিক প্রভাব
নিরূপণ, প্রশমনের উপায় ও ব্যবস্থাপনা বিষয়ক
মতবিনিময় সভায় অংশগ্রহনকারীদের তালিকা

স্থান : কলাপাড়া উপজেলা পরিষদ মিলনায়তন, কলাপাড়া

সময় : সকাল ১০:০০

তারিখ: ১৮ আগস্ট, ২০১৬

ক্র.নং	নাম	পদবী/ ঠিকানা	মোবাইল নং	স্বাক্ষর
৩৯	মো: ইকবাল করিম	নির্মাণ শ্রমিক	০১৭৪৪-১১১৩৩৩	ইকবাল
৪০	শ্রীমতী হারুনুজ্জামান বস: সুজেন সিনিয়র	ব্যবসায়িক	০১৩১২-৬০০২৩৩ ০১৭২৭৫৫৫০৭৩	হারুনুজ্জামান
৪১	মো: মোতাজ্জার	অসহযোগী	০১৭০৫৪৬২০৫৬	মো: মোতাজ্জার
৪২	মো: মোতাজ্জার	অসহযোগী	০১৭১৪৪২	মো: মোতাজ্জার
৪৩	শ্রী: এফজাম হুসেইন	অসহযোগী	০১৭২২৩৫৫৫৪	এফজাম হুসেইন
৪৪	শ্রী: মাহমুদ	হাও	০১৭	মাহমুদ
৪৫	মো: মোহাম্মদ	হাও	০১৭৩৭৫৫৫২৩	Mohammed
৪৬	মো: মোহাম্মদ	হাও	০১৭৪৬৬৬৬৬৬	Mohammed
৪৭	মো: মোহাম্মদ	হাও	০১৭০৬০৬০৬৩	Mohammed
৪৮	মো: মোহাম্মদ	হাও		Mohammed
৪৯	মো: মোহাম্মদ	হাও	০১৭৬৩১৪১২	Mohammed
৫০	মো: মোহাম্মদ	হাও	০১৭৩৩৩৩৩৩৩	Mohammed
৫১	মো: মোহাম্মদ	হাও	০১২১০৪৫৫১৩৩	Mohammed
৫২	মো: মোহাম্মদ	হাও		Mohammed
৫৩	মো: মোহাম্মদ	হাও	০১৩৬১৭০৩৫৩১	Mohammed
৫৪	মো: মোহাম্মদ	হাও	০১৬৭৩৩৪৫৪৬	Mohammed

আয়োজনে :



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“প্রস্তাবিত কলাপাড়া ১৩২০ মেঘাওয়াট বিদ্যুৎ কেন্দ্র স্থাপন” উন্নয়ন প্রকল্পের পরিবেশগত ও সামাজিক প্রভাব
নিরূপণ, প্রশমনের উপায় ও ব্যবস্থাপনা বিষয়ক
মতবিনিময় সভায় অংশগ্রহনকারীদের তালিকা

স্থান : কলাপাড়া উপজেলা পরিষদ মিলনায়তন, কলাপাড়া
সময় : সকাল ১০:০০

তারিখ: ১৮ আগষ্ট, ২০১৬

ক্র.নং	নাম	পদবী/ ঠিকানা	মোবাইল নং	স্বাক্ষর
৫৫	শ্রীমতী স্ত্রী দায়	স্বাম্যার্থী	০১৭৫৫৭৭৬৬৬৫	
৫৬	শ্রী: সান্নাথ চন্দ্র	৫	০১৭৬১০২২৭০	
৫৭	শ্রী: বাসুদেব	চাকরি	০১৭৫১০২২৭৭	
৫৮	শ্রী: জয়দেব	চাকরি	০১৭৫৭০২৫৫৫	
৫৯	শ্রী: মাসুদ হোসেন	স্বামী	০১৭৫০৭৭০৭০	
৬০	শ্রী: মাসুদ হোসেন	স্বামী	০১৭৫৬৭২১০৭	
৬১	শ্রী: মাসুদ হোসেন	স্বামী	০১৭৫৪৪০৫৫১	
৬২	শ্রী: মাসুদ হোসেন	স্বামী	০১৭৫৪৪০৫৫১	
৬৩	শ্রী: মাসুদ হোসেন	স্বামী	০১৭২২৪১৫০৭৪	
৬৪	শ্রী: মাসুদ হোসেন	স্বামী	০১৭২৬০৬৬৬৬৬	
৬৫	শ্রী: মাসুদ হোসেন	স্বামী	০১৭১৫৪২২৪২	
৬৬	শ্রী: মাসুদ হোসেন	স্বামী	০১৭৬২৫৪৬৬৬৬	
৬৭	শ্রী: মাসুদ হোসেন	স্বামী	০১৭১৩৩৫০০২১	
৬৮				
৬৯				
৭০				
৭১				

আয়োজনে :



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Table A2.1: Detail calculation of MPI

HH no/ ID ⁷	Indicators								Weighted score	Status	Factor =H	Factor =A	MPI= H*A
	Health	Education		Living standard									
	Child Mortality	Years of school	Children enrolled	Cooking fuel	Sanitation	Water	Electricity	Housing					
weight ⁸	0.33	0.17	0.17	0.07	0.07	0.07	0.07	0.07					
1	0	0	0	0	0	0	0	0	0.00	Not MPI Poor	0.61	0.47	0.29
2	0	0	0	0	0	0	0	0	0.00	Not MPI Poor			
3	0	0	0	0	0	0	0	0	0.00	Not MPI Poor			
4	0	0	0	0	0	0	0	0	0.00	Not MPI Poor			
5	0	0	0	0	0	0	0	1	0.06	Not MPI Poor			
6	0	0	0	0	0	0	0	1	0.06	Not MPI Poor			
7	0	0	0	0	0	0	0	1	0.06	Not MPI Poor			
8	0	0	0	0	0	0	0	1	0.06	Not MPI Poor			
9	0	0	0	0	0	0	0	1	0.06	Not MPI Poor			
10	0	0	0	1	0	0	0	1	0.11	Not MPI Poor			
11	0	0	0	1	0	0	0	1	0.11	Not MPI Poor			
12	0	0	0	1	0	0	0	1	0.11	Not MPI Poor			
13	0	0	0	1	0	0	0	1	0.11	Not MPI Poor			
14	0	0	0	1	0	0	0	1	0.11	Not MPI Poor			
15	0	0	0	1	0	0	0	1	0.11	Not MPI Poor			
16	0	0	0	1	0	0	0	1	0.11	Not MPI Poor			
17	0	0	0	1	0	0	0	1	0.11	Not MPI Poor			
18	0	0	0	1	0	0	0	1	0.11	Not MPI Poor			
19	0	0	0	1	0	0	0	1	0.11	Not MPI Poor			
20	0	0	0	1	0	0	0	1	0.11	Not MPI Poor			
21	0	0	0	1	0	0	0	1	0.11	Not MPI Poor			
22	0	0	0	1	0	0	0	1	0.11	Not MPI Poor			
23	0	0	0	1	0	0	0	1	0.11	Not MPI Poor			
24	0	0	0	1	0	0	0	1	0.11	Not MPI Poor			
25	0	0	0	1	0	0	0	1	0.11	Not MPI Poor			
26	0	0	0	1	0	0	0	1	0.11	Not MPI Poor			

⁷ Total households/populations are considered 100⁸ Here weight is presented at maximum value 1

HH no/ ID ⁷	Indicators								Weighted score	Status	Factor =H	Factor =A	MPI= H*A
	Health	Education		Living standard									
	Child Mortality	Years of school	Children enrolled	Cooking fuel	Sanitation	Water	Electricity	Housing					
weight ⁸	0.33	0.17	0.17	0.07	0.07	0.07	0.07	0.07					
27	0	0	0	1	0	0	0	1	0.11	Not MPI Poor			
28	0	0	0	1	0	0	0	1	0.11	Not MPI Poor			
29	0	0	0	1	0	0	0	1	0.11	Not MPI Poor			
30	0	0	0	1	0	0	1	1	0.17	Not MPI Poor			
31	0	0	0	1	0	0	1	1	0.17	Not MPI Poor			
32	0	0	0	1	0	0	1	1	0.17	Not MPI Poor			
33	0	0	0	1	1	0	1	1	0.23	Not MPI Poor			
34	0	0	0	1	1	0	1	1	0.23	Not MPI Poor			
35	0	0	0	1	1	0	1	1	0.23	Not MPI Poor			
36	0	0	0	1	1	0	1	1	0.23	Not MPI Poor			
37	0	0	0	1	1	0	1	1	0.23	Not MPI Poor			
38	0	0	0	1	1	0	1	1	0.23	Not MPI Poor			
39	0	0	0	1	1	0	1	1	0.23	Not MPI Poor			
40	0	1	0	1	1	0	1	1	0.39	MPI Poor			
41	0	1	0	1	1	0	1	1	0.39	MPI Poor			
42	0	1	0	1	1	0	1	1	0.39	MPI Poor			
43	0	1	0	1	1	0	1	1	0.39	MPI Poor			
44	0	1	0	1	1	0	1	1	0.39	MPI Poor			
45	0	1	0	1	1	0	1	1	0.39	MPI Poor			
46	0	1	0	1	1	0	1	1	0.39	MPI Poor			
47	0	1	0	1	1	0	1	1	0.39	MPI Poor			
48	0	1	0	1	1	0	1	1	0.39	MPI Poor			
49	0	1	0	1	1	0	1	1	0.39	MPI Poor			
50	0	1	0	1	1	0	1	1	0.39	MPI Poor			
51	0	1	0	1	1	0	1	1	0.39	MPI Poor			
52	0	1	0	1	1	0	1	1	0.39	MPI Poor			
53	0	1	0	1	1	0	1	1	0.39	MPI Poor			
54	0	1	0	1	1	0	1	1	0.39	MPI Poor			
55	0	1	0	1	1	0	1	1	0.39	MPI Poor			
56	0	1	0	1	1	0	1	1	0.39	MPI Poor			
57	0	1	0	1	1	0	1	1	0.39	MPI Poor			

HH no/ ID ⁷	Indicators								Weighted score	Status	Factor =H	Factor =A	MPI= H*A
	Health	Education		Living standard									
	Child Mortality	Years of school	Children enrolled	Cooking fuel	Sanitation	Water	Electricity	Housing					
weight ⁸	0.33	0.17	0.17	0.07	0.07	0.07	0.07	0.07					
58	0	1	0	1	1	0	1	1	0.39	MPI Poor			
59	0	1	0	1	1	0	1	1	0.39	MPI Poor			
60	0	1	0	1	1	0	1	1	0.39	MPI Poor			
61	0	1	1	1	1	0	1	1	0.56	MPI Poor			
62	0	1	1	1	1	0	1	1	0.56	MPI Poor			
63	0	1	1	1	1	0	1	1	0.56	MPI Poor			
64	0	1	1	1	1	0	1	1	0.56	MPI Poor			
65	0	1	1	1	1	0	1	1	0.56	MPI Poor			
66	0	1	1	1	1	0	1	1	0.56	MPI Poor			
67	0	1	1	1	1	0	1	1	0.56	MPI Poor			
68	0	1	1	1	1	0	1	1	0.56	MPI Poor			
69	0	1	1	1	1	0	1	1	0.56	MPI Poor			
70	0	1	1	1	1	0	1	1	0.56	MPI Poor			
71	0	1	1	1	1	0	1	1	0.56	MPI Poor			
72	0	1	1	1	1	0	1	1	0.56	MPI Poor			
73	0	1	1	1	1	0	1	1	0.56	MPI Poor			
74	0	1	1	1	1	0	1	1	0.56	MPI Poor			
75	0	1	1	1	1	0	1	1	0.56	MPI Poor			
76	0	1	1	1	1	0	1	1	0.56	MPI Poor			
77	0	1	1	1	1	0	1	1	0.56	MPI Poor			
78	0	1	1	1	1	0	1	1	0.56	MPI Poor			
79	0	1	1	1	1	0	1	1	0.56	MPI Poor			
80	0	1	1	1	1	0	1	1	0.56	MPI Poor			
81	0	1	1	1	1	1	1	1	0.62	MPI Poor			
82	0	1	1	1	1	1	1	1	0.62	MPI Poor			
83	0	1	1	1	1	1	1	1	0.62	MPI Poor			
84	0	1	1	1	1	1	1	1	0.62	MPI Poor			
85	0	1	1	1	1	1	1	1	0.62	MPI Poor			
86	0	1	1	1	1	1	1	1	0.62	MPI Poor			
87	0	1	1	1	1	1	1	1	0.62	MPI Poor			
88	0	1	1	1	1	1	1	1	0.62	MPI Poor			

HH no/ ID ⁷	Indicators								Weighted score	Status	Factor =H	Factor =A	MPI= H*A
	Health	Education		Living standard									
	Child Mortality	Years of school	Children enrolled	Cooking fuel	Sanitation	Water	Electricity	Housing					
weight ⁸	0.33	0.17	0.17	0.07	0.07	0.07	0.07	0.07					
89	0	1	1	1	1	1	1	1	0.62	MPI Poor			
90	0	1	1	1	1	1	1	1	0.62	MPI Poor			
91	0	1	1	1	1	1	1	1	0.62	MPI Poor			
92	0	1	1	1	1	1	1	1	0.62	MPI Poor			
93	0	1	1	1	1	1	1	1	0.62	MPI Poor			
94	0	1	1	1	1	1	1	1	0.62	MPI Poor			
95	0	1	1	1	1	1	1	1	0.62	MPI Poor			
96	0	1	1	1	1	1	1	1	0.62	MPI Poor			
97	0	1	1	1	1	1	1	1	0.62	MPI Poor			
98	0	1	1	1	1	1	1	1	0.62	MPI Poor			
99	1	1	1	1	1	1	1	1	0.95	MPI Poor			
100	1	1	1	1	1	1	1	1	0.95	MPI Poor			