

**ANALYSIS REPORT
OF
EIA REPORT OF
POSCO CAPTIVE PORT AT JATADHAR MOHAN
CREEK PARADEEP PORT**

Background of the report

Rifat Mumtaz, Programme Officer, of National Centre for Advocacy Studies based in the state of Maharashtra, working towards strengthening rights based and people centred advocacy in India and South Asia, requested the Centre for Science and Environment, New Delhi, on behalf of the POSCO Pratirodh Sangram Samiti (PPSS- a mass based people's rights movement against the POSCO project impacts), to technically evaluate the Marine Environmental Impact Assessment (EIA) document of:

1. Captive Minor Port of POSCO – India Private Limited, Bhubaneswar, located at Jatadharmohan Creek near Paradeep in State of Orissa.

The above mentioned Marine EIA report is proposed for Captive port at Jatadharmohan Creek at Paradeep for supporting the steel plant by POSCO with a production capacity of 12 MTPY in three Phases, 4 MTPY per phase. The minor port is being set to facilitate the import of coal and iron ore and export of finished steel products

This report is the technical evaluation of this EIA report, which has been 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

Centre for Science and Environment (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 proposes 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 water front at Jatadharmohan creek near Paradeep. This steel plant and port are the result of Memorandum of Understanding (MOU) signed by POSCO, Korea and the State Government of Orissa for setting up a

steel plant of initial capacity of 4 Million Tons Per Annum (MPTA) expandable to 12 MTPA in three phases on June 22nd 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 POSCO - steel

Technical Report

The report is highly technical and fails to assess the major significant impact that the project would have on the local people surrounding the area. There are several drawbacks in the quality of the EIA report. The report is poor in terms of assessing the significant impacts of the project on the environment. Some of these drawbacks/lapses are presented below:

1. This EIA report is prepared without field survey. Hence the credibility of the same is doubtful. Air quality monitoring data, which is important for prediction of impact on air quality due to the upcoming port, is not viable without primary survey. Impact of the port on the surface water cannot be properly envisaged in absence of surface water quality analysis. Inadequacy on the social impact of the report is due to absence of fieldwork and survey that has to be conducted for the people affected. This would in turn result into improper Environmental management plan wherein the predicated impacts are to be mitigated. Quantitative analysis of any impact prediction in the report 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:** POSCO Steel with a capacity of 12 MTPY, (phase wise production of 4 MTPY) along with a captive minor port is proposed. Since both the proposed activities are closely located and integrated, it is clear that the environmental impact will be a cumulative from both, steel plant as well as the port. However, the EIA report failed to assess the cumulative impact of the total project on the region.

The EIA report has completely missed out on addressing the issue of cumulative impact on the impact on people and habitat residing in the close vicinity as well as the land where the project is proposed. Distance between the proposed steel plant and captive minor port is not specified. Since the project is integrated, the impact would also have to be integrated and 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 to rain water drainage of the whole of Jagatsinghpur district. Impact of construction of a port, has not been discussed in the report. The flooding of the region is a serious cause of concern which has been neglected. Alteration in the site topography would definitely alter the flow pattern which would in turn cause flood. The result of such an alteration in the topography is not discussed in the report.

Jatadhari river is the only river which collects the drainage water from the district. On construction of the port, the river mouth will be closed which would result in flooding of the river. The area surrounding is low lying area, and affected very easily during monsoon or cyclones. This closure of Jatadhari river would increase the vulnerability of the area to sink. Also other problems related to closure of a river would be accessibility to human beings residing in the close vicinity of the area.

Sand dunes are present in the site that is proposed for the port. On construction of port, these sand dunes will be flattened which behave as barrier for the water coming inside the district during the floods. This would lead to disaster in the district. Discussion of such an impact is absent in the EIA report or measures to mitigate the flood is also absent in the EMP.

Also such an impact would require the State Government to act on disaster management and mitigation measures. Costs of such work and machinery required to do that would 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 less yield of betel and cashew located nearby to the port. This would impact the livelihood of the area which is a serious threat to the local people and has to be given importance while setting up a new port.

On the basis of telephonic conversation with (Prashant Paikra, Spokes Person, PPSS) people residing in the area, we could find out that Jatadhari river was silted and dredging was done by the local people using traditional methods during June 2008. The construction of port would lead to more silting and any such impact would be harming the local people. Such a phenomenon should be anticipated and proper measure should be taken which is not covered in the EIA.

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

Livelihood region is in two different forms.

- 1) people earning through betel vineyard and cashew plantation

2) Fishing community.

1) People earining through betel vineyard and cashew plantation - The Land that would be acquired for the port is highly fertile where in villagers have betel vineyard and cashew plantation. This would result in change in their livelihood which has not been focused. Details regarding current earning of the people residing the site which would be acquired for the port and its impact is not discussed in the report. Mere mention of the work in the report does not suffice the extent to which they would be affected. According to a report published in 2009, highlighting POSCO project impacts, by National Centre for Advocacy Studies, the land used for beetle cultivation has a special property – it is less saline. The people call it sweet sand. Potable water is available on digging just few feet with no salinity in it. Hence, agriculture is a viable livelihood option in the area. Betel cultivation is the most widespread income generation source. People aged seven to 70 years are engaged in the upkeep of this perennial crop, the returns being enough to make ends meet. Impact of shifting such a unique cultivation has not been discussed in the EIA report nor the feasibility of such shifting is discussed since availability of such land and water which is not saline in coastal region is to be valuated and discussed. As per the local people, such land near the coast area is not available anywhere hence shifting such cultivation has to be evaluated in terms of economic feasibility and viability.

2) Fishing community - Fishing community is the community which would be affected at a greater 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 and the fishing community that would be occurring due to the increase in number of ships and other locomotives in the sea. Also the Jatadhari estuary serves as a spawning and breeding ground for several species of fish from where the fishing communities earn there livelihood. Around 30,000 fishing communities live in the area and earn their livelihood from fishing as it is an ancestral livelihood. 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. Any such impact is not discussed in the report nor any mitigation plan is available, other than the yield of the fish that is discussed in the report. Viability of shifting or other option of livelihood for these fishermen is a question of feasibility and has to be done in order to secure the fishing community of the area. The key issue that would lead to impact on livelihood is construction of port on Jathadhari river which would block the river. This threat has lead to havoc in the area and this important aspect does not get catered in the EMP of the report. The report in its mitigation measure state that efforts should be made to bring minimum disturbance so that fishery operations are not adversely affected (page no. 129). However this does not suffice, as impact that would be made due to the port on the fishing community as well as the fishes is for a large extent and cannot be avoided. Creek is being altered and impact of this would definitely be huge. A mere statement for the loss that this would create is an understatement and inadequate in terms of economic and livelihood for the community.

The major 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, current landuse of the site that is to be acquired for the port. 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 close vicinity of the area, people affected by the project, directly or indirectly. These constraints of the report make it weak and contemptible.

Hilsa fish is know to be bet for the fishermen during the months of July to September every year, as it swims up to the river mouths to lay its eggs. Fishermen make the most of it during the months of monsoon and during floods, but at present the fish is disappearing fast in the coastal districts of Jagatsinghpur and Kendrapara. The fish catch is decreasing due to marine pollution, changes in the sea and other reason as per the environmentalist. However, the report fails to assess the impact of the on this fish which is a rare species available in the area and needs to be preserved.

- 5. Coastal Erosion:** Construction of breakwater would lead to the phenomenon of erosion and sand accumulation along the sides of the breakwater. Erosion of sand on the downstream of the breakwater and sand piling on the upstream would be observed as in example of Pondichery port.

The POSCO EIA report states the problem of sand erosion and accumulation along the beach, and as a remedy to it proposes beach nourishment through sand bypassing from southern side of south breakwater. 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 long term. It also does not specify the expenditure and budget allocation for the same and also further mitigation proposals which might be necessary incase of inadequacy of the mitigation proposed by them. The feasibility of proposed mitigation is not done in the report as this involves lot of expenditure and lives related to it. This will also require State machinery to spend huge amount to restrict erosion and sand accumulation.

This phenomenon can be seen as a serious threat which can be explained inc case of Pondichery port as below:

Figure 1: Pondichery Port



Figure 2: Sand Erosion and accumulation in Pondichery port

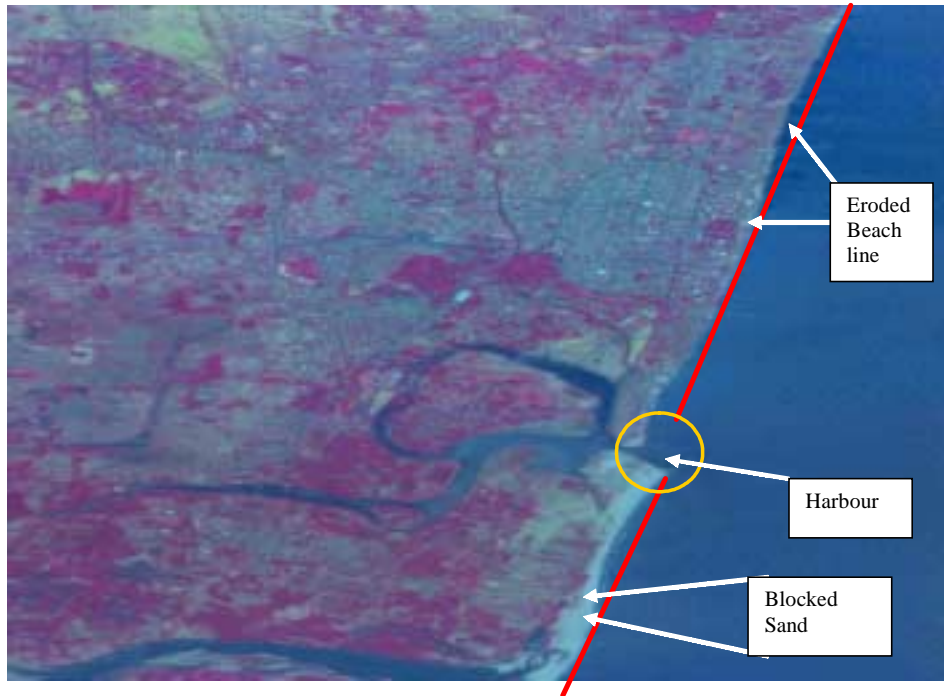


Figure above shows sand accumulation on upstream of the break water and beach erosion on the downstream of the breakwater at Pondichery. This resulted into a huge stretch of coastline to be eroded in Pondichery. Town of Pondichery was on the downstream which was extremely affected by this process. Remedial measure for this problem was taken up by “stone pitching” along the sea shore with

boulders. This was an expensive affair. this remedial measure was is however temporary in nature and the place where this sea wall ends, erosion started again which is still a issue pertaining in the area.

Similar phenomenon is observed in Marina Beach at Chennai, Tamil Nadu. Hence on construction of breakwater, sand movement, a crucial factor in determining the after effects of the construction of a port, should be studied which is lacking in the 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 issue of people who will be affected due to this erosion –accumulation phenomenon. The population living on the coastal line would be at high threat. No information and impacts regarding these families has been given in the report. The EIA and EMP remain silent on the compensation that has to be taken care of due to coastline erosion. The effect of this phenomenon on population residing on the coast has also not been evaluated. Number of families residing downstream has not been taken care nor mentioned at all in the report.

6. **Dredging material:** Impact of dredging on the benthic organisms as well as the surrounding areas of dredging area is not discussed. Also the material that would 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 also absent in the report which is a crucial factor in determining the flood and sea flow details.
7. **Raw material:** Iron ore and coal as well as steel to be transported to and from, the source is nowhere mentioned in the report. The source of raw material from where it will be imported and to where it will be exported is also not discussed in the project. Proposed port is near to the Paradeep port which already exists, Distance from this port or the need for a new port is also not specified in the report.

Storage of raw material: Raw material that would be transported through the port would be stored in open. This would lead to fugitive dust emission for which a mitigation of sprinkling water is being suggested. However this would not be adequate for the huge mass that would be transported. Fugitive dust would give rise to the air pollution health affects on the people residing in the nearby locality. The proposed plant would already do this harm but port would add to this effect which should be tried to be minimize and mitigated, Hence, the storage place should be covered and proper prevention action for the fugitive dust emission has to be taken. Transport of the material, loading and unloading areas should be covered.

Orissa has been known for large steel plants, mining and secondary steel sector industries. However, the track record of monitoring of air pollution has been extremely weak in India and especially in Orissa.

8. **Impact on olive turtle:** Olive Ridley Turtle, enlisted as endangered species in IUCN red data book is of significant importance from bio diversity point of view. The Gahirmatha Sanctuary is located at a smaller distance from the port which has been mention in the report but, the other nesting site i.e., mouth of Devi river where the olive turtles come for nesting is not mentioned at all in the report. Also another cause of concern is that the movement of these turtle would be affected by the ships that would be coming in the port. The report fails to mention the impact of this movement and also the mitigation for the same. Detailed information about the olive turtle with respect to its nesting and process is not mentioned here. The requirement is for saving the endangered species which is already at threat.

Another lacuna of the report is that the monitoring is done in the month of September – November while the olive turtles come for nesting in the months of January to March. For such a rare species that is breeding at such a large extent, monitoring has to be done in the months where they would be coming for nesting which the EIA has not done.

Other than olive turtles, Dolphins are also present in the area, which on construction of port and the cargo ship that move along the coast would lead to increase in the mortality of the dolphins. Proper mitigation plan to save the bio diversity of the area, as it is an ecologically fragile area, is absent. The creek being distorted would lead to loss of marine creature which breeds in the creek. No mitigation other than monitoring is specified in the report.

9. **Threat to National Security:** Concerns have been arising in local people residing over the area, that due to captive minor port, people entering the coast would not be regulated by the government. This would lead to penetration into the country and state through the port which would be a threat to national security. Ancillary development due to the upcoming port and its impact on the environment is a critical issue that has been left untouched.

10. 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. Also as mentioned earlier, for the olive turtle, the nesting months are from December January to March, a monitoring had to be carried out during these months for the detailed analysis of impact on the olive turtles due to the upcoming port.