

ENVIRONMENTAL RISK TO FIXED ASSET INVESTMENTS IN INDIA

2015 Survey Report

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Introduction

From my workplace window there are days when I can see planes landing at Delhi airport. On most days however, the planes are invisible. Instead, I see a grim, brown pollution cloud above the city. The air in Delhi, in spite of the city's public vehicles running on clean natural gas, and close to 3 million people using mass transit daily, is the most polluted in the world. Underneath, on the roads bulging columns of vehicles toil, jostle and at times collide. Understanding of road safety rules, and its enforcement is poor in India except in a few cities. India has among the lowest vehicle ownership rates in the world, yet it records among the highest fatalities in road accidents.

It is not that poor air quality, or bad roads are unique to India. Businesses face similar risks in other developing countries. So what is it about India that turns seemingly common environmental, health and safety risks into headline grabbing public hazards that can potentially impact millions of people? What is the perception of such risks among businesses in India? What should a business do to

address such risks? Such questions are the focus of ERM's India Environmental Risk Survey 2015. ERM works with business owners, investors and lenders globally to identify, assess and mitigate environmental risks and protect and enhance the value of fixed investments. ERM's Environmental Risk Survey 2015 contributes to our activity by tracking and quantifying the perception of environmental risks among industry managers and operators in India. The 2015 Survey results have been summarized and informed by ERM's unique perspective in evaluating environmental risks for its clients in India. The report makes concluding recommendations on what a company should do to mitigate such risk.

Responses

ERM conducted the online survey between 16th March 2015 and 31st March 2015.

The survey received a total of 132 responses.

Evolution of environmental risk in India

Historically, India was known as a beautiful country with its pristine rivers, mountains and countryside. Up until the 1980's, there weren't many environmental issues in India. At the same time there wasn't much economic growth happening in the country. In the last 25 years India has achieved one of the highest GDP growth rates in the world. Also in the last 25 years in many parts of the country, the air has become unbreathable, rivers have turned into drains, biodiversity lost and wild and open spaces have turned into garbage filled waste dumps. Rapid economic growth in an environmental regulatory system that can't catch up has brought the country to the verge of environmental catastrophe. It is becoming clear that environmental risk in India has the potential to materialize at a speed and human scale that is unprecedented posing a risk to the business that is often missed by conventional risk mitigation strategies.

At times this risk is external. Consider for example that just 3 months back due to deteriorating air quality, National Green Tribunal ruled that no diesel vehicle older than 10 years will be allowed to enter Delhi. The scale of the order is so huge that authorities cannot enforce it. Delhi is a big market for vehicles. Due to uncertainty around the regulation and what the future holds, prices of used diesel vehicles are in disarray and so are the product development plans of car companies. Businesses can bring these risks to themselves as well. Within the last 12 months, many industrial clusters have been forced to shut down, and relocate due to their own, collective air emissions and waste management practices. Volume of waste or compliance with the law may not have been an insurmountable business risk if the number of units was smaller. But an industrial cluster in India has hundreds of units with thou-

sands of employees generating millions of tonnes of waste. Combined with poor enforcement of laws the issue has escalated into the shutdown of entire clusters.

To escape the dysfunction in India, and the associated risk to our business, my company, a global MNC located in an office complex that when described in words can be mistaken for an independent island nation. It generates its own power, runs its own mass transit and enforces its own unique set of rules with a small army of private security guards. We lease this office space for the risk mitigation it provides. If the risks were to change such that we are exposed, my company can walk away from the lease. However, for companies that are making an investment in a fixed asset in India, walking away is not an option. For such investments, it is important that the investor understands the current environmental risks, how those will evolve, other external and internal influencing factors and new and emerging risks.



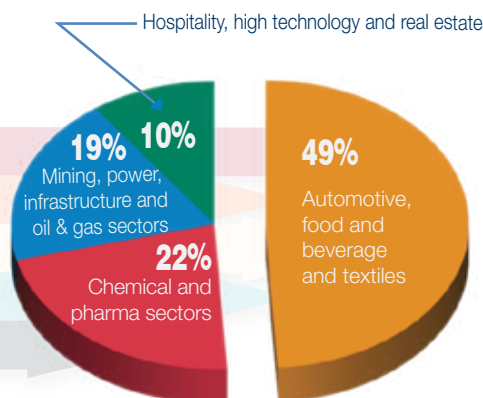
Why should your business in India track environmental risk?

Businesses in India trust their ability to manage environmental issues often times at the expense of compliance with regulatory requirements. While operations and maintenance staff may have exemplary management skills, top management, the board, and most importantly the investors should worry about the total cost incurred in managing issues over the lifetime of the investment, not to mention the business interruption risk, fines and penalties and the risk to reputation.

In India there are multiple ways in which environmental risk can materialize:

- Lack of regulatory compliance**
Enforcement of environmental laws is lax in India which leads to unequal compliance. Businesses tend to focus more on paper compliance at the expense of actual performance. Such businesses face the risk of a fine or a shutdown each time its operating permit comes up for renewal.
- Environmental degradation**
Up until the early 1990's when India had a much smaller industrial base, there were fewer environmental regulations. As a result, businesses got used to discharging their waste in surrounding land, water and air. In current regulatory and social media regime these issues pose potential liabilities and risk to reputation.
- Resource shortages**
Businesses in India face a perpetual scarcity of water and frequent shortage of fuels, especially diesel, natural gas, coal and electricity. Businesses that consume excessive resources compared to their peers not only have a higher cost structure, they also face the risk of shutdowns due to shortages.
- Human impact**
Higher population density near industrial clusters increases the environment, health and safety risk to humans from impact of industrial activity.
- Natural hazards**
India lacks the public funds to adequately prevent environmental incidents such as floods or to deal with the aftermath of a catastrophic event such as an earthquake. Such incidents test the ability of a private enterprise to recover on its own and pose an existential risk to a business.
- Changing regulatory framework**
As India gets more industrialized; it is entering an era of changing environmental regulations and stricter enforcement of existing laws, creating new risks for business.

Sectorwise profile of the responding organizations



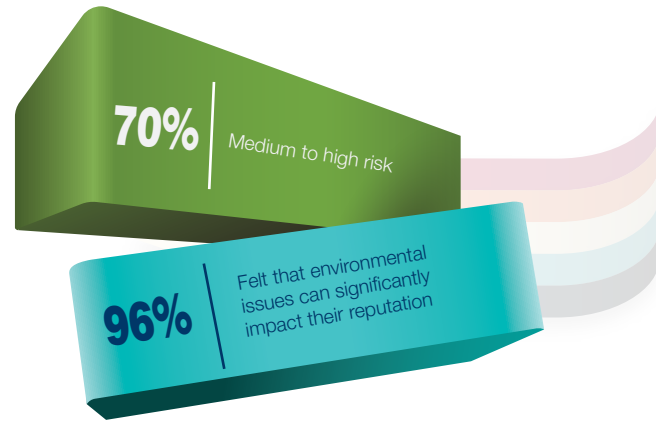
Roles and responsibilities of the respondents

India Environmental Risk Survey - Results

Perception of environment as a risk to doing business in India

The respondents were asked to rate their perceptions on environmental risks to their respective business and supply chain on a scale of 1 to 5. Over **70%** respondents rated environment as a medium to high risk to their business. The remaining **30%** rated environment as a low risk. Perceptions of risks from environment in the supply chain are the same, although a larger percentage of respondents see environment as a higher risk to their own business than to the supply chain. This may be due to a better understanding of the vulnerabilities of own business than of others. On a separate question, over **96%** of the respondents felt that environmental issues can significantly impact their reputation while the remaining **4%** did not.

While the state of India's environment is poor and it is getting further degraded, there is a growing realization that things will change. Environmental damage, its social impact, reputational risk it poses and subsequent changes in laws and law enforcement poses a risk to business as usual. One may argue that the drivers for such an outcome have existed in the past as well, but the risks have not materialized. The degradation of the environment is a much more pertinent issue for the people today than it was 25 years ago. Today, the channels for communication have multiplied which means that local issues are now discussed on television and smartphone screens in front of millions of people. It is fair to say that if the gas leak at Union Carbide plant in Bhopal had happened today, the outcome for the company, its management and shareholders would have been a lot different than it was in 1984.



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What do the key stakeholders think?

83% of the respondents said that environmental issues are important to their customers while the remaining **13%** think that their customers do not care about environmental issues. On a separate question, over **95%** of the respondents reported that environmental issues are important to the owners and to the management of their company while the remaining **5%** said they are not.

If people in business are this concerned about the environment, how does one explain its current state? Could it be that business is only doing what is required and enforced and no more? After all, why should a business do any more than its competitor? As a consequence, the entire industry could be on a race to the bottom! It is possible that the stakeholders want to do more to protect the environment but seek a level playing field. A pertinent example is the recent introduction of a rule in India that requires certain large companies to spend 2% of their after tax profit on Corporate Social Responsibility. A tax, it was accepted by the industry without much protest. Could a similar law be introduced to force business to do more for environmental protection? The environmental conditions in India have created grounds for an economy wide upgrade of the environmental regulatory framework. This will change the cost structure for new investors.



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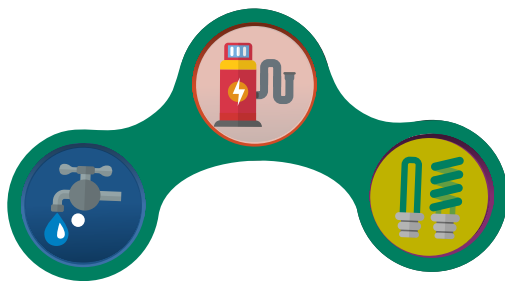
Compliance with Environmental Law

14% of the respondents reported that they do not fully understand environmental laws that apply to them while the remaining **86%** believe that they do. On a separate question, **12%** of the respondents reported a current environmental issue in their company while the remaining **88%** did not report a current issue. Only **5%** reported a business disruption due to non-compliance with environmental law while **95%** did not report any such disruption.

Environmental obligations are imposed in India as conditions in the permits to establish and operate a business. These conditions at times run into more than a hundred and the regulator does not have the systems, processes or the means for ensuring compliance. Given the lack of enforcement, businesses are generally ignorant of the conditions. Many such businesses operate under the threat of regulatory action and manage their way around it year after year. The risks keep on piling until the permits come up for renewal. For such businesses, a citizen complaint or a diligent regulator could trigger a fine, a penalty or business shutdown. In the survey, top 3 areas reported for lowest compliance are Noise Level, Hazardous Waste Disposal and Chemical Storage. Top 3 areas reported for highest compliance are Air Emissions, Health & Safety and Hazardous Waste.



“For such businesses, a citizen complaint or a diligent regulator could trigger a fine, a penalty or business shutdown.”



“Businesses that consume more resources compared to their peers not only have a higher cost structure, they also face the risk of shutdowns due to shortages.”

Environmental impact and resource use

40% of the respondents reported a shortage of water, fuel or electricity in the last 12 months while the remaining **60%** did not report any such shortage. Businesses in India face a perpetual scarcity of resources. Unlike in certain developed economies where utility companies supply water and electricity, in India a business purchases water from a utility and private suppliers who deliver water in tankers. Water supply is also supplemented with groundwater wells which in many cases are non-compliant. Electricity is procured from the grid and also generated in-house using diesel generators. Resource supplies are not reliable and lead to inadequate capacity utilization. Businesses that consume more resources compared to their peers not only have a higher cost structure, they also face the risk of shutdowns due to shortages.

15% of the respondents reported a disruption in business due to natural events such as floods, storms, extreme heat etc. in last 12 months while the remaining **85%** did not report such disruption. India lacks the public funds to adequately prevent environmental incidents such as floods or to deal with the aftermath of a catastrophic event such as an earthquake. Such incidents test the ability of a private enterprise to recover on its own and pose an existential risk to the business. While an insurance policy may help with covering damages, it will not bring back lost customers or find new suppliers. Scenario planning and crisis management are an important part of sustaining a business. This is especially true for India.

What should a fixed asset investor do to manage environmental risk in India?

Based on the survey, the most common form of environmental risk in India appears to be from the shortage of resources such as water and fuel. An investor should carefully assess resource supply, and resource-use intensity of the asset prior to making an investment. Risk from the physical environment such as floods, storm damage etc. seems to be a significant concern as well. It is important to understand this risk by inspecting historical data on the asset that is available privately, publicly and with the regulators. Investors should also conduct detailed vulnerability studies for aspects such as years of available groundwater supply and risk of soil and groundwater contamination. The survey also uncovers a lack of understanding of environmental law. This will invariably lead to fines, notices and possible business shutdown. This risk should be evaluated with a site-focussed due diligence to understand site practices for handling hazardous materials, waste management, air emissions etc. Overall a significant majority of the respondents believe that environment is a risk to their business, and that their owners, managers and customers care deeply about the issue.

While a backward looking environmental due diligence at a point in time is a good risk management practice, it is important to note that in India's context, past is not the best indicator of future risks. A lot has changed in India in the last two decades to change risk outlook in the future. A five year or longer investment timeframe in India will certainly face the rising tension between the resource needs of a growing economy and the limits of a degraded physical environment, depleting resources and increased environmental vulnerability of a migrant population. Easier access to media and a more proactive executive, legislature and judiciary will further exacerbate this tension. As it seems, the environmental risk of doing business in India is disproportionately loaded in the future. Therefore, investment in fixed assets in India should be planned with a firm understanding of not just the past, but also the future of environmental risk in the country.

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NOTES:-

All respondents to this survey are operators and managers of large, operating companies that have procured or plan to procure environmental services. The respondents to this online survey therefore may exhibit a different environmental behaviour compared to their peers who do not spend resources on environmental services. 93% of the respondents reported having a designated person responsible for environmental matters in their company.

This report was prepared by **Rupam Raja**, Partner, Transaction Services, ERM India Private Limited, Rupam works closely with industries, project developers, private equity groups, and their legal counsel to evaluate and manage the environmental risks of transactions over the life cycle of the investment. Rupam can be reached at Rupam.Raja@erm.com.

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About ERM

Environmental Resources Management (ERM) is a leading global provider of environmental, health, safety, risk, social, and sustainability-related consulting services. We have more than 5,000 people in over 40 countries and territories working out of more than 150 offices. ERM is committed to providing consistent, professional high-quality service that creates value for our clients. Over the past five years we have worked for more than 50 percent of the Global Fortune 500 delivering innovative solutions for business and selected government clients helping them understand and manage their sustainability challenges.

For over 40 years we have been working with clients around the world and in diverse industry sectors to help them to understand and manage their environmental, health, safety, risk and social risks and impacts. The key sectors we serve include Oil & Gas, Mining, Power, and Manufacturing, Chemical and Pharmaceutical. All face critical sustainability challenges and our clients in these and many other areas rely on our ability to assist them operate more sustainably which has a positive impact on our planet.

Our core services are designed to meet the broad range of our clients' changing needs. We act as trusted advisors to senior leaders in a number of the world's leading companies to find solutions to their sustainable performance, operational and cultural challenges.

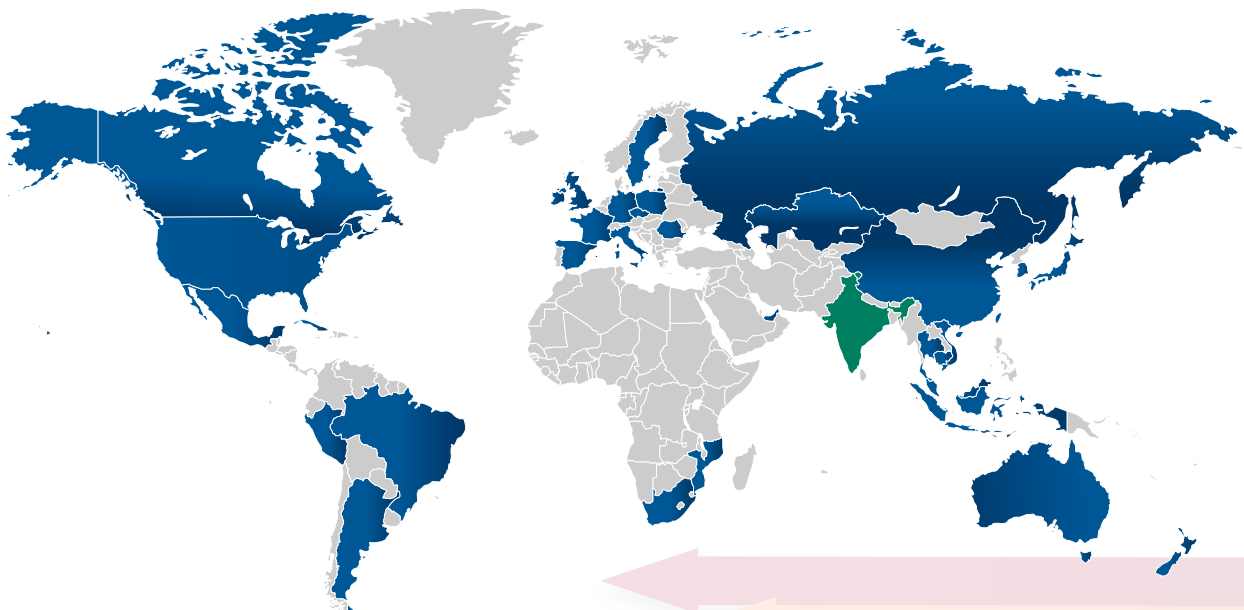
ERM in India

Present in India since 1995, ERM has emerged as the largest specialized environmental, social, health and safety and sustainability consulting firm in India.

With more than 170 full-time professionals, ERM operates out of 5 offices in India –Ahmedabad, Bengaluru, Gurgaon, Kolkata and Mumbai. Moving beyond traditional consulting, our services take into consideration the wider business context of our clients, their long and short-term goals and financial schedules. Our objective is to help our clients achieve most out of their business now, and in future.

ERM is uniquely qualified in the Indian and South Asian region to provide advice and assistance for all phases of a company's evolution. Whether it's reducing risk and liability exposure associated with a transaction, improving environmental, health and safety performance of an operational asset, or mitigating social, community and reputational risks for a major capital project, we can leverage our local and global networks to assemble the best team to meet your needs. ERM's regulatory advisory experience in India also includes the framing of new environmental and sustainable development policies and legislation.

Our clients consider ERM to be a Global Sustainability Consultancy that partners with them to address business critical sustainability issues.



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Environmental Risk Questionnaire 2015

Environmental risk is an area that needs special attention from investors and business operators in India. This survey is intended to widen the knowledge base around environment as a business risk. The results of this survey will be compiled in the form of a report. This survey has 16 questions and takes upto 4 minutes to complete. All responses will be treated confidentially. We thank you for your participation.

* 1. Please enter the SURVEY ID NUMBER from the first line of the cover email that you have received.

* 2. On a scale of 1-5 how big of a risk do you think are environmental issues to your business (1=No risk, 5=High risk)?

	1	2	3	4	5
Your Choice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*3. On a scale of 1-5 how big of a risk do you think are environmental issues to your supply chain(1=No risk, 5=High Risk)?

	1	2	3	4	5
Your Choice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*4. Do you think your company fully understands the environmental laws that apply to your business?

Yes No

*5. In which area/s do you think your business has the highest compliance with environmental law?

<input type="checkbox"/> Air Emission	<input type="checkbox"/> Water Laws	<input type="checkbox"/> Wastewater disposal	<input type="checkbox"/> Hazardous Waste disposal	<input type="checkbox"/> Noise
<input type="checkbox"/> Chemical Storage	<input type="checkbox"/> Fuel Storage	<input type="checkbox"/> Health & Safety	Other (please specify)	<input type="text"/>

*6. In which area/s do you think your business has the lowest compliance with environmental law?

<input type="checkbox"/> Air Emission	<input type="checkbox"/> Water Laws	<input type="checkbox"/> Wastewater disposal	<input type="checkbox"/> Hazardous Waste disposal	<input type="checkbox"/> Noise	
<input type="checkbox"/> Chemical Storage	<input type="checkbox"/> Fuel Storage	<input type="checkbox"/> Health & Safety	<input type="checkbox"/> None of the above	Other (please specify)	<input type="text"/>

*7. Are you facing any environmental issues in your company right now?

Yes No Do Not Know

*8. Is environment an important issue for your customers?

Yes No

*9. Is environment an important issue for your owners/shareholders?

Yes No

*10. Is environment an important issue for top management of your company?

Yes No

*11. Do you think environmental issues can impact the reputation of your company?

Yes No

*12. In the last 12 months have you faced a shortage of following resources in running your business?

Water	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	Fuel(coal, petrol, fuel oil etc.)	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>
Electricity	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	Steam	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>

*13. In last 12 months have you faced a business disruption due to natural events i.e. flood, rain, heat, storm, drought etc.?

Yes No

*14. In last 12 months have you faced a business disruption due to compliance issues i.e. permit expiration, wastewater discharge, air emissions, hazardous waste disposal, chemical spill etc.?

Yes No

*15. Do you have a designated person in your company for environmental matters?

Yes No Do Not Know

*16. What is your role in the company?

Operations Management EHS Other (please specify)