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Abbreviations

A.E.E.	Assistant Executive Engineer
BPL	Below Poverty Line
CD	Community Development
CE	Chief Engineer
CSR	Corporate Social Responsibility
EADD	Environmental Audit and Due Diligence
ESPP	Environment and Social Policy and Procedures
FGDs	Focus Group Discussions
GOI	Government of India
HPGCL	Haryana Power Generation Corporation Limited
HSEB	Haryana State Electricity Board
M&E	Monitoring and Evaluation
NGO	Non-Governmental Organization
OP 4.12	Operational Policy 4.12 on Involuntary Resettlement (The World Bank)
PHC	Primary Health Centre
PTPS	Panipat Thermal Power Station
RSA	Rapid Social Assessment
R&M	Renovation and Modernization
RTI	Right to Information Act, 2005
SE	Superintending Engineer
SIA	Social Impact Assessment
TORs	Terms of Reference
VDAC	Village Development Advisory Committee
WB	World Bank
WHH	Women headed household
XEN	Executive Engineer

EXECUTIVE SUMMARY

Introduction: The Renovation and Modernization (R&M) Scheme of the Ministry of Power, Government India aims to improve the energy efficiency, upgrade capacity and residual life of existing thermal power stations. Panipat Thermal Power station is one among the number of pilot projects, that have been identified in the three project states i.e. Haryana, Maharashtra and West Bengal and are covered under the World Bank funded Coal Fired Power Rehabilitation Project. The Panipat Thermal Power Station (PTPS) under Haryana Power Generation Corporation Limited is a bunching of eight individual units with total installed capacity of 1367.8 MW is located in Madlauda block, near *Khukrana* village. It is about 8 km west of Panipat city on Panipat-Jind Road (about 8 km from Panipat town and 100 km from New Delhi) in state of Haryana. The PTPS complex comprises the power plant, colony for staff, ash dykes, area identified for greenbelt and is spread across 2436 acres of land taken from the neighbouring villages.

Scope of the assignment: The objectives of the assignment are to: a) carry out socio-economic and cultural analysis to identify potential impacts of the Thermal Power Plant on the immediate habitations; b) identify stakeholders and screen social development issues; and c) ensure that the results of the (SIA) Social Impact Assessment provides inputs and enables formulation of indicators for monitoring and evaluation of the project outcomes at the completion.

Approach to Task: The field activities commenced with initial socio-economic survey on a sample size of 753 households. A mix of data collection tools – key informant interviews, socio-economic survey, community consultations and FGDs with vulnerable groups were deployed. A final round of discussions was held with PTPS officials after the survey and consultations, to discuss findings of the survey and the proposed mitigation measures.

Social Impact Assessment: As per information provided, R&M shall purely involve only technological change and shall be carried out within the premises of the thermal power plant. It implies that there shall be no requirement for additional land or impact on the land outside. All the land owned by (PTPS) and particularly those lands relating to units 3 & 4 are free from any encroachment.

Legal status: Acquisition of land for the thermal plant and its associated facilities had commenced in the year 1973-74. Over a period of thirty years PTPS has acquired more than 2436 acres of land from the six villages in the vicinity namely – *Assan Khurd, Assan Kalan, Jatal, Sutana, Khukrana and Untla*. Haryana State Electricity Board[1] had followed a policy of providing employment to the households from whom lands had been acquired. It had provided employment to 20 persons and subsequently to another 56 persons. Since 1995, no additional entitlement is provided over and above compensation. At present there are no squatters or encroachers on the land owned by the PTPS with respect to units 3 & 4.

Socio-economic profile: Hindus constitute 97.95% of surveyed household population, while Muslims constitute only 1.81% of the total population. In terms of social stratification of surveyed population, 43.12% of the total surveyed population belong to General category, while 33.32% belong to SC category followed by 23.23% who are categorized as OBC. 62.19% of the total households are nuclear households while Joint households constitute 8.96% of the total households. Extended families are 28.86% of the total surveyed households. In terms of educational attainment 74.59% of the surveyed population is literate, while 25.41% are recorded as illiterate. 20.66% of the total surveyed population is educated upto graduate level with another 3.77% being technically qualified. *Jatal* (29.02%) and *Sutana* (26.40%) have the highest

[1] Initial interactions with the PTPS officials were held after a thorough review of available literature. The primary data collection on the socio-economic profile was conducted on a sample size of 753 households.

percentage of graduates. In terms of employment status, only 35.49% of the respondent households stated to be employed, while the remaining 64.52% of the surveyed households reported to be unemployed. Of the total working population, Agriculture and agriculture labour constitute 45.79% of total working population, followed by non-agriculture labour at 28.35%. Government service constitutes 7.67% of the working population. While the district and the area have developed due to many other infrastructure facilities, business/trade was reported by only 6.27% of the surveyed population. As per the survey, 51.10% indicated that their incomes were less than Rs. 3000 per month, while 15.88% of the households have an income of more than Rs. 5000 per month and 8.44% of the households stated their income to be more than Rs. 7000 per month. Most villages stated that poor monsoons in the last year were the main reason for low income. With respect to health status, 61.53% of the surveyed households reported no illness, while 36.12% stated to be chronically ill. In particular, 52.31% of the households in *Khukrana* village reported chronic illness.

Impacts reported: Survey and consultations were carried out to record the positive and adverse direct impacts on land and livelihood (if any), the indirect impacts on land, water, air and health due to air and water pollution experienced by surveyed population. In terms of positive impacts, the following were recorded:

- The thermal waste water that emanates from the plant irrigates agriculture land in the villages of Untla, Sutana and Osri.

- About 75 persons of a nearby village are employed with PTPS. Also about 250 numbers of unskilled workers of the nearby villages are working with various contractors of the Thermal power station. Some of them also belong to the households that were affected by land acquisition that took place in the early 1970s and 1980s when the policy for providing employment against land taken was prevalent.

The proposed R&M works are not causing any direct impact on land or livelihood. However, indirect impacts are being perceived by persons living in the surrounding villages and were reported during survey. During the survey, perceptions were obtained on the quality, availability and access to drinking water. Overall 91.32% of the households indicated that their source of drinking water is the hand-pump located either within their house or just outside. Only 22.18% of the households reported normal color in the water used. In *Sutana, Jatal* and *Assan Kalan,* villages a few households informed that they use some water purification measures such as reverse osmosis machine and other purification measures. Only 22.18% of the households reported the color of water to be normal. 85.79% of the surveyed households reported the drinking water to be salty in taste, while only 12.35% reported the taste to be normal or good. The *Madluada* block area, where the PTPS and the surrounding villages are located is known to have poor ground water. The Central Ground Water Board, Ministry of Water Resources, Government of India in the year 2007 reported the following:

- shallow ground water of the district is alkaline and is of low to medium salinity.
- Marginal quality water is found in the south western parts of the district of *Madlauda* and *Israna* blocks. High fluoride is found in large parts of the district more than 60%.
- High nitrate concentration is found in patches of Madluada block.
- High concentration of heavy metals like copper and iron have been found.

66.96% of surveyed households attributed the deterioration of water quality to residue from the power plant. Further, 11.40% of the surveyed population observed that while earlier (before setting up of cement plant), the power plant was mainly responsible for deterioration caused, however for the last five years, a mixture of residue emanating from both the power plant and cement plant residue has been responsible for the deterioration. 50% of households in *Khukrana* reported the reasons to be both cement and the power

plant, while the rest stated seepage from the power plant's ash dykes as the cause. 54.83% of the households consulted doctors specifically for stomach ailment and fever.

The number of visits to doctors or to other medical facilities as reported by households varied for surveyed villages. 43.21% of the households in *Assan Kalan* village and, 43.33% of households in *Khukrana* village of the households villages reported 3-4 visits a month. Overall a high percentage – 65.60% of households reported more than 4 visits per month to the doctor for treatment. With respect to reasons for such ailments, villagers in *Khukrana* attributed Aasthma due to the fly-ash and coal dust problem and to a lesser degree to the ash spilled from the trucks plying in the adjacent road. Besides they stated that as no sprinklers operate the trucks from the Jaypee cement plant also cause pollution and health problems. *Khukrana* villagers have also perceived the drinking water to the high level of pollution caused by seepage from the ash dykes adjacent to the village.

Stakeholder Consultations: Consultations were held – with three important stakeholders, PTPS officials, Panchayat members and community members and with the vulnerable groups. Fly-ash deposits were reported and observed on the structures of *Khukrana,* while Coal dust emanating from the coal handling plant were observed on structures in *Assan Kalan* and *Assan Khurd* villages. Communities in *Khukrana* village reported impacts on water in particular. Water from hand pumps was equally unfit for drinking. Some of the key issues reported were: i) eye irritation due to coal dust from the coal handling plant; ii) structures turn dark with constant exposure to coal dust from the coal handling plant; iii) clothes that are hung out to dry darken; iv) respiratory problems are experienced by many; v) cattle refuse to eat the darkened fodder resulting in decline in milk production.

6 FGDs were held with women that included 75 women. Most women were concerned about the impacts on fly ash and coal dust on their homes, on health such as eye irritation, breathing problems and water contamination. Women in BPL households stated that water is saline and there are many cases of TB. Respiratory disorders were reported to be prevalent in most persons and young women at the age of 25-35 develop such disorders at an early age. A common complaint was that because of poor quality of water, children's teeth turn yellow soon and they complain of body ache at the young age. Besides, they requested for more employment opportunities to improve their economic situation.

Discussions with officials, perusal of documents relating to court cases and interactions with communities provided information on the nature, type, and time period of the different litigation that have taken place in the past some of are currently ongoing too. Most cases are for enhancement of compensation, while a few relate to impacts caused on land due to water logging, provision of un-interrupted power supply (*Untla*) and pollution caused to water and air leading to impacts on health (*Khukrana*); acquisition of land due to damage caused by water logging. There were a total of 80 cases that related to enhancements to compensation amounts on acquisitions that took place in 2003-04 for units 7 & 8. Of these 80 cases, 40 cases stand resolved, while the remaining cases are still pending and yet to be resolved. However, none of these cases are related to lands and /or impact caused under and by units 3 & 4 for which R&M is proposed.

Applicability of legal and regulatory framework: A review of the legal and regulatory framework was made to assess applicability of policies and acts included: i) Land acquisition Act, 1894 (amended in 1984), ii) National Policy on Rehabilitation and Resettlement (NRRP), 2007; iii) Government of Haryana's policy for Rehabilitation and Resettlement of Land owners – Land Acquisition oustees, 2007 and iv) World Bank's Operational policy 4.12 on Involuntary Resettlement. None of these are applicable as no land will be acquired for the proposed project.

Summary of the perceived impacts and the mitigation measures already administered by PTPS: Table below summarizes the perceived impacts and monitoring mechanisms operational currently.

Table 1 – Mitigation measures and monitoring by type of perceived impact			
Area (villages) affected	**Indicator/type of impact perceived**	**Mitigation measures**	**Monitoring (by whom)**
Khukrana, Assan Kalan, Assan Khurd, Untla, Jatal and Sutana	Land acquired in the past	Compensation paid in all cases, enhancements due for cases from 2003-04 for lands acquired for units 7 & 8	NA
Khukrana	Impacts on structures due to water logging caused by seepage from ash dykes	4 numbers deep tube-wells of 50 HP motor with discharge of 50 litre per second and 2 nos. shallow tube-wells with 3 HP motor and discharge of 10 litre per second for evacuation of ground water from village *Khukrana* with a view to lower the water table Several mitigation measures were taken such as providing garland drain around the ash dykes which are connected to drain of irrigation department, providing ash water recovery system for optimum use of discharged water.	PTPS
Khukrana, Assan Kalan and Assan Khurd	Impact on structures due to coal dust and fly-ash	No mitigation measure is operational at present	NA
Khukrana, Assan Kalan, Assan Khurd, Untla, Jatal and Sutana	Air pollution by coal dust in Assan Kalan and Assan Khurd Jatal, Sutana and Untla experience impacts on air due to fly-ash. Khukrana experiences pollution due to both – fly ash and coal dust	No mitigation measure is operational at present	NA
Khukrana	Impact is felt on drinking water in Khukrana due to seepage from ash dykes	4 numbers deep tube-wells of 50 HP motor with discharge of 50 litre per second and 2 nos. shallow tube-wells with 3 HP motor and discharge of 10 litre per second for evacuation of ground water from village *Khukrana* with a view to lower the water table Several mitigation measures were taken such as providing garland drain around the ash dykes which are connected to drain of irrigation department, providing ash water recovery system for optimum use of discharged water.	PTPS
Khukrana	Ponds for bathing of cattle are impacted due to fly ash from ash dyke	No mitigation measure is operational at present	NA
			NA- Not applicable

Mitigation measures proposed: Mitigation measures that would be required shall be a mix of technological, environmental and social measures While technological measures would imply improvement to the coal handling plant and other improvements at the plant level, environment and social measures include:

- For health impacts, a health survey should be carried out to assess the number of cases in village. Medical check up camps should be organized and free medicines should be distributed and these should be monitored should be carried out regularly. Following operationalization of these measures monitoring of health impacts should be carried out every three months.
- Monitoring of ambient water quality and air quality in the surrounding six villages on a quarterly basis.
- Other environmental measures that need to be attended to in conjunction with social measures would include: provide eucalyptus trees near the ash dyke with regular maintenance by the PTPS

employees; provide a sprinkler system for dust suppression; and undertake plantation of trees and provide sprinklers near the dry fly ash silos and also cover these silos with asbestos sheet at the top.

These above measures shall be in addition to measures already operational and should be taken up in consultations with, and involvement of, local communities.

Implementation mechanism: In order to effectively implement the above mitigation measures, an effective setup and support from the management level is required. It is proposed that an environment and social cell be constituted under the chairmanship of the SE Civil. It should also comprise S.E. – R&M and S.E. Monitoring and Training and other XENs from these departments. It shall be responsible for planning, implementation and monitoring of these activities – mitigation measures for direct impacts and other community welfare measures.

B. Communication needs assessment and communication strategy: Stakeholder consultations at all levels helped to assess the communication needs. These included: i) appropriate information to be given; PTPS to reach out to communities to understand their needs and concerns; communicate to villages of the actions taken /being taken on a regular basis; communicate policy matters to concerned persons and overall community; provide orientation and create awareness on health aspects and measures; provide or facilitate solutions by taking a proactive role in providing solutions when other departments are to be involved in any mitigation measure and finally communicate benefits.

In order to transform the negative perceptions of PTPS within the surrounding community, a communication strategy has been prepared and it shall have the following objectives:

- to create a shared understanding of the objectives of current project i.e. R&M of the Units 3 & 4;
- to enable better access to information relating to activities of PTPS that have a direct or indirect bearing on the communities living in the vicinity;
- to create a sense of appreciation of the efforts by PTPS to address and alleviate the impacts caused leading to air and water pollution;
- to educate, empower and build capacity amongst village communities to participate in planning and implementation of community welfare measures undertaken by PTPS under the CSR-CD policy;
- to sensitize the staff involved in the project as well as other relevant officials of the need to regularize interactions with village communities to allay apprehensions and correct mis-conceptions;
- to orient the vulnerable groups and women to participate in the community welfare measures and benefit from it.

Therefore key activities suggested are, namely, formation of an environment and social cell, organize village level meetings to increase interaction help build rapport and facilitate activities under the project as well as the overall CSR. Implementation of these activities could also be undertaken by PTPS through the Environment and Social Cell.

C. Evaluation of the CSR-CD policy: CSR-CD policy states that HPGCL as a responsible corporate citizen has been addressing the issue of community development in the neighbourhood areas of its power stations. This is administered primarily as part of the resettlement and rehabilitation effort. The following observations are made with respect to the CSR policy

- para 3.0 of CSR-CD policy ""This part of policy addresses the issue of "Community Development" in the neighborhood area of generating stations as per the Environment and Social Policy & Procedures (ESPP) of HPGCL." Officials at HPGCL, Panchkula indicated that based on interactions with indicated that no separate ESPP document has been prepared.

- It does not contain provisions that can help PTPS (and also HPGCL) to address the gaps that exist between environment concerns and impacts reported and the mitigation measures that are required.

Under the scope of work, a review of the CSR-CDP was carried out based on discussions with officials relating to the community welfare measures already extended by PTPS. Of the above activities, some activities such as the measures to arrest seepage of water, assistance in overcoming water-logging problems are measures to address the direct impacts of the thermal power plant, while provision of health check up camps and education facilities qualify as community welfare measures. At present, there is no planned selection of activities or involvement of communities or specific groups such as women in planning and selection. Current practice of allocation of funds is based on the need expressed and assessed for an activity, following which a proposal is made and internally discussed before implementation.

At present, there is no special allocation of staff who are involved in such activities. There is no formal system of reporting, monitoring and evaluation of the implemented activities. Impact and reach of the type of facilities is limited. PTPS in June 2009 constituted a committee that comprises S.E. Civil, PTPS; XEN/CMD (Colony); Medical officer; XEN/GS; AEE/RW, PTPS, Panipat. It shall need support from the Environment and Social cell from the key staff of all concerned departments at PTPS.

Based on the survey and in discussions with PTPS a few community welfare measures are listed below:

- Organize computer literacy courses for the youths by having a tie up with a suitable agency
- Provide ceiling fans for Community centre in the six villages
- Provide wheel-chair rickshaws to the Physically handicapped to enhance their mobility
- Provide blankets to BPL families during winter months
- Institute scholarships for three girls per village to encourage education amongst female children
- Organize eye check up camps for school children, old age and women and particularly for health/ family planning check up camps for ladies of BPL families
- Provide dustbins to the villages and organize an awareness campaign on maintenance of hygiene and institute an award to be given to the most clean village;
- Spraying of chemicals for elimination of mosquitoes with the help of health department;
- Nurseries can be developed by communities wherein variety of plants can be grown as required in the area. From a social perspective, it shall provide supplemental income to those involved in such activities; and
- Organize a rural sports meet amongst six villages and also teams from staff members of PTPS and institute an award

Other recommended measures include:

- Communication on provisions of the CSR to the surrounding villages, following which carry out a needs assessment and follow procedures to prepare a annual plan as laid down in the policy;

- Organizing a half day orientation programme for staff of HPGCL that orients the staff on the potential of the CSR-CDP policy, the benefits of good relations with the surrounding society and environment, limits and the routine mistakes in implementing the CSR, processes and benefits involved.

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Introduction and Methodology

Context

The Indian power sector is characterized by power shortages and low levels of electricity access. India has a total of 77,200 MW of coal fired capacity (53% of total installed capacity), of which more than half is owned by the state government and the balance by the central power sector utilities – National Thermal Power Corporation, Damodar Valley Corporation and private sector generating companies. Government of India (GOI) is now trying to address some of the barriers with respect to rehabilitation of coal fired generation. GOI's national electricity policy states that renovation and modernization for achieving higher efficiency levels need to be pursued vigorously and all existing generation capacity should be brought to acceptable performance standards of efficiency, reliability and environmental performance.

Proposed Project

In light of the large and growing pool of plants requiring renovation and modernization, Government has reintroduced the Renovation and Modernization (R&M) scheme under which it aims to improve the energy efficiency, upgrade capacity and residual life of existing thermal power stations. It has sought financial assistance from the World Bank/GEF and KFW to identify and address these barriers to energy efficient renovation and modernization (EE R&M) of India's old coal fired power stations including through the implementation of selected pilot investments under the World Bank (WB) funded Coal Fired Power Rehabilitation Project. The selection of states for pilot interventions has been done in discussion with the Ministry of Power, based on the scale of R&M requirement in the state as identified by Central Electricity Authority (CEA) and these are states of Maharashtra, West Bengal and Haryana. Five thermal plants – three (3) in Maharashtra, one (1) each in West Bengal and Haryana are covered by this WB project. Panipat Thermal Power station is among the pilot sub-projects and is one of three thermal power generation stations owned by Haryana Power Generation Corporation Limited (HPGCL) in the state of Haryana.

Tau Devi Thermal Thermal Plant or PTPS as it is known locally is located in the *Madlauda* block that has an area of 391 Sq.Kms and comprises 36 villages. It is about 8 km west of Panipat city on Panipat-Assandh Road (about 100 km from New Delhi) in the state of Haryana. The PTPS has a bunching of eight individual units with total installed capacity of 1367.8 MW. The capacity and date of commissioning of each unit is given in the **Box 1.** The PTPS complex comprises the power plant area, colony for staff, ash dykes and area for greenbelt and is spread across more than 2436 acres of land acquired from the neighbouring villages.

Box 1 – Details of PTPS

Stage	Unit No	Capacity (in MW)	Date of commissioning	Date of Commercial operation
I	1	110	01.11.1979	01.11.1979
	2	110	27.03.1980	27.03.1980
II	3	110	01.11.1985	01.11.1985
	4	210	11.01.1987	11.01.1987
III	5	210	28.03.1989	16.10.1990
IV	6	210	31.03.2001	20.09.2001
V	7	250	28.09.2004	29.12.2004
	8	250	28.01.2005	08.04.2005

Source: PTPS, 2010

Objectives and scope of the assignment

Past experience indicates that industrial processes invariably carry with them a potential risk to human health, and to the surrounding environment. While industries such as PTPS bring direct or indirect economic opportunities and development, they also are responsible for certain direct and indirect adverse impacts on the population living in the vicinity such as pollution of air, water, crop loss due to fly-ash etc. Taking cognizance of the same, at planning stage of this R&M project, it has been felt necessary to identify social issues that are likely to be associated with such Renovation and Modernization schemes vide a socio-economic and cultural analysis and suggest commensurate remedial measures. Therefore specific objectives of the assignment are to:

a) carry out socio-economic and cultural analysis to identify potential impacts of the Thermal Power Plant on the immediate habitations;
b) identify stakeholders and screen social development issues; and
c) ensure that the result of the SA provides inputs and enables formulation of indicators for monitoring and evaluation of the project outcomes at the completion.

Scope of Work: The specific scope of work involved:

i) to document adverse impacts on the power stations' operations on agricultural fields on or residential areas, if any;
ii) to identify any encroachment/squatting on the power station's land which will be required for the proposed project interventions;
iii) to identify any additional requirement of land based on the actual proposed interventions,
iv) to explore the prevailing attitudes/perceptions of the local communities in the vicinity of the PTPS with a view to identifying communication gaps and misconceptions that need to be addressed and to identify communication messages and channels to do so;
v) to review the CSR policy prepared by HPGCL and modify if required based on findings of the impact assessment study;
vi) to assess the perception of the local communities with regard to project's social responsibility.

Methodology of the study

Broadly, the study has three components – assessment of baseline status of the affected population; review of the Corporate Social Responsibility policy for its adequacy; and formulation of the communication strategy based on an assessment of the communication needs. The study was carried out in three phases – familiarization and grounding; field work i.e. socio economic survey and conducting of consultations; data compilation, and report compilation.

Phase I: Initial activities at the preparation stage included meetings with project officials and relevant World Bank officials to understand:

i) the expectations from the study;
ii) identify sources of and collect relevant literature;
iii) request for assistance and cooperation of relevant agencies and other stakeholders, as necessary;
iv) finalize a sample size and the criteria for selection of the sample
v) carry out a review of all relevant literature such as (see **Annexure A** for list of documents referred and reviewed)
vi) prepare tools for field survey i.e. socio-economic survey questionnaire, consultation / FGD guidelines. A separate checklist for interactions with senior officials was prepared too (See **Annexure** E for questionnaires and formats used). Besides the socio-economic details the questionnaire covered issues relating to past acquisition of land; and other community welfare measures provided by PTPS thus far.

Phase II: A mix of data collection techniques was deployed to gather information. These included: key informant interviews, socio-economic survey at the household level, community consultations and focus group discussions with vulnerable groups. The field activities[2] were started on January 21, 2010 with an initial round of consultations. The purpose of the initial round of consultations was to:

i) to gain a broad understanding of each village and to inform the village communities of the proposed survey;
ii) identify the potential households that could be surveyed, gauge their willingness to be surveyed, and if so, check on their availability;

[2] Efforts to synchronize the field activities particularly consultations with Messrs. Anzen, Bangalore (agency responsible for Environmental Audit and Due Diligence of Units 3 & 4 of PTPS) did not fructify as the firm's visit to Panipat got postponed

iii) collect details of the court cases from villages so that such households could also be covered;
iv) identify all stakeholders those should be consulted during the study such as medical practitioners living and operating in the village;
v) identify the existing communication channels between project authority and affected households for further examination;.
vi) To get an overview of perceptions regarding the community level measures currently administered by the PTPS.

The total number of households in the six villages in the vicinity of the PTPS was treated as the universe. 25% of the households from each village were drawn for the survey sample. Stratified random sampling method was used. Based on economic criteria, the population was divided into three categories of large/medium farmers (wealthy households), medium (middle income households) and BPL households. From these three strata households were identified in random to be covered under the study. As during the initial round of interactions with PTPS officials, the consultant team learnt that impacts of fly-ash were observed on one more village i.e. *Jatal* village, the village too was included in the survey. Hence the total sample size was revised from the originally proposed **610 to 753** households. Details on village size and sample taken are given in **Table 2**

Table 2 – Details on villages adjoining Panipat Thermal Power Station

S. No.	Name of villages	Household size	Total population	Approx. No. of Households	Sample per village
1	*Assan Khurd*	6	1200	197	49
2	*Assan Kalan*	6	4000	662	162
3	*Untiliya*	6	2500	405	121
4	*Khukhrana*	6	2200	340	90
5	*Sutana*	6	7000	910	225
6	*Jatal*	6	4000	460	106
	Total		**20900**	**2974**	**753**

Source: Census of India, 2001 and Site visit, 2009

Socio-economic survey was carried out in these villages between January 23, 2010 and February 3, 2010. At *Khukrana* village, the survey team encountered difficulties from the villagers as some households were not keen on participating. They expressed their view that too many surveys had been carried out in the past but no action has been taken till now. At this juncture the purpose of the survey was explained once again in presence of PTPS officials. Subsequently, these reluctant households too cooperated with the survey team and helped to complete the survey.

Following the survey, the *Sarpanchs and/or Panchayat* members of all the six villages were given prior intimation regarding date and time of the consultation and informed of its purpose. Consultations were held with the village communities, panchayat members and also the vulnerable groups such as BPL households and women. The consultations and FGDs were held between February, 8-12, 2010 in all the six villages. The consultations helped to explore mechanisms for participation in planning, implementation and monitoring of any community development measures and also to help resolve grievances. Further a few persons having knowledge of past events were interviewed to get a historical account on the developments that have taken place since the setting up of the thermal power station.

Phase III – Analysis and Preparation of reports: Following completion of field activities, all data was entered into a suitable data entry program, analysed and segregated into aspects that are relevant to SIA, perceptions relevant to the communication needs assessment, and community level activities relevant to the review of the CSR-CD policy.

Limitations to the study

As the records at PTPS (and HPGCL) were inadequate, it was not possible to identify the total number of land holders from the surveyed villages that had been affected due to the land acquisition. Further due to

the trifurcation of Haryana State Electricity Board (HSEB) in 1998, into the Generation, Transmission and Distribution companies, it was not possible to ascertain how many of the original land owners/affected persons and from which of these villages are currently being employed by PTPS. While some persons might have retired, others have either been transferred to the other generating plants of HPGCL, transmission and distribution companies.

Structure of the Report

Though the study findings, analysis and recommendations for all three components is interlinked, for purposes of providing due emphasis to each component of the study, the report is structured into three parts as given below:

- Part A – Social Impact Assessment and Suggested measures
- Part B – Communications Needs Assessment and Communication Strategy
- Part C – Review of the CSR-CD Policy of HPGCL

Other relevant and useful information is annexed to the report.

PART A – SOCIAL IMPACT ASSESSMENT AND SUGGESTED MITIGATION MEASURES

A.1 Introduction

Social assessment is an iterative process that helps to systematically investigate the socio-cultural processes, institutional settings and operational policy environment[3]. The outcomes of the Rapid Social Assessment shall help to ensure that this particular Bank intervention is well informed and is socially sustainable with appropriate mechanisms to address any adverse impacts, if they so arise.

This part presents the features of the proposed intervention, baseline status of the population in the vicinity, assessment based on the analysis of the socio-economic and cultural analysis of the impacts with respect to the impacts on land and health due to air, water and noise pollution, status of the pending court cases within the impact zone.

A.2 Features of proposed project intervention

Discussions were held with relevant officials i.e. Chief Engineer O&M PTPS – I, Superintending Engineer (Civil) and Superintending Engineer (R&M) to assess the scope of the R&M for Units 3 & 4. Details were also collected on geographical scope of the PTPS with respect to other amenities such as staff quarters, thermal plant area, ash dykes, greenbelt area, etc. and its potential impacts. It was informed that the R&M of Unit 1 had already been completed in 4.11.08 and Unit 2 had been rehabilitated subsequently. The current scheme relating to Units 3 & 4 entails only technological changes. HPGCL has planned to carry out R&M and Life Extension (LE) works of Units 3 and 4 in the 11th plan using indigenous funds. As the turbines of these units were having problems of high axial shift, high turbine lubricant oil temperature, design CW inlet temperature of 28.5 celsius, (as against 33 degree celsius for neighbouring units) and continuous running of 3 number of ID fans (against 2 no. designed), low PA header pressure and running of 5 number of coal mills against designed of 4 numbers, boiler designed for coal of CV 4800 Kcal/kg (as against available coal of CV @3800 kcal/kg), it called for re-engineering and total replacement of boiler and turbine to meet the objectives of LE works. HPGCL therefore intends to carry out studies for ascertaining better option between R&M and replacement of the units and to carry out Life Extension of units 3 & 4 PTPS in the 11th and 12th Five-year plan. The World Bank has approved an IBRD loan and GEF grant for Energy Efficient R&M and Life Extension Programme of Units 3 & 4 PTPS under the Coal Fired Thermal Power Rehabilitation Project.

As per information provided, R&M of units 3 & 4 shall involve only technological changes and will be carried out within the premises of the thermal power plant. It shall not require any additional land or nor shall lead to any impact on the land, structures or livelihoods of communities living outside. The project intervention entails no expansion for associated works such as additional land for the ash-dykes. All the land owned by thermal plant and particularly those lands relating to the units 3 & 4 are free from any encroachment.

FINDINGS OF THE SOCIO-ECONOMIC SURVEY

A detailed socio-economic survey was carried out in the six villages that lie in the vicinity i.e. *Assan Kalan, Assan Khurd, Jattal, Khukrana, Sutana and Untla*. A total of 753 households were covered during the survey. Findings of the survey by category are presented below:

[3] Draft Guidelines for Social Assessment, The World Bank, 1998

A.3 Socio-economic status of the surveyed households

Religion of the surveyed households: Hindus constitute 97.91% of surveyed household population, while Muslims constitute only 1.81% of the total population **(See Table A.1)**.

Table A.1 – Religion of Surveyed Households by village (%)				
Name of village	**Hindu**	**Muslim**	**Sikh**	**Village-wise total (%)**
Assan Kalan	93.83	4.32	1.85	100
Assan khurd	97.96	2.04	0.00	100
Jatal	98.11	0.94	0.94	100
Khukrana	97.78	2.22	0.00	100
Sutana	100.00	1.33	0.00	100
Untala	100.00	0.00	0.00	100
Total	**97.95**	**1.81**	**0.47**	**100.00**
Source: Socio-economic Survey, Jan-Feb, 2010				

Social Stratification of surveyed households: 43.12% of the total surveyed households belong to General category, while 33.32% belong to SC category followed by 23.23% who are categorized as OBC. **Table A.2** shows the categorization of the APs into different caste groups.

Table A.2 – Social stratification of Surveyed Households by village (%)					
Name of village	**General**	**SC**	**OBC**	**MOBC**	**Others**
Assan Kalan	34.57	26.54	38.27	0.62	100
Assan Khurd	32.65	40.82	26.53	0.00	100
Jattal	53.77	30.19	16.04	0.00	100
Khukhrana	48.89	40.00	11.11	0.00	100
Sutana	29.33	29.33	40.00	1.33	100
Untala	59.50	33.06	7.44	0.00	100
Total	**43.12**	**33.32**	**23.23**	**0.33**	**43.12**
Source: Socio-economic Survey, Jan-Feb, 2010					

Type of households: 62.19% of the total households are nuclear households while Joint households constitute 8.96% of the total households. Extended families are 28.86% of the total surveyed households. **(see Table A.3).**

Table A.3 – Type of Surveyed Households by village (in %)			
Village Name	**Nuclear**	**Joint**	**Extended**
Assan Kalan	54.94	8.02	37.04
Assan Khurd	55.10	2.04	42.86
Jatal	66.04	2.83	31.13
Khukrana	68.89	4.44	26.67
Sutana	65.33	6.67	28.00
Untla	62.81	29.75	7.44
Total	**62.19**	**8.96**	**28.86**
Source: Socio-economic Survey, Jan-Feb, 2010			

Literacy levels: In terms of educational attainment 74.59% of the surveyed households are literate, while 25.41% are recorded as illiterate. 20.66% of the total surveyed population is educated upto graduate level with another 3.77% being technically qualified. *Jatal* (29.02%) and *Sutana* (26.40%) have the highest percentage of graduates. **(See Table A.4)**

Table A.4 – Educational levels of Surveyed Households by village					
Name of Village	**Illiterate**	**Primary**	**Secondary**	**Graduate**	**Technical**
Assan kalan	35.36	9.19	35.83	17.29	2.34
Assan khurd	9.86	39.44	31.92	14.08	4.69
Jatal	30.83	18.13	19.17	29.02	2.85
Khukrana	25.98	21.35	29.54	20.64	2.49
Sutana	28.47	10.58	31.63	26.40	2.92
Untla	21.97	28.66	25.52	16.53	7.32
Total	**25.41**	**21.23**	**28.94**	**20.66**	**3.77**
Source: Socio-economic Survey, Jan-Feb, 2010					

Employment Status: Only 35.49% of the respondent households stated to be employed, while the remaining 64.52% of the surveyed households reported to be unemployed (See **Table A.5**).

Table A.5 – Employment Status of Surveyed Households by village (%)		
Name of Village	**Employed**	**Unemployed**
Assan Kalan	37.38	62.62
Assan Khurd	42.25	57.75
Jatal	34.46	65.54
Khukrana	38.08	61.92
Sutana	31.87	68.13
Untla	28.87	71.13
Total	**35.49**	**64.52**
Source: Socio-economic Survey, Jan-Feb, 2010		

Occupational Pattern: Agriculture and agriculture labour constitute 45.79% of total working population, followed by non-agriculture labour at 28.35%. Government service constitutes 7.67% of the working population. While the district and the area have developed due to many other infrastructure, business/trade was reported by only 6.27% of the surveyed households. (**See Table A.6)**

Table A.6 – Occupational Pattern of working Surveyed Households by village (%)								
Name of Village	**Agri**	**Agri. Lab.**	**Non Agri. Labour**	**Bus/ Trade**	**Govt. Serv.**	**Private Service**	**Maid Servant**	**Others**
Assan Kalan	24.17	16.25	33.33	10.00	6.67	8.33	0.42	0.83
Assan Kkhurd	23.33	28.89	22.22	4.44	7.78	13.33	0.00	0.00
Jatal	23.31	15.04	25.56	5.26	15.79	15.04	0.00	0.00
Khukrana	30.84	11.21	37.38	7.48	4.67	8.41	0.00	0.00
Sutana	16.41	24.43	31.30	5.34	4.58	17.94	0.00	0.00
Untala	28.26	32.61	20.29	5.07	6.52	7.25	0.00	0.00
Total	**24.39**	**21.41**	**28.35**	**6.27**	**7.67**	**11.72**	**0.07**	**0.14**
Source: Socio-economic Survey, Jan-Feb, 2010								

Income status: As per the survey, 51.10% indicated that their incomes were less than Rs. 3000 per month, while 15.88% of the households have an income of more than Rs. 5000 per month and 8.44% of the households stated their income to be more than Rs. 7000 per month. The high percentage of households reporting low income was discussed during the community consultations. Most villages stated that poor monsoons in the last year were the main reason for low income**. (See Table A.7)**

Table A.7 – Monthly Income of Surveyed population by Village				
Village Name	**<3000**	**3000 to 5000**	**5000 to 7000**	**>7000**

Assan Kalan	67.50	17.50	11.25	3.75
Assankhurd	45.56	31.11	13.33	10.00
Jattal	42.86	18.80	24.06	14.29
Khukhrana	49.53	18.69	21.50	10.28
Sutana	51.15	25.19	16.41	7.25
Untala	50.00	36.23	8.70	5.07
Total	**51.10**	**24.59**	**15.88**	**8.44**
				Source: Socio-economic Survey, Jan-Feb, 2010

61.53% of the surveyed households reported no illness, while 36.12% stated to be chronically ill particularly in *Khukrana, Sutana* and *Jatal* village (**See Table A.8 below)**

Table A.8 – Health Status of Surveyed population by village (in %)				
Village Name	**Handicap by Birth**	**Handicapped Later**	**Chronic Illness**	**No Illness**
Assan kalan	4.98	1.87	30.06	63.08
Assan khurd	0.00	0.00	18.31	81.69
Jatal	0.00	1.55	37.31	61.14
Khukrana	0.00	0.00	52.31	47.69
Sutana	4.14	1.34	39.42	55.11
Untla	0.00	0.21	39.33	60.46
Total	**1.52**	**0.83**	**36.12**	**61.53**
				Source: Socio-economic Survey, Jan-Feb, 2010

Access to livelihood and other government programs:

The following livelihood programs are operational in the Panipat district though no household during the survey reported to be working in any of these programs.

- The Mahatma Gandhi National Rural Employment Guarantee Act (formerly NREGA) aims at enhancing the livelihood security of people in rural areas by guaranteeing hundred days of wage-employment in a financial year to a rural household whose adult members volunteer to do unskilled manual work.
- Swaranjyanti Gram Swarozgar Yojana (SGSY): This Yojana was been launched from April, 1999 as the main programme for promoting poverty alleviation through self Employment. It is a holistic package & replaces the earlier IRDP, TRYSEM, DWCRA, SITA and MWS programme. Under this Yojana, self employment is provided to the families living below poverty line by providing income generating assets. Finances provided by the bank up to Rs.50,000/- and subsidy is provided @ 30% of the project cost subject to a maximum of Rs.7500/- in respect of other and subsidy @ 50% subject to a maximum of Rs.10,000/- in case of SC. In addition to the above Self Help Group consisting of 10-20 members of BPL families are formed. For groups of Swarozgaris the subsidy would be 50% of the cost of the scheme subject to a ceiling of Rs.1.25 lakh. The groups are provided Rs.10,000/- as revolving funds by the DRDA in addition to Rs.30,000/- provided for the same by the banks.
- Indira Awaas Yojana is a scheme to provide financial assistance to the rural poor living Below the Poverty Line (BPL) for construction of a house. BPL rural households of Scheduled Castes, Scheduled Tribes, non- Scheduled Castes & non-Scheduled Tribes, Ex-servicemen of the armed & paramilitary forces killed in action, physically & mentally challenged persons, freed bonded labourers & Minorities are eligible to get assistance under the scheme. Funding of IAY is shared between the Centre & State in the ratio of 75:25. in case of UTs, entire fund of IAY is provided by the Centre to District Rural Development Agencies (DRDAs) which release funds to beneficiaries through Gram Panchayat.
- Total Sanitation Campaign is the only rural sanitation programme implemented by Ministry of Rural Development. Total Sanitation Campaign (TSC) was launched in 1999 advocating a shift from high subsidy to a low subsidy regime, greater household involvement, demand responsiveness, and providing for the promotion of a range of toilet options to promote increased affordability. TSC is implemented in a campaign mode-taking district as a unit so that 100 percent saturation in terms of

households, Anganwadi and school toilets can be attained which would result in significant health benefits. Under TSC, there is provision of part financing for construction of Individual Household latrine (IHHL) unlike CRSP where there was a huge reliance on subsidy and full construction cost was met by government. There is no subsidy for superstructure. The incentive is limited and extended only to Below Poverty Line families as cash after the beneficiary completes the construction of toilet. The incentive is to be given as back ended incentive. Currently, two models are funded whose unit costs are Rs.1,500 and Rs.2,000 respectively. The beneficiaries can spend additional amount for the construction of super structure and for extra pit. Minimums of 25 percent of funds for IHHL are marked for SC/ST community and 3 percent of IHHL toilets are constructed for disabled persons. TSC aims to cover both BPL and APL families

- Rajeev Gandhi electricity The Union Ministry of New and Renewable Energy, has adopted a Remote village Electrification (RVE) programme for provision of mainly SPV home-lighting systems for villages/ hamlets which are not covered by grid connectivity under the Rajiv Gandhi Gramin Vidyut Karan Yojana (RGGVY).
- NRHM: National Rural Health Mission aims to carry out necessary architectural correction in the basic health care delivery system. The Mission adopts a synergistic approach by relating health to determinants of good health viz. segments of nutrition, sanitation, hygiene and safe drinking water. It also aims at mainstreaming the Indian systems of medicine to facilitate health care.
- SSA: Sarva Shiksha Abhiyan (SSA) is Government of India's flagship programme for achievement of Universalization of Elementary Education (UEE) in a time bound manner, as mandated by 86th amendment to the Constitution of India making free and compulsory Education to the Children of 6-14 years age group, a Fundamental Right. SSA is being implemented in partnership with State Governments to cover the entire country and address the needs of 192 million children in 1.1 million habitations.
- The Rajiv Gandhi National Drinking Water Mission has principally been concerned with the supply of safe drinking water to all habitations in the country

IMPACTS PERCEIVED – DIRECT AND INDIRECT

The following sections details the impacts – both direct and indirect impacts perceived by six villages that were surveyed. Details on the direct impacts such as on land and also indirect impacts caused by the thermal plant operations and are presented below.

A.4 Land acquisition status

Discussions with officials and also villagers indicated that around 35-40 years back, the land here was mostly waterlogged, saline and therefore unfit for cultivation. They were rendered cultivable due to reclamation efforts of the government. Acquisition of land for the thermal plant had commenced in the 1973-74. Over a period of more than thirty years the PTPS has acquired more than 2436 acres of land from the six villages in the vicinity namely – *Assan Khurd, Assan Kalan, Jatal, Sutana, Khukrana* and *Untla.* Details of land acquisition are given below in **Table A.9**

Table A.9 – Details of land acquired by PTPS

Year	Name of village	Amount of land (in acres and local units)*	Purpose for which land was acquired	Rate at which land was acquired (in Rs./acre)**
1973-74	*Khukrana*	660 acre, 6 kanal and 12 marla	Plant and ash dyke	6000/-
	Assan Kalan	76 acre, 3 kanal, 14 marla	Plant	
	Assan Khurd	329 acre, 6 kanal, 7 marla	Plant	
	Untla	216 acre, 4 kanal, 13 marla	Plant	
	Sutana	344 acre, 3 kanal, 7 marla	Ash dyke	
1983-84	*Khukrana*	76 acre, 1 kanal, 7 marla,	Ash dyke	20000/-

Table A.9 – Details of land acquired by PTPS				
Year	**Name of village**	**Amount of land (in acres and local units)***	**Purpose for which land was acquired**	**Rate at which land was acquired (in Rs./acre)****
	Assan Kalan	74 acre, 5 kanal and 1 marla	Plant	
	Assan Khurd	165 acre, 7 kanal and 6 marla	Plant and colony	
1990-91	*Khukrana*	131 acres	Ash dyke	1,25,000/-
	Sutana	144 acre, 6 kanal	Ash dyke	
	Jatal	53 acre, 6 kanal	Ash dyke	
2002-03	*Assan Khurd*	19 acre, 3 kanal	Plant	3,00,000/-
2003-04	*Sutana*	116 acre, 5 kanal and 4 marla	Ash dyke (for units 7 & 8)	3,50,000/-
2007	*Sutana*	11 acre, 4 kanal, 15 marla	Ash dyke	12,50,000/-
	Jatal	5 acre, 7 kanal, 6 marla	Greenbelt	14,00,000/-
2009	*Sutana*	6 acre	Greenbelt	19,50,000/-
Total		**2425 acres, 72 kanals and 92 marla*** (or) r/o 2436 acres**		
				Source: Records of acquisition, PTPS, January 2010

* It was not possible to ascertain from the records how much panchayat and private land had been acquired; ** rates of land stated above are highest basic rates used for different types of land and do not involve the escalations to amounts that took place later.; *** 20 *marla* equals 1 *Kanal*; 8 *Kanal* equals 1 acre

The present land use outside the thermal plant area within a radius of 5-6 km is 85% agrarian in nature. Net area sown in the district is 93000 ha which constitutes 71% of the total area. The entire net area sown is irrigated through tube-wells and canals (Ministry of Water Resources, Government of India, 2007). Paddy constitutes the main *Kharif* crop whereas wheat is the main *Rabi* crop. Agriculture is the main occupation of the people of Block. Other main crops of the area are Barley, Maize, Sugarcane etc. The remaining 15% of the area is a mix of residential, commercial establishment – shops, clinics, petrol pumps, schools and training institutes close to the Assan - Jind state road.

A.5 Provisions relating to compensation and other entitlements

At the initial stage of acquisition of lands, HSEB[4] had followed a policy of providing employment to the households from whom lands had been acquired. It had provided employment to 20 persons (**see Annexure B for copy of letter**). The decision was reviewed in the year 1988 and the provision was withdrawn as a large number of such requests had been made to PTPS (HSEB). However, in view of the mounting pressure, employment was given to 6 more land owners or their dependants. Further, the board had taken another decision to provide employment in 1991 with certain specific conditions, following which it provided employment to another 50 persons. These conditions were reviewed in 1995 and were found to suffer from various legal and other infirmities. Also, in light of the impending restructuring of the HSEB, wherein the organization was considered as being overstaffed, the decision of providing employment was reversed. It was decided that services of those hired would be dispensed with. Since, 1995, there has been no further change to the policy and no entitlements are provided in addition to compensation. At present, HPGCL follows the recently formulated policy of group annuity dated 2007 by Government of Haryana that is applicable for the whole state of Haryana **(see Annexure B for copy of policy).**

A.6 Current status of pending issues with specific focus on status of court cases

Discussions with officials, perusal of documents relating to court cases and interactions with communities provided information on the nature, type, and time period of the different and relevant court cases that have taken place in the past and also are currently ongoing. In terms of nature, cases from adjoining villages have been mostly on the impacts caused due to water logging, provision of un-interrupted power supply and pollution caused to water and air leading to impacts on health; acquisition of land due to damage caused by water logging. Also reportedly, of the total 80 cases that pertain to enhancements to compensation amounts on acquisitions that date back to 1985, 40 cases stand resolved, while the

[4] Haryana power sector comprises of four wholly State-owned Nigams i.e. HPGCL, HVPNL, UHBVNL & DHBVNL which are responsible for power generation, transmission and distribution in the State. Earlier, all these activities were performed by the erstwhile Haryana State Electricity Board.

remaining 40 are pending. In these 60 cases too, basic compensation has been paid and only the enhancements are due. However, none of these cases are directly related to lands and /or impact caused under and by units 3 & 4 for which R&M is proposed **(See Table A.10)**.

Table A. 10 – List of relevant cases against PTPS

Sl.No.	Title of case	Name of court	Brief history of case	Status	Relevance to WB funded project
1	Gram Sudhar Samiti of village Khukrana vs PTPS and others	Punjab and Haryana high court	Gram sudhar samiti of K*hukrana* village had raised in the writ petition that water logging of the area due to percolation of overflowing water from ash disposal area in the grounds and adverse effect on the health of the inhabitants of the village due to flow of ash/coal dust	Beginning 1993 an independent feeder to provide power supply without power cut to village *Khukrana* was planned and provided. Currently the village gets 18-20 hours of power	Case closed. Not relevant to Bank funded component though carries a reputational risk to the Bank.
2	Narain singh, Assan Khurd vs State of Haryana	Punjab and Haryana High court	Petition for providing uninterrupted power supply without power cut from PTPS to village *Assan Khurd and Assan Kalan* as in the case of village *Khukrana*	Verdict was to provide uninterrupted power supply without power cut from PTPS to village *Assan Khurd and Assan Kalan* as in the case of village *Khukrana*	Case closed. Not relevant to Bank funded component
3	Ishwar Singh and others vs. state of Haryana	Punjab and Haryana High court	Ishwar singh, resident of village *Sutana* filed the petition in the High court that his land became uncultivable due to waste water of thermal plant into his land near ash dyke area.	Court passed order on 4.04.08 that PTPS will purchase the land of the petitioner at rate of Rs. 19.60 lakhs per acre in lump sum. PTPS purchased the land of petitioner on 17.11.2008 and case disposed of on 21.11.2008	Case closed. Not relevant to Bank funded component
4	Smt. Premo vs. HPGCL	Punjab and Haryana High court	Smt. Premo resident of village *Khukrana* filed the petition that people of village *Khukrana* are facing water and air pollution caused by thermal plant	Case disposed on 10.12.08. The court stated was satisfied with the response provided by PTPS and mandated the provision of a septic tank	Case closed. Not relevant to Bank funded component though carries a reputational risk to the Bank.
5	Rameshwar and others vs state of Haryana and others	Punjab and Haryana High court	The petitioner from *Untla* has alleged that PTPS is causing air pollution and has prayed to take remedial measures to prevent air pollution and to provide uninterrupted power supply as provided to *Khukrana* village.	The case has been recently won by the residents of *Untla* village. The court has directed that the village be given power on a urban mix pattern within a period of sixty (60) days	Case closed. Not relevant to Bank funded component
6	Ravinder and others vs state of Haryana and others	Punjab and Haryana High court	The petitioner prayed to direct the respondent to take adequate measure to stop air pollution and to stop the setting up of Cement grinding unit by M/s Jaypee cement.	Case disposed on 01.10.08. As the distribution of power is under Uttar Haryana Bijli Vitran Nigam and which was not a party to the case, it was not possible to examine whether the Nigam would have provided power supply or not.	Case closed. Not relevant to Bank funded component
7	Sumer Singh and others	Adj court, panipat	The petitioner (in the year 2007) had filed a suite for permanent injection restraining the defendant (PTPS) from discharging water in their land alleging that PTPS had made their land uncultivable due to overflow of water from the	Court had appointed a local commissioner (Naib Tehsildar, *Madlauda,* Panipat District) to visit the site and to submit the report in the court before the next date of hearing as on 22.04.2010.	Case ongoing but not relevant to bank funded component of units 3 & 4 though carries a reputational risk to the Bank.

Table A. 10 – List of relevant cases against PTPS					
Sl.No.	**Title of case**	**Name of court**	**Brief history of case**	**Status**	**Relevance to WB funded project**
			PTPS drains/water logging		
8	*Gram Sudhar Samiti Khukrana* vs PTPS (2005)	Punjab and Haryana High court	Despite of sanction given PTPS had not constructed a septic tank. As the water level was very high and dirty and is causing stagnating/causing pollution and endangering the health of the villagers and is hazardous to health. If the septic tank were not to be constructed within two months then damages to the tune of Rs. 10 lakhs would be claimed	PTPS responded i) competitive rates for not received and hence work was not awarded; ii) drainage system not provided by Haryana irrigation department; iii) problem of breeding of mosquitoes related to the health department and for remedial measures they should be approached and iv) drainage system is maintained by other authorities and not HPGCL.; v) land for shifting of village *Khukrana* has already been acquired	Case closed. Not relevant to Bank funded component though carries a reputational risk to the Bank.
8	Several cases relating to enhancements of compensation	Punjab and Haryana High court	A total of 80 cases are relating to enhancement of compensation	40 cases of the total 80 cases pertaining to compensation for lands acquired in 2003-04 have been disposed off. These were relating to the units 7 & 8. In the remaining 40 cases too basic amounts have been paid.	Case closed. Not relevant to Bank funded component though carries a reputational risk to the Bank.
9	*Khukrana* village vs. State of Haryana	Punjab and Haryana High court		Three owners of the land identified for relocation have filed a case. PTPS is not a party to the case. Many hearings have taken place but verdict is still due.	Case ongoing. Not relevant to Bank funded component though carries a reputational risk to the Bank.
					Source: PTPS, 2010

A.7 Impacts perceived with respect to pollution of air, water and health

Perceived impacts on land, livelihood and health due to water logging, air and water pollution were recorded during the survey. The impacts vary with proximity of the villages and also direction of expansion of PTPS. While the earlier impacts were largely felt by villages such as *Khukrana, Assan Kalan, Sutana* and *Assan Khurd,* when the plant was being set up, the recent acquisitions have been more in *Sutana* and *Jatal* villages particularly for the ash dyke and development of the green belt. In 2002-03, land was acquired in *Assan Kalan* and *Assan Khurd* villages to setup additional units. The PTPS has habitations and agriculture lands of three villages within a radius of 3 kms i.e. *Khukrana, Assan Kalan* and *Assan Khurd*, while the agriculture lands of *Untla, Sutana* and *Jatal* are approximately 2-5 km away. However, the ash dykes for the units (1-6) are in close proximity to the agricultural lands of the villages of *Sutana* and *Jatal.* In addition, there is a cement plant near *Khukrana* village owned by the Jaypee group. (**See Figure 1 and Photo A1** below)

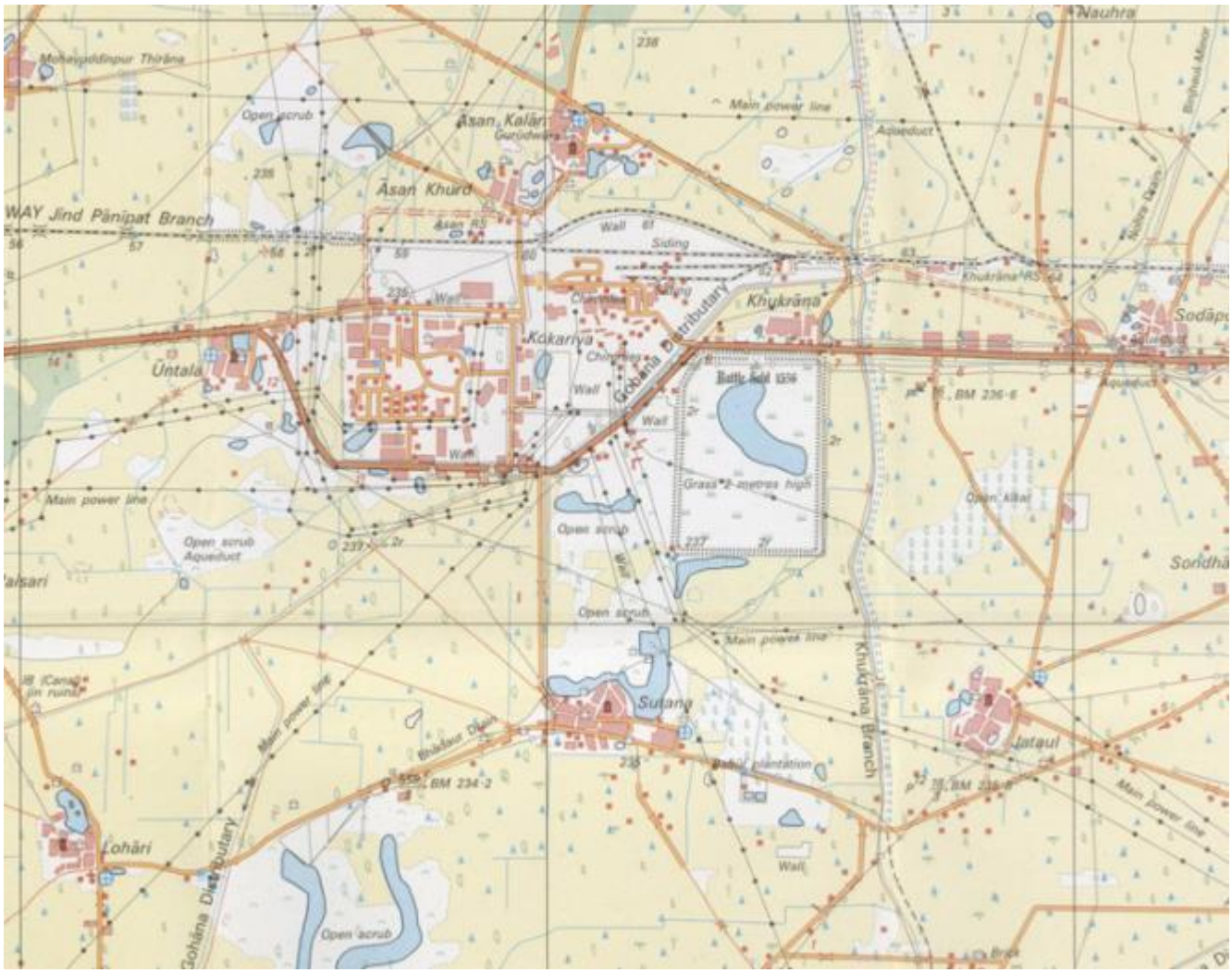


Figure 1: Map of the area surrounding the Panipat thermal power plant

Of the six villages, habitations of the three villages – *Khukrana* (0.5 -1 km), *Assan Kalan* (1-2 km), *Assan Khurd* (1-2 km) are in close proximity. The habitations of village of *Untla* (4 km), *Jatal* (6 km) and *Sutana* (4-5 km) were furthest. *Untla* village was however closest to the dry fly-ash handling plant located in agricultural fields at *Assan Khurd.*

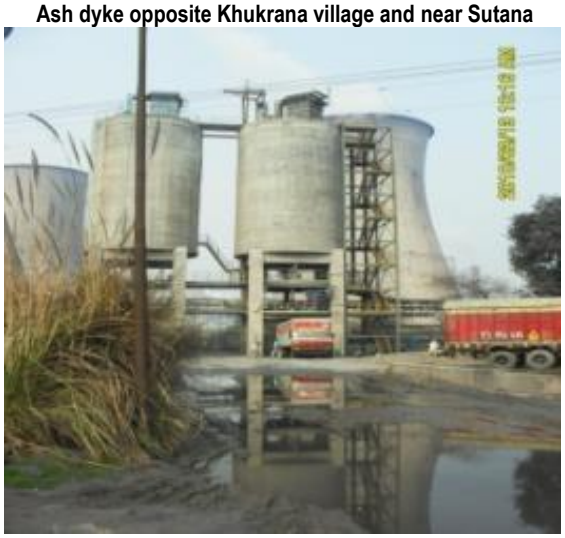
The geographical scope both in relation to the direct and indirect impacts as a result of the operations of the existing power station was assessed. The impact zone is defined both in terms of past impacts due to LA and present impacts due to pollution. Parameters for direct impact include impact on land, structures, CPRs due to acquisition. Under the current project there shall be no direct impacts. Indirect impacts perceived by the villagers in surrounding areas include:

- on agriculture land due to water logging causing damage to crops
- on structures due to water logging.
- on air due to fly ash and coal dust
- on health due to contamination of drinking water due to fly ash
- on health of cattle due to pollution of air, water and fodder
- on income due to lower crop yield
- on air due to fly ash and coal dust

Photo A.1 – Photos of the site

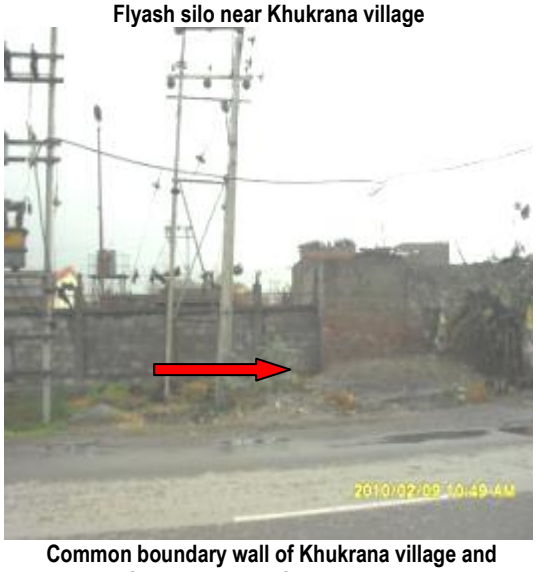
Ash dyke opposite Khukrana village and near Sutana

Natural vegetation atop the ash-dyke



Flyash silo near Khukrana village

Fly-ash silo in Assan Khurd near Untla village



Common boundary wall of Khukrana village and Jaypee cement plant

Coal stock piles beyond the boundary wall and close to drain of Assan Khurd village

Source: Site survey, Jan-Feb. 2010

Quality of life (access to amenities): The Quality of life in these surveyed villages is assessed through availability of necessary infrastructure, impacts on source of drinking water, quality of water etc.

Table A 11 – Source of drinking water (in %)		
Name of village	**Hand pump**	**Others (bore well/well/tank/taps)**
Assan Kalan	88.9	11.11
Assan Khurd	85.7	14.29
Jatal	86.8	13.21
Khukrana	98.9	1.11
Sutana	100	0.00
Untla	87.6	12.40
Total	**91.32**	**8.69**
		Source: Socio-economic Survey, Jan-Feb, 2010

Overall 91.32% of the households indicated that their source of drinking water to be the hand-pump either inside their house or just outside. 100% of the households in *Sutana* village indicated that they have hand-pumps only. Consultations brought out that some of households have taps at home and the village has a tank as well, but the poor power supply system results in no piped water supply. Only 19 households in total indicated multiple sources of drinking water such as taps, well and tanks besides hand-pumps **(See Table A.11).**

Table A 12 – Proximity of source of drinking water (in %)		
Name of village	**Within house premises**	**Outside house premises**
Assan Kalan	83.95	16.05
Assan Khurd	100.00	0.00
Jatal	94.34	5.66
Khukrana	91.11	8.89
Sutana	61.78	38.22
Untla	69.42	30.58
Total	**78.49**	**21.38**
		Source: Socio-economic Survey, Jan-Feb, 2010

Of the 209 households that indicated that the source of water was outside, only 31 households indicated the source of drinking water to be more than 500 mtrs. away**. (See Table A.12)**

Table A 13 – Quality of water fit for consumption (in %)		
Name of village	**Yes**	**No**
Assan Kalan	20.99	79.01
Assan Khurd	0.00	100.00
Jatal	25.47	74.53
Khukrana	2.22	97.78
Sutana	41.33	58.67
Untla	7.44	92.56
Total	**21.91**	**78.09**
		Source: Socio-economic Survey, Jan-Feb, 2010

All households in *Assan Khurd* stated that quality of water is poor and is unfit for consumption. 97.78% of the households in *Khukrana* village, and 92.56% of the households in *Untla* village also stated the same. **(See Table A. 12)**

Table A 13 – Color of water noticed		
Name of village	**Normal**	**Colored (black/yellow)**
Assan Kalan	25.31	74.69
Assan Khurd	0.00	100.00
Jatal	32.08	67.92
Khukrana	2.22	97.78
Sutana	36.00	64.00
Untla	9.09	90.91
Total	**22.18**	**77.82**
Source: Socio-economic Survey, Jan-Feb, 2010		

Only 22.18% of the households reported normal color for the water used. In *Sutana, Jatal* and *Assan Kalan* villages a few households informed that they use some water purification measures such as reverse osmosis machine and other purification measures, though they were reported to be inadequate. **(See Table A. 13)**

Table A 14 – Quality (and taste of) water noticed			
Name of village	**Salt**	**Sweet/good**	**Chlorinated**
Assan Kalan	86.42	10.49	3.09
Assan Khurd	79.59	20.41	0.00
Jatal	98.11	1.89	0.00
Khukrana	91.11	1.11	7.78
Sutana	79.11	20.89	0.00
Untla	85.12	13.22	1.65
Total	**85.79**	**12.35**	**1.86**
Source: Socio-economic Survey, Jan-Feb, 2010			

85.79% of the surveyed households reported the drinking water to salty in taste, while only 12.35% reported the taste to be normal or good**.** Women in *Assan Kalan* village in particular reported the water to be chlorinated in content. **(See Table A.14)**

Table A 15 – Reasons for deterioration of Quality				
Name of village	**power plant residue**	**cement plant residue**	**both power and cement plant**	**Others**
Assan Kalan	81.48	10.49	8.03	0
Assan Khurd	65.31	34.69	0	0
Jatal	89.62	0	10.38	0
Khukrana	47.78	2.22	50.00	0
Sutana	96.89	3.11	0	0
Untla	20.66	7.44	0	71.9
Total	**66.96**	**9.66**	**11.40**	**11.98**
Source: Socio-economic Survey, Jan-Feb, 2010				

The survey attempted to ascertain reasons for the deterioration in water quality besides the time period since villagers have noticed such deterioration. Villagers in Untla stated that the water was poor in quality from the beginning much before the commencement of the power plant operations. **(See Table A.15),** 66.96% of surveyed households attributed the deterioration of water quality to residue from the power plant. Further, 11.40% of the surveyed population observed that while earlier (before setting up of cement plant), the power plant was mainly responsible for deterioration caused, however for the last five years, a mixture

of residue emanating from both the power plant and cement plant residue has been responsible for the deterioration. 50% of households in *Khukrana* village reported the reasons to be both cement and the power plant, while the rest stated seepage from the power plant's ash dykes as the cause.

Further the Central Ground Water Board, Ministry of Water Resources, Government of India in the year 2007 reported the following:

- shallow ground water of the district is alkaline and is of low to medium salinity.
- Marginal quality water is found in the south western parts of the district of *Madlauda* and *Israna* blocks. High fluoride is found in large parts of the district more than 60%.
- High nitrate concentration is found in patches of *Madluada* block.
- High concentration of heavy metals like copper and iron have been found.

Table A 16 – Number of households having additional expense on drinking water (in %)

Name of village	Yes	No
Assan Kalan	1.23	98.77
Assan Khurd	14.29	85.71
Jatal	10.38	89.62
Khukrana	27.78	72.22
Sutana	2.67	97.33
Untla	13.22	86.78
Total	**8.90**	**91.10**

Source: Socio-economic Survey, Jan-Feb, 2010

Less than 10% of the surveyed households (8.90%) indicated they incur additional expenses. About 28% of surveyed households in *Khukrana* village reported additional expenses on drinking water. Amounts indicated were in the range between Rs. 2000-3000 **(see Table A.16).**

Water for agriculture: Only *Untla* village reported that they benefit from the thermal waste water that flows from the plant, while all other villages reported either bore-wells or canal water that irrigates their agriculture land. There were no specific complaints by the surveyed households with respect to the quality of water used for irrigation or any deterioration and the same was confirmed during consultations.

Educational facilities: Villagers at *Assan Khurd* indicated that they prefer to send their children to *Madlauda* block, and other schools closer to Panipat such as Guru Gobind Singh and Bal Vikas etc. Other reasons given were mostly to do with having no children at home for study or kids have grown up and are working or in college. Households reported that their children also study at PTPS facilities but only when there are cases of recommendations from senior officials at the thermal plant. Children in many of the households were reportedly going to DAV school, Panipat. **(See Table A.17)**

Table A 17 – Availing of school facilities in the vicinity (in %)

Name of village	Yes	No
Assan Kalan	91.98	8.02
Assan Khurd	14.29	85.71
Jatal	38.68	61.32
Khukrana	82.22	17.78
Sutana	72.44	27.56
Untla	27.27	72.73
Total	**62.02**	**37.98**

Source: Socio-economic Survey, Jan-Feb, 2010

Medical facilities: 72.64% of the households reported that they avail of the immediate available medical facilities, while 27.36% stated that they approach the medical amenities available in *Panipat* or *Madlauda*. **(See Table A.18).**

Table A 18 – Availing of medical facilities (in %)		
Name of village	**Yes**	**No**
Assan Kalan	76.54	23.46
Assan Khurd	100.00	0.00
Jatal	81.13	18.87
Khukrana	21.11	78.89
Sutana	84.00	16.00
Untla	66.12	33.88
Total	**72.64**	**27.36**
Source: Socio-economic Survey, Jan-Feb, 2010		

The number of visits to doctors or to other medical facilities as reported by households varied in these villages. 43.21% of the households in *Assan Kalan* village, 43.33% of the households in *Khukrana* village reported 3-4 visits a month. **(See Table A.19).** Overall a high percentage – 65.60% of households reported more than 4 visits a month to the doctor for treatment of various ailments.

Table A 19 – Average number of visits per month to doctors (%)				
Name of village	**0**	**1-2**	**3-4**	**More than 4**
Assan Kalan	21.60	17.90	43.21	17.28
Assan Khurd	22.45	0.00	0.00	77.55
Jatal	12.26	45.28	0.00	42.45
Khukrana	8.89	33.33	43.33	14.44
Sutana	0.89	55.11	18.67	25.33
Untla	16.53	47.93	1.65	33.88
Total	**11.82**	**7.84**	**14.74**	**65.60**
Source: Socio-economic Survey, Jan-Feb, 2010				

Table A 20 – reasons for usage (%)					
Name of village	**Stomach**	**Fever**	**Skin infections**	**Breathing problems**	**Others**
Assan Kalan	12	23	22	31	12
Assan Khurd	23	42	9	15	11
Jatal	32	28	3	14	23
Khukrana	10	15	23	52	0
Sutana	22	37	3	18	20
Untla	62	23	1	8	6
Total	**26.83**	**28.00**	**10.17**	**23.00**	**12.00**
Source: Socio-economic Survey, Jan-Feb, 2010					

Of the households that reported chronic illness, 54.83% of the households reported they utilize the medical facilities for stomach ailment and fever. *Khukrana* village in particularly reported doctors visits for skin infections and breathing problems **(See Table A.20).**

Epidemiological studies done in the past indicate that around the coal based plants the ambient concentrations of Sulphur Dioxide, Oxides of Nitrogen and SPM are high. Further these studies have indicated that area surrounding coal based thermal plants, population living within a 2 - 5 km radius of the plant suffers from respiratory disorders.

With respect to reasons for such ailments, villagers in *Khukrana* attributed Asthma due to the fly-ash and coal dust problem and to a lesser degree to the ash spill from the trucks plying in the adjacent road. Besides they stated that as no sprinklers operate the trucks from the cement plant also cause pollution and health problems. *Khukrana* villagers reported quality of drinking water had been a long standing issue due to the high level of pollution caused by seepage from the ash dykes adjacent to the village **(See Table A21).**

Table A 21 – reasons for skin infections (%)					
Name of village	**Fly ash**	**coal dust**	**ash spill from disposal truck**	**poor drinking water**	**Others**
Assan Kalan	0	88.27	0	11.73	0
Assan Khurd	0	0	0	0	100
Jatal	16.98	0	0	19.81	63.21
Khukrana	14.44	0	5.56	80	0
Sutana	100	0	0	0	0
Untla	1.65	0	20.66	0	77.69
Total	**22.18**	**14.71**	**4.37**	**18.59**	**40.15**
Source: Socio-economic Survey, Jan-Feb, 2010					

Khukrana, Assan Kalan and *Assan Khurd* villages were notable as they stated that all the respiratory problems were due to fly ash and coal dust, but added that poor drinking water results in lower immunity in the body to withstand such long exposure and stated that basically one problem leads to another. Other reasons stated were a combination of poor diagnosis and treatment facilities **(See Table A.22)**.

Table A 22 – reason for respiratory diseases (%)					
Name of village	**Fly ash**	**coal dust**	**ash spill from disposal truck**	**poor treatment facilities**	**others**
Assan Kalan	0	55.56	0	6.17	38.27
Assan Khurd	0	100	0	0	0
Jatal	80.19	0	0	0	19.81
Khukrana	77.78	11.11	11.11	0	0
Sutana	55.56	0	0	44.44	0
Untla	33.06	0	41.32	0	25.62
Total	**41.10**	**27.78**	**8.74**	**8.44**	**13.95**
Source: Socio-economic Survey, Jan-Feb, 2010					

Assan Khurd and *Assan Kalan* village stated that all households had toilets and they also maintained enough hygiene and hence it would never be a cause for frequent illness. Households in *Assan Khurd* pointed out that drinking water turns yellow in short time. Villagers at *Khukrana* indicated general water contamination as the main cause for stomach ailments. Villagers in *Jatal* and *Sutana* also indicated water logging as the main reason for their drinking water sources to be affected. **(See Table A.23)**.

Table A 23 – reasons for stomach ailments (%)					
Name of village	**General water contamination**	**seepage from ash dykes/blocks in drain**	**inadequate hygiene**	**Other poor drainage**	**others**
Assan Kalan	32.72	3.09	1.85	0	62.3
Assan Khurd	0	100	0.00	0	0.0
Jatal	83.96	16.04	0.00	0	0.0
Khukrana	91.11	3.33	5.56	0	0.0
Sutana	8.44	91.56	0.00	0	0.0
Untla	69.42	1.65	0.00	0	28.9
Total	**47.61**	**35.95**	**1.06**	**0**	**18.1**
Source: Socio-economic Survey, Jan-Feb, 2010					

Other issues: The area as reported by Central Ground Water Board in its report in the year 2007 states that "Water logged areas – water logging, where ground water level is than 2m bgl, occurs in *Madlauda* and *Israna* blocks. An area of about 50 sq.km. is water logged and about 62 sq.km area is prone to water logging with less than 3 m level".

During the survey, 38.51% of surveyed households reported waterlogging in the village leading to mosquitoes and other health impact, besides the impacts on their drinking water and agriculture. 61.49% of the surveyed households reported no such issues. **(See Table A24)**

Table A 24 – Water logging in the village (in %)		
Name of village	**Yes**	**No**
Assan Kalan	3.70	96.30
Assan Khurd	0.00	100.00
Jatal	16.04	83.96
Khukrana	91.11	8.89
Sutana	70.67	29.33
Untla	21.49	78.51
Total	**38.51**	**61.49**
Source: Socio-economic Survey, Jan-Feb, 2010		

Assan Khurd and *Assan Kalan* villages stated there was water logging in the agricultural fields due to coal stock piles on the other side of the boundary wall of the thermal plant that block the passage and cause reverse flow to take place into their agricultural fields.

Table A.25 summarizes the types of impacts perceived by the villages.

Table A.25 – Perceived impact by type – village wise								
Type of impact	**Plant facility causing impact**	**Name of village**						**Remarks**
		Khukrana	**Assan Kalan**	**Assan Khurd**	**Untla**	**Jatal**	**Sutana**	
on land due to acquisition in the past	Whole plant and all its associated facilities	√	√	√	√	√	√	Land has been acquired from all these six villages
on agriculture land due to water logging causing damage to crops	Ash dykes for units 1-6	√	√	√	NA	√	√	Seepage from the ash dykes (for units 1-6) causes water logging in fields of *Jatal* and *Sutana Khukrana,* while damage to crops in *Assan Kalan* and *Assan Khurd* takes place to a backflow of drain water that gets blocked
on structures due to water logging	Ash dykes for units 1-6	√	NA	NA	NA	NA	NA	Only *Khukrana* village experiences impacts on structures due to seepage caused from the ash dyke
on structures due to coal dust	Coal handling plant and fly ash silo	√	√	√	NA	NA	NA	Depending on the wind direction, impacts from the coal handling plant and fly ash silo are felt either on *Khukrana* or on *Assan Kalan* and *Assan Khurd*
on air due to fly ash and coal dust	Coal handling plant and fly	√	√	√	√	√	√	Air pollution by coal dust in the *Assan Kalan, Assan Khurd* and *Khukrana,* while

Table A.25 – Perceived impact by type – village wise								
Type of impact	Plant facility causing impact	Name of village						Remarks
		Khukrana	Assan Kalan	Assan Khurd	Untla	Jatal	Sutana	
	ash silo							fly ash dust causes pollution in *Jatal, Sutana* and *Untla*; *Khukrana* gets polluted by the fly-ash from the silo and also from the ash dyke
on health due to contamination of drinking water due to fly ash	fly ash silo and seepage from ash dykes of unit 1-6	√	NA	NA	NA	NA	NA	Impact is felt on drinking water in *Khukrana.* Seepage from ash dykes causes ground water to be contaminated
on health of cattle due to pollution of air, water and fodder	fly ash silo	√	√	√	NA	√	√	Ponds for bathing and fodder (also *barsim* crop) meant for cattle are impacted in Khukrana.
Impact on income due to lower crop yield	Coal handling plant and fly ash silo	√	√	√	NA	√	√	All villages except *Untla* report of damage to crops due to *fly-ash;* reduction in shine in grain; lower yield fetching lower price; only *Untla* village benefits from the thermal wastewater for its crops.
Source: Site survey, 2010								

A.8 Stakeholder Consultations

Three groups of stakeholders– PTPS officials, Panchayat Members and community members including vulnerable groups and women were consulted. Consultations with officials were carried out to understand the historical perspective, policy entitlements applicable, perceptions on the impact of the thermal plant's operations on the communities and finally mitigation and community welfare measures already extended. Consultations with Panchayat/Village community members were carried out based on the list of issues that were part of the consultation checklist developed **(see Annexure E)**, and covered a host of issues, such as: demographic details, economic base, village level and other infrastructure, land acquisition detail, employment or work opportunities with PTPS, impacts – direct and indirect; welfare measures by PTPS; mode of information disclosure and welfare measures desired. Consultations with women's groups and BPL groups were held to inform them of the project, understand their perceptions with respect to the indirect impacts such as impacts experienced or anticipated on land, air and water; and impacts on health; access to social infrastructure and common properties; employment or work opportunities with PTPS (for handicapped persons, females); community welfare measures given by PTPS and mode of information disclosure of information on developments in PTPS. This section summarizes the consultations held with these three groups.

Consultations with officials: Discussions were held with PTPS officials on a range of issues. Details are given in the ensuing paragraphs.

Proposed Project intervention: Discussions were held to ascertain the geographical scope of the impact of the PTPS operations and also impacts on land as well as the pollution caused by the fly ash and coal dust that emanates from the site. It was ascertained that the impacts extend to a total of 6 villages in the vicinity– *Jatal, Assan Kalan, Assan Khurd, Untla, Khukrana* and *Sutana*, besides one small dwelling (15-20 households) adjacent to the dry fly ash handling silo at *Assan Khurd* village. They stated that the current

R&M project for units 3 & 4 financed by the WB involved no additional land and the activities would be carried out within the premises of the thermal power plant. It would cause no disturbance to the communities living outside the premises.

Past issues – acquisition of land: They informed that the land acquisition for the thermal plant commenced in 1973-74 and since then many times land had been acquired. All recent acquisitions since 2005 related either to the land for the ash dyke or for development of a greenbelt. They informed that 2436 acres of land had been acquired. There were no pending court cases relating to payment of compensation for the acquisitions that took place in 1973-74. However, close to 80 odd cases remain in the High Court with respect to enhancement of amount for cases from 2003-04 onwards. In all these cases basic amount of compensation has been paid and 40 cases have been resolved, while enhancements in the remaining cases are subjudice.

Employment or work opportunities with PTPS: They indicated that at present a total of 2843 employees work at PTPS. As the original organization – HSEB had been split in 1998, it was not possible to ascertain the number of persons employed in HSEB and later into the PTPS. However, based on the records available, they indicated that approximately 70-80 persons were provided employment as entitlements in addition to the compensation. However currently, many class III & class IV workers are working with PTPS from the surrounding villages. It is estimated that 75 skilled and 250 unskilled persons from the neighbouring villages are working with the PTPS.

Community Welfare measures provided by PTPS: Officials listed the community welfare measures that had been provided by them in the last few years to the communities living nearby. These included: organizing of health checkup camps, provision of access to educational facilities for children living in the nearby villages; development of green belt in the vicinity of the power plant; assistance to *Khukrana* village to overcome the water-logging that is caused by the seepage from the ash dyke. They also provided the cost implications of these measures to the organization **(**for details see part C for review of CSR-CD policy).

Impacts – direct and indirect: In terms of positive impacts, they pointed that the waste-water from the thermal plant is used for irrigation for nearly 60% of the lands of *Untla* village. It is free of cost to the villagers and therefore is a major benefit. Further it is reported that the waste water irrigates agricultural lands for *Untla, Sutana* and *Osri villages.*

Current practices of information disclosure: Information is regularly sought and provided by the officials on various issues. Though no specific meetings are held with the villagers on any issues relating to them, occasionally villagers meet the Chief Engineer on some issue or seeking redressal of some grievance. However specifically under the RTI Act, 2005, the S.E. (Monitoring and Training) is the nodal officer for providing information. They further shared copy of a request letter for information and the form to be used under RTI (for details **see part B – communication needs assessment and communication strategy**). Only one such request has been made thus far since RTI Act became effective.

Perceptions and views on other issues: Officials indicated that villagers have demands of various kinds. Besides, they tend to highlight only the negative aspects. With respect to the CSR, they welcomed the policy as they felt it shall help PTPS to provide a host of community welfare measures for the surrounding villages, build rapport and improve relations.

Consultations with village communities: An initial round of consultations was followed by the survey at the household level. These initial round of consultations helped to develop village profile, identify issues in context of each village, differentiate between impacts experienced and also the observe and photograph the impact points such as water-logging due to coal piles, habitations that lay close to fly-ash silos and coal handling plant. Following, the household survey, a concluding round of consultations was carried out. Six (6) community consultations carried out in the six villages between 10th February and 12th February, 2010.

A total of 117 persons – *Khukrana* (25), *Untla* (17), *Sutana* (25), *Assan Khurd* (10), *Jattal* (31), *Assan Kalan* (9) participated in these consultations. Details of the consultations are elaborated upon below:

Demographic details: Of the six villages, *Sutana, Jatal* and *Assan Kalan* villages are the largest in terms of population. In terms of vulnerability status BPL households are present in all the villages with maximum numbers in *Jatal* village at 123 households. Total number of disabled persons found in all villages is estimated at 120 persons.

Economic base: In terms of economic base, agriculture is the main resource base. Only about 20-30% of the population are reported to be engaged in service and non-agriculture labor activities. *Jatal* village reported that some of its members are engaged in services, besides working as senior officials in the Police services, army. Besides agriculture, nearly 75% of the households are reported to be engaged in dairy activities in this village and earn additional income by selling milk. *Untla* village has also persons engaged in dairy that are procured by persons from the PTPS staff colony. Approximately, 75 persons with majority from *Khukrana* village are directly employed with PTPS, while most of the temporary workers are from *Sutana* village.

Village level infrastructure/facilities: Village level facilities such as Bank, medical facilities, veterinary clinic, schools, colleges that are available within a radius of 3-5 km of each village were noted during the household survey. **Table A.26 lists the same.**

Table A.26 – Infrastructure facilities by village

Type of infrastructure/	Name of village					
	Khukrana	**Assan Kalan**	**Assan Khurd**	**Sutana**	**Jatal**	**Untla**
Bank	NA	State Bank of India	NA	Cooperative bank	Seed/fertilizer bank only	NA
Medical facilities	PHC (1)	No dispensary; only 1 doctor with RMP degree	No dispensary; only 1 doctor with RMP degree	NA	NA	NA
Veterinary clinic	NA	SMC cattle farm	NA	NA	NA	NA
Schools	1 secondary school		1 primary school only within village; 3 more schools within the five km radius	4 (2 –govt and 2 private); 1 govt is only upto Class V and other is upto Class XII both private are upto class XII)	3 (1 govt. and 2 private); only one upto class X	4 near the village – 2 private and 2 govt.
College/ITI	NA	NA	NA	NA	NA	R.N. Engineering college
Post office	NA	1	NA	1	NA	1
Roads/rail connectivity	NA	State road buses	Railway station	NA	NA	Though bus stop is there, buses do not stop
Choupal	1 choupal	NA	3 choupals	1	4	
Anganwadi centre	NA	NA	1		3	2
Markets for sale of agriculture produce	*Madlauda* and *Paiipat mandis*					

Source: Community consultations and site survey, Jan-Feb. 2010

Most of the villagers had views on the transportation available. They informed that buses and autos are used for going to work and to visit doctors, but the buses are infrequent. Villagers in *Untla* complained that though the bus stop is there, state transport buses do not stop there. Further they wanted the approach roads to be made better.

Anganwadi centre (Untla)

Middle school (Khukrana)

Senior secondary school (Jatal)

Pond at Khukrana

Photos A.2 – Village level infrastructure

Past issues relating to acquisition of land; provision of compensation and other entitlements: Villagers listed the various periods when land was acquired in their village. In respect to the compensation and other entitlements, they stated that compensation had been provided at very low rates and in some cases, only after Regular First Appeal (RFA), did the courts – session and high court enhance compensation. Only 3.45% of the surveyed households reported that they lost structures during acquisition. They further added that most of these structures had been semi-pucca structures such as store rooms/pump house, etc, in the field. They mentioned possession of land was taken only post harvest in most cases. *Untla* village reported the least amount of loss of private land of only three 3 acres, while the rest of the land acquired belonged to panchayat. Villagers in *Khukrana* stated that 25 persons in their village were provided employment based on the land taken from their households. Jaypee group had acquired thirty (30) acres of land that belonged to *Khukrana* village for the cement plant and paid all amounts by cheque. It had acquired land on a direct purchase basis i.e. Rs.8,00,000/- per acre (2005), Rs. 25,00,000/- per acre (2007) and Rs. 53,00,000/- per acre (2008). The villagers had no complaints with the amount. They indicated that the current circle rate is between Rs. 14.5 lakhs and 19.5 lakhs for different types depending on their distance from the road, while the market rates are close to Rs. 55-65 lakhs.

Impacts – direct and indirect: Issues covered with respect to impacts included impacts on land currently, structures; pollution of air and water; and impacts on health and also positive impacts or benefits of the thermal plant are listed below.

Impacts on land and structures: Though the water logging is not because of PTPS as it was existing even prior to acquisition of land for the power plant project at Panipat, communities in *Jatal, Sutana, Assan Khurd, Assan Kalan* and *Khukrana* reported water logging as a major impact. Communities in *Jatal* and *Sutana* reported seepage caused by the ash dykes as the major reason for water logging that is lowering the fertility of their agriculture lands. Communities in *Assan Kalan* and *Assan Khurd* reported blocks in the drain routed towards the thermal plant for exit from other side due to coal stack. It causes back flow of these drains and thereby water-logging in their fields. *Khukrana* experiences impacts on structures as due to water logging as the water level is about 1-2 meters below surface. Though bore-wells were installed to remove additional water, they are insufficient. All the structures are reported to be developing cracks and outer coating of these structures peels off in a very short period **(See Photo A.3)**.

Fly-ash deposits were reported and observed on the structures of *Khukrana*, while coal dust were emanating from the coal handling plant were observed on structures in *Assan Kalan* and *Assan Khurd* villages.

Photo A.3 – Impacts on structures – Middle school building and wall of a house due to seepage from ash dyke

Impact on air and water leading to health impacts: Communities in *Khukrana* village reported impacts on water in particular. Water from hand pumps was equally unfit for drinking. Drinking water from *Sondhapur* village had been provided as part of the court verdict in 1993 but after a brief period of six months, it stopped. Water tankers were deployed but they too were discontinued after about 7-8 years. Cattle too were reported to be ill due to the polluted water in the nearby ponds. School teachers at *Khukrana* middle school, during interactions indicated that all the class rooms were filled with fly ash particularly in summers. They had to wash their hands many times over to keep them clean.

Air pollution due to fly-ash and coal dust was experienced in all the villages except *Untla*. Communities in *Jatal* and *Sutana* villages reported cloud formations of fly ash particularly in summer. Communities of all villages except *Untla* reported impacts on health – their own and their cattle as a result of the pollution. Some of the key issues reported are as given below:

- eye irritation due to coal dust from the coal handling plant **(See Photo A.4);**
- structures turn dark with constant exposure to coal dust from the coal handling plant;
- dust seeps in even though the rooms are closed;
- clothes that are hung out to dry darken;
- respiratory problems are experienced by many; and

- cattle refuse to eat the darkened fodder resulting in decline in milk production. Besides, whatever nutrition is given, the cattle continue to have a stunted growth, besides in certain cases, their fertility is on the decline.
- villagers in Assan Kalan reported that oil fumes from the oil refinery at Panipat further added to the pollution.
- Untla village reported that the water quality was reported poor from before the commencement of thermal plant operations and therefore not a consequence of thermal plant.

Impacts on crops and soil: Fly-ash emanating from power plants is known to be major cause of soil pollution in the surrounding areas. In case of the villages that lie in the vicinity of PTPS, fly ash impacts were reported by villagers from *Khukrana, Sutana* and *Jatal* reported impacts of fly ash on crops, while communities in *Assan Khurd* and *Assan Kalan* reported impacts on crops due to coal dust. In *Khukrana, Sutana* and *Jatal,* it was reported that such air pollution and deposits on crops is leading to stunted growth besides lower yields. Grains have lesser shine, when compared with the produce of other farmers and it resulted in financial loss for the farmers. This has impacted cropping patterns too. Increasingly, farmers do not grow vegetables such as *green peas,* etc.

Photo A-4: Coal dust from the coal handling plant

Community Welfare measures by PTPS: PTPS had provided a set of community welfare measures to some of the villages in response to the various situations as required from time to time. Village communities pointed out that health check up camps have been found useful and they should be conducted at least every quarter. The village communities did not show any awareness regarding any of the greening measures. The villagers stated there is delayed action when the villagers complaint of any blockage in the drains etc. Details on measures and their impact and reach are discussed in the **part C – review of CSR-CD policy.**

Health facilities: Doctors with RMP degree were reported in *Assan Kalan and Assan Khurd* while a Primary Health Centre *(PHC)* is located in *Khukrana* village. Similar health facilities are present in *Jatal* and *Sutana.* Extension of health facilities and providing health check up camps were requested by the villagers. Women in particular requested for better medical services for those ladies who are pregnant and or have recently delivered.

Other benefits: In *Untla* village, villagers acknowledged that the thermal wastewater had helped to solidify the crops and their harvest is better than before. However, crops are damaged due to the spill over from the waste water drain that is a mixture of the oil spills and other weeds. Also particularly in the monsoon season, the clogged canal leads water to spill over. **(See Photo A.5 & A.6)**

Mode of information disclosure of information on developments in PTPS: For most of the villagers, the source of information is either persons working with PTPS or when they meet with the CE or other officials to know the developments. Overall, there is no formal system of providing information on the developments.


Photo A.5 – Oil spillage and weeds in waste water drain and towers on the lands at Untla village

FGD with Women groups/BPL households: A total of 6 FGDs were held with women (5) and BPL groups (1). These included a total of 90 persons (75 women and 15 BPL persons). Outcomes of the discussions are summarized below:

Direct and Indirect impacts: Most of the women were concerned about the impacts of fly ash and coal dust on their house, on health such as eye irritations that are caused besides breathing problems and water contamination. Interactions with school teachers at *Khukrana* revealed that condition of the school has worsened continuously. As the old one has developed so many cracks a new building has been constructed. The children fall sick often and in particular during summers. Women in BPL households stated that water is saline and there are many cases of TB. Respiratory disorders are prevalent in most persons and young women at the age of 25-35 develop such disorders at an early age. Because of poor quality of water, children's teeth turn yellow soon and suffering body ache is the most common complaint. In *Untla* village, women complained about weakening of the eye sight taking place due to gas formation and headache which is an outcome of the poor quality of drinking water. Crop loss is an outcome of the fly-ash/coal dust too. Most households visit doctors at least 5-6 times in a month. Further at *Khukrana* and *Jattal*, women indicated that such polluted environment scares prospective matches for their children – girl or boy. If the outsider is unaware of the pollution, they finalize marriages, but otherwise they are scared of long term impacts. Impacts on animals too are to be found as fodder for the cattle too is unfit and causes illness to the cattle that sometimes prove fatal.

Though four villages are already being given 24 hours power supply, communities perceived the power supply is inadequate particularly in summers and there is mosquito menace due to poor power availability. In fact, because of poor drainage, mosquitoes have started appearing in winters itself because of the stagnation. Better light supply shall help in many ways such machines can be used for cutting fodder, mosquitoes can be repelled and many domestic electric appliances can be used to make their task simpler. At present due to poor power supply no water purifiers are installed in any of the houses. Water is rarely boiled as it is regarded expensive. Studying under candle light strains the eyes and weakens the eye sight of children.

Access to social infrastructure: Women groups at *Untla* informed that there are *angawadi* centres but no community halls that could be used for marriage and other occasions. There are no schools for girls beyond 8th class. Though girls are willing to study they are not encouraged to study further as there are no school facilities nearby and also social situation is not conducive. Inadequate transportation was a major problem that reduces mobility and thereby access. It further increases reliance upon the male members in the households.

Employment opportunities or work opportunities with PTPS: In *Khukrana,* many females go for work in the villages as mostly agriculture or non –agriculture labor such as c*hunai,* etc is available. Payment for such works is around Rs. 100/day is paid. Only one female from *Khukrana* was reported to be working with PTPS. In *Jatal*, women complained that there are no employment opportunities for them. However they are engaged mostly in household work and also in the fields. In *Sutana* and *Assan Kalan,* they requested that more employment opportunities be provided, as the social context has changed in the area. More women are willing to work outside their homes. There are graduates and also a few post graduates amongst females in the village in *Assan Khurd* but are sitting at home as despite many interviews they do not get employment. In *Sutana*, weaving, dye of fabrics is the occupation for some of the women who go out of village for work in the nearby factory. They earn approximately Rs. 70 per day, which is paid cumulatively on a monthly basis.

Information dissemination: They reported that it is their men folk who go to PTPS for any meetings or to discuss any issues. Within the village, in terms of information dissemination, women reported that they do not attend *gram sabhas* as only women representatives attend such meetings and therefore they are only source of information regarding any development for the village. They otherwise do not get time for meeting together on other occasions as there is always enough domestic work to keep them busy.

Community welfare measure desired: A few females reported that a medical camp had been organized by PTPS. As for medical facilities, on normal occasions or either at the time of delivery, they have to go to Panipat. Those doctors who are cheap are often found to be ineffective leading to further deterioration in health, while others are found to be expensive but they manage to provide cure. They desired that following welfare measures be provided:

- Medical check up for women and children periodically
- Provision of a dispensary/mobile dispensary with the help of health department, wherever not available
- Scholarships supported by PTPS particularly for girl children;
- spray of medicines and repellents should be carried out at least 3-4 times in a year with the help of health department

Consultation with BPL groups: Consultations with BPL households were held at *Untla* and *Khukrana villages*. They stated that major issues were the lack of adequate power supply, resulting in mosquitoes during day time and night and now in winters too. They attributed it to the clogging of drains due to water from thermal plant. They stated that they had to visit doctors for respiratory, stomach, fever and other skin infections. Fly-ash that settles in the village from the nearby dry fly ash silo causes eye irritation. Some of the BPL families have got taps but no water as there is no power. Though four villages are already being given 24 hours power supply, communities perceived the power supply is inadequate particularly in summers, leading to mosquito menace due to poor power availability.

Among other issues, they stated that the district administration has wrongly issued BPL cards where the actual deserving ones have been left out. Unemployment is the major problem for BPL families and they do not get any support from the village or outside. In terms of community welfare measures, they suggested that sprinklers for fly ash should be operated and spraying of chemicals to prevent breeding of mosquitoes should be carried out. **(See Annexure D** for photos of consultations**).**

Historical accounts of the developments since commencements of plant operations were obtained and same is presented below **(see Key informant interview 1 and 2)**.

Key informant interview 1: Shri Ranbir Singh, PTPS employee and, resident of Khukrana village

Land acquisition: Land was acquired in 1973-74 when the prices of land were around Rs. 600 per kila for un-irrigated land, Rs. 1100/kila for semi-irrigated land and Rs. 3000/ kila for land irrigated by ground water as well as by Nehar (canal). Though the area was water-logged even then the 90% of the adjacent land was cultivable. Compensation for all such lands acquired in 1970s has been paid. However there was panchayat land (BPL plots) that had been taken by government and subsequently was given to villagers in parcels but it was handed over to PTPS for which no compensation was given. These were plots normally given under government programs. Subsequently land was acquired in 1990 for the railway line and also ash dyke. In total 1250 acres of land was acquired by PTPS but only 800-900 acres of land are left. Jaypee plant also acquired 60-70 acres of land, while another 20-30 acres of land for the ash dyke very recently. The cost of land given to cement plant in 2007 was around Rs. 53 lakhs per acre (good cultivable land) and around Rs. 6.70 lakhs per acre for uncultivable waste land.

In 1993, a case was filed for pollution by residents of Khukrana village. The verdict by court included provision of 24 hours power supply, drinking water supply from Saundpur village in order to compensate for the inadequate and unfit drinking water supply polluted by thermal plant operations. Water quality tests were carried at that time only and never again. Medical facilities were to be provided to the people of the village. Though complaints were made by the residents and also cases were filed, PTPS contended that water supply was PHED's responsibility and not its own. Water facilities were provided for a period of six months from Saundpur village and discontinued after that; water tankers were deployed for this purpose but they stopped operations after 7-8 years. Medical facilities from the civil hospital and thermal power plant were provided. While the frequency of medical camps was greater earlier, it has come down to once in six months. However, the provision of 24 hours power supply however continues with very occasional disruptions. We did not approach courts under the contempt of court provision as we found the legal fees too high. At present 30 -35 cases are from this village and all except one are towards compensation. One case is towards fly-ash damage to crops.

Amenities: There is a middle level (madhyamak) school in the village. About 50 persons are graduates in the village and get their higher education from nearby panipat, rohtak or delhi

Impacts: Currently the land adjacent to the temple is also getting water logged. It shall soon become saline and unfit for cultivation. No sewerage or drainage system is present and all water is stagnant. Villagers and also PTPS have got borewells installed to remove water and dump into the raw water that is on other side of the state highway road but most have fallen into a state of disrepair. Water logging is so severe that even digging to upto one meter shall cause water logging in the village. The village is sitting in a swamp. Fly ash from the ash dyke in the months of May/June blows and deposits are found in each house. Jaypee cement trucks operating cause further pollution. Plenty of houses have paints that are peeling off because of the impact of the pollution. Water purification instruments are used in about 10-15 households but even they are not considered adequate. Handpumps are installed for drinking water but it turns yellow very soon. The same water is used for providing drinking water to cattle. Milk production has gone down as the buffaloes are often ill and also there is not too much of milk business to look at it as a source of livelihood. Heart problem, respiratory problems and asthma are common ailments and nearly 80% of the villagers are already ill. Health facilities are non-existent though a Primary Health Centre (PHC) is there. As there are no facilities for reproduction or child bearing, we have to approach Panipat for any such requirement.

Relocation of Khukrana village: In 1996 – a proposal was mooted and approved in the Vidhan Sabha or Vidha Soudha for shifting Khukrana village following which two sites were identified. One option was near St. Mary's school and other one was near Assandh-Jind state highway. The site identified near the Petrol pump (Saundapur) was initially 100 acres in area, which came down to 42.5 acres as the some land was identified as belonging to railway, and other infrastructures such as pipelines. The identified piece of land is cultivable agricultural land. Other relocation site of St. Mary school is approximately five km away. Further expansion of ash dyke is unlikely to impact the new resettlement site. Sometime back, all three owners of this identified site approached court after section 4, section 6 notifications of LA act were issued. At present the hearings in the court are ongoing. General sentiment of the village is to shift soon as the high court awards the decision in favor of the acquisition of the new resettlement site. This would be beneficial to the villagers as that would help the villagers to continue cultivation of their agricultural lands that they have on this side. Rehabilitation options preferred in case of relocation are:

- *Replacement of land lost by provision of land or else cash*
- *Provision of adequate compensation for structures – houses and shops*
- *Build own houses – provide some kind of support*

If cost of land is given in terms of money rather than another piece of land for the village to relocate, then the village would disperse and scatter. Resettlement en-masse of village is preferred as that would ensure village as an entity would remain!

Source: Site survey 2010

Photo A6: Site identified for relocation of Khukrana village

Impacts on crops in Khukrana village due to coal dust

Key informant interview 2 – Shri Harpal Singh, Sarpanch, Assan Khurd village
Land acquisition: Land was acquired from the village three times in total i.e. 1973-74, 1983-84 and 2002-2003. A total of 4000 bigha was acquired. Villagers were informed that land is being taken. Though publications of notices must have taken place it was not done at the village level. At that time, the rates were very low at Rs. 700 per acre, Rs. 5000 per acre in 85-86, Rs. 8000 per acre in 2003. All the compensation rates were enhanced following court verdicts. The total land holding of the village was 6500 acre of which PTPS took approximately 4000 leaving a balance of only 2500 bigha. Most recent rates were 3.87 lakhs per acre. After the lands were taken from these villagers, 15-20 households became totally landless. Besides, the amount of compensation given is insufficient to start any commercial businesses. Further, at the time of payment of compensation, there should be a process to distinguish between those persons who are owners and lose land and those who do not own that piece of land but work on it and therefore are losing livelihood by working on the land. Hence some additional support should be provided. Market rates of land have gone up steadily since 1973-1974. While initial increase was due to the PTPS, subsequent increases were due to the overall development in the area. The setting up of other facilities such as National Fertilizer Plant, Jaypee cement plant, banquet halls, petrol pumps, etc have led to escalation in the market prices though even now the circle rates are low. Though no transactions have taken place of late in the village, the market rate of land currently is between around 45-55 lakhs per acre. *Work opportunities: While agriculture has dwindled, agricultural labour is the main source. Villagers have invested in education and are in service outside and it has resulted in the economic prosperity of the village, though the civic amenities provided are deplorable. Literacy in the village is close to 100% as all males and females are educated; 50 persons are having polytechnic qualifications. Some have done B.Ed and M.Ed. and also hold diplomas. There needs to be relaxation in the criteria by PTPS. IOC refinery, Panipat however has better provisions in terms of compensation and provision of petty contracts. They take vehicles from affected persons at good rates and ensure income enhancement. Outsiders get employed at the level of computer operators, whereas the village children are equally or better qualified and therefore are more competent. Further no preference is given to the PTPS affected in terms of contracts awarded for any kind of maintenance as such contracts are awarded to outsiders who are more wealth and willing to pay speed money. In other states such as NTPC Talcher etc. they provide greater preference to the local employees and less to outside which does not happen here* *Amenities: Most of the village roads are pucca roads. In fact, the villagers agreed to stop defecation in the open and constructed toilets from funds made available to panchayat and at present there is more than 100% toilet coverage. In fact the village had been awarded "Nirmal gram puruskar" – an award given under the Total Sanitation campaign. Schools however is only upto primary – Class V. In terms of medical facilities, only one Jodhka clinic is available to the village.* *Power supply issue: Though most of the land has been lost by us, benefits to us have not accrued. In the period 1982-89 the village was connected to PTPS staff colony and used to receive 24 hours power supply but subsequently, it was separated. Also the segregation of power supply for agriculture from that of domestic usage resulted in reduced power supply. Despite a court verdict that promises 24 hours power supply similar to what has been given in Khukrana, there is no follow up. Though electric poles have been installed they have not been electrified. At present 8- 10 hours power supply is available though 24 hours power supply case was won in the court.* *Adverse or negative impacts: Ever since the plant commenced operations, pollution due to coal dust is the major impact. Though the drain from the village leads to inside Panipat plant and should go away further from other side it does not take place*

Key informant interview 2 – Shri Harpal Singh, Sarpanch, Assan Khurd village
as there is no cleaning that results in back flow and water logging. It results in damage to crops and much of the wheat crop is now so small or stunted in its growth. There are patches where it has totally died. White-wash of houses is carried out but within no time coal dust accumulates and settles and causes such structures to darken. Impacts on children and adults are alike. Between May and July the impact is maximum. Buffaloes too get affected in terms of their virility and pregnancy does not take place and most of the buffaloes are suffering from this ailment in this village. Earlier many species of birds used to be seen in the field but now very few come because of pollution. *Community welfare: Provision of a school and also doctor with MBBS degree would be welcome. Panchayat carries out works such as improving roads, getting toilets but pollution due to fly ash and coal dust are beyond our control. That is to be handled by the plant officials!*
Source: Site survey, 2010

A. 9 Applicable Legal and regulatory framework

A review of the legal and regulatory framework was made to assess applicability of policies and acts. The following relevant policies and acts were reviewed:

i) Land acquisition Act, 1894 (amended in 1984)
ii) National Policy on Rehabilitation and Resettlement, 2007
iii) Government of Haryana's policy for Rehabilitation and Resettlement of Land owners – Land Acquisition oustees, 2007.
iv) World Bank's Operational policy 4.12 on Involuntary Resettlement

A brief description of the provisions of these acts and an assessment of their applicability is provided in ensuing paragraphs.

Land Acquisition Act, 1894: All acquisition of land for a defined public purpose is governed by this act. All land acquired thus far by the PTPS (HSEB) for various purposes has been under the act. Under the act, appropriate compensation calculation and disbursement of compensation through the government machinery to the concerned persons/department, etc. is to be carried out. At present the provision of the act do not apply as no land is being acquired. However, in case of any further requirement of land, the act shall be applicable.

Government of Haryana's Policy for Rehabilitation and Resettlement of land owners – land acquisition oustees: Revenue and Disaster Management department, Government of Haryana formulated a policy in December, 2007 for rehabilitation and resettlement of land owners – land acquisition oustees. The policy contains the following provisions:

(i) The land owners will be paid annuity for 33 years over and above the usual land compensation. The amount of annuity will be Rs. 15,000/- per acre per annum.
(ii) Annuity of Rs. 15,000/- will be increased by a fixed sum of Rs. 500/- every year
(iii) In respect of land acquired in terms of land acquisition policy for setting up of Special Economic zone/Technology cities, Technology parks, in addition to rehabilitation and resettlement plackage notified by Industries and commerce department vide no. 48/48/2006-41B1 dated 4th May, 2005 a sum of Rs. 30,000 per acre per annum will be paid for a period of 33 years by private developers and this annuity will be increased by Rs. 1000/- every year
(iv) The policy of paying annuity will be applicable to all cases of land acquisition by Govt. except land acquired for defence purposes.

‘

National Policy on Rehabilitation and Resettlement, 2007**:** The Policy provides that in case of a project involving land acquisition on behalf of a requiring body, the compensation award shall be declared well in time before displacement of the affected families. Full payment of compensation as well as adequate progress in resettlement shall be ensured in advance of the actual displacement of the affected families. It also provides that prior to initiating the acquisition of land for a project, the appropriate, govt. shall explore alternatives to minimise the displacement of people, total area of land due to the acquisition of land for the project; acquisition of agricultural land for non-agricultural use.

As there is no land being acquired leading to any impacts on assets of village communities, the National Policy on Resettlement and Rehabilitation project, 2007 shall not be applicable.

World Bank's OP 4.12 on Involuntary Resettlement**:** OP 4.12 on Involuntary Resettlement of the World Bank, covers only the direct impacts of land acquisition and restrictions of access to legally designated parks and protected areas. "Direct impact" means any consequence immediately related to the taking of a parcel of land or to restrictions in the use of legally designated parks or protected areas. People directly affected by land acquisition may lose their home, farmland, property, business, or other means of livelihood. As in Panipat, projects can indirectly affect incomes with or without expropriation of land, physical relocation of people, or restrictions on use Income losses not directly attributable to taking of land are not covered by OP 4.12, but none of these a direct or indirect caused by the project interventions under the R&M of Units 3 & 4 PTPS. The World Bank's policy, OP 4.12 on involuntary resettlement applies when a) resettlement is involuntary; b) the project is location specific and c) taking of land or restriction of access for a bank financed investment. As in the R&M at PTPS, none of these criteria is met, **OP 4.12 policy on involuntary resettlement shall not be triggered. (See Box A.1)**

Box A1: When the OP 4.12 applies and does not apply

Paragraph 3 of OP 4.12 describes the coverage of the policy: "direct economic and social impacts that both result from Bank-assisted investment projects, and are caused by (a) the involuntary taking of land resulting in (i) relocation or loss of shelter; (ii) loss of assets or access to assets; or (iii) loss of income sources or means of livelihood, whether or not the affected persons must move to another location; or (b) the involuntary restriction of access to legally designated parks and protected areas resulting in adverse impacts on the livelihoods of the displaced persons."

OP 4.12 clarifies the situations in which the policy does not apply. The essential criteria for the application of the policy are (a) the resettlement being involuntary; (b) the project being location specific; and (c) the taking of land or restriction of access being for a Bank-financed investment. The policy does not apply when these criteria are not met.

OP 4.12 explicitly covers "direct economic and social impacts" caused by Bank-assisted investment projects (para. 3). By implication, the policy does not apply to impacts indirectly related to land acquisition. OP 4.12 states that in these instances, "Where there are adverse indirect social or economic impacts, it is good practice for the borrower to undertake a social assessment and implement measures to minimize and mitigate adverse economic and social impacts, particularly upon poor and vulnerable groups".

Source: Involuntary Resettlement Sourcebook, The World Bank

A. 10 Mitigation measures currently provided by PTPS

The set of mitigation measures currently provided by PTPS along with their annual costs are listed below:

- Assistance in employment to nearby villages: About 75 persons of a nearby village are employed with PTPS. Also about 250 numbers of unskilled workers of the nearby villages are working with various contractors of the Thermal power station. Some of them also belong to the households that were affected by land acquisition that took place in the early 1970s and 1980s when the policy for providing employment against land taken was prevalent.
- Development of greenbelt within the vicinity of the power plant: The greenbelt in an area of 45 hectares is being developed through the forest department at an estimated cost of Rs. 195 lakhs. About 62,000 plants were provided so far. Plantation was done in an area of more than 1000 sq.mtrs by developing the land along the boundary of PTPS gate no. main entry road. (Cost Rs. 1 crore and ten lakhs)

- *Assistance to overcome water logging problem*: 4 numbers deep tube-wells of 50 HP motor with discharge of 50 litre per second and 2 nos. shallow tube-wells with 3 HP motor and discharge of 10 litre per second for evacuation of ground water from village *Khukrana* with a view to lower the water table in the area were established (cost: Approx. Rs. 6 lakhs annually)
- Assistance to carry out de-weeding, remove of blockages from drainage, tube-wells (Cost Approx. 12 lakhs per annum)
- *Arrest of seepage of water:* Several mitigation measures were taken to ensure seepage of water does not take place from Ash dykes. These include providing garland drain around the ash dykes which are connected to drain of irrigation department, providing ash water recovery system for optimum use of discharged water.
- *Monitoring of pollution levels:* Conscious of the social responsibility to protect environmental pollution emanating from power station, the PM levels are monitored continuously and tuning of the units is being done during overhauling of the units to maintain within the permissible limits. (Cost 25 lakhs annual contract)

A.11 Suggested Mitigation measures

While many of these impacts are not a result of the current project intervention, they need to be addressed. Indirect impacts perceived by the village communities such as health impacts can only be mitigated by appropriate measures taken by PTPS along with affected communities. They further would require to be monitored through mechanisms specifically deployed for the purpose. Mitigation measures that would be required shall be a mix of technological, environmental and social measures. While technological measures would imply improvement to the coal handling plant and other improvements at the plant level, environment and social measures would include the following measures would be as given in **Table A.27.**

Table A.27 – List of suggested Mitigation measures

S.No.	Issue	Suggested Mitigation measure	Cost (in Rs.)
1	Perceived impact on health on surrounding communities/ of six villages of *Khukrana, Sutana, Untla, Assan Kalan, Assan Khurd and Jattal*	1. A health survey should be conducted in all these villages as to establish a baseline for all 6 villages. These should be followed by provision of medical check up camps and the status should be monitored every three months.	1. Rs. 3,00,000 lumpsum for all six villages. *Note: Further health camps to monitor health status is listed under CSR activities (See Part C)*
2	Perceived impacts due to water logging, and air pollution on other villages due to ash dyke and dry fly ash plant Plantation: Ash dyke area: 2. Dry fly ash collection point (Silo) near by *Jaypee* cement and also at *Assan Khurd* road: Both these silos cause air pollution in the nearby village of *Untla* and nearby areas	1. Monitor ambient water quality and air quality in the surrounding **six villages on a quarterly basis.** 2. Provide eucalyptus trees near the ash dyke with regular maintenance by the PTPS employees 3. To avoid air pollution take remedial measures such as plantation of trees and provide sprinklers. 4. Also these silos should be covered at top level with asbestos sheet.	1. Rs. 1,68,000 for surface water monitoring (Rs. 7,000 each); Rs. 1,68,000 for ground water (Rs. 7,000 each) and Rs. 2,04,000 for air quality (at Rs. 8,500 each); 2. Cost of eucalyptus tree plantation – Rs. 2,00,000/- 3. Rs. 50,000/- annually 4. Rs. 40,000/- for coverage of dry ash silos

Certain other measures that are to be taken not as a direct mitigation measure to the impacts but as a whole in context of the CSR are as follows **(for details see part B & C) :**

- communication strategy and community welfare measures under the CSR should be taken up

- plant trees in the name of each child in the nearby schools – *Neem ,Peepal, Jamun, Bargad, Amla, Arjun,* etc. This will help environmental awareness at an early age and also develop a sense of preserving environment;
- develop Herbal park on the lines of other parks developed in Haryana; and
- plant trees around PTPS and also along villages as part of the greenbelt development

A.12 Institutional arrangements

An effective setup and support from the management level shall be required to effectively implement the above mitigation measures. It is proposed that an environment and social cell be constituted under the chairmanship of the SE Civil. It also should comprise S.E. – R&M and S.E. Monitoring and Training and other XENs from these departments. It shall be responsible for planning, implementation and monitoring of these activities – mitigation measures for direct impacts and other community welfare measures. For more details on the functions of the cell, **refer to section B5.**

A.13 Development outcomes and monitoring indicators

The intended development outcomes of the planned mitigation measures under the project shall be as follows:

- reduced health impacts on the surrounding communities
- reduced damage to crops
- reduced damage to agriculture lands due to water logging
- a more enabling environment of cooperation between PTPS and village communities

Monitoring indicators therefore would be as follows:

- decline in number of waterlogged structures at *Khukrana* village
- decline in number of health infections reported
- decline in number of visits to medical facilities
- decline in quantum of crop damage
- decline in quantum of agricultural field that has got damaged
- decline in number of cattle that are reported with illness
- decline in number of court cases relating to crop damage caused by fly ash; and
- decline in number of court cases relating to damage of agriculture land caused by water logging:

Certain other indicators are listed in **section B6 of the report**

A.14 Issues that need to be studied in further detail

The following issues are proposed for detailed study and consideration

- preparation and development of an Environment and Social Policy and Procedures (ESPP) to identify and address and mitigate direct impacts; and

- study of provisions of compensation and assistance, preference in other entitlements and community welfare measures offered by other utilities in the Panipat area such as Indian Oil Refinery, National Fertilizer limited, etc. as that would enable HPGCL to develop a uniform policy for providing compensation and entitlements.

PART B – COMMUNICATION NEEDS ASSESSMENT AND COMMUNICATION STRATEGY

B.1 Introduction

Extensive public consultations were held across stakeholder groups including community members, government officials, panchayat members and socially vulnerable groups such as BPL families, women groups, etc. The findings of the consultations are summarized under **section A.8**. The single biggest concern from the communications perspective was the negative opinions or perceptions amongst communities with respect to PTPS. The interactions with these stakeholder groups helped to highlight the information gaps currently prevalent and have led to set of misconceptions and negative feelings towards the thermal plant. Further they brought out that the existing channels of communication are inadequate and weak.

Around PTPS as elsewhere, communities base their perceptions and state their views based on the information available or provided to them either from time to time or whenever a project intervention is planned and/or executed. Further as in the case of PTPS, villages have had a long history of interaction with the PTPS resulting from land acquisition; court cases involving PTPS over the enhancements to compensation; relocation issues as in the case of *Khukrana* village; non-provision of direct employment to the surrounding communities; and finally impacts experienced as a result of thermal plant operations.

The following section brings out the current and desired perceptions; analysis of the perceptions; the current practices of providing information to the communities; requirements as mandated under RTI Act, 2005 for PTPS to disclose information; communication needs, communication strategy and a set of activities along with institutional setup required to execute the strategy.

B.2 Assessment of communication needs

In order to identify the current communication needs, an assessment of the socio-cultural milieu vis-à-vis views on PTPS was carried out during the household survey, community consultations and FGDs. Communities response to certain specific questions are presented **(See Table B1-B3).**

Table B 1 – Project benefits: measures that lower on water and air pollution

Do you think the proposed project shall take measures that ensure lower impacts on air and water?

Name of village	Yes	No
Assan Kalan	11.11	88.89
Assan Khurd	2.00	98.00
Jatal	39.05	60.95
Khukrana	41.11	58.89
Sutana	0.00	100.00
Untla	0.00	100.00
Total	**12.88**	**87.12**

Source: Site survey, 2010

Table B 2 – Project benefits: lower impacts on health

Do you think the proposed project shall have measures that shall lower impacts on health

Name of village	Yes	No/can't say
Assan Kalan	13.4	86.6
Assan Khurd	22	78
Jatal	37	63
Khukrana	44	56
Sutana	0	100
Untla	0	100
Total	**19.40**	**80.60**

Source: Site survey, 2010

Table B 3– Project benefits: increase in business opportunities (%)		
Do you think the project shall lead to increased business opportunity?		
Name of village	Yes	No
Assan Kalan	0.00	100.00
Assan Khurd	0.00	100.00
Jatal	38.68	61.32
Khukrana	23.33	76.67
Sutana	0.00	100.00
Untla	0.00	100.00
Total	**8.23**	**91.77**
		Source: Site survey, 2010

Further the following questions relating to proposed project were administered during household surveys:

- Whether the proposed project shall bring more facilities for the village;
- Whether the proposed project shall result in increase in land prices; and
- Whether the proposed project shall lead to better safety measures;

As most of the surveyed households indicated either a "No/Can't say" response to the above questions, these issues were discussed at a broader level during the community consultations held subsequently. Based on the survey and consultations, assessment of the current perceptions held by the communities is given below.

Current perceptions held by the communities:

- PTPS does not provide any facilities though the plant and its associated facilities which are setup on lands that once belonged to the surrounding villages;
- livelihoods and health are impacted due to the air pollution caused but nobody hears the grievances nor action is taken unless there is pressure from the courts or from the District Collector's office;
- PTPS acquires land but the onus for provision of power supply as given in e.g. *Khukrana* village is now stated to be a responsibility of the distribution company;
- Only *Khukrana* village is given 24 hours power supply and jobs as well while other villages have lost land as well;
- water logging caused by seepage from the ash dyke and air pollution caused by fly-ash and coal dust are long standing issues that are neglected despite repeated complaints;
- many surveys and assessments are carried out from time to time but as no action is taken, such assessments tend to mock at our current plight;
- financing to such projects by any donor should take place only after PTPS improves the situation;
- PTPS officials are not aware and also do not want to be aware of the plight of the villagers;
- no community welfare measures such as health check up camps, transport facilities, access to gas agency for connections are provided, though PTPS can afford these;
- Access to the Chief Engineer (CE) PTPS for reporting any issue is difficult as the CISF security stops at the gate;
- There is never any communication from the PTPS of any project intervention that might have direct or indirect implications on the surrounding communities;
- Health impacts are caused only by pollution due to PTPS as they are only major facility in the area;
- PTPS should provide all the facilities that are required such as transportation, water supply, electricity, etc. as it is a major organization; and
- Whether the project shall benefit us or not shall be seen when it actually takes place.

Desired perceptions: The desired perceptions which are the intended outcomes of the communication needs assessment are as follows:

- PTPS (or HPGCL) has informed on the relevant policy and other issues such as policy on compensation for direct impacts;
- Periodical meetings are held and also whenever there is a special request for a meeting and follow up on agreed actions;
- Access to information has been made easier;
- PTPS is aware of the issues relating to the impacts faced due to air and water pollution and is taking/ has taken a set of measures to address them;
- PTPS has organized/ is organizing periodical health check-up camps and providing other welfare measures that are within its purview;
- There are no or insignificants perceived impacts on health as a result of the various mitigation measures; and
- Acknowledgement of the benefits of a large industrial facility such as the PTPS that has resulted in overall development of the area

Gap analysis: An analysis of the above brings out following key issues **(see table B4)**:

Table B 4 – Gap analysis

Communication Gaps	Communication Needs
Inadequate communication given or made available to the village communities;	Appropriate information on developments to be communicated
lack of awareness on the part of PTPS with regard to the impacts caused by the activities of the thermal plant;	Needs to reach out to communities to understand their needs and concerns
perceptions of inaction on part of PTPS despite knowledge of impacts ascertained from surveys and other water quality tests carried out;	Communication to villages of the actions taken /being taken
notions regarding equitable provision of direct benefits such as employment or indirect benefits and/or community welfare measures;	Communication of policy matters to concerned persons and overall community
lack of general awareness amongst communities with regard to certain specific health measures that could be adopted at the household such as boiling of water for consumption;	Generate awareness on health aspects and measures
communities expects PTPS to provide solutions to all problems facing them; and	Provide or facilitate solutions by taking a proactive role in providing solutions
little or no appreciation of the benefits that have arisen out of the PTPS	Communicate benefits

B.3 Current practices of Information Disclosure

As shown in **Photo B 1**, the Chief Engineer is the first appellate authority and primary point of contact, followed by the Public Information Officer, Assistant Public Information officer and officer to accept the fee. Within the PTPS, the S.E. (Monitoring and Training) is the nodal officer for collecting information from all departments, compiling and providing information to the applicant. The application form contains:

- Name of applicant
- Address
- Particular of the information required
- Subject matter of information
- The period to which information relates
- Description of information required
- Question 1

Photo B 1 – Notice Board outside main gate of plant

- Question 2

The request for information form is attached in **Annexure E.** Since, its inception, though many complaints or grievances have been raised and villagers have on occasions met the S.E. Civil or the Chief Engineer in person seeking redressal, only one case has been filed under the RTI from *Sutana* village. Records of such requests for information as sought under RTI Act 2005 are kept, while other information requests and issues are mostly dealt with verbally.

Presently, there is no formal system of holding periodic meetings as the need to communicate and inform is not felt. Villagers, particularly males and mostly *Panchayat* members meet the Chief Engineer on some issue or grievance as and when they feel the need. During interactions with officials, they informed that villagers mostly visit with complaints or requests with respect to removal of blockages of drains, caused due to certain impurities or de-weeding necessary to ensure smooth flow of water. Occasional requests involved complaints of water logging to the non-operation of the tube-wells (*Khukrana*) and/or the pollution of air in the surrounding villages caused due fly-ash and coal dust.

B.4 Need for a Communication Strategy

The current communication practices are inadequate to have the desired reach and impact. Such inadequate practices have and could lead to misconceptions and result in further mis-information to be spread. The section has a strong conceptual and methodological link to the social issues identified in the previous sections and sets the base for designing an appropriate communication strategy. The stakeholder analysis brought out the fact while some of the perceptions are held due to a long history of interactions and actions involving the surrounding communities and the PTPS, there is also a need to segregate the perceptions into those that can be addressed by:

- by PTPS alone
- by PTPS jointly with other departments such as the power distribution company in concern
- by PTPS along with other departments such as water supply, DC office etc.
- by villagers through the gram panchayat; and
- by households by adopting certain other measures in their daily routine

These are presented in **Table B.5** below:

Table B.5 – Issues and Responsibilities

S. No.	Type of issue	Responsibility
1	• PTPS does not provide any facilities though the plant and its associated facilities are setup on lands that belong to the surrounding villages; • livelihoods and health are impacted due to the air and pollution caused but nobody hears the grievances nor action is taken unless there is pressure from the courts or from the District Collector's office; • Only *Khukrana* village is given 24 hours power supply and jobs as well while other villages have lost land as well; • water logging caused by seepage from the ash dyke and air pollution caused by fly-ash and coal dust are long standing issues that are neglected despite repeated complaints; • many surveys and assessments are carried out from time to time but as no action is taken, such assessments tend to mock at prevalent scenario; • financing to such projects by any donor should take place only after PTPS improves the situation; • PTPS officials are not aware and also do not want to be aware of the plight of the villagers; • Access to the CE PTPS for reporting any issue is difficult as the CISF security stops at the gate; • There is never any communication from the PTPS of any project intervention that	PTPS (along with HPGCL)

Table B.5 – Issues and Responsibilities		
S. No.	**Type of issue**	**Responsibility**
	might have direct or indirect implications on the surrounding communities	
2	PTPS acquires land but the onus for provision of power supply as given in e.g. *Khukrana* village is now stated to be a responsibility of the distribution company;	PTPS with associated distribution company
3	no community welfare measures such as health check up camps, transport facilities, access to gas agency for connections are provided, though PTPS can afford these;	PTPS with other departments such as public health etc.
4	PTPS should provide all the facilities that are required such as transportation, water supply, electricity, etc. as it is a major organization	Villages through gram panchayat should taken with other departments such as State Transport corporation, Water Supply, DC office
5	Health impacts are caused only by pollution due to PTPS; and	Villages through maintaining cleanliness; boiling drinking water at homes for consumption, etc.

As under the World Bank funded project – Renovation and Modernization (R&M) of units 3 & 4 would not directly impact communities in terms of any impact on their land and livelihood, it thereby would not bring the authorities in direct contact with communities for any of the activities that are proposed to be carried out. However, in light of the negative perceptions and misconceptions, and also to operationalize the CSR-CD policy a communication strategy is recommended as one of the mitigation options that should be developed and implemented with periodic monitoring of the outcomes to evaluate its efficacy. In order to reconcile and address the gaps between current and desired perceptions based on the gap analysis there is a need for a communication strategy.

B.5 Communication strategy

Even though the RTI Act 2005, mandates the provision of information sought by an applicant, an assessment of the socio-cultural milieu points to the need for a more direct approach with the village communities. An appropriate communication strategy shall require critical elements:

- willingness on the part of the PTPS and village communities to make a definite change set of perceptions, notions;
- have an enabling and supportive environment within the existing institutional setup; and

- take support from grass root level institutions such as NGOs to coordinate, facilitate activities and help build rapport; or address these issues in-house with the help of Environment and Social cell; and
- finally, be prepared for a long waiting period to bring about changes in perceptions as they are deep-rooted.

The overall goal of the communication strategy is to rightly inform the communities, correct prevalent mis-conceptions and create an atmosphere of trust and cooperation (**See figure B1 for a schematic representation of the strategy).**

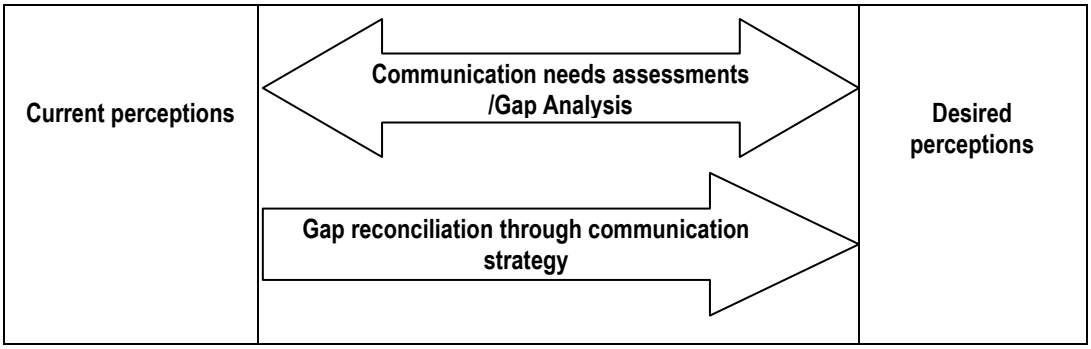


Figure B 1 – A schematic representation of Gap Analysis and Gap reconciliation

Specifically the objectives of the communication strategy shall be as follows:

- to create a shared understanding of the objectives of current project i.e. R&M of the Units 3 & 4;
- to enable better access to information relating to activities of PTPS
- to create a sense of appreciation of the efforts by PTPS to address and alleviate the impacts caused leading to air and water pollution;
- to educate, empower and build capacity amongst village communities to participate in planning and implementation of community welfare measures undertaken by PTPS under the CSR-CD policy;
- to sensitize the staff involved in the project as well as other relevant officials of the need to regularize interactions with village communities to allay apprehensions and correct mis-conceptions:
- to orient the vulnerable groups and women to participate in the community welfare measures and benefit from it.

The foremost requirement of the communication strategy is to disclose the proposed project interventions and related community welfare measures to be provided under CSR-CD policy. The following measures have been discussed with the relevant officials at PTPS and are presented below:

Village level meetings: Village level meetings shall be conducted in all six villages at periodic intervals as mutually agreed between PTPS and villagers. The purpose of the meetings shall be to

- inform the village communities of the proposed activities under the project;
- seek assistance in terms of temporary/contractual labour for any of the activities; and
- inform them of the proposed community development measures under CSR that shall be planned and executed

Date and time of such meetings shall be fixed in discussion with the community and informed them well in advance to ensure that it suits their convenience and also ensures maximum participation. Records of the meetings shall be kept with respect to: i) issues discussed and concerns expressed; ii) list of participants segregated by vulnerability status; and iii) outcomes reached with agreed actions.

Environment and Social cell: An Environment and Social cell shall be formed within PTPS with adequate resources. This cell shall work in close coordination with, and under the newly constituted project level CSR responsibility centre. It shall have two broad roles – to act as an information cell and to facilitate community level interactions and activities. Specifically, it shall carry out the following activities:

- hold interactions with village communities on a periodic basis;
- record the number and types of issues on which the information is sought and also the time taken to provide a response;

- record grievances from or other issues village communities, if any;
- follow up on the mitigation measures that are required in response to impacts identified and conveyed by the communities;
- provide information on policies that are in relation to provision of compensation for land acquired and other benefits such as the new policy that provides "for payment of annual funds to the land owners whose lands has been acquired after March 5, 2005";
- provide information on other government schemes that villagers can avail of;
- coordinate with other external agencies as required for implementation of mitigation activities;
- to coordinate with other departments and generate awareness relating to the need for regular and positive interactions with village communities in the vicinity;
- facilitate the Needs Assessment Surveys (NAS) for planning activities under the CSR-CD activities; and
- monitor continuously and evaluate periodically the impact and effectiveness of activities undertaken.

Further in order to enhance its reach and ensure easier access to the public, it shall be housed within the administrative complex that is situated outside main plant **(See Photo B2)**. The measure should enable the persons living in the vicinity as well as others to access information without having to enter the main premises.

Photo B 1 – Administrative complex

The set of activities shall be monitored and evaluated and updated as per requirements.

B.6 Monitoring and evaluation of the Communications strategy

The performance of communications activities shall be constantly reviewed by the Head of the Environment and Social cell. Monitoring of the communications strategy has to be monitored internally. It will enable to set priorities, activities, focus on allocation and appropriate spending of resources of different activities. Briefly, the purpose of the monitoring would be the following:

1. to guage effectiveness of communication tools and message and make appropriate and timely corrections
2. to provide feedback and inform the higher management and also to suggest modifications to the strategy, if required
3. to show the impact of the strategy on project implementation and PTPS overall.

PART C – Review of HPGCL's Corporate Social Responsibility and Community Development policy

C.1 Introduction

Institutions are responsible for their by-products, i.e. the impacts of their legitimate activities on people and on the physical and social environment[5]. Responsibility for social impacts is a management responsibility – not because it is a social responsibility but because it is a business responsibility. Social responsibilities may arise out of social impacts of the institution and/or arise out of the problems of the society itself. Social responsibilities in the modern context lay emphasis on what an institution should or might do to tackle and solve the problems of society and these are in addition to what the businesses might do to those that are under its immediate purview. Also these are aspects are being increasingly recognized to be beyond the purview of traditional public relations.

In India, the concept of CSR has evolved from concept of giving – philanthropy, donations, to the modern outlook that lays emphasis on the stakeholders in the business – customers, employees, shareholders; recognizes that sustainable development and company's performance and profits are interlinked to the context in which they operate and finally a realization that corporate performance needs to and should be evaluated and analyzed in conjunction with well-being of the society in the immediate vicinity and beyond. A healthy business and a sick society are hardly compatible. Therefore, in India as elsewhere areas of focus under the CSR are an outcome of the society in which they operate. While the traditional areas of focus of CSR have been health and education, the areas in the modern approach include capacity building – skill development, training; sustainable development – environment friendly measures and environment protection; community development – education, health and poverty alleviation; and finally social problems faced by a society such as women's empowerment and issues relating to girl children.

C.2 CSR-CD policy of HPGCL

HPGCL in December, 2009 formulated its CSR-CD policy for adoption company-wide. The policy draws upon the elements in similar policies of other power sector utilities such as POWERGRID, NTPC and thereby compares favorably in its vision, mission and objectives. Being a state level utility, its list of activities at the CSR level is grounded in the state context. It further provides flexibility at the unit level (or plant level) in terms of the choice of activities that can be planned and executed. The adoption of the CSR-CD policy by HPGCL demonstrates willingness of the company to contribute to the overall society and the environment rather than take a narrow view of and only address the direct impacts that arise from its operations. The CSR-CD policy document enlists visions, mission and objectives **(see Table C1)**:

Table C.1 – CSR Vision, Mission and Objectives

Vision	Mission	Objectives
To play a leading and meaningful role in bringing qualitative improvement in the life of the community as well as the environment	• To empower the local communities around HPGCL projects by enhancing their earning capacity • To improve quality of elementary education in areas around HPGCL projects • To enhance the reach of basic medical amenities in the rural areas • To develop sustainable environmental policies and projects • To promote sports and cultural activities	• To use the resources of HPGCL to create opportunities for socio-economic advancement of the underprivileged, especially women and children. • To enable the socioeconomic integration of those who are socially isolated towards restoring their human dignity. • To expose the employees of HPGCL to social groups those are outside their domain so that they experience a fuller reality. • To uplift the human face of HPGCL for its activities extended for society State over and above or even including Corporate Communication dealing with press and media and Environmental issues, and while dealing the Land Oustees, Forest clearance, etc. • The coverage may address to community, society, public grievances, media, press, politicians, NGOs, Social workers, People below poverty line (BPL), land oustsees, flood victims, earth quake and any kind of victims affected

[5] Management: Tasks, Responsibilities, Practices by Peter F. Drucker (1973)

		by nature or crisis.

C.3 Review of the CSR-CD policy

The review of the CSR-CD policy is presented below in two separate sections – CSR at the corporate level and CDP at the plant level. The review is based on the activities carried out at two levels: i) desk based review of literature relating to CSR; and ii) field based observations and interactions with officials.

Desk-based review: The policy document begins a vision statement, mission outcomes and a set of objectives (see **Figure C1 for hierarchy of CSR).** An indicative list of activities that form the basis for its interactions with its stakeholders is provided. It takes cognizance of the need to identify and engage the HPGCL employees with the right aptitude for day to day operations. For effective planning and coordination, it provides for formation of a Corporate CSR Responsibility centre which shall be responsible planning and execution at state level and coordination functions at project level. The policy takes cognizance of challenges faced by those who have a handicap – either physical or mental. It therefore provides for constitution of Development centre for the physically challenged persons with support from another advisory committee comprising of prominent members from within and outside the organization. It concludes with details on the monitoring, reporting functions and also the funds that are to be allocated to translate the vision to actual achievement. The policy therefore adopts a holistic approach and thereby has the following necessary elements that are essential to effective planning, execution and achievement of the intended vision:

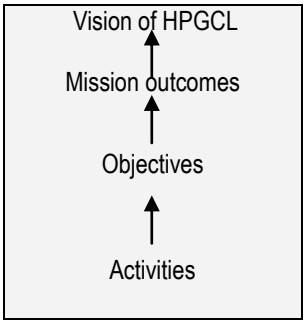


Figure C1: Hierarchy of CSR

- the overall vision or goal that needs to be attained;
- the set of outcomes that should be achieved to attain the vision;
- the objectives that should be the basis for identification of activities;
- appropriate set of CSR activities to be taken at the HQ level that are commensurate to the organization's stature as a major public sector unit and that which shall connect the organization to the external society and environment;
- an implementation mechanism that is responsible for planning and execution of all activities identified;
- the type of resources i.e. human resources that should be a part of the implementation mechanism; and the financial resources or funds that are required to translate intentions into actions;
- monitoring and evaluation mechanism that help to track the progress and assess the outcomes of the activities; and finally,
- reporting of the achievements in the activities in relation to the mission and the overall vision, to the stakeholders and the overall society.

The following observations are made with respect to the CSR policy

1. para 3.0 of CSR-CD policy ""This part of policy addresses the issue of "Community Development" in the neighborhood area of generating stations as per the Environment and Social Policy & Procedures (ESPP) of HPGCL." Officials at HPGCL, Panchkula indicated that based on interactions with indicated that no separate ESPP document has been prepared.
2. the policy does not contain provisions that can enable PTPS (and also HPGCL) to address the gaps that exist between environment concerns and impacts reported and the mitigation measures that are required.

Hence, with respect to CSR it is recommended that as the CSR-CD current policy is of recent origin (December 2009), its assessment should be carried out in about two years from now following its wide-scale operationalization.

Field Level review of CDP: CSR-CDP policy states that "HPGCL (PTPS) as a responsible corporate citizen has been addressing the issue of community development in the neighborhood areas of its power stations, which had been impacted due to the establishment of the project. It is administered primarily as part of the resettlement and rehabilitation effort". HPGCL has also plans to expand it horizon and social vision to make its impact felt at State level.. The review of the CDP included discussions with officials relating to the community welfare measures already extended by PTPS. The welfare measures reported to have been already been extended include the following:

- *Health facilities:* HPGCL and the health department had organized medical camps for the residents of the *Khukrana, Untla, Sutana* and *Assan Khurd* villages. Four such camps had been organized between 2006 and 2008 at village *Khukrana* which was attended by 147 numbers of patients. Free medicines were distributed to the patients during the camp. (Costs Rs. 5000/- for medicines in addition to doctor's fee)
- Education facilities: To improve the literacy level of nearby villages in Govt. senior secondary school and DAV school situated in the thermal colony premises are being given admission. Total 850 students from nearby villages are studying in these schools; 15 acres of land has been given to DAV school on a lease for 99 years at a rate of Re. 1 per year in addition to an assistance of Rs. 25 lakhs.

C.4 Evaluation of the existing system of planning and implementation of activities

Provision of health check up camps and education facilities are community welfare measures that have taken by PTPS. At present, there is no planned selection of activities. Neither is a process in place, wherein communities or specific groups such as women are involved. Allocation of funds is based on the need expressed and assessed for an activity, following which a proposal is made and internally discussed before implementation. The community welfare measures are perceived to the sole responsibility of the 'civil' wing.

At present reportedly, there is no special recognition to staff who are involved in such activities and nor there is any scope for involvement by staff members if any are wiling. There is no formal system of reporting, monitoring and evaluation of the implemented activities. Impact and reach of the type of facilities is limited. While water logging is reported from five villages, assistance in removal of water logging is provided only to *Khukrana* village.

C.5 Community perceptions/suggestions on welfare measures

During the field survey, the administered questionnaire included questions relating to

- pollution of air, water

- health impacts and health camps
- plantation of trees and development of green belt

The findings on the community perceptions on welfare measures already extended are presented below in the **Tables C1 to C4.**

Table C 1 – Measures by PTPS to alleviate pollution (%)		
Does PTPS mitigate pollution		
Name of village	**Yes**	**No**
Assan Kalan	0.00	100.00
Assan Khurd	0.00	100.00
Jatal	0.00	100.00
Khukrana	6.67	93.33
Sutana	0.89	99.11
Untla	0.00	100.00
Total	**1.06**	**98.94**
		Source: Site survey, 2010

Table C 2 – Health welfare measures by PTPS (%)		
Does PTPS hold any free check up		
Name of village	**Yes**	**No**
Assan Kalan	0.00	100.00
Assan Khurd	0.00	100.00
Jatal	0.00	100.00
Khukrana	78.89	21.11
Sutana	0.89	99.11
Untla	0.00	100.00
Total	**9.69**	**90.31**
		Source: Site survey, 2010

Only residents of *Khukrana* village were aware of the camps that took place in the last 1-2 years.

Table C 3 – Cleaning of blockages in drains caused by PTPS		
Does PTPS clean blockages in drains		
Name of village	**Yes**	**No**
Assan Kalan	0.00	100.00
Assan Khurd	100.00	0.00
Jatal	83.96	16.04
Khukrana	96.67	3.33
Sutana	31.11	68.89
Untla	95.04	4.96
Total	**54.45**	**45.55**
		Source: Site survey, 2010

Most residents from *Untla* village were happy with the thermal waste but reported that action to clean the drainage is delayed. *Khukrana* residents however though stated that measures are being taken to remove blockages but they are ineffective as there is poor maintenance and follow up.

Table C 4 – awareness regarding development of green belt (%)		
Are you aware of development of greenbelt (or greening initiatives/tree plantation around your village)		
Name of village	**Yes**	**No**
Assan Kalan	54.94	45.06
Assan Khurd	0.00	100.00
Jatal	0.94	99.06
Khukrana	27.78	72.22
Sutana	9.78	90.22
Untla	9.09	90.91
Total	**27.62**	**72.38**
		Source: Site survey, 2010

Surveyed households at *Assan Kalan* village responded that trees had been planted but they were unsure whether it was done by the railways authorities or by PTPS, while households in *Khukrana* village stated that trees had been planted more towards the PTPS plant side to beautify the area and less around their village.

C.6 Proposed activities in light of the impact assessment study

Consultations with the communities afforded the opportunity to find out regarding welfare measures perceived by them as the most crucial. Based on the needs assessed and in discussions with PTPS officials, the following set of measures along with their cost implications is presented in **Table C5** below.

Table C 5– List of proposed community welfare measures and costs			
S.No.	**CSR Mission**	**Activities**	**Cost (in Rs.)**
1.	To empower the local communities around HPGCL projects by enhancing their earning capacity	Organize computer literacy courses for the youths by having a tie up with a suitable agency	Rs. 1,00,000/- annually for at least 500 youths
2.		Provide ceiling fans for Community centre in the six villages	Rupees 15000/- annual (non-recurring)
3.		Provide wheel-chair rickshaws to the Physically handicapped to enhance their mobility	Wheel chair rickshaw at Rs. 5,000 per piece (Rs. 1,00,000 /-)
4.		Provide blankets to BPL families during winter months	Rs. 75,000/- annually on occasion of Diwali
5.	To improve quality of elementary education in areas around HPGCL projects	Institute scholarships for three girls per village to encourage education amongst female children	Rs.3,50,000/- for a total of 18 children to be given as scholarships on the occasion of 26th January or August 15th
6.	To enhance the reach of basic medical amenities in the rural areas	Organize eye check up camps for school children, old age and women; Organize health/ family planning check up camps for ladies of BPL families	Rs. 1,25,000/- (for 4 camps a year for six villages at Rs. 5,000/-) ; Rs. 1,25,000/- (for 4 camps a year for six villages at Rs. 5,000/-) :
7.		Provide dustbins to the villages and organize an awareness campaign on maintenance of hygiene and institute an award to be given to the most clean village;	Rs. 6,00,000/ for annual (non-recurring expenditure); Campaign through thermal management for hygienic cleaning of the village in association with the gram panchayat twice a year to generate awareness
8.		Spraying of chemicals for elimination of mosquitoes with the help of health department	Rs. 50,000/- for six villages
9.	To develop sustainable	Nurseries can be developed by	Coordination with forest department by

Table C 5– List of proposed community welfare measures and costs			
S.No.	**CSR Mission**	**Activities**	**Cost (in Rs.)**
	environmental policies and projects	communities wherein variety of plants can be grown as required in the area. From a social perspective, it shall provide employment to a few persons from these villages, besides supplementing their income. *Note: Other measures shall be detailed in the report on Environmental Audit and Due Diligence (EADD)*	identifying suitable sites within the villages, schools and community centres around the periphery of the village to avoid air pollution
10.	To promote sports and cultural activities	Organize a rural sports meet amongst six villages and also teams from staff members of PTPS and institute an award	Rs. 50,000/- annually to provide track suits, organize sports meet on a 1-2 sport activities such as Volleyball, cricket, etc.

Other activities that could be considered are as follows:

1. Felicitation of villagers for any special achievement e.g. awarding *Assan Kalan* and *Assan Khurd* villages that have recently won the *Nirmal Gram Puruskar;* girl from *Untla* village for her meritorious achievement in studies, as it would help good rapport.

2. Development of a Herbal park on the unused land within the PTPS premises

C.7 Institutional arrangement

A project level CSR responsibility centre or committee has been constituted in June 2009 for handling responsibilities relating to implementation of CSR-CD policy **(See Annexure C for copy of letter).** The committee comprises the following members:

1. S.E. Civil, PTPS, Panipat
2. XEN/CMD (Colony), PTPS, Panipat
3. Medical officer, PTPS, Panipat
4. XEN/GS, PTPS, Panipat
5. AEE/RW, PTPS, Panipat

C.8 Recommendations for implementation

The composition of the committee though is adequate, but the ownership and responsibility has to be shared across PTPS. It shall need support from the Environment and Social cell **(see B1 section),** and also the key staff of all departments at PTPS. These shall be monitored internally by PTPS (HPGCL). The following measures are recommended for implementation.

- Communicate provisions of the CSR to the surrounding villages, following which carry out a needs assessment and follow procedures as laid down in the policy.

- As it is a recently formulated policy, it is suggested that a half day orientation programme for staff of HPGCL shall be prepared **(see Table C6 for a tentative agenda**). The orientation shall be given to all key implementing staff and other department heads, besides the management level officials. The purpose of the training shall be to orient the staff in the potential of the CSR-CDP policy, the benefits of good relations with the surrounding society and environment, limits and the routine mistakes in implementing the CSR, processes and benefits involved.

Table C 6– Tentative agenda for a half day workshop on CSR-CDP		
Time	**Topic**	**Details**
10.00 – 10.15	Introduction and welcome	A round of introduction to the participants
10.15 – 10.45	An overview the operational environment and need for a policy	A feedback from the participants on the difficulties of the operations within the social context and the need to manage local expectations and demands
10.45 – 11.00	Tea break	
11.00 – 11.30	Welcome the CSR and its provisions	Provisions of community welfare measures - mandated and provided for by HPGCL
11.30 – 12.00	Key considerations in implementing CSR	♦ Channels for implementing CSR ♦ In house team and internal system ♦ Collaboration or dovetailing with govt. programmes ♦ Importance of NGOs
12.00 – 12.30	Mistakes to avoid in operationalizing CSR-CDP	♦ Selection of an inappropriate activity ♦ Effective launch, but ineffective follow up ♦ Too many activities leading to resource crunch ♦ Weak monitoring ♦ Difference between PR and CSR
12.30 – 1.00	Soft benefits of implementing CSR	♦ Positive public image ♦ Enhancing employee morale ♦ Positive engagement with society and government
	Fiscal benefits of implementing CSR	♦ Benefits under Indian income tax laws
1.00- 1.30	Processes involved	♦ Plan preparation and implementation ♦ Reporting ♦ Monitoring and evaluation

ANNEXURES