

Background Paper prepared for the Global Assessment Report on
Disaster Risk Reduction 2013

**Coasts, Ports and Communities : The Emerging Dynamics of Investment-Risk
Interactions in Odisha, India.**

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ABSTRACT

Coasts and coastal communities are one of the most at-risk social-ecological systems. Multi-level and cross-scale land-ocean biophysical interface along with the larger socio-political and economic interactions in a globalized world contribute to a situation of double exposure. Coastal ecosystems, which support a diversity of livelihoods, have of late become one of the most preferred and highly contested spaces for public and private investments. The coastal state of Odisha, along the Bay of Bengal, is one of the resource rich (minerals) but less-developed states in India. Government's efforts to attract and facilitate external investments to exploit these resources have been marred with large-scale and intense protests from the local communities and in many instances supported by transnational rights-based groups. The state, because of its geographical location along the Bay of Bengal with a coastline 480 kilometers, is regularly exposed to hydro-meteorological and sea-level related hazards. The Super Cyclone of 1999 completely devastated the entire coastal ecosystem and disrupted the entire socio-economy, leaving more than 10,000 dead and subsequently triggering an unprecedented shift in livelihood systems. Since then there has been a significant change in the vulnerability context of this region, mostly due to coastal erosion and flooding, forcing tens of thousands to move away in search of livelihood opportunities. Paradoxically, Odisha's coast has also become one of the most favored destinations for development of ports and the volume of investments has grown significantly, which also includes Foreign Direct Investment (FDI). These investments, mostly around development of infrastructures for ports and port-related activities, modify and very often reconfigure the entire social-ecological systems in these biologically diverse but hazard-prone coastal regions. The resulting outcomes and impacts are many; from unforeseen transformations in the local socio-economic and political set up through to forced displacement of traditionally resource-dependent communities and their livelihoods. Growing discontents among these communities have also resulted in prolonged confrontation with the state, its agencies and also with the private corporations. It is in this context that the multi-scalar interplay among many such factors and its subsequent impact on the vulnerability and resilience of these coastal social ecological systems needs to be analyzed and understood. This paper attempts to understand this emerging dynamics and contour of investment-risk interactions in a local context and discusses the ways through which the risk regime is further transformed, both for the investment as well among the communities in which the investment is made.

Odisha: The Paradox of Rich State - Poor People

The coastal state of Odisha along the Bay of Bengal is one of the economically backward states in India with incidence of poverty as high as 46.4 (Fig 01)¹. Over the years the state has registered marginal improvement in its Human Development Index (HDI) value from 0.275 (1999-00) to 0.362 (2007-08), which is still lower than the all India average of 0.467. The state ranks 22nd in the Human Development Index ranking among 23 other states in the country. Ironically, this incidence of poverty prevails amidst a rich wealth of natural resources, which includes vast reserves of minerals and diversity of forest resources.

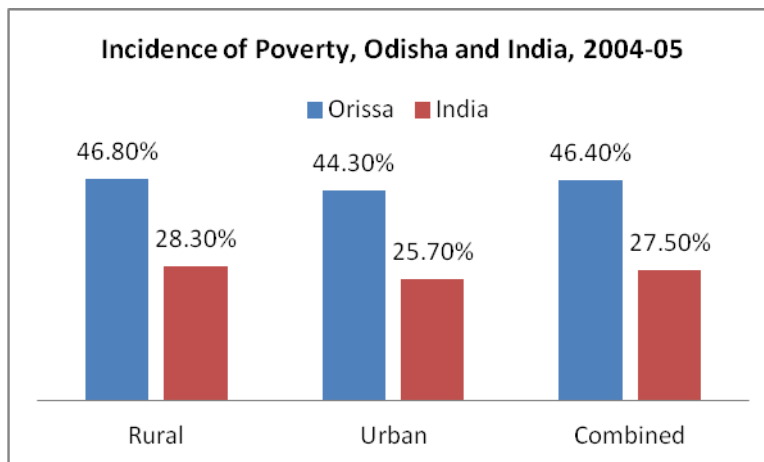


Figure 1 Incidence of Poverty, Odisha and India, Source: Planning Commission, Government of India 2008

Odisha's wealth generation potential has been attributed to its geography and geology: the vast coastal stretch and the rich mineral/forest resources in its interior. Odisha has one of the richest mineral reserves in the country, containing almost a quarter of India's mineral wealth (Fig 02).

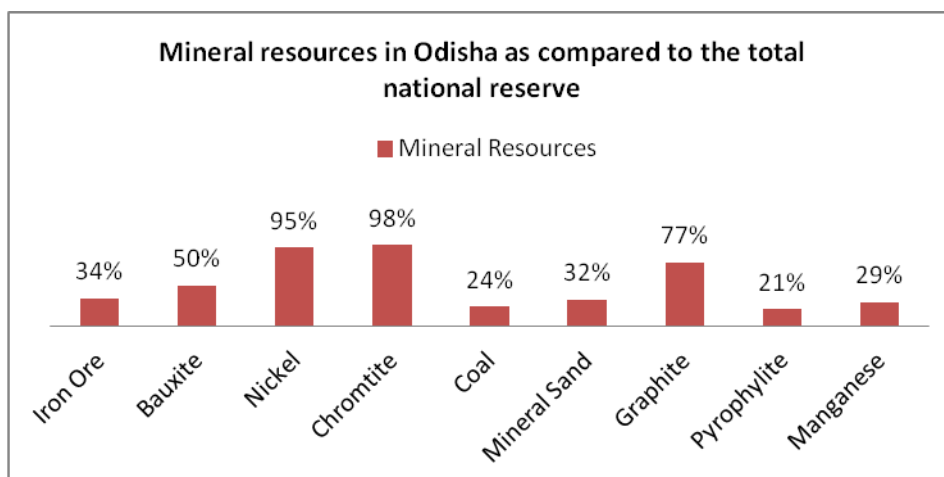


Figure 2 Mineral resources in Odisha as compared to the total national reserve. Source: Department of Steel & Mines, Government of Odisha

¹India Human Development Report 2011: Towards Social Inclusion, Oxford University Press, New Delhi

While this geological advantage has contributed to the state’s growth in terms of a sustained increase in the quantum of revenue generated from these mineral resources (Fig 03), the state lags far behind in terms of capitalizing its geographical dividend. Lack of adequate infrastructure, among many other factors, has been attributed to this under-performance of the state (World Bank, 2008).

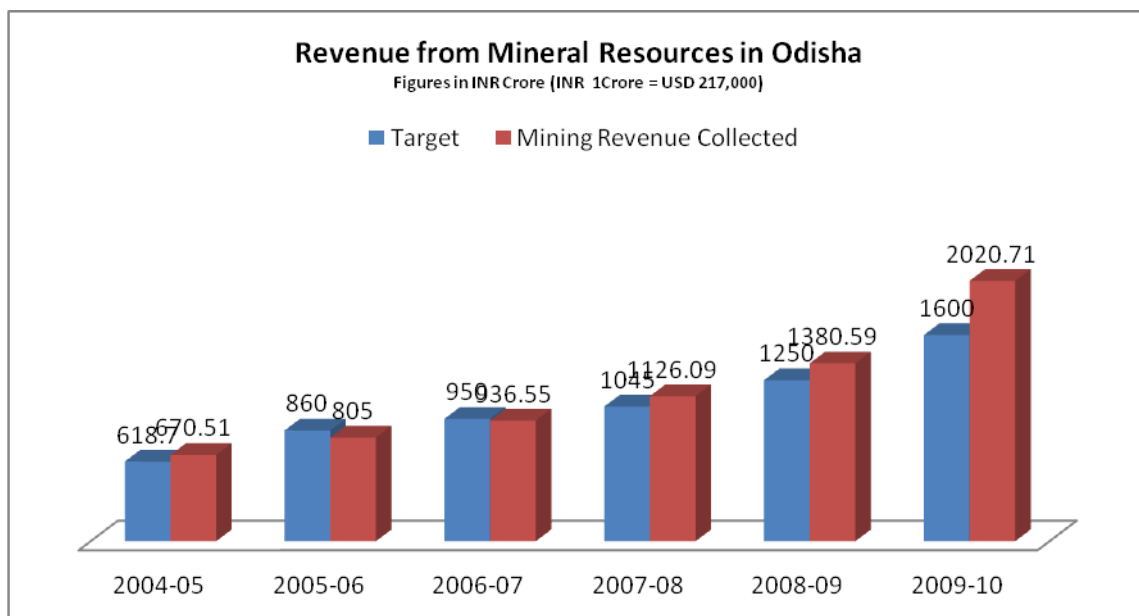


Figure 3. Revenue from Mineral Resources in Odisha. Based on data from Department of Steel & Mines, Government of Odisha

Some of the key infrastructure indicators in the state remain far behind the national average (Fig 04). Existing alongside this infrastructure gap is the large scale disparities in terms of income and access to income opportunities among regions (Southern, Northern and Coastal) and deprivation among social groups in the state. The multidimensional poverty index (MPI) has emerged as key index which looks at poverty through a ‘high resolution’ lens and identifies and assesses deprivations across health, education and living standards (Alkire, Roche, Santis and Seth, 2011). MPI for the state of Odisha stand out at 0.339 against the all India value of 0.283 with an estimated 26.5 million identified as multidimensional poor (OPHI, 2011).

Indicator	Odisha	All India
Roads		
Overall density (km/1000 sq.km)	1635	755
Trunk roads	48	62
Surfaced roads	538	432
Railway density (km/1000 sq.km)	14.6	19.3
Electricity		
Per-capita consumption in 2004-05 supplied through utilities (KWh/year)	203	354

Figure 4 Key Infrastructure Indicators for Odisha and All India. Source: World Bank 2008

In recent times the state has undertaken a series of policy reforms including increased public investments to address many such issues. The World Bank in its report *Orissa in Transition:*

Achievements & Challenges (2008) identifies three important lessons from Odisha's fiscal success story:

- a. The consultative approach adopted by the Government of Odisha helped build public support for change
- b. Political stability and the medium-to-longer-term outlook of the political leadership made it possible to sequence the reforms sensibly; and
- c. A crisis can be used to strengthen outcome orientation in government departments.

Realizing the role and leadership of private sector investments in complimenting the state's efforts towards this vision of transformation the Government of Orissa came out with the Orissa Public Private Partnership Policy (2007) with a clear objective to 'support private investment and to create a conducive environment so as to utilize the efficiencies, innovativeness and flexibility of the private sector to provide better infrastructure and service at an optimal cost'.² According to this policy, the PPP approach is best suited for the infrastructure sector as it supplements scarce public resources, creates a more competitive environment and helps to improve efficiencies and reduce costs.³ This has further facilitated and promoted investments from private businesses and one such key indicator has been with regard to the declining cost of doing business in Odisha (Fig 05).

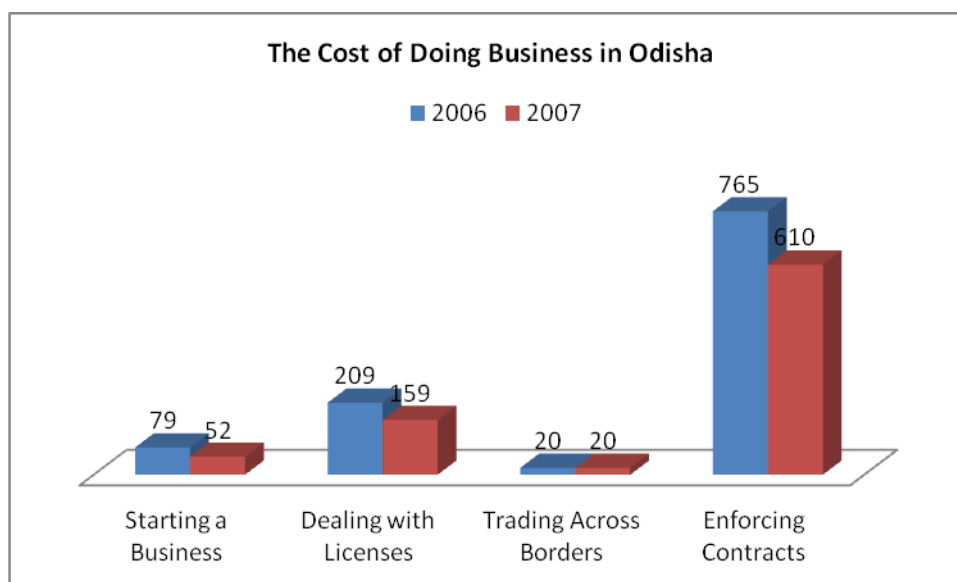


Figure 5 The Cost of Doing Business in Odisha. Source: IFC and World Bank, 2009

This significant change in doing business scenario is also reflected in the recent quantum of private sector investments in various sectors in the state, most of which has been in the steel sector (Fig 06).

² Orissa Public Private Partnership (PPP) Policy, 2007. http://orissa.gov.in/PPP_Policy%20_2007.pdf

³ *ibid*

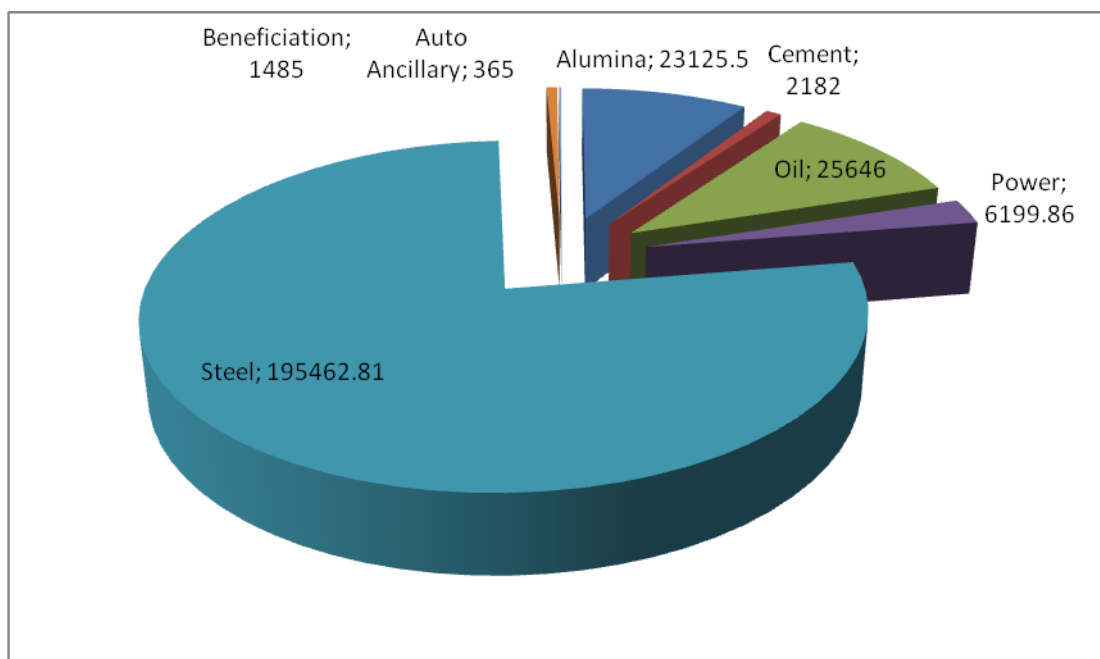


Figure 6 Industry Wise Investment Summary in Odisha. Source: Team Odisha, Government of Odisha. Figures in INR Crore

Continuing with this increasing trend of private sector investment, the state notched a record in 2005 by signing a Memorandum of Understanding (MoU) worth INR 52,000 Crore (USD 12 billion) with the South Korean steel company POSCO to set up a 12 MTPA green field steel plant in the state. This has so far been the highest Foreign Direct Investment (FDI) in the history of India.

In recent times India has emerged as one of the leading economy for private investment and FDI. As per the recently released World Investment Report (UNCTAD, 2012), India is the third top most prospective host economy for FDI among trans-national corporations (TNCs) and second only to China among the developing countries. India remained the top dominant FDI recipient in South Asia with an estimated investment of USD 32 billion (UNCTAD, 2012). Similarly, India is an FDI hot spot in a cooling world as it is the 4th global destinations in terms of FDI projects and the 3rd global destination in terms of FDI value (Ernst & Young, 2012). The number of FDI projects increased by 20% in 2011 reaching 932 projects and a major chunk of it was in the infrastructure sector (90%). With the Government of India (GoI)'s plans to double its infrastructure spending from US\$500 billion to US\$1 trillion during FY2012–17, this observed trend of increasing FDI in infrastructure is going to continue and get stronger in times to come.

Natural Hazard Scenario of Odisha

While the geographical positioning of the state along the Bay of Bengal has many economic advantages, it also puts the entire state and its population at risk to various hydro-meteorological hazards, mostly flood and cyclone. The entire economy of the state was severely impaired during The Orissa Super Cyclone of 1999 with an estimated infrastructure loss of INR 6243.96 Crores (Nayak, 2009), crop damage in 1843 million hectares and loss of more than 9855 human lives. Some of the major rivers like Mahanadi, Subarnarekha, Brahmani, Baitarani, Vansadhara and Rushikulya flows through the state before draining out in to the Bay of Bengal and hence a large landmass, most of which is used for agriculture, and the population dependent on it for their livelihoods are at constant

risk of riverine as well as coastal flooding (Fig 07). Similarly, the entire coastal stretch of Odisha has been classified as Very High Damage Risk Zone to Wind and Cyclone Hazard (Fig 08).

A joint study by the Odisha State Disaster Management Authority (OSDMA) and the United Nations Development Programme (UNDP) estimates that between 1980 and 2011 altogether 1043 people lost their lives in floods, while crops and property worth INR 10,000 Crore (USD 2.17 billion) were lost in the same period.⁴ In recent times the quantum of economic losses has significantly gone up with manifold increase in the frequency and intensity of hydro-meteorological hazards. Last year's unprecedented floods (September 2011) in the Mahanadi and Brahmani riverine systems cost the state around INR 3265 Crore (USD 708.5 million)⁵ and claimed more than 41 lives.



Figure 7 Odisha River Basin Map. Source: Department of Water Resources, Government of Odisha

⁴ Average 33 lives lost every year. Orissa Post, October 18, 2011

⁵ http://www.odisha.gov.in/samachar/2011/Oct/data/20-10-2011/CM%20_meets_RD_minister.pdf

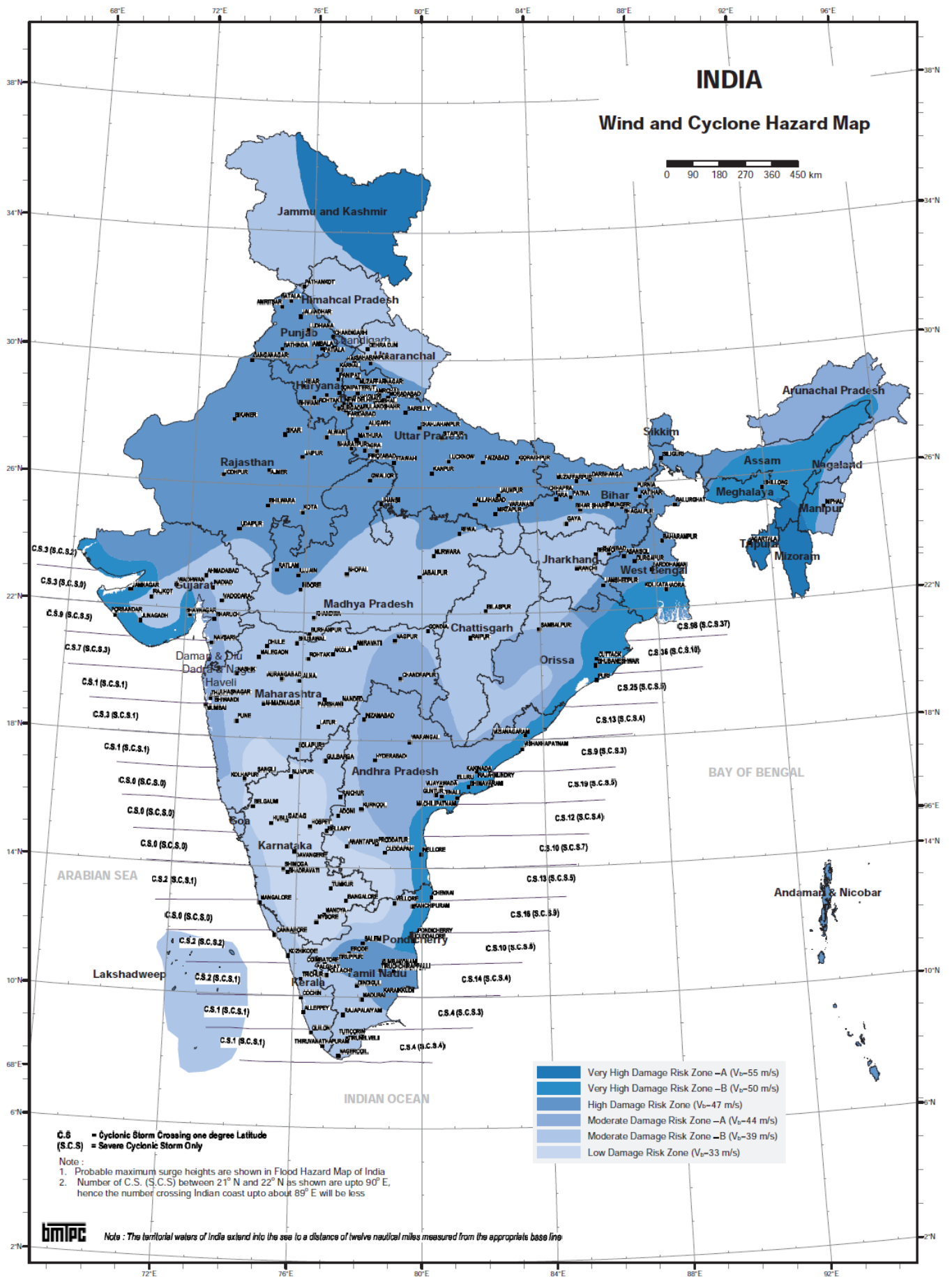


Figure 8 Wind and Cyclone Hazard Map of India. Source: Vulnerability Atlas of India, BMTPC

Double Exposure in Odisha's Coastal Social-ecological Systems

The emerging dynamics of interactions between global environmental changes, manifested in terms of the increasing hazard vulnerability, and forces globalization through large scale private investments along Odisha's coasts are being analyzed and discussed through adopting the double exposure framework (Leichenko and O'Brien, 2008). The double exposure framework (Fig. 09) describes how multi-level interactions between global environmental changes and globalization create new conditions of contextual environment which in turn increases the vulnerabilities of communities, businesses and nations to different kinds of shocks and stresses.

Dynamic land-ocean interactions along the coasts make coastal regions one of the most at-risk regions to climate-induced changes, including sea level rise and resulting flooding and coastal inundation. Coasts will be exposed to increasing risks, including coastal erosion, over coming decades due to climate change and sea-level rise (Nicholls et al., 2007). Such most at-risk coastal systems are also the places attracting massive private sector investments for building infrastructure which in turn help create new income opportunities. This has resulted in more than 40% of the world's population (more than 2.8 billion people) living within 100 kilometers of the coast (UNEP-GRID, 2005).

The coastal district of Jagatsinghpur in Odisha, also the proposed site for the POSCO steel plant and the captive port, was the ground zero of devastation during the Orissa Super Cyclone (1999). More than 8119 human lives were lost and around 230,508 houses were completely damaged in the blocks of Ersama and Kujanga in this district. The Shoreline Change Atlas of Odisha, prepared by the National Centre for Sustainable Coastal Management (NCSCM) identifies around 39.3 kilometer accounting for 8.2 per cent of the coast as high erosion zone. According to this, sea erosion is dominant in the coastal districts of Puri and Jagatsinghpur while shoreline accretion is a dominant feature in the districts of Ganjam, Kendrapara, Bhadrak and Balasore.

Interactive relationship between sea level rise and shore line changes concludes that the Mean Sea Level (MSL) height along Odisha coastal was in an increasing trend during the period of 1990-2000 and it coincides with the period when shoreline also experiences high magnitude of shifting from its earlier position (Chand and Acharya, 2010). According to conservative estimates, sea level will be about 40 cm higher than today by the end of 21st century and the total number of people flooded in the coastal areas are likely to increase from 13 million to 94 million, of which almost 60% will occur in South Asia, along the coastal regions of Pakistan, India, Sri Lanka and Bangladesh and Burma (Parry et al., 2007).

The Coastal Vulnerability Index (CVI) of the state of Odisha calculated based on eight relative risk variables (Shoreline Change Rate, Sea-Level Change Rate, Coastal Slope, Significant Wave Height, Tidal Range, Coastal Regional Elevation, Coastal Geomorphology and Tsunami Run-up) respectively identifies coastal stretches of 76 km, 297 km and 107 km as low, medium and highly vulnerable (Kumar et al., 2010). Globally there has been an increasing trend in exposure to riverine and coastal flood risk because of rapid urbanizations (Nicholls et al., 2011). Statistical analysis of the storm surges data (1971-2000) along Odisha coast revealed that although no observational evidence suggest an

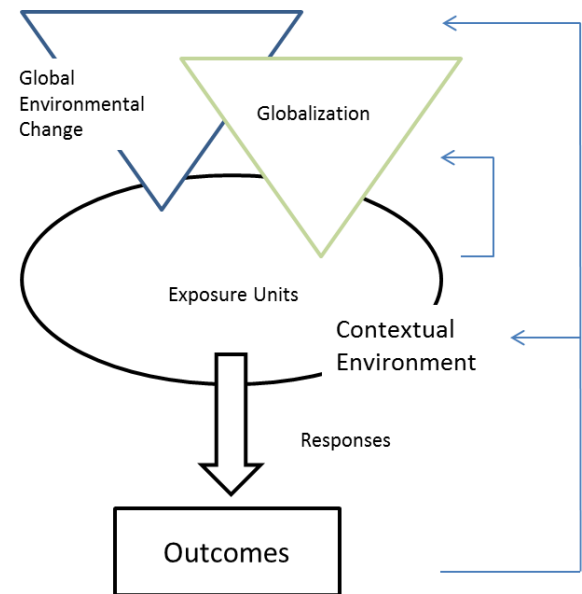


Figure 9 The Double Exposure Framework. Source: Leichenko and O'Brien, 2008

increase either in the frequency or intensity of cyclones or storm surges on the coast but the impact is on the increase due to increase of population and infrastructure along the coast (Chittababu et al., 2004)

As mentioned earlier, the geology and geography of the state of Odisha are two of the underlying factors for the state's economic growth. While the geology, in terms of extraction and export of mineral resources, have gradually been realized through adequate investment support and policies, mostly through private sector participation, the geography remains still under-invested and less-explored. While all other seven coastal states in India (Andhra Pradesh, West Bengal, Tamil Nadu, Kerala, Maharashtra, Karnataka and Gujarat) have registered significant economic growth over the past years, Odisha remained behind (World Bank, 2008). Attracted by the emerging business opportunities through the potential of a maritime hub and because of easy access to emerging economies like China and other South East Asian economies, many private businesses have come forward to invest in infrastructure development in Odisha, mostly in ports. In 2009 the Government of Odisha signed around 14 Memorandum of Understandings (MoUs) for setting up new ports during the Port Conclave organized by the Confederation of Indian Industry (CII) Odisha Chapter. This initiative of the state has triggered many public debates and confrontations, often resulting in mass protests and organized anti-port campaigns led by many human rights organizations and environment protection groups from overseas.

MoUs Signed for Ports in Odisha				
SI No	Name	Location/District	Promoter	Status
01	Chudamani port	Bhadrakh	Essel Mining of Aditya Birla group	
02	Dhamara	Bhadrak	TISCO and L&T	Completed and commercially operational since May 06, 2011
03	Baruneimuhana*	Kendrapara	Proposed	
04	Astaranga port	Puri	Navajuga Engineering, Hyderabad	
05	Baliharchandi port	Puri	Puri ports limited	
06	Bahuda River Mouth	Ganjam	Good Earth Maritime, Madras	
07	Gopalpur	Ganjam	Sara International Ltd. and Odisha Stevedores Ltd.	Will be operational in 2013
08	Palur	Ganjam	Proposed	
09	Jatadhari	Jagatsinghpur	POSCO	ongoing
10	Kirtania port	on the mouth of river Subarnarekha in Balasore district	Creative Ports, Chennai	
11	Bahabalpur	Balasore	IL&FS Maritime Infrastructure Company Limited (IMICL)	
12	Chandipur	Balasore	Proposed	
13	Inchudi	Balasore	Proposed	
14	Talsari	Bichitrapur, Balasore	Jindal Infrastructure Limited	

Figure 10 MoUs Signed for Development of Ports in Odisha

Many of the port opponents and activists primarily rallied around threats to pristine mangroves and destruction of the nesting sites of the endangered Olive Ridley sea turtles (*Lepidochelys olivacea*). Subsequently land rights activists joined the protests to raise their concerns around the loss of livelihood opportunities for the communities, primarily because of large-scale acquisition of land by the private companies, most of which is either agricultural or forested.

Construction of ports, primarily the dredging part of it and the chances of marine water pollution through effluents and oil spills, also pose a major threat to marine ecosystem including the mangrove biodiversity. Two such protected areas, the Bhitarkanika National Park and the Gahirmatha Marine Sanctuary are in proximity to one such port.

The government has to also face severe criticism from the opposition parties in the House of the Assembly⁶ and this was also a bone of contention between the United Progressive Alliance (UPA) government at the centre and the ruling Biju Janata Dal (BJD) in the state⁷.

The contextual environment created in coastal Odisha because of such multi-level interactions between the natural hazards, most of which are climate-related, and the emerging investment scenarios for development of ports along the coast result in a variety of outcomes with varied impacts. Outcomes vary from violence, protests, declining social capital, displacement, livelihood shift, out migration, ecosystem degradation, unequal income distribution and access to new economic opportunities, declining access to traditional productive assets to further marginalization of the weak and vulnerable groups. These outcomes and the impacts are discussed in detail in the subsequent case of POSCO in Odisha.

Public Policies: Institutions Facilitating Private Investments

The Government of India as well as the Government of Odisha have established various institutional measures and policies to facilitate and promote private investments and few of these policies are exclusively for the development and operation of ports.

Some of them are as under:

- a. Maritime Agenda 2010-2020⁸: The Maritime Agenda of the Government of India was launched on 11 January 2011 by the Ministry of Shipping. It projects a total traffic of 2494.95 million tonnes for all major and non-major ports taken together and a capacity of 3280.04 million tonnes. The proposed investment in ports by 2020 is expected to be INR 119449.41 Crore and in non-major ports it is INR 167930.84 Crore.

The agenda for the decade for the Ports are:

- Create Port capacity of 3200 M.T. for handling about 2500 M.T. of cargo
- Improve Port performance on par with the best in the world.
- Increase tonnage both under the Indian flag as well as Indian control.
- Increase Coastal Shipping and facilitate hassle-free multimodal transport
- Increase India's share in global ship building to 5%.
- Promote use of the inland waterways for cargo movement
- Increase India's share of seafarer to 9% of the global strength by 2015
- Implementation of the Port development projects
- Develop Two New Major Ports one each on east and west coasts.
- Full mechanisation of cargo handling and movement
- Major Ports to have draft of not less than 14 metres and hub ports 17 metres
- A new policy on dredging
- Identification and implementation of projects for rail, road and inland waterway connectivity to ports

⁶Port construction hogs assembly debate, Times of India, August 20, 2011.

http://articles.timesofindia.indiatimes.com/2011-08-20/bhubaneswar/29908854_1_chudamani-dhamra-astaranga

⁷BJD, Congress clash in LS over clearance to Posco, Zee News, 09 November, 2010.

http://zeenews.india.com/news/delhi/bjd-congress-clash-in-ls-over-clearance-to-posco_666862.html

⁸Maritime Agenda 2010-2010, <http://shipping.nic.in/showfile.php?lid=261>

- Development of two hub ports on each of the West and the East coasts – Mumbai (JNPT), Kochi, Chennai and Visakhapatnam
 - Port Policy Measures
 - Corporatisation of Major Ports
 - New Land Policy for Major Ports
 - New Policy on captive berths
 - Establishing a Port Regulator for all ports for setting, monitoring and regulating service levels and technical & performance standards
 - New Policy on dredging
 - Shifting of transshipment of Indian containers from foreign ports to Indian ports
 - Policy on co-operation and competition amongst Indian Ports
 - Establishing 'Indian Ports Global' for overseas investments by Indian Ports.
- b.** National Maritime Development Programme: The National Maritime Development Programme was launched in 2005 with a time frame up to 2011-12. Its primary aim was to facilitate enhanced private investment, improve service quality and promote competitiveness. The policy also aims at encouraging more investments in port projects at substantially higher levels to meet the medium and long term objectives.
- c.** Land Policy for Major Ports, 2010
- d.** Major Port Trusts Act, 1963
- e.** Orissa Public Private Partnership Policy, 2007
- f.** Policy for preventing private sector monopoly in Major Ports, 2010
- g.** Dredging Policy, 2007
- h.** Cruise Shipping Policy
- i.** Draft Policy Directives for Land Management by Major Ports, 2012.
- j.** Government of Odisha Port Policy
- k.** Odisha Port Trust Act, 1972
- l.** Odisha Maritime Board Act, 2011 to set up the Odisha Maritime Board (OMB)⁹
- m.** Foreign Direct Investment (FDI) Policy, 2011
- n.** Industries (Development and Regulation) Act, 1951
- o.** *Invest India*¹⁰: Invest India is the country's official agency dedicated to investment promotion and facilitation. Set up as a joint venture between FICCI¹¹ (51% equity), DIPP¹² (34%) and State Governments of India (0.5% each), its mandate is to become the first reference point for the global investment community. It provides granulated, sector-specific and state-specific information to a foreign investor, assists in expediting regulatory approvals, and offers hand-holding services. Its mandate also includes assisting Indian investors make informed choices about investment opportunities overseas.
- p.** Foreign Trade Policy, 2009-2014
- q.** The Competition Act, 2002 and the Competition Commission of India
- r.** The Odisha Industrial Policy Resolution (IPR), 2007
- s.** Odisha Vision 2020
- t.** The Industrial Promotion and Investment Corporation of Odisha Ltd. (IPICOL): IPICOL Team Odisha is an ISO 9001:2008 Certified Investment Promotion Agency of the Government of Odisha. The very mission of this agency is spelt out categorically as "*Odisha, The Land of Opportunities & India's Top Industrial Investment Destination, Come. Invest & Grow.*"¹³
- u.** Land Acquisition Act, 1894 further to be amended as per the Land Acquisition (Amendment) Bill, 2012¹⁴

⁹http://218.248.11.68/commercetransport/Commerce/Download/TheOdishaMaritime_BoardBill_2011_FINAL.pdf

¹⁰<http://www.investindia.gov.in/>

¹¹The Federation of Indian Chambers of Commerce and Industry (FICCI)

¹²Department of Industrial policy and Promotion, Ministry of Commerce & Industry

¹³<http://www.teamOdisha.org/>

¹⁴<http://164.100.24.219/BillsTexts/RSBillTexts/asintroduced/landc-E.pdf>

- v. National Rehabilitation and Resettlement Policy, 2007
- w. Odisha Resettlement and Rehabilitation Policy, 2006

While detailed discussion of all the aforementioned policies and initiative is beyond the scope of this article, highlights and objectives of the Orissa Public Private Partnership Policy 2007¹⁵ would help to better analyze the context in which such private sector investments are channelized and promoted in the state. Three of the key building blocks of this policy architecture are development, infrastructure and efficient delivery of services and connecting all these is the private sector investment through Public Private Partnership (PPP, Fig 11).

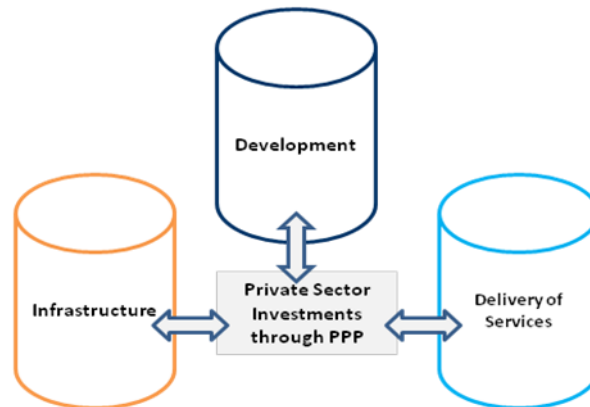


Figure 11 Building blocks of the Orissa Public Private Partnership Policy 2007. Author's representation

The policy objective is to:

1. Leverage State and Central Government funds, support private investment and to create a conducive environment so as to utilize the efficiencies, innovativeness and flexibility of the private sector to provide better infrastructure and service at an optimal cost.
2. Setting up of a transparent, consistent, efficient administrative mechanism to create a level playing field for all participants and protect interest of all stakeholders.
3. To prepare a shelf of projects to be offered for PPP and take them forward with assistance of the owner departments through a transparent selection process.
4. Putting in place an effective and efficient institutional mechanism for speedy clearance of the projects.
5. Provide necessary risk sharing framework in the project structure so as to assign risks to the entity most suited to manage them.
6. Create a robust dispute redressal mechanism / regulatory framework for PPP projects.
7. To provide the required viability gap funding (VGF) where the essential projects are intrinsically unviable.
8. To create "Orissa Infrastructure Development Fund (OIDF)" to facilitate implementation of the objectives of the Policy.

These objectives specifically spell out the state government's goal of mobilizing and sustaining private sector investments through appropriate institutional mechanisms including transparent and participatory governance systems. While Objective 5 mentions about a 'risk sharing framework' subsequent sections of the policy doesn't discuss this further and there is no clarity as to how the state would design, implement and monitor such a risk sharing framework. Under this policy, the government aims to establish three institutional mechanisms; the High Level Clearance Committee under the chairmanship of the Chief Minister, the Empowered Committee on Infrastructure (ECI), and the PPP Cell and the Technical Secretariat and a special fund, the Orissa Infrastructure

¹⁵ http://orissa.gov.in/PPP_Policy%20_2007.pdf

Development Fund (OIDF). And the envisaged risk sharing framework have neither been covered under these institutions nor the special fund. The policy identifies eighteen sectors and that of ports and harbors is second in the list, which mirrors the state's priority.

By the end of 2009-10, the Government of Odisha had signed 86 Memoranda of Understanding (MoU) on various industrial sub sectors with a total investment of INR 4,11,726 Crore. Out of this, 49 have been signed with various steel promoters with an investment of INR 195,150 crore and an estimated production of 75.66 million tons per annum (MTPA)¹⁶.

Apart from these institutional arrangements and policies, attracting private investments for port development is high on the agenda of the government. In the *Invest Port Conclave* organized by the Confederation of Indian Industry (CII) on Feb 07 2012, Mr. G.K.Vasan, Minister for Shipping, Government of India re-emphasized his Ministry's focus on fostering strong Public Private Partnership (PPP) not only to infuse funds in the sector and expand port capacity but also to improve management practices and seek modern and state-of the-art technologies. Consequently the government has taken numerous measures to boost private sector investment besides permitting 100% FDI in the sector through Automatic Approval Route and 100% tax-exemption for a period of 10 years. Further, extensive guidelines have been laid down for private sector participation, including setting up of fair and transparent Request for Qualification (RFQ), Request For Proposal (RFP) and Model Concession Agreements (MCA) documents to create level playing field. In the same vein, Tariff Authority for Major Ports (TAMP) guidelines have also been modified.¹⁷

Public Policies: Disconnect and the Outcomes

The preceding section presents a snapshot of a variety of public policies and initiatives aimed to promote and sustain private investments in infrastructure development. The very sectoral approach of these policies and associated initiatives very often fail to understand and capture the greater political-economic dynamics around infrastructure development and wealth creation in a given context. For example, establishing and operationalising interconnections and dialogue among policies on infrastructure development, environment protection, poverty alleviation and climate change adaptation, to name a few, is not only difficult but demands greater political will and leadership supported by robust knowledge around these interconnections and associations. These institutional mismatches and lack of effective coordination often results in conflict of interests, prolonged delay over mediating these conflicts, and all these negatively impact the investment and the targeted business outputs and opportunities. It is in this emerging background that the World Investment Report-2012 presents convincing cases and insights to work 'towards a new generation of investment policies' (UNCTAD, 2012). Towards this end, UNCTAD has developed a comprehensive Investment Policy Framework for Sustainable Development (IPFSD), consisting of:

- (i) a set of Core Principles for foreign investment policymaking,
- (ii) guidelines for investment policies at the national level and
- (iii) options for the design and use of international investment agreements (IIAs).

Among the different areas identified as part of this Core Principles, the one on policy coherence outlines that 'investment policies should be grounded in a country's overall development strategy. All policies that impact on investment should be coherent and synergistic at both the national and international levels' (UNCTAD, 2012).

¹⁶ Odisha Economic Survey 2010-2011, pg, 133

¹⁷ <http://www.cii.in/PressreleasesDetail.aspx?enc=2wy5P+B+nm1rQ5CeyeYl7OzliLH/yLLdtpttY/f6zPCmTALwJcASsHbjr3yjlpG oVQQMtt5CJPWcYsC2UMtCug>

It is in this backdrop that the case of a proposed port in state of Odisha in India has been discussed. The objective to highlight the existing disconnect between the the policies on development of ports and those on private sector investements with that of other key public policies like environment protection, disaster management and climate change adaptation. Secondly, the ways through which the outcomes of this policy disconnect further intercts with the existing hazard vulnerability of a given social-ecological system and influences its vulnerability as well as resilience in an emerging risk regime.

The Government of Odisha and the South Korean Steel Company POSCO entered in to a Memorandum of Understanding on 22nd June 2005 for the establishment of an integrated steel plat at Paradeep in the coastal district of Jagatsinghpur. The very intent and motto of this MoU is spelt out in Para 02 as:

“The Government of Odisha, desirous of utilizing its natural resources and rapidly industrializing the State, so as to bring prosperity and wellbeing to its people, has been making determined efforts to establish new industries in different locations. In this context, the Government of Odisha have been seeking to identify suitable promoters to establish new Integrated Steel Plants in view of the rich iron ore and coal deposits in the State.”¹⁸

POSCO’s vision to support the Government of Odisha achieving this objective of ‘prosperity and wellbeing’ has been categorically spelt out as:

“to construct a world-class, fully integrated steel plant in Odisha with annual production capacity of 12 million tons. The project will include iron ore mine development over 30 years (total 600 million tons) at captive mines located in the Keonjhar and Sundergarh districts of Odisha, as well as development of related infrastructure.”¹⁹

Details of the proposed investment are as under:

a. **Integrated Steelworks:**

The 12 MTPA integrated steelworks will be completed in three phases of 4 MTPA each. In Phase I, hot rolled coil (2.5MT) and slab (1.5 MT) will be produced. The construction for Phase I isscheduled to be completed by 2016-17.

b. **Mining Development:**

The Government of Odisha has assured to grant Mining Lease for 600 million tons reserves which are required for 30 years of operation, for the 12 MPTA steel plant in Paradip.

c. **Infrastructure Development:**

POSCO India is working with the Government of India and the Odisha State Government to build the infrastructure required for the success of the project like railway sidings in the mining areas and the plant site and link it to the main railway line. A Captive Port will be developed at the mouth of the Jatadhari River, 10 km from Paradip, for exclusive use by POSCO India in order to secure consistent and timely movement of raw materials and products.²⁰

¹⁸<http://www.Odisha.gov.in/posco/POSCO-MoU.htm>

¹⁹<http://posco-india.com/website/project/investment.htm>

²⁰ <http://posco-india.com/website/project/details.htm>

The total land required for the project was 4004 acres which comprises of forest land (2959 acres), non-forest land (608 acres) and private land (437 acres). As the state government started to acquire land, local villagers from eight villages came together to protest against the state under the banner of POSCO *Pratirodh Sangram Samiti* (PPSS), an anti-POSCO movement. Subsequently PPSS started to mobilize larger support for its cause and challenged the actions of the state through a series of Public Interest Litigations (PIL) in the court of law. Men, women and children came together to protest and raise their concerns braving the brutal use of police force²¹ (Fig 12, 13 and 14). Gradually a pro-POSCO group, the United Action Committee (UAC), emerged in the project area and further consolidated its strength and membership. There have been several instances of clashes among UAC and PPSS members and this fracture and division within the community has also impacted the hitherto existing communal harmony and sense of collective well-being²². In these communities either you are for or against POSCO. This situation of animosity further intensifies turning a non-descript coastal hinterland in to a zone of conflict and confrontation between the state and its citizens.



Figure 12 Armed policemen at POSCO Project site on village in Jagatsinghpur district. Image Source: <http://www.thehindu.com/news/national/article2141483.ece>

Opposition to the proposed land acquisition by the Odisha Industrial Infrastructure Development Corporation (IDCO), the specialized agency of the state to 'obtain/acquire land for all such projects in any location of the state', was primarily driven by the fact that tens of thousands of communities would lose their primary source of livelihood *Dhana, Pana* and *Mina* (Paddy, Beetle and Fish). The National Human Rights Commission (NHRC) of India in its recent visit to the POSCO project site to investigate the allegations of rising incidences human rights violation took due cognizance of the issue of forceful demolition of betel vines and inadequate compensation to the betel farmers. The worst victims in this case are the betel vine laborers who are poor and landless and don't have legal entitlement over the betel vine and hence don't receive any compensation²³.

Land acquisition in many cases has been followed by large scale tree felling and removal of the protective coastal vegetation. Last year 600,000 trees were cut in one of the project site, which was completely protected during the Odisha Cyclone 1999 because of the standing trees and vegetation cover²⁴. These coastal vegetations, including mangroves, are protective barriers against high speed winds and tidal waves. One such scientific study to understand the protective role of mangroves in the neighboring district of Kendrapara revealed that villages with wider mangroves between them and the coast experienced significantly fewer deaths than ones with narrower or no mangroves during the 1999 Orissa Super Cyclone (Das and Vincent, 2009).

²¹ POSCO stir: Odisha deploys 12 platoons of police, June 28, 2011, India Today.

<http://indiatoday.intoday.in/story/Odisha-government-deploys-police-force-to-queell-posco-stir/1/142927.html>

²² Villagers clash over POSCO stand, The Telegraph, November 10, 2011

http://www.telegraphindia.com/1111110/jsp/Odisha/story_14728845.jsp

²³ NHRC team meets villagers at Posco site, 11th April 2012, Times of India http://articles.timesofindia.indiatimes.com/2012-04-11/bhubaneswar/31324724_1_nhrc-team-nhrc-chairman-anti-posco-villagers

²⁴ Odisha: 6 lakh trees cut for POSCO? Aug 08, 2011

<http://ibnlive.in.com/news/Odisha-6-lakh-trees-cut-for-posco/173833-3.html>

These confrontations and the following timeline demonstrate how the decisions for investment, both by the state as well as by POSCO, fail to understand the interconnectedness among various policies and the ways through which their proposed plan of action would interact the existing socio-economic realities and aspirations of the community.

- **June 22, 2005:** POSCO and Government of Odisha ink MoU
- **August 2005:** POSCO *Pratirodh Sangram Samiti* formed to oppose the project
- **August 8, 2008:** SC upholds 'in principle' clearance for use of forest land but directed the Ministry of Environment & Forests (MoEF) to proceed 'in accordance with law'
- **December 29, 2009:** The environment ministry grants final clearance for diversion of forest land
- **July 28, 2010:** MoEF constitutes panel to oversee status of implementation of Forest Rights Act
- **August 6, 2010:** MoEF issues 'stop work' order, based on the panel's report
- **January 31, 2011:** MoEF gives conditional clearance
- **March, 2011:** State government decided to exclude acquisition of private land in Dinkia
- **May 2, 2011:** MoEF lifts the 'stop work' order
- **May 18, 2011:** Land acquisition restarts at project site, before being stopped due to protests
- **March 30, 2012:** National Green Tribunal suspends the environment clearance
- **April 11, 2012:** A team from the National Human Rights Commission (NHRC) visited the POSCO project area to investigate into alleged rising incidents of human rights violation in the region
- **May 29, 2012:** POSCO agrees to swapping of iron ores from its 'yet-to-be-obtained' captive mines within country through the state run Odisha Mining Corporation (OMC)
- **June 08, 2012:** The State Government said that a revised tripartite memorandum of understanding (MoU) with POSCO and POSCO India will be signed shortly
- **June 20, 2012:** The Government of Odisha starts transferring 2000 acres of land to POSCO. No deadline set for it
- **July 04, 2012:** Based on the NHRC Report, the state government decided to return the land acquired from private parties for the proposed POSCO plant
- **July 05, 2012:** POSCO-India submitted a revised proposal to the state government seeking transfer of 2,700 acre land in its favor for establishing a 8 MTPA factory
- **August 21, 2012:** A four member team of experts from MoEF visits the POSCO site to study the impact of forest diversion on the local environment

Successful implementation of the POSCO project remains one of the key priorities of the Government of India. In an interactive session with Korean CEOs, Dr. Manmohan Singh, the Honorable Prime Minister of India, highlighted the strength and opportunities the Indian economy has and requested them to "have faith in India"²⁵ as "South Korean investment is a "priority"²⁶.

The government's interest to move forward with the POSCO project received a setback with the March 30th (2012) verdict of the National Green Tribunal (NGT) which suspended the environmental clearance earlier given to POSCO and was categorically critical about the whole approach of the state around this project and mentioned: "A project of this magnitude, particularly in partnership with a foreign country, has been dealt with casually without there being any comprehensive scientific data regarding the possible environmental impacts. No meticulous scientific study was made on each and

²⁵ Keen to move ahead on POSCO, Manmohan tells Korean businessmen, *The Hindu*, March 26
<http://www.thehindu.com/news/national/article3225421.ece>

²⁶ Korean investment a priority, Posco will happen, says PM Manmohan Singh, *India Today*, March 26, 2012
<http://indiatoday.intoday.in/story/south-korea-posco-steel-project-manmohan-singh/1/179366.html>

every aspect of the matter leaving lingering and threatening environmental and ecological doubts unanswered.”²⁷



Figure 13& 14 Women and children take part in a protest against POSCO steel project at Gadakujang in Paradip.
<http://www.thehindu.com/news/states/other-tates/article2378911.ece>

Many of these factors have negatively impacted the investment by POSCO and it is under these circumstances that POSCO has agreed to scale down its proposed output to 8 MTPA for the time being and intends to subsequently expand it as and when the land is made available.

Some of the other public policies that were not adequately consulted to and integrated in to the decision on investment are:

a. Policies on Environment Protection and Conservation

- Environment Protection Act, 1986
- The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006
- The Forest Conservation Act, 1980
- The Water (Prevention and Control of Pollution) Act, 1974
- The Air (Prevention and Control of Pollution) Act, 1981
- Public Liability Insurance Act, 1991
- National Environment Appellate Authority Act, 1997
- Wild Life (Protection) Act, 1972
- *Biological Diversity Act, 2002*

b. Policies on Disaster Management

- National Disaster Management Act, 2005
- National Policy on Disaster Management, 2009
- Odisha State Disaster Management Policy, 2005

Outcome: Disaster Risk Accentuated

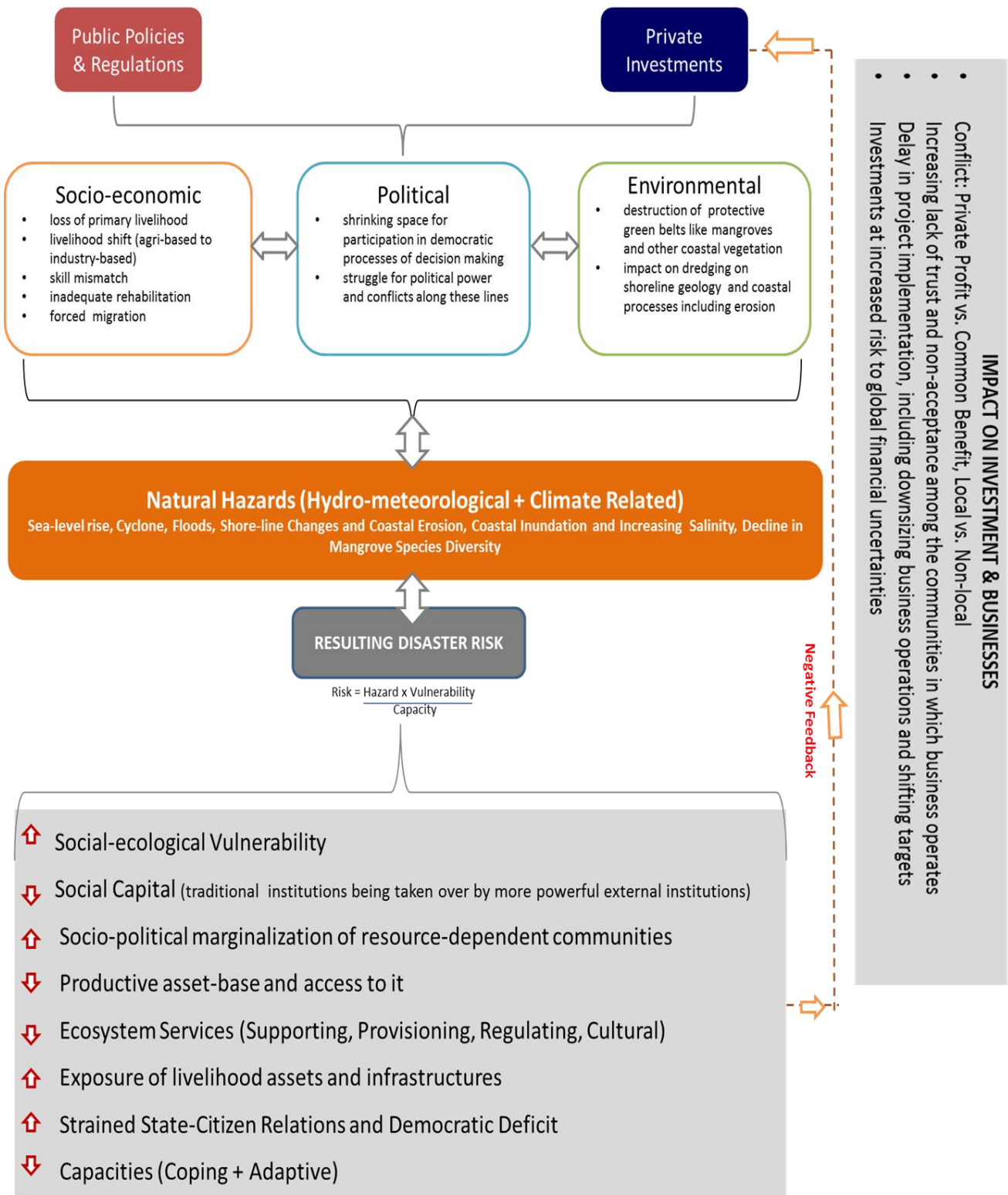
The foregoing account of the sequence of unforeseen challenges and changes that the largest Foreign Direct Investment in India have been grappling with presents a vivid description of the dynamics of an emerging investment-risk interaction in coastal Odisha in India. Insufficient

²⁷National Green Tribunal Suspends POSCO Project, *India Today*, March 31, 2012.

<http://indiatoday.intoday.in/story/national-green-tribunal-suspends-posco-project/1/182507.html>

understanding and limited inclusion of the prevailing natural hazard context of the coastal regions in to the investment planning and decisions have not only negatively impacted the business but also through multiple layers (socio-economic, political and environmental) of interactions has further accentuated disaster risk among the already exposed coastal social-ecological systems in the region (Fig 14).

Figure 14 Investment-Risk Interactions in Coastal Odisha, India



Conclusion:

Lack of greater institutional interplay and disconnect among various public policy institutions and initiatives that aim to facilitate private investment and those which are related with disaster management, environmental protection and social security of the poor and vulnerable communities create and sustain a contextual environment which continually increases the level of exposure and vulnerabilities of the communities to natural hazards. In the context of a changing climate, with large scale uncertainties in the intensity and frequency of many hydro-meteorological hazards, risks of communities and businesses are further multiplied.

Thus, initiating and strengthening a strong institutional basis for integrating disaster risk reduction (DRR) in to overall development policies and planning, including private sector investments, is of paramount significance in order to *Build the Resilience of Nations and Communities to Disasters* (Hyogo Framework for Action 2005-2015).

*The Future We Want*²⁸, the recent output from the Rio+20 Conference, identifies and spells out the urgency for such an integrated approach to disaster risk reduction in Section 5: Framework for action and follow-up as: We stress the importance of stronger interlinkages among disaster risk reduction, recovery and long-term development planning, and call for more coordinated and comprehensive strategies that *integrate disaster risk reduction and climate change adaptation considerations into public and private investment*, decision-making and the planning of humanitarian and development actions, in order to reduce risk, increase resilience and provide a smoother transition between relief, recovery and development (*emphasis added*).

There is a need to establish and strengthen institutional mechanisms that facilitate real-time coordination and communication among policy making bodies of various ministries, primarily those dealing with investment decisions, and those with the private sector entities. This will not only facilitate policy coherence but would also ensure systematic and regular review and revision of policies which are essential components of dynamic policy making (UNCTAD, 2012). Secondly, localization of these actions and priorities through supporting local governments and decision makers is essential to further bolster participatory governance, inclusiveness and ownership around investments and its outcomes. Private sector could play a pro-active and leading role in these proposed activities through systematic planning and coordination with other stakeholders, including the communities in which their businesses are located.

²⁸ <http://daccess-dds-ny.un.org/doc/UNDOC/GEN/N12/381/64/PDF/N1238164.pdf?OpenElement>

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