

## **Psychological and Social Impact Assessment: A study in the operating area of a Coal Mining company**

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**Abstract:** The world of business is fierce, and in order to survive, businesses must work with society. When a business operates in a way that satisfies the needs of society, it helps to ensure the sustainable growth of both the business and the community it serves. This study delves into the socio-economic conditions of villages in the core and buffer zones of the Coal Mining company and offers a variety of mitigation measures to eradicate psychological and social issues in these areas. A comprehensive approach was given to the study, covering a total of 47 villages in both zones such as Core and Buffer. The study was conducted in-depth interviews with 375 respondents, including sarpanches, exsarpanches, panchayat secretaries, SHGs, and villagers, using various tools such as observation, personal interviews, and focused group discussions. The analysis revealed four primary social issues facing villagers, including limited access to drinking and non-drinking water, high unemployment rates, limited opportunities for higher education, poor hospital conditions, and inadequate irrigation facilities for farmers. To address these issues, recommendation was given by a series of mitigation measures that the company can undertake. The overview of the findings and recommendations for the implementation of these measures. In today's fast-paced world, it is crucial for businesses to work alongside society to ensure sustainable growth and a positive impact on the community. By implementing these mitigation measures, a brighter future for all can be ascertained.

**Key Words:** Psychological, Social, Impact, Assessment, Economic, community.

### **Introduction**

In order to assure firms' long-term profitability, competitiveness, and sustainability, there has been an emphasis on incorporating social, environmental, and ethical obligations into corporate governance throughout the past few decades. Additionally, this school of thought supports the idea that businesses are an essential component of society and have a moral responsibility to support and enhance healthy ecosystems, promote social inclusion and fairness, and advance the nation's economic growth and development. Thus, it has become imperative for organizations to adopt mission statements and governance activities related to social impact of the concerned stake holders in that area. Additionally, this tactic makes financial sense for businesses with successful social initiatives, flags as a socially responsible corporate brand, achieve sustainable growth with long run economies of scale and their products and services are preferred by the customers. In order to assure firms' long-term profitability, competitiveness, and sustainability, there has been an emphasis on incorporating social, environmental, and ethical obligations into corporate governance throughout the past few decades. Additionally, this school of thought supports the idea that businesses are an essential component of society and have a moral responsibility to support and enhance healthy ecosystems, promote social inclusion and fairness, and advance the nation's economic growth and development. Thus, it has become imperative for organizations to adopt mission statements and governance activities related to social impact of the concerned stake holders in that area. This approach is also practical from a financial standpoint because consumers favour companies that engage in successful social activities, identify themselves as socially responsible businesses, and expand sustainably through long-term economies of scale.

The main goals of social projects include environmental sustainability, community health improvement, women's empowerment, drinking water facilities, sustainable livelihood, education, sanitation, skill development, and sport and game promotion. A technique for analysing the social effects connected to plans, programmes, initiatives, and other developments is psychological and social impact assessment. Since modern businesses depend on communities for their own survival, there should be a symbiotic link between business and society. Being a part of society, organisations must go beyond internal concerns in order to improve the quality of life for all parties involved, including staff members, customers, and the neighbourhood. As

organisations have an impact on stakeholders, the environment, institutions, and the communities in which they operate, there is a general perception today that companies have a responsibility to society. Evidence also suggests that many emerging nations' governments have failed to make a significant contribution to the growth of the social sector. A more comprehensive change in the relationships between business, communities, the environment, and sustainability may also be seen in the extensive psychological and social impact assessment exercise. For all stakeholders to experience sustainable growth, organisations must prioritise addressing social needs while minimising environmental impacts of their operations. Through responsible, moral, and ethical leadership, the organisations must unite under the banner of social impact to safeguard the pillars of sustainable prosperity. Therefore, social impact is the study of society, its historical development, current state, analysis of its causes and potential future effects, and lastly, giving back to society.

Our country must take an India-centric strategy to address its many difficulties, including eradicating poverty, combating illiteracy, fostering employment, developing skills, protecting the environment, and empowering women. The government of India engaged in a productive engagement with the stakeholders to release a Sustainability Report 2020–21 by an Indian PSU in order to achieve the nation's changing social, economic, and environmental goals. The term "Sustainable Development Policy" was defined as a method of combining three wings, namely: Sustainability in the environment refers to a dedication to safeguarding the environment and preserving biodiversity in order to maintain the ecological equilibrium. Economic sustainability refers to the company's commitment to improving the local economy, and sociocultural sustainability refers to the company's commitment to improving the local sociocultural climate.

The Government of India's innovative CSR initiative, the revision of Section 135 under the 2013 Companies Act, is expected to have a significant impact on the connection between businesses and the society. It had also given corporate India the chance and the challenge to contribute to nation-building and establish itself as a pillar of participatory democracy.

### **Literature Review**

Making sure that development is sustainable, moral, and balanced is one of the biggest challenges facing humanity in this century. Without respect for natural systems and adherence to international standards protecting fundamental social and environmental values, it will be impossible to meet the expanding requirements of both present and future generations. The role of the business sector that too for PSUs in the successful implementation of the new projects is really critical. Strategically, business can only flourish when the communities and ecosystems in which they operate are healthy.

A social impact assessment is "the processes of analysing, monitoring and managing the intended and unintended social consequences, both positive and negative, of planned interventions (policies, programmes, plans, projects) and any social change processes invoked by those interventions," according to the World Business Council for Sustainable Development. Its main goal is to create a more just and sustainable environment for humans and other living things.

The method is used to research the social consequences of planned development initiatives, but it may also be applied to research the social repercussions of any unanticipated interventions, such as changes in demographics, calamities, etc. In order to attain sustainable development outcomes, social impact assessments are conducted (Esteves et al., 2017). Additionally, it supports the adaptive management of projects, programmes, and plans. Social impact assessment takes into account how economic, social, and biophysical aspects are connected (Vanclay, 2003).

The goal of social impact assessment, a particular social science research methodology used to study policies or projects, is to comprehend the context, drivers, and outcomes of social life. In order to avoid drawbacks and achieve effective management, scientific knowledge and methodologies will be utilised to analyse the social changes, consequences, and outcomes brought about by projects or policies (Benoît et al., 2009). As was already said, SIA has advanced significantly since it first appeared as a social planning tool in the 1970s.

The World Bank Group, the Asian Development Bank (ADB), and the United Nations Development Programme, among other international development partners, have adopted SIA and incorporated it in their projects and programmes in developing nations. SIA can be much more than a sequential procedure for determining impacts and meeting regulatory criteria. It can be a means of encouraging social sustainability, for instance, by facilitating negotiations between mining companies and the area's indigenous peoples, helping local

communities comprehend the effects and benefits of a project, and assisting businesses and communities in managing social change processes to maximise project benefits and minimise their negative effects. Ultimately, SIA may be a vehicle for bringing about constructive social change (Vanclay and Esteves, 2011).

Recent advancements in SIA practise and the conceptual framework imply that SIA would play a larger role by considering gender inequality (Lahiri-Dutt and Ahmad, 2011), ethical issues (Baines and Taylor, 2011), human rights (MacNaughton and Hunt, 2011), indigenous people (O'Faircheallaigh, 2011), cumulative social impacts (Franks et al., 2011), climate change and disaster (Cottrell and King, 2011), and local procurement (Esteves et al., 2011).

Since its inception as a tool for social planning in the 1970s, SIA has advanced significantly. The United Nations Development Programme, the World Bank Group, and other international development partners have adopted SIA and used it in their projects and programmes in developing nations. Journals like "Impact Assessment and Project Appraisal" and "Environmental Impact Assessment Review" have published a tonne of articles on the conceptual and methodological elements of SIA. Through the use of legal mechanisms, both developed and developing nations have further enhanced SIA. The benefits of SIA, however, are commonly thought to have not yet been fully realised. This is partly because SIA has been used as a textbook exercise to pinpoint unfavourable effects of development projects and create mitigation and management strategies to satisfy legal requirements, and partially because "the SIA community has failed to convince all its stakeholders of the full potential of SIA" (Vanclay and Esteves, 2011, p. 3).

SIA can be much more than a sequential procedure for impact identification and regulatory obligation fulfilment. In order to maximise project benefits and minimise their negative effects, it can be a mechanism for promoting social sustainability. For instance, it can help mining companies and the indigenous populations in the area negotiate agreements. It can also help local communities understand the impacts and benefits of a project. Finally, according to Vanclay and Esteves (2011), SIA can be an instrument for effective social transformation.

### **Methodology**

This study used qualitative and quantitative methods for the collection and analysis of pertinent information. There were two phases to the study's execution.

#### **Phase – I: Pre-Survey Activities**

##### *Collection and review of project literature*

In order to identify and gather the literature that is already available and to scope the actions, this phase aims to become familiar with the concerned and significant players. Discussions with those in charge of the Project Implementation and other interested parties were step one of a two-step process. (b) Gathering all relevant project literature that is available. To determine who owned the land, discussions with concerned revenue officials were made. Identification of key stakeholders was based on a review of the literature and discussions with stakeholders.

Quick reconnaissance to familiarise with fieldwork Rapid preliminary field visits were carried out as part of a ground truthing process after the review and consultations. This served as the framework for setting up field research and made it easier to test the questionnaires and checklists. The rapid reconnaissance survey and review both contributed to the formulation of the study instruments and the initial report outlining the final methodology and work plan.

#### **Phase – II: Survey Activities**

##### *Socio-Economic Survey*

By scheduling interviews, engaging in face-to-face interactions, and conducting observations, the primary data were gathered from the target group. The field investigators administer the schedules to get the respondents' responses. Additionally, pertinent data was gathered from the project site, officials, gramme panchayat leaders, and the target communities inside the project's core zone. The study team has examined 47 current settlements that are located in both the core zone and the buffer zone.

*Qualitative Survey*

In order to assess the implementation capacities and the impacted population, qualitative surveys are carried out. Focus groups and in-depth interviews with a variety of people, including women, knowledgeable people, and community leaders, were conducted as part of the qualitative survey in order to elicit their expectations and suggestions, which will support and supplement the data gathered through the quantitative survey. Quantitative and qualitative data are collected from both secondary and primary sources for this study. The secondary information was collected from the Office of the project site. The opinion survey of the respondents has carried out by field investigators under the supervision of Principal Investigator and Co-Principal Investigator. For collection of primary data, the team has visited 47 villages that are within the core and buffer zone of the project. Both qualitative and quantitative data were analyzed to bring out relevant results for the objectives. The quantitative data collected through field surveys are codified, edited, and tabulated using software.

Determination of Sample Size:

$$SS = \frac{z^2 * p * q}{e^2} \dots\dots\dots(1) \text{ (Determination of Sample Size for Infinite Population)}$$

$$SS = \frac{SS}{1 + \frac{SS-1}{\text{population}}} \dots\dots\dots(2) \text{ (Determination of Sample Size for Finite Population)}$$

Where SS – sample size, Z – standardized value corresponding to a confidence level (95 percent level), p - percentage of population picking a choice, and C- confidence interval If Z= 1.96, p = 60 % = .60, 1-p = .40, c = 5 % = .05, then SS = 368 (for infinite population). Here in this study, sample size of 375 out of which 98 from the core zone and 277 samples from buffer zone.

*Assessment of Livelihood Losses*

The study tried to identify people losing their livelihood directly or indirectly. The consultative process has the way to develop rehabilitation strategies that helps for income generation and other remedial and restoration measures. The consultations were conducted with project affected people, villagers, knowledgeable persons and community leaders of the village.

*Review of Legal Policy Provisions and Implementation*

Capacity The relevant state and federal laws and regulations were examined. Verification of these arrangements as well as in-depth interviews with authorities were done in order to evaluate the implementation arrangements and their capability to deliver the R&R services.

*Research Tools and Instruments*

To ensure that all study-related difficulties are adequately addressed and that a useful set of deliverables can be created, a variety of social research tools are used. An appropriate combination of social research methods, including desk research through the review of material, involved government agencies, and project authorities, were used to carry out the complete operation. Focused group discussions with the impacted individuals, pertinent government entities, and the community were conducted in addition to structured and semi-structured interviews. To gather data for the many project stakeholders, the study used a variety of instruments.

- Occupation and Livelihood Status of Villagers
- Source of Energy
- Energy Consumption Pattern
- Sources of Drinking Water
- Sources of Non-Drinking Water
- Type of House
- Condition of Road
- Educational Institutions
- Health Care Facilities
- Presence of Grazing Land
- Common Resources in the Villages

It can be inferred from the collected data that the most prevalent facilities in the surveyed villages are birthing ghats and cremation grounds, which can be found in 89% and 83% of the 47 sample villages, respectively. Meeting halls are also commonly available, with 68% of the villages having this resource. In terms of infrastructure, 28% of the villages have their own drainage system. Additionally, 17% and 19% of the villages have their own youth club and meeting hall, respectively, out of the 47 sample villages. Finally, it is worth noting that only 2% of the villages have their own park.

### Identified social issues and challenges

The summary of different social issues and challenges faced by the different villages coming under core and buffer zone. All these social issues are identified with the public consultation at various locations in and around the core and buffer zone.

Social Screening Exercise: During consultation process with the villagers, focus was given on different social and environmental factors as per the guidelines. The factors which were looked into includes: Condition of Road; Condition of Health Care Facility; Availability of Educational Institutions; Sanitation; Availability of Common Resources; Drinking Water; Supply of Electricity; Availability of Gazing Land; Public Participation in Developmental Activities; Irrigation Facility; Accessibility to the vocational Education

All the below observations are made on basis of responses collected from the villagers from 47 villages which includes both core and buffer zone of the project. All responses are collected by using Likert Scale from 1 to 5 where 1 represents Disagree and 5 represents Strongly Agree.

#### A. Condition of Road

Questionnaires		Mean	S.D.
Q1	Village Road is relatively narrow and an obstacle to communication.	3.788	0.65
Q2	Widening of village roads on both sides is quite helpful for the villagers.	3.818	0.635
Q3	The project need to do repair and maintenance of roads timely.	4.515	0.667

#### B. Condition of Health Care Facility

Questionnaires		Mean	S.D.
Q4	Hospitals are unable to provide proper treatments to their patients.	4.242	0.663
Q5	Hospital needs more beds for general patients.	4.394	0.609
Q6	The number of emergency beds in the hospital needs to be increased	3.970	0.728
Q7	Infrastructure of the hospital is in bad shape and requires proper maintenance by the project area	4.364	0.699

#### C. Availability of Educational Institutions

Questionnaires		Mean	S.D.
Q8	The quality of education in educational institutions is relatively poor	3.758	0.663
Q9	School buildings are in bad shape and require proper maintenance by the The project	3.939	0.827
Q10	The existing number of classrooms in the schools needs to be improved, and demand for the construction of new rooms	3.879	0.696
Q11	The school's mid-day meal system needs to be supported by the The project to encourage children.	3.045	0.666
Q12	Require a separate toilet/washroom facility for boys and girls with water supply.	3.758	0.708

#### D. Availability of Common Resources

Questionnaires		Mean	S.D.
Q13	There is a shortage of vending platforms in the village haat and development of other facilities like water supply, lighting, drainage, boundary, etc	3.758	0.751
Q14	There is demand for additional bathing ghats at village ponds and accessible places along the river, and special arrangements for males and females.	3.879	0.650
Q15	Encouragement and financial support are needed from the The project to the households for the construction of a toilet to end open defecation	4.152	0.667
Q16	Absence of culverts and concrete drains for proper drainage of rainwater	3.576	0.666

Q17	Immediate requirement for a concrete platform and shed at the village cremation ground	3.606	0.659
Q18	The village playground is in disrepair, and a complete renovation is required to allow the village's children and youths to play hockey, football, and cricket	2.818	0.635
Q19	The village has no park, and emphasis on the construction and regular maintenance of a children's park in the village is essential	2.576	0.502

**E. Drinking Water**

Questionnaires		Mean	S.D.
Q20	Continuous water scarcity in the villages and regular water supply is in high demand by the villagers.	4.788	0.415
Q21	The The project needs to take proper action towards renovating and maintaining the village's tube wells/bore wells	4.545	0.564
Q22	Inhabitants are expecting water supply from the the project through mobile tankers during acute summer	4.697	0.529
Q23	Renovation and maintenance of water bodies of the villages for bathing and other purpose maintenance by the project area	4.515	0.619

**F. Supply of Electricity**

Questionnaires		Mean	S.D.
Q24	The disruption in the supply of electricity is quite frequent.	3.424	0.902
Q25	Repair and maintenance of infrastructures relating to electricity supply needs attention and care	3.727	0.876

**G. Irrigation Facility**

Questionnaires		Mean	S.D.
Q26	There is a significant shortage of water for irrigating agricultural crops	3.970	0.847
Q27	The irrigation of agricultural crops is entirely dependent on rainfall.	3.667	0.692
Q28	The supply of mine water from The project would be beneficial for irrigating agricultural crops.	4.455	0.754

**H. Other Observations**

Questionnaires		Mean	S.D.
Q29	The grazing land for livestock is remotely accessible.	2.455	0.51
Q30	Conservation and abolishing of grazing land encroachment for use of livestock.	2.303	0.53
Q31	Community participation is essential in the Panchayat Raj Institutions decision making process.	2.667	0.69
Q32	Due to the overuse of coal for household purposes, the air is getting polluted, which leads to health-related issues	3.121	0.49
Q33	Due to lack of employment opportunities, few villagers have migrated to earn their livelihood.	4.152	0.67
Q34	There is a lack of availability of vocational training facilities for skill enhancement among village youths	4.515	0.57
Q35	Capacity building programme should be arranged by the the project for upgrading skills of villagers.	4.424	0.66
Q36	The Project needs to provide vocational training facilities at the R&R to engage the village youths.	4.364	0.55
Q37	The company will be the key change agent for rural development and responsible corporate citizen.	4.303	0.68

**Recommendation Of Mitigation Measures***Fulfilling Basic Necessities*

Fulfilling basic necessities is essential for the well-being and survival of individuals in any community. Companies can play an important role in fulfilling basic necessities by investing in infrastructure and resources that improve access to food, water, shelter, education, and healthcare.

*Promotion of Sanitation*

The company can make a significant contribution towards the sustainable development of society by investing in common resources in the villages where it operates. These common resources include water supply systems, sanitation facilities, community halls, playgrounds, and other public infrastructure that are critical for the well-being and social cohesion of the local communities.

*Contribution towards Common Resources in the village*

The company can make a significant contribution towards the sustainable development of society by investing in common resources in the villages where it operates. These common resources include water supply systems, sanitation facilities, community halls, playgrounds, and other public infrastructure that are critical for the well-being and social cohesion of the local communities

*Establishment Vocational Training Facility*

Training Need Assessment: To ensure the economic sustainability of villagers, it is important to improve their production levels or provide them with new/upgraded skills through training. As part of the project, a training needs assessment (TNA) will be conducted for households, and suitable income restoration schemes will be identified for those interested in diversifying their economic activities. Promoting SHGs Self Help Groups (SHGs) are an important tool for community development, particularly in rural areas. By promoting SHGs and providing them with proper training and skill development, the company can contribute to the economic growth and sustainability of the communities in which it operates.

**Conclusion And Recommendations**

The progress of society as a whole can only occur when individuals take responsibility for their surroundings, given that we all live in a vast and interconnected community. As a vital part of society, businesses should prioritize sustainable development and the welfare of the community to promote holistic growth.

**References**

- [1] Burdge, R.J. (1994). A conceptual approach to social impact assessment: collection of writings by Rabel J. Burdge and colleagues.
- [2] Freudenburg, W. R. (1986). Social Impact Assessment. *Annual Review of Sociology*, 12, 451–478. <http://www.jstor.org/stable/2083211>
- [3] Marla R. Orenstein, Erica Westwood, Susan Dowse. (2019) Effect characterization in social impact assessment: a scan of current practice. *Impact Assessment and Project Appraisal* 37:1, pages 48-56.
- [4] Vanclay, Frank. 2000. Social Impact Assessment. Contributing Paper, Thematic Review V.2, INS220: Environmental and Social Assessment for Large Dams. Prepared for the World Commission on Dams.
- [5] Wood, D. J. (1991). Corporate social performance revisited. *Academy of management review*, 16(4), 691-718.
- [6] Juscus, V., & Jonikas, D. (2013). Integration of CSR into value creation chain: Conceptual framework. *Engineering economics*, 24(1), 63-70.
- [7] Vanclay, F. (2003). International principles for social impact assessment. *Impact assessment and project appraisal*, 21(1), 5-12.
- [8] Esteves, A. M., Factor, G., Vanclay, F., Götzmann, N., & Moreira, S. (2017). Adapting social impact assessment to address a project's human rights impacts and risks. *Environmental Impact Assessment Review*, 67, 73-87.
- [9] Benoît, C., Norris, G. A., Valdivia, S., Ciroth, A., Moberg, A., Bos, U., ... & Beck, T. (2010). The guidelines for social life cycle assessment of products: just in time!. *The international journal of life cycle assessment*, 15(2), 156-163.
- [10] Vanclay, F., & Esteves, A. M. (2011). Current issues and trends in social impact assessment. In *New directions in social impact assessment*. Edward Elgar Publishing.
- [11] Lahiri-Dutt, K., & Ahmad, N. (2011). Considering gender in social impact assessment. In *New directions in social impact assessment*. Edward Elgar Publishing.
- [12] Baines, J. T., & Taylor, C. N. (2011). Ethical issues and dilemmas. In *New Directions in Social Impact Assessment*. Edward Elgar Publishing.

- [13] MacNaughton, G., & Hunt, P. (2011). A human rights-based approach to social impact assessment. In New directions in social impact assessment. Edward Elgar Publishing.
- [14] O'Faircheallaigh, C. (2013). Extractive industries and Indigenous peoples: a changing dynamic?. Journal of Rural Studies, 30, 20-30.
- [15] Franks, D. M., Brereton, D., & Moran, C. J. (2011). Cumulative social impacts. In New directions in social impact assessment. Edward Elgar Publishing.
- [16] Cottrell, A., & King, D. (2011). Disasters and climate change. In New Directions in Social Impact Assessment. Edward Elgar Publishing.
- [17] Esteves, A. M., Barclay, M. A., Brereton, D., & Samson, D. (2011). Enhancing the benefits of projects through local procurement. New Directions in Social Impact Assessment.