ANALYSIS REPORT

OF

EIA REPORT OF

POSCO CAPTIVE PORT AT JATADHAR MOHAN CREEK PARADEEP PORT

Background of the report

Rifat Mumtaz, Programme Officer at the National Centre for Advocacy Studies (NCAS) a Maharashtra-based NGO requested Centre for Science and Environment (CSE), to technically evaluate the marine environmental impact assessment (EIA) document of captive minor port of POSCO India Private Limited. The request by NCAS was made on behalf of the POSCO Pratirodh Sangram Samiti (PPSS), a mass based people's rights movement against the POSCO project impacts.

The above mentioned EIA report is proposed for a captive port at Jatadharmohan Creek, Paradeep in Orissa for supporting the 12 million tonnes per annum (MTPA) POSCO steel plant. The minor port is being set up to facilitate the import of coal and iron ore and export of finished steel products.

This report is a technical evaluation of the EIA report prepared by National Institute of Oceanography (NIO), Regional Centre, Visakhapatnam on request from M/s M. N. Dastur & Company (P) Ltd., Kolkata, environmental consultants for POSCO Steel Plant.

About CSE

CSE is an independent, public interest organisation which aims to increase public awareness on science, technology, environment and development. The Centre was started in 1980.

For more than two decades, CSE has been creating awareness about the environmental challenges facing our nation. It has been:

- Searching for solutions that people and communities can implement themselves,
- Challenging the country to confront its problems,
- Inspiring it to take action and
- Pushing the government to create frameworks for people and communities to act on their own.

About the project

POSCO India Private Limited, Bhubaneswar has proposed to setup a coal based integrated steel plant south of Paradeep and therefore require a minor port to handle their cargo. This minor port requires a water front at Jatadharmohan creek near Paradeep. The steel plant and port have been set up after the signing of a memorandum of understanding (MoU) between POSCO, Korea and the State Government of Orissa in June 2005.

Project location: The captive minor port is located at the mouth of the Jatadharmohan creek, at Paradeep port. The proposed site is located mainly in Dhinkia, Gobindpur, Nuagana and Trilochanpur villages in Jagatsinghpur district of Orissa.

The **basic objective of the project** is to: facilitate the transport of raw material and finished product (steel) for the upcoming steel plant of the company.

Technical Report

The EIA report fails to assess significant impacts the project will have on the local people in the area. Some of these drawbacks/lapses are given below:

1. The EIA report has been prepared without any field survey and hence the credibility of the same is doubtful. Air quality monitoring data, which is important for the prediction of impact on air quality, is not viable without primary survey. Impact of the port on the surface water cannot be properly envisaged in the absence of surface water quality analysis. Inadequacy on the social impact aspect in the report is due to the absence of fieldwork and survey that should have been conducted for the project affected people. This will result in improper environmental management plan (EMP) wherein the predicted impacts are to be mitigated. Quantitative analysis of any impact prediction without fieldwork and survey cannot be considered adequate. Thus the report's drawback is chiefly due to lack of fieldwork and survey.

2. **Cumulative impact on environment not assessed:** Since both the proposed activities – the steel plant and the captive port are closely located and integrated, it is clear that the environmental impact will be a cumulative one. However, the EIA report has failed to assess the cumulative impact of the project on the region.

   The EIA report has completely missed out on addressing this issue of cumulative impact on people residing in vicinity and on the land where the project is proposed. Distance between the proposed steel plant and captive minor port is not specified. Distance plays an important role in estimating the cumulative impact of both the activities which is missing in the report.

3. **Impact on Jatadhari River and drainage pattern:** The Jatadhari River and the Mohana are crucial for rain water drainage of Jagatsinghpur district. Impact of construction of a port on the river has not been discussed in the report. Alteration in the site topography would alter the flow pattern which would in turn cause floods. The flooding of the region and other associated impacts of such topographical change is a serious cause of concern which has been neglected.

   Jatahdhar is the only river which collects the drainage water from the district. On construction of the port, the river mouth will be closed which will result in flooding. The surrounding area is low lying and will be easily affected during monsoon or cyclones. This will increase the vulnerability of the area to sink.

   Sand dunes are present at the proposed site for the port. On construction of port, these sand dunes, which behave as barrier for the water coming inside the district during floods, will be flattened. This might lead to a disaster. Discussion of such an impact is absent in the EIA report and the EMP does not take into account this aspect either so no mitigation measures are specified.

   Also such an assessed impact will require the state government to act on disaster management and mitigation measures. Costs of such work and machinery required will be an additional burden on the state revenues which has been avoided in the

EMP. The water logging due to this port would lead to fewer yields of beetle and cashew, primary occupation for the local people.

On the basis of a telephonic conversation with Prashant Paikra, Spokesperson for PPSS, people residing in the area, Jatadhari River was silted and dredging was done by local people using traditional methods during June 2008. Construction of this port will lead to more silting and such a phenomenon should be anticipated and proper measures should be taken which is not covered in the EIA.

4. **Impact on livelihood:** Impact on livelihood without a word with them cannot be justified. The impact that the port will create on the livelihood of the people is missed out in the report. As this is related to the most vulnerable group of people affected by the project, it is a concern.

   Livelihood in the region falls in two categories:

   1) People earning their living through beetle vineyard and cashew plantation

   2) Fishing community

   1) People earning their living through betel vineyard and cashew plantation - The land that will be acquired for the port is fertile where the villagers have betel vineyards and cashew plantations. Mere mention of the livelihood pattern in the report does not suffice the extent to which they will be affected. According to a report highlighting POSCO project impacts published in 2009 by NCAS, the land used for beetle cultivation has a special property – it is less saline; people call it sweet sand. Potable water is available on digging just a few feet with no salinity in it. Hence, agriculture is a viable livelihood option in the area. Beetle cultivation is the most widespread income generation source in the region. People aged between 7 to 70 years are engaged in the upkeep of this perennial crop, the returns being enough to make ends meet. Impact on this unique cultivation has not been discussed in the EIA report nor is the feasibility of a shift discussed. Availability of such land and non saline water in coastal region is to be evaluated and alternatives discussed.

   2) Fishing community - Fishing community will be affected at a fast rate due to the upcoming port. However a detailed analysis of the economic loss is missing in the EIA. The EMP does not give any alternative for the loss of fishes that will occur due to the increased number of ships and other locomotives in the sea. Also the Jatadhari estuary serves as a breeding ground for several species of fish on which the fishing communities thrive. Around 30,000 fishing communities live in the area and earn their livelihood as it is an ancestral source for them. Jatadhari river mouth is the breeding area for fishes and closure of the same due to construction of the port would lead to loss of livelihood for the fishing community. No such impact is discussed in the report nor is any mitigation plan presented. This threat has led to havoc in the area but has not even found a mention in the EMP. The report in its mitigation measures only states that efforts should be made to minimise disturbance to fishery operations, no details are given (page no. 129).

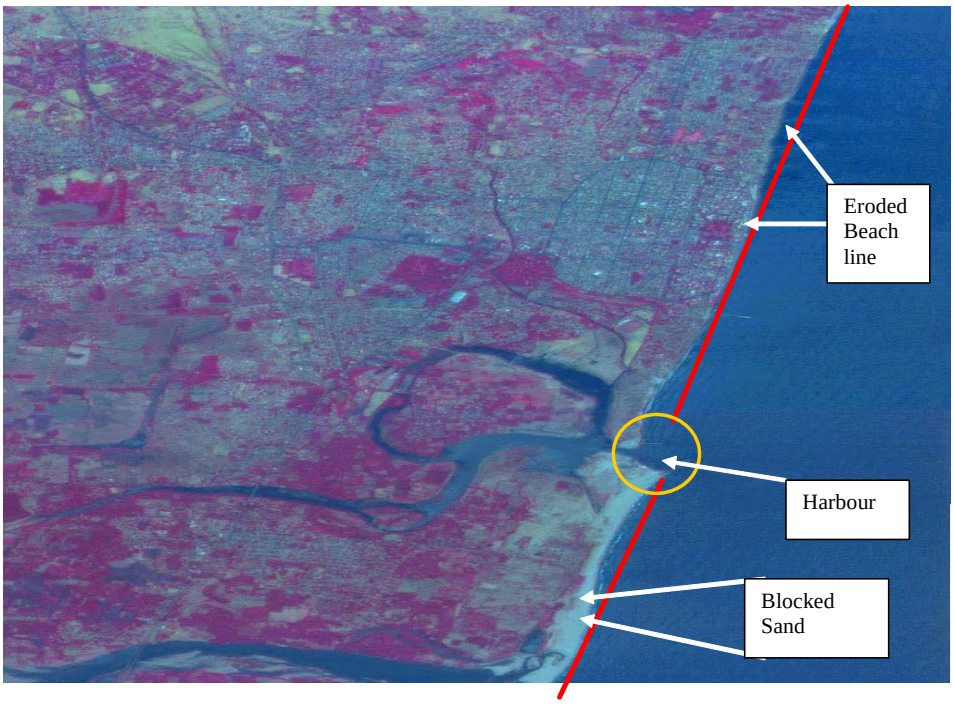
Another drawback of the report is that it does not talk about the land requirement for the port, land acquisition details, detailed plan of other facilities of the port and current land use of the site. These things are important to envisage the impact of the upcoming project on the existing population of the area. Also the report fails to give details about people residing in the vicinity, people likely to be affected by the project, directly or indirectly. These constraints of the report make it weak and contemptible.

5. **Coastal Erosion:** Construction of breakwater structures will lead to erosion and sand accumulation along the sides of the structures. Erosion of sand and sand piling will be observed like in the case of Pondicherry port.

   The POSCO EIA report mentions the problem of sand erosion and accumulation along the beach, and as a remedy proposes beach nourishment through sand bypassing. Also intermittent nourishment whenever capital/ maintenance dredging is done (page no – 129). However the report does not include the responsibility of the beach mitigation measure in the long run. It does not specify the expenditure and budget allocation for the same and any further mitigation which might be necessary in case of inadequacy of the mitigation proposed by them. The feasibility study of the proposed mitigation is not done in the report.

Figure 1: Pondichery Port

Figure 2: Sand Erosion and accumulation in Pondicherry port



The figure above shows sand accumulation upstream of the breakwater and beach erosion downstream at Pondicherry. This resulted in a huge stretch of coastline erosion in Pondicherry. The Pondicherry town was on the downstream and was greatly affected by the process. Remedial measures for this problem were "stone pitching" along the sea shore with boulders. This was an expensive affair and was temporary in nature. The place where this sea wall ends, erosion started again which is still an issue in the area.

Similar phenomenon is observed in Marina Beach at Chennai, Tamil Nadu. Hence construction of breakwater casues sand movement, a crucial factor in determining the after effects of the construction of a port, which should be studied in great details and is lacking in this EIA.

Figure 3: Artificial sea wall built along the Marina beach

Figure 4: As sea wall ends, erosion begins

The report also remains silent on the aspect of affected people as a result of this erosion – accumulation phenomenon. Population living on the coast line will be at threatened but no information or impacts regarding these families have been given in the report. The EIA and EMP do not mention the compensation to be awarded to affected population as a result of coastline erosion.

6. **Dredging material:** Impact of dredging on the benthic organisms and the surrounding areas is not discussed. The material that will be dredged out will be used to fill the proposed POSCO steel plant, impact of change in the topography due to this dredging and filling is absent in the report which is a crucial factor in determining the flood and sea flow details.

7. **Raw material:** Iron ore, coal and steel will be transported to and fro; the source is nowhere mentioned in the report. The source of raw material import and to where it will be exported is also not discussed. Raw material that will be transported through the port will be stored in open leading to fugitive dust emission for which mitigation of water sprinkler is suggested. However this will not be adequate for the enormous quantity that will be transported. Fugitive dust will give rise to air pollution affecting people residing in the nearby area. Hence, the storage place should be covered and proper prevention plan for fugitive emission has to be prepared. Transport of the material, loading and unloading areas should also be covered.

   Orissa is known for large steel plants, mining and secondary steel sector industries. However, the track record of air pollution monitoring in the state has been extremely weak as is the case with the rest of the country.

8. **Impact on Olive turtle:** Olive Ridley Turtle, enlisted as endangered species in IUCN red data book is of importance from bio diversity point of view. The Gahirmatha Sanctuary is located near the port and so is a nesting site i.e., mouth of Devi River where the olive turtles come for nesting. The nesting site is not mentioned in the EIA report. In addition, movement of these turtles will be affected by ships that will be coming into the port. The report fails to mention the impact of this vehicular movement and also the mitigation for the same.

   Another lacuna of the report is that monitoring is done in the month of September – November while the olive turtles come for nesting in January - March. For such a rare species monitoring has to be done in the months when they nest which the EIA has not done.

   Other than olive turtles, dolphins are also present in the area. On construction of the port and the associated ship movement, dolphin mortality in the region may increase. Proper mitigation plan to save the bio diversity of the area, as it is ecologically fragile, is absent.

9. Monitoring for the report has been done in the month of September to November. For knowing the impact of a port, the most appropriate months for monitoring should be monsoons season and not post monsoon. The tidal waves are strongest during monsoon.