INDIA
Risk Review
2016
The interdependence of geo-politics and business interests creates opportunities and risks for businesses. A wide array of political, socio-economic, societal, legal/regulatory and environmental risks impact businesses. Understanding and mitigating these risks is vital to running a business.

Geopolitical risk assessment allows business owners to track and analyze current global and local events/trends, to comprehend the impact of these as well as the opportunities they present.
India Risk Matrix

Disclaimer: MitKat’s risk ratings are a quantitative and qualitative product of the likelihood of risks and their impact on the conduct of business. This rating may differ significantly from the national average, for specific regions within India, and from one business to the other.
India Risk Map 2016: Security & Safety Perspective

Risk Evaluation Factors

- Extremism
- Natural Disasters
- Crime
- Civil Disturbance
- Environment, Health & Diseases
- Infrastructure
- Emergency Services

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For India, 2015 was a year of steady progress, yet missed opportunities. Despite weak global macros, Indian economy continued to be resilient. India's resilience also stems partly from its noisy, often flawed, yet inclusive democratic traditions.

India’s macro-economic fundamentals continue to be robust and independent. Its professional security architecture gives it the ability to manage and mitigate geo-political and societal risks without debilitating turbulence. While global risks like terrorism, climate-linked hazards and economic downturn may affect India, her overall growth trajectory and security framework would continue to show steady improvement in 2016. However, India remains vulnerable to some internal instability due to social factors, under-employment and the pressure of a growing, aspirational and restive youth population. Management of internal fault lines and political confrontation would be key factors affecting India's growth story in 2016.
Given the globally interconnected world that we live in, security needs collaboration at individual, organisational, industrial, national and global levels. No sole entity can claim to have solutions to the various security challenges that confront businesses today; networking and knowledge sharing are the key drivers for mitigating challenges in today's complex security environment. ASIS International works on bringing together security professionals to facilitate exchange of ideas and knowledge sharing so that individuals and organisations can manage risks better. Each of our 38,000 worldwide members is responsible for protecting vital assets—people, property, and/or information—in various industries, both public and private.

If 2015 was the year of lone wolf attacks, then 2016 will be the year of terrorists getting increasingly sophisticated and organized in their attacks. Lone wolves will not be just a rag-tag bunch of militias, but educated individuals with sophisticated technological skills, capable of launching high-profile attacks. Even as the physical threat to organisations remains high, dangers in the cyber realm will add an additional dimension to security concerns in the future.

ASIS-Mumbai Chapter has come together in a unique collaboration with MitKat Advisory Services to provide a comprehensive round up of the various risks that businesses in India face today; in the form of the India Risk Review 2016. We hope that security professionals and organisations benefit from it.
Executive Summary

Businesses in India are likely to face the following risks in 2016:

- **Geo-political Risks** – Insurgency and cross-border terrorism, boundary issues and border tensions with nuclear powered neighbours, parliamentary gridlock, politically motivated protests, violence leading up to key state elections, and impact of geo-political events on energy security.

- **Societal / Socio-Economic Risks** – Maoism / left wing extremism, petty and organised crimes, women’s safety, retrograde practices, communal conflicts, religious intolerance and radicalisation, caste-based violence, and land-related issues.

- **Technology Risks** – Cyber crimes / attacks, malware, phishing and ransomware attacks, critical infrastructure vulnerability, Bring Your Own Device related risks, risk related to SMAC (social, media, analytics and cloud) and IoT (Internet of Things), cyber espionage, and extensive use of technology and internet by global terrorist organisations.

- **Economic Risks** – Underinvestment in infrastructure, complex regulations and unfriendly tax policies, delays in passing of business-friendly legislations like GST, land acquisition and bankruptcy laws, fiscal slippages, currency fluctuations, corruption, bank frauds, oil price volatility, and labour issues.

- **Safety Risks** – Transportation safety, structural safety, fire and industrial safety, food and water safety, and most importantly safety of women, children and minorities.

- **Environmental and Health Risks** – Natural hazards, air pollution, pandemics/diseases, water scarcity, bio-diversity loss, and waste disposal.

Despite global headwinds and parliamentary gridlock in 2015, India emerged as the fastest growing major economy in the world, overtaking China. Low crude prices and initiatives by pro-active central bank helped to contain inflation and economic deficits despite a poor monsoon and fall in exports. PM Modi continued his push for reforms (key projects include “Make in India”, “100 smart cities” and “Digital India”) and aggressive economic diplomacy, even as the impatience among investors grew to see tangible progress on ground. Urban consumption remained robust and government investments in roads, railways, ports and defence is likely to kickstart the economic growth cycle in 2016.
Executive Summary

India enters 2016 on a note of optimism due to strong economic outlook, supporting political environment and healthy competition among states to attract investments. Although it may take time for the initiatives and reforms to yield results on ground, but the wheels of governance have been firmly set in motion. Business opportunities in India are tremendous. Japanese and Singapore governments and major global corporations like Google, Microsoft, FaceBook, Foxconn, Toyota, SoftBank, Alibaba have committed major investments into India. Low oil and commodity prices would continue to benefit India, which is a huge net importer of oil.

However, India should be approached by overseas investors with careful planning as the country comprises 29 states and seven union territories with varying geographical, cultural and sectoral context and different regulatory framework. Besides, there remain many fundamental challenges to doing business in India. These are:

Fundamental Challenges

2015 was a year of missed opportunities for India. Prime Minister Modi who was elected in May 2014 with a clear majority, hope and hype, set the wheels of governance in motion; however, the gap between promise and delivery became evident in 2015; there remains a growing impatience among various stakeholders, internal and external, wanting to see concrete progress on the ground.

Electorally, it was a forgettable year for the ruling party with a near wipe out in Delhi provincial elections and rout at the hands of a regional coalition (JDU-RJD) in the politically important state of Bihar. Five assembly polls are due in 2016: West Bengal, Tamil Nadu, Puducherry, Assam and Kerala; of these BJP has a major presence only in Assam. Victory in Bihar and Delhi has come as a shot in the arm for the regional parties who are posing new challenges, and along with the opposition party, Congress, are making governance tougher for the ruling party.

The Parliament remained gridlocked with little legislative activity. “Goods and Service Tax (GST)” Bill remained hostage to parliamentary disruption despite broad political consensus among major parties. “Land acquisition” and bankruptcy law remain hostage to bitter ruling party-opposition divide.
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Diplomatically, overall 2015 can be considered as a good year. India finally settled the long-pending border issue with Bangladesh and along with other major global powers helped reach an agreement on climate change in Paris. India was quick to respond to Nepal earthquake and issues around Nepal constitution and Madhesis show signs of resolution. Modi revitalized the relations with long-time ally Russia and regional business hubs Singapore and Abu Dhabi, attracted investments from major economies, notably Japan and even paid a surprise year-end visit to Lahore.

India's neighbourhood continues to be turbulent. The impact of IS inspired violence was felt beyond Middle East, with social media and Internet playing an increasingly important role in propaganda and spread of ideology. So far, India seems to have been relatively less impacted by IS. Maoist violence continued to be an area of concern in the states of Jharkhand, Chhattisgarh and southern part of Odisha.

A key impediment to India's growth remains its internal security situation. Cross-border terrorism shows no signs of abating, with the northern border state of Jammu and Kashmir being the worst affected. How best to monitor and prevent jihadi activities will remain a challenge for India's security establishment for 2016.

In the northeast part of the country, the decades-long insurgency has showed no signs of coming to a logical conclusion; in spite of a landmark peace accord signed with the NSCN (IM). Northeast India also faces a new and emerging threat of Islamic militancy with groups like Jamaat-ul-Mujahideen Bangladesh (JMB) increasing their presence.

Maoism remains the biggest threat to India's internal security. Sustained operations by the security forces, coupled with government policies, meant that states like West Bengal, Odisha, Andhra Pradesh, Telangana and Bihar have seen reduction in the Maoists' activities. However, the movement remains active in parts of Jharkhand and Chhattisgarh.

Economically, India remains the fastest growing major economy in the world. Foreign direct investment has picked up slightly. Yet, growth has been lower than expected, exports have fallen, corporate investments are yet to pick up and banking sector remains under stress due to non-performing assets. While urban consumption remained strong and inflation was largely in check, rural demand is yet to pick up. Government's investments in key projects “100 smart cities”, “Make In India”, “Digital India” and “Skill India” are yet to show results, even as power sector shows some sign of reforming and renewable energy is drawing in external investments.
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Nothing much has been done in terms of administrative reforms and increasing the accountability of government officials; even as the government gets ready to roll out recommendations of VIIth Pay Commission which will provide a handsome increase in salary and benefits.

The year 2015 witnessed numerous incidents related to religious intolerance, especially over the issue of consumption of beef, conversions and inter-faith marriages. These worrying signs of religious intolerance are likely to continue into 2016. Incidents of communal violence, especially between Hindus and Muslims, increased by 25 per cent in 2015; and the early part of the year saw a number of attacks on churches.

Public protests are a common phenomenon in India. 2015 witnessed numerous such large-scale public protests, which had strong political undercurrents to them. Reservation for Jat and Gujjar communities in the North, the Patel community’s protests for reservations in the West, and the Inner Line Permit protests in the Northeast were some. How the government approaches the sensitive matter of reservations, will determine the intensity and occurrence of protests in 2016.

In spite of enactment of tougher laws; harassment, assaults, molestation and rape remain a real threat for women in India. Corruption in India is a problem endemic across all government machinery; and in 2015, India was ranked 85th out of 175 countries in Transparency International’s Corruption Perceptions Index. This affects the country's global image and its propensity to do business.

Energy supply powers economic growth and India's energy demand is likely to be among the highest in the world. However, under-supply and frequent power cuts have significant impact on industrial growth. India is over dependent on traditional fossil fuels such as coal and natural gas, and it needs to constantly explore avenues to meet this growing need.

Over dependence on fossil fuels has also contributed to India’s high air pollution levels. The air quality in most Indian cities fails to meet WHO guidelines for safe levels, and health hazards due to poor air quality remain a major concern for India's population living in metros.
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Communicable diseases like malaria, tuberculosis, dengue, and other vector-borne diseases continue to be a major health problem in India; along with the threat of new emerging or re-emerging infectious diseases like Avian Influenza and H1N1 influenza. India's healthcare challenges are exacerbated by shortage of medical staff, inadequate facilities, untrained paramedics and midwives, unaccredited labs and high cost of advanced diagnostics.

Approximately 85 per cent of India is vulnerable to some environmental hazard – not only earthquake, but also cyclones, tsunamis, floods, heat and cold waves, drought and landslides, apart from chronic urban stresses like traffic snarls, unbreathable air and waste accumulation in some cities.

There has been an explosive increase in cyber threats due to increasing usage of mobile phones / smart phones, web, social media and cloud. A number of highly publicized attacks and leaks have increased public awareness about cyber security risks. Internet of Things (IoT) has invited cyber threats at various sensors, terminals and devices.

Fire and structural safety, and inadequate emergency response continue to remain areas of concern. The lack of compliance to laid-down safety standards takes a toll on individuals and organisations, since not all of the Indian industry really follows such directives in letter or spirit. Road accidents too cause an annual economic loss of 3 per cent of the GDP.

Despite the various challenges to the business-operating environment, investor confidence remains high; and the Indian diaspora abroad too lends support in assuaging their concerns. However, the country needs to enhance its business environment by reducing corruption and strengthening the rule of law, develop infrastructure, boost manufacturing, simplify its taxation system, ease FDI regulations and increase awareness about its emerging economic centres.
The biggest threat to India would clearly come from terrorism sponsored from across the border; which would continue to target both the security infrastructure in the country as well as India's growing economic capability. However, there is little synergy between the governmental agencies and the business/industry community who have shown a reluctance to protect their own interests effectively. Any threat from global jihadi groups or global terrorist entities such as the Islamic State is, for the moment, minimal. The biggest international threat to businesses in India would be in the area of cyber-security.

- Maroof Raza
Strategic Affairs Expert
Geopolitical Risks

Cross-border Terrorism
India lies in a hostile region, both physically and geopolitically. Terrorism remains a serious geopolitical challenge to India’s growth and stability. Cross-border terrorism shows no signs of abating, with the northern border state of Jammu and Kashmir (J&K), the worst affected. In the year gone by, due to sustained efforts of the security forces, the state witnessed a drop in infiltration bids. In a significant incident, terrorists launched an attack in Punjab, the first such major attack since the end of militancy in the state.

Trends in Cross Border Terrorism

The end of 2015 saw multiple encounters with the security forces, leading to the loss of two senior officers of the Indian Army. Attacks on security forces are reflective of a collective effort of Pakistan-supported terrorist groups such as Lashkar-e-Taiba (LeT), Jaish-e-Muhammad (JeM) and Hizb-ul-Mujahideen (HM) to recoup and re-energise militancy.

Of most concern is the recent increase in the number of young people being drawn to militancy in J&K amid indications of a fresh wave of religious radicalisation. Of late, a flourishing industry of spies, informants and militants has muddied the waters. The changing character of the militancy is a warning signal that an urgent course correction is required in J&K to prevent the clock being set back by a decade.

Interstate Conflicts
India – Pakistan relations
The relations between India and Pakistan continued to remain tense throughout 2015. The trust deficit continues due to totally different perceptions of each side. There was no major escalation, in terms of security concerns between the two countries, but the verbal blame game showed no sign of slowing down. A very loud and aggressive media stance in both countries exacerbated the
situation. In addition, there was no respite for Indian security forces from border violations in the Jammu and Kashmir region.

In September 2015, talks at the National Security Advisor (NSA) level collapsed hours before they were about to commence. This was the second time the nuclear-armed neighbours had cancelled talks since Indian Prime Minister Narendra Modi took office in May 2014. For the rest of the year, the prospects remained clouded by a series of militant attacks and border skirmishes. However, in December 2015, there were some positive signs that the talks between the countries might resume after the visit of Indian Foreign Minister to Islamabad.

The resumption of dialogue between the two countries would be the first positive step towards bridging the trust gap between the two nations. Barring some major unforeseen provocation, there is a possibility of a mild thaw in the relations with some senior level dialogue. The possibility of an overt interstate conflict is remote.

Indo-Nepal relations
The year gone by witnessed a tremendous strain in relations between India and its most important and close neighbour Nepal, especially after the promulgation of the new Constitution of Nepal in September 2015. The Madhesis and Janjatis in Nepal, who are inhabitants of the Terai region that borders India, have undertaken months-long protests against the new Constitution demanding better representation in the Government and rejected the redrawing of provincial borders in Terai. These communities trace their origins back to India and the Nepalese government has accused the Indian government of supporting the protesters in their agitation by “unofficially” imposing a blockade on the Indo-Nepal border.

Since Nepal is a landlocked country, with India on three of the four sides, its outreach to the rest of the world is through India. Nepal depends on India for nearly 90 per cent of its imports including fuels, essential goods and commodities like food products and medicines. The blockade has furthered the anti-India sentiment amongst not just the government, but also ordinary Nepalese.

In its bid to address the supply crisis, especially the fuel shortage, Nepal turned to China to secure alternate means of fuel supply. The new low in Indo-Nepal relations in 2015 saw a growing closeness in Sino-Nepal relations. Since the Communists took power in Nepal after the 2006 revolution against the monarchy, India has been worried about its northern neighbour getting too close to China.
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India-Nepal relations have collapsed to a point in 2015 that many believe has gone beyond the point of no repair. There is, however, a glimmer of hope, as some modifications in the Constitution have been proposed. Overall, the relations between the two in 2016 are likely to be frosty.

India-Bangladesh relations
India's relations with Bangladesh have certainly been on an upswing over the past decade, with bilateral trade having risen to $7 million. In June, both countries ratified the landmark land boundary agreement. The agreement came as a relief for over 50,000 people living in 162 enclaves across both countries as India and Bangladesh swapped enclaves, bringing to an end the 68-year-old boundary dispute.

The two countries took a host of steps to enhance trade and connectivity, including the launch of two new bus services. The two countries are a part of the sub-regional cooperation between Bangladesh, Bhutan, India and Nepal (BBIN) to enhance connectivity and regional integration. South Asian transport ministers have signed the landmark BBIN Motor Vehicles Agreement (MVA) for the regulation of passenger, personnel and cargo vehicular traffic among these countries. In addition, Bangladeshi Prime Minister Sheikh Hasina has been cracking down on hardline anti-India elements that have taken refuge in Bangladesh, especially the northeast insurgents.

Threat from Islamic State
Added to the existing threats to India's national security is the growing influence of the Islamic State (IS) or Daesh. The entry of IS in India's internal security environment has complicated the already complex web of security threats faced by India, especially because of the group's growing popularity and lethality across the globe. A map released by the Islamic State of the caliphate that they are trying to establish shows the easternmost province of Khorasan, which includes parts of India, along with Pakistan, Iran and Central Asia. This highlights the potential of an IS expansion into India; an unlikely event, but a legitimate threat.

Speeches by Abu Bakr al-Baghdadi and videos produced by Al Hayat, media wing of IS, have been translated to Indian languages like Urdu, Hindi, and Tamil and circulated on social media sites. Some of these specifically target Indian Muslims. A region found to be particularly vulnerable to IS propaganda is Southern India (which traditionally provides migrant working population to West Asian countries); and Assam (which has a large Muslim population).
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Insurgency in Northeast India

One important factor that sets the IS apart in India, is that it seeks to recruit engineers and other technical professionals to support its ancillary activities. It has repeatedly made calls in the past for “good Muslims” with technical skills to join. Since it recruits a highly technical workforce, the way in which the IS disseminates information is also targeted towards a young and tech-savvy audience; using social media and the Internet.

As IS expands across the globe, either through its local branches or by launching attacks outside its core area of operations, India will need to remain vigilant to possibility of terror attacks by this organisation.

In what could be seen a sign of rivalry between IS and AQ spilling into South Asia, AQ declared the formation of Al Qaeda in Indian Sub-continent (AQIS) in September 2014. The fear of IS’s growing influence in South Asia, probably promoted this move. After the attacks in Paris and Mali in November 2015, India was put on high alert for terror attacks from international terrorist organisations such as IS and AQ. While India currently faces a multi-faceted threat from terrorism and insurgency, the threat from Islamist terrorism is especially high.

Northeast India has been battling ethnic insurgencies for decades. Although the figures show a reduction in fatalities in 2015, the security establishment continues to be on tenterhooks, largely due to the belligerence of break-away factions of most of the major insurgent groups in states like Assam, Manipur and Nagaland.

Insurgency in Northeast India has always had trans-border ramifications, with rebel groups setting up shop and operating from neighbouring countries like Myanmar, Bangladesh, China and Bhutan. However, such cooperation has not always been successful. In what could indicate a change in India’s strategy of handling the Northeast insurgency, India carried out retaliatory strikes inside Myanmar against NSCN(K) militants who had attacked security forces in Manipur. The trans-border linkages that these groups have, and strategic alliances among them, have acted as force multipliers and have made the conflict dynamics all the more intricate. With demands of these insurgent groups ranging from secession to autonomy and the right to self-determination; and a plethora of ethnic groups clamouring for special rights and the protection of their distinct identity, the region is bound to remain a turbulent one. Insurgency in Northeast India has shown signs of moving towards terrorism. While earlier the security forces were the prime targets, groups
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like the National Democratic Front of Bodoland - Songbijit faction (NDFB-S) and the Garo National Liberation Army (GNLA) have carried out cold-blooded attacks on innocent civilians with the sole purpose of terrorizing them and in some instances as part of ethnic cleansing programs. With groups like the NDFB-S intermittently targeting Muslim settlers as well as tribals, killing hundreds of them and uprooting thousands, the vulnerable Muslim community could be an easy target for jihadi recruiters.

In spite of a landmark peace accord signed with the NSCN (IM), the decades long Naga insurgency has shown no signs of coming to a logical conclusion. The NSCN(K) remains the most active insurgent group in Nagaland and if the government manages to bring the group to the negotiation table in 2016, it will be good step towards the peace and stability of the region. In Assam, the Bodoland Territorial Area District (BTAD) has remained a constant theatre of ethnic conflict, mainly between the majority Bodos and

### Fatalities due to insurgent attacks in North East India in 2015

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<tr>
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<th>Terrorists</th>
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<td>4</td>
<td>3</td>
</tr>
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<td>Assam</td>
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<td>16</td>
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<td>Mizoram</td>
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Source: South Asia Terrorism Portal
Geopolitical Risks

the Adivasis and, more recently, the Muslim settlers. With the Assam assembly elections coming up in early 2016, there is every chance that ethnic tensions may flare up in the region.

Added to the security concerns for Assam is the growing interest/influence of IS in the region. A national survey by an intelligence agency has shown that the second largest volume of Internet traffic related to IS was from Assam, after Jammu & Kashmir. Northeast India also faced a new and emerging threat of Islamic militancy with groups like Jamaat-ul-Mujahideen Bangladesh (JMB) increasing their presence, an early indication of the fact that Islamist radicalism of the 'Jihadi' variety is very much a reality in the region. However, there has also been a visible increase in the level of cross border cooperation between Indian and Bangladeshi authorities in terms of sharing of intelligence and other counter terrorism initiatives. All the major insurgent outfits of the Northeast have split into factions over the years due to ideological differences, fights over monetary benefits and internal dissents. Control over territory for financial gains (illegal taxation, extortion, kidnappings, smuggling, drug-running and robbery) could lead to the birth of a few more insurgent groups in the region. With insurgency almost becoming an industry in the region, more and more players may try to enter the arena in 2016.

Electoral Violence

While elections in India have largely meant a meaningful participation across a broad spectrum of society, and better representation of all sections in politics electoral violence has the potential to spin out of control and affect innocent lives.

Violence such as killings, booth capturing, protests and poll-related violence have declined in recent past, but the likelihood of such activity remains reasonably high.

• In 2016, two big states of India will hold their assembly elections, West Bengal and Tamil Nadu.
• Although Tamil Nadu has had peaceful elections in the past, it has experienced political violence in the recent past when the current Chief Minister Jayalalitha was arrested on corruption charges.
• West Bengal is known for electoral violence in the past. The two main political rivals, Trinamool Congress (TMC) and Communist Party of Indian (Marxist) (CPI(M)) are often at loggerheads not only at the ballot boxes but also on the streets. If the violence in the 2015 civic polls in Kolkata is anything to go by, the 2016 assembly elections in West Bengal could see increased security and paramilitary forces being deployed for the peaceful conduct of elections.
India - Conflict Map

Source: South Asia Terrorism Portal
Geopolitical Risks

Energy Security

In the coming years, India's energy demand is likely to be among the highest in the world.

India's key energy challenges include but are not limited to:
- Increasing domestic production of primary fuels
- Securing necessary imports of primary fuels at relatively stable prices
- Attracting investment across all segments of the energy sector
- Investing in new energy technologies
- Reducing the carbon intensity of energy use and lowering local pollution
- Increasing access to energy to the marginalised sections of the society
- Diversifying the primary fuel basket to increase energy security

Uninterrupted supply of electricity is vital to the growth of the manufacturing sector that can potentially create jobs for millions trapped in subsistence agriculture. India is looking to more than double its total coal output to 1.5 billion tonnes by the end of this decade, with 500 million coming from the private sector. The growth of the automobile industry, increasingly aspirational middle class growth, a consumer culture and inefficient freight haulage will continue to raise the demand for petroleum.

Public Protests

Public protests in the form of strikes and sit-ins are a common phenomenon in India. Significantly, 2015 witnessed numerous such public protests, which had strong political undercurrents to them.
- Protests for reservation by the Jat and Gujjar communities led...
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- Manipur is no stranger to anti-government protests; and the protests to support the Inner Line Permit (and hence prevent 'foreigners' from accessing the tribal areas easily) were an added dimension to the unrest.
- The launch of Patidar Anamat Andolan Samiti (PAAS), saw protests across the state of Gujarat demanding the Patel community to be included among Other Backward Classes (OBC). These turned violent with 12 people losing their lives; paramilitary forces had to be deployed and curfew was imposed in some areas of the state.
- How the government approaches the sensitive matter of caste-based reservations, will determine the intensity and occurrence of protests in 2016.
- There were multiple instances of transport strike across the country as well, with severe disruptions to transport in urban centres.
- A nationwide strike of trade unions in September 2015, hit banking and other services.

Public protests not only cause disruption to daily life and business activity, very often genuine causes get hijacked by local political interests, leading to violence and unrest. Such disruptive actions also affect India's image as a suitable business destination.

Parliamentary Gridlock

Stalemate in the Parliament delayed crucial legislations in 2015, in spite of a popular figure in Narendra Modi as the Prime Minister. On multiple occasions, Members of Parliament resorted to protests and did not allow discussions on important pieces of legislation.

The BJP, in spite of enjoying a majority in the Lok Sabha, which it attained through the general elections in May 2015, does not have a majority in the upper house of the Parliament, the Rajya Sabha. The Rajya Sabha is composed of members elected by various state representatives as opposed to directly by the people. Bills need to be approved by both the houses of the Parliament before they can become law. The Rajya Sabha, where the opposition parties have a majority, has refused to approve legislations tabled by the BJP government on multiple occasions.

The stand-off between the incumbent government and the opposition continues to frustrate. Bills proposing new regulations for swifter land acquisition, a consistent national tax policy, as well as a new bankruptcy code currently stand stalled in the Parliament.
SOCIO-ECONOMIC RISKS
Socio Economic Risks

Rising prices of essential goods, distress of farmers due to droughts, floods and indebtedness, lack of jobs for semi-skilled youth, insecurity of life, limb and property, communal polarisation, caste animosities, atrocities against women, left-wing extremism, terror threats, lacklustre speed of initiating economic reforms, inadequate implementation of existing policies, political paralysis in elected bodies: all of this taken together will create massive hurdles in the path of a resurgent India.

- Dileep Padgaonkar
Consulting Editor, Times of India
Maoism

Maoists are militant far-left radical Communist groups operating in India. They are considered as a terrorist organization under the Unlawful Activities (Prevention) Act of India (1967). The movement is also called Naxal/Naxalite after the name of the place where it kicked off, Naxalbari in West Bengal.

- Maoist activities are spread to about 82 districts across 10 states of India.
- Maoists have presence in parts of Chhattisgarh, Jharkhand, Bihar, West Bengal, Odisha, Telangana, Andhra Pradesh, and Maharashtra, but are most active in the states of Jharkhand and southern Chhattisgarh.
- The group operates across India in what is termed as “the Red Corridor”. The "corridor" extends from the Western Ghats in Karnataka and Kerala in the south, to Bihar and West Bengal in the east.
- Maoist incidents have accounted for almost 60 per cent of terrorism-related violence in India over the last decade. These include intimidation, killings of innocent civilians, reprisal killings, abductions and kidnappings, bomb blasts, and the destruction of government and private property.
- Traditionally, government officials, security forces and local political leaders were targets; but of late, attacks have resulted in more and more deaths of innocent civilians and bystanders too.

- Maoist operations are mainly funded through illegal taxation of local villages, and extortion of mining/manufacturing companies having operations in their area of presence. Kidnappings of employees of these companies, although not common, it is not completely unheard of.
- Due to the massive offensive undertaken by India's paramilitary forces, Maoist groups now maintain operational presence in pockets across the "corridor". As of 2015, West Bengal, Odisha, Telangana and Andhra Pradesh have reported a decline in Maoist activities.
- The movement is now concentrated mainly in the region around heavily forested areas of Dantewada and Bastar districts in Chhattisgarh, and in parts of Bihar and Jharkhand.

Government Strategy:
Throughout 2015, the key strategy employed by the various state and central forces was to target Maoist operations in the region where various state borders intersect. In 2015, the border districts that were targeted in security operations were Khammam in Telangana, Koraput in Odisha, East Godavari region in Andhra Pradesh, Gadchiroli in Maharashtra and Kanker, Bijapur, Sukma and Dantewada districts in Chhattisgarh. This was done through joint operations conducted by district police and paramilitary forces.
Socio Economic Risks

Surrenders:
In Odisha, almost 1,000 sympathisers surrendered in September 2015; while 24 members of the Maoist militia surrendered in Bastar region in Chhattisgarh. The possible reasons for the high number of surrenders are:
- Government propaganda aimed at denouncing Maoist ideology.
- Financial incentives offered to the surrendering Maoists as a part of their rehabilitation.
- Newer recruits feeling disillusioned with the rebel lifestyle, and aspiring for inclusion into mainstream society.

Maoism Trends for 2016:
- Arrests of top recruiters and former leaders of the movement from near Pune city in Maharashtra in 2015 suggests that the fringe areas of cities have emerged as hideouts for Maoist cadres and leaders.
- The large-scale migration of rural population has caught the attention of Maoist outfits, who are seeking potential sympathisers.
- Maoist expansion into urban areas gives the group members an ideal cover from operations of security forces. It is here, in urban areas, that Maoists can regroup and realign strategy. Urban centres are also a good field area for fundraising.
- The trend of Maoists seeking refuge in urban centres will continue in the coming year.
- Andhra Pradesh and Telangana are two states where Maoists would look to increase their influence in the coming year. The kidnapping of five Telangana Rashtra Samiti (TRS) workers in November 2015 from Khamman district of Telangana, is an indication of the group’s growing presence in the state.
- Maoists have become active in the corridor of Kerala which lies from Kannur to Palakkad, in the areas where Kerala, Tamil Nadu and Karnataka share borders.
- As the security forces intensify their operations against the Maoists in Chhattisgarh and Jharkhand, the group will look to expand elsewhere in the future.

Fatalities due to Left Wing Extremism in India

Source: South Asia Terrorism Portal
Socio Economic Risks

Crime

Incidents of crime in India show a general uptrend, with the rate of crime per unit population also showing a rising trend. However, this is more likely an indication of better reportage than an actual increase in the number of crimes. Media activism and social media are also contributors to public awareness and a higher propensity to report crime.

Trends in 2015:
- Uttar Pradesh, Bihar and Maharashtra reported high incidences of violent crimes, although when considering the rate of violent crime per unit population, Delhi, Assam, Arunachal Pradesh, Sikkim, Haryana, and Bihar show the highest numbers.
- Of the major cities, Delhi, Mumbai, Bengaluru and Kolkata account for 22.7 per cent, 6.5 per cent, 5.2 per cent and 4.2 per cent respectively of the total crimes.
- ATM robberies and cash-van attacks have been more frequent. However, due to better CCTVs and crowd-sourced investigations, recoveries have also been higher.

Incidences of petty crime in public places (like picking of pockets, and theft of valuables) have decreased, as a result of increased deployment of police personnel and CCTV cameras. What has also changed is that with small, but incremental changes in public perception of the law enforcement machinery, reporting of crimes in the major cities is also on the rise.

Women Safety

Despite recent government regulations, safety of women in India continues to remain an area of concern.
- In key economic centres of India, like Delhi, Mumbai, Bengaluru and Gurgaon, cases of harassment and molestation have been on the rise.
- Some of these incidents have taken place in broad daylight, and being in a crowded place did not automatically ensure security.
- The law remains partially effective. The public justice system is slow, trials take long and conviction rates are poor, mainly due to poor training, shoddy forensic evidence collection by law

Trend: Crime Rate in India

Source: National Crime Records Bureau

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enforcement officials, and limited use of modern technology.
• Many cases related to sexual harassment in homes, in work and public places are often not reported, due to a culture that persists in many parts of the country which automatically stigmatises the victim rather than the perpetrators.

An analysis of the significant incidents of crime against women in the major cities of the country reveals that many of these were preventable or could have been better managed. Electronic surveillance, emergency alarm systems, and other similar measures can help deter and reduce the intensity of a crime; and can also help law-enforcement agencies in achieving convictions.

Various government-backed initiatives have been introduced to provide a sense of safety to women. Some of these measures include self-defence training conducted by the Mumbai police, 24/7 police patrol teams in IT corridors in Hyderabad, mobile applications with "SOS" buttons launched by Delhi police etc.

Women’s safety will remain a concern for the coming year till such time mechanisms by police forces to deal with the high rates of crime against women are strengthened; the societal attitude towards women changes and women are made more aware of safety measures.

Source: National Crime Records Bureau
Despite the secular and religiously tolerant Constitution of India, broad religious representation in various aspects of society including the government, sporadic and sometimes serious acts of communal violence tend to occur as the root causes of communal violence often run deep in history, religious activities, and politics of India. According to the Ministry of Home Affairs (MHA), there have been 630 communal incidents in 2015, as opposed to 561 in the previous year.

- Across India, communal violence over flashpoints such as music, procession routes, rumours of cow slaughter, of temple idols or the Quran being desecrated and so on have been commonly reported.
- The brutal murder of a Muslim man in Dadri in September 2015, under suspicions of having slaughtered a cow, was one significant communal incident; the other being the violence in Atali village in Ballabhgarh in May 2015, where a disputed mosque was burnt down and 400 Muslims in the village were forced to flee.
- The early part of the year saw higher frequency in the number of attacks on churches. Most of these attacks took place in and around Delhi, while one attack was also reported from Agra.

Casualties due to Communal Conflicts

For more than two decades, Punjab has remained peaceful after going through a long and violent Khalistan separatist movement. But developments in 2015 show signs of growing communal tensions in the state.

- Throughout October, several rallies and demonstrations were organised across the state to protest against the desecration of the holy book (the Guru Granth Sahib) of Sikhs by miscreants.
- The protests that followed the incidents took a violent turn in which two people lost their lives.
Socio Economic Risks

- With the state set to go for elections in 2017, the coming year will see an increased role of religion in the politics of the state.
- The Union Government would need to closely monitor the developments in Punjab, and be particularly vigilant against any resurgence of the pro-Khalistan movement.

Given the current political situation of the country where political parties easily play the communal card for their limited political gains, communal tensions can soar even with a minor incident. The current political environment will continue to prevail in 2016, and so there remains a high risk of communal violence.

Religious Intolerance and Radicalization

The year 2015 witnessed a growth in religious intolerance across the country. Religion is often one of the main themes used by political parties to further their agendas.

- A recurring theme in the incidents of religious intolerance was the objections raised by some Hindu groups over consumption of beef by other communities (since the cow is sacred to Hindus). This led to the enforcement of a law banning possession and sale of beef in Maharashtra state; with a maximum penalty of five years.
- Currently, 24 out of 29 states in India have various regulations prohibiting the slaughter of cattle and sale of beef.
- In states where beef is traditionally consumed, the implementation of beef-banning laws became a sensitive issue.
- Mass protests and shutdowns (September – October 2015) were seen in Kashmir valley in Jammu & Kashmir when state authorities were instructed by the High Court to enforce an old law in the state that bans the sale of beef.
- A Muslim man was beaten to death and his son gravely injured by a mob which accused the family of eating beef; in Dadri town of Gautam Buddha Nagar district in Uttar Pradesh, located close to Delhi.
- In October, in Udhampur district of Jammu & Kashmir, a truck driver was torched to death over allegations of 'cow slaughter'.
- Such incidents signal a growing intolerance in the country with fringe outfits often being accused of inciting crowds towards violence.

In the coming year, religious intolerance will remain high unless the government takes adequate measures to crackdown on groups and individuals promoting religious hatred, and act decisively against elements promoting xenophobia.
Socio Economic Risks

Radicalisation of the youth is another potent threat facing the nation today. Lately, the country has seen attempts of mass mobilisation on ideological lines, with political parties attempting to benefit from the social polarisation. Aided by the 24 x 7 electronic and social media, these diatribes are reaching the masses in every remote nook and corner of the country, creating a charged up atmosphere of insecurity and alienation. Alienation aids radicalisation, especially when there are organisations on the lookout for such disgruntled and insecure youths, pretending to address their grievances, only to take advantage of it. Radicalisation is the first step towards extremism, as radicals adopt extreme political, social or religious ideals and aspirations that undermine the status quo and reject contemporary ideas and freedom of choice. Given the country's enormous size and population, even a small proportion of the population getting affected, could well assume alarming proportions.

Caste-based Violence

The Dalit community and other traditionally 'backward' castes continue to be marginalised in many parts of India, even today.

- Discrimination against the lower-caste community may not be visible in urban centres, but is rampant in rural India.
- Haryana holds the dubious reputation of being the state with the highest number of Dalit killings over the past decade.
- National Crime Records Bureau records show that crimes against Scheduled Castes rose by about 40 per cent in 2015.

Law and order is a state subject and the rise in caste-based violence shows that states might be an unwilling party in crimes against the lower caste. Such willingness or unwillingness is distinctly visible where caste-based vote politics determines outcome of elections. In many cases, groups with political affiliations have previously stoked tensions and incited rioters to further their own agenda.

Land Acquisition

Acquisition of land for development of infrastructure projects remains a convoluted process in India, where several projects do not see any progress, due to issues related to acquisition of land or subsequent protests by the affected population.

- In a developing economy such as India's, where infrastructure projects and urbanisation are of paramount importance, enhanced project costs resulting from land acquisition costs are a major roadblock.
- Organisations often fail to realise the needs of the local community while acquiring land for projects, leading to public outcry.
Socio Economic Risks

- Grassroots political leaders, NGOs, trade unions and environmentalists often aggravate the situation, leading to unrest and forcing authorities to step in.

Land acquisition in India is currently governed by the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 which came into force on January 1st, 2014.

- The current central government had sought to amend this bill on the grounds that the bill’s provisions on seeking consent and social impact assessment were hampering industrial growth.

- The bill constituted a cornerstone of the government’s reforms agenda to promote businesses in India, especially the “Make in India” campaign to attract investment in India.

- However, given the political opposition to the bill, the government could not realize the amendment; putting the bill in cold storage.

- In the coming year, the trend will be for individual states to take the lead in seeking exemptions from the Act, to get around provisions such as landowners’ consent and social impact assessment.

- The states of Tamil Nadu, Maharashtra, Karnataka, Andhra Pradesh and Assam are moving towards formulating their own land acquisition policy.

Retrograde Practices

Traditional Indian society has generally been set up along patriarchal lines, and the role of women has been limited within the household. This has led to lack in access to education, employment opportunities and lack of self-esteem and sense of empowerment. On an average, 90,000 cases of dowry are registered every year, with approximately 24,000 deaths reported in the past three years. Female foeticide is still practiced in parts of the country, resulting in a sex ratio of 943 (as per 2011 census). Discrimination at the workplace, based on sex, caste and religion, is also prevalent in the country. Even though women are now actively seeking education, jobs, mobility and independence, the role of women amongst majority of the population is still traditionally structured.
TECHNOLOGY RISKS
We require more collaboration between private companies and educational institutions to develop talent. We need more cyber warriors and need to be ready for the cyber war.

- Sanjay Katkar
  MD & Chief Technology Officer
  Quick Heal Technologies
With the technology-driven world that we live in, technology risks are set to rise further on the emerging risk spectrum. To improve efficiencies and reduce costs, various systems including critical infrastructure has been made hyper-dependent on technology.

• Technology has become part of the lives of most Indians; every other household now has a mobile phone.
• According to the Telecom Regulatory Authority of India, mobile phone subscriber base in India recorded 6.71 per cent YoY growth to reach 996 million users in 2015.
• Mobile phones connect their users to the world but the apps on these phones expose their users to a variety of risks which they are unaware of.
• As organisations become more “connected” so are they more exposed to being under attack from cyber criminals.
• To improve efficiencies and reduce costs of various systems, even critical infrastructure has been made dependent on technology.
• The failure of one weak link, whether from natural disaster, human error or intent, can create ripple effects across multiple systems and over the entire technology base of any individual, enterprise or nation.

A large-scale breakdown in servers might be the most visible illustration, which may bring down half the world’s web services.

Most companies today are not adequately equipped to withstand the kinds of catastrophes that could be sparked off by such cascading effects.

**Cyber Crime/Attacks**

Cyber attacks continue to rank as the highest of technology risks. As more businesses and critical information moves online, so increases the opportunism for rogue state-sponsored and non-state actors to exploit the situation to their benefits, and the impact of such attacks continues to grow.

The commercial benefits of big data and analytics will continue to drive critical information online. As a result, data fraud or theft will become easier because of vulnerable data accessibility, both on technological and policy level.

Besides corporate enterprises, the Indian government also remains susceptible, as anti-national/anti-India agencies become more tech-savvy and the country moves further towards digitisation of records and processes. While the digitisation plans of the government have rapidly moved forward, data protection plans are yet not conceived or implemented, thus exposing critical government information to cyber-attacks. Recently, a
Technology Risks

A private consortium has claimed that hackers based in Pakistan had compromised phones of Indian Army personnel, who had downloaded some news-related mobile application.

The country's networks are porous, both infrastructure and government services. Adversaries may well access and exploit the critical information infrastructure, which can lead to outages of power, telecom, water distribution, transportation, banking etc. causing great distress to large sections of population, including hospitals and healthcare services, interrupting land and air traffic, etc.

In July 2015, two of the country's biggest banks received complaints that their customers were unable to access any online services. An hour later, it was discovered that professional cyber criminals had launched Distributed Denial of Services (DDOS) attacks from servers traced to Pakistan. In this case, the banks were able to wrest control of their servers using professional help without having to pay any ransom. However, these are not isolated attacks by lone-wolf teenage hackers; but are well-planned and well-coordinated attacks by groups with in-house cyber expertise.

Already, some Indian companies have faced extortion demands from cyber criminals and at least two are said to have paid up in the last few months. According to a report, financial losses due to such attacks have risen 135 per cent in the past year. Industry estimates put such losses at $4 billion, annually.

Sectors Targeted by Cybercrime

- Financial services & insurance: 72%
- Pharmaceuticals & chemicals: 44%
- Oil, gas & utilities: 37%
- IT & ITeS, telecom & media: 23%
- Government: 19%
- Consumer & industrial goods: 10%
- Infra & construction: 2%

Source: KPMG Cybercrime Survey Report 2015
Technology Risks

Cyber Terrorism

This year saw the rise of IS and other jihadi movements using popular social networks like Facebook, Twitter, Tumblr etc. to recruit new extremists, for propaganda and to coordinate support. Terrorist organizations have proved to be well-versed with new technologies to share intelligence within different groups and coordinating movements. Added to the security concerns for insurgency-affected states in India is the growing interest/influence of IS on the Internet. A national survey by an intelligence agency has shown that there has been an exponential growth in Internet traffic related to IS in Jammu & Kashmir and Assam. Social media platforms are already being widely misused to spread religious/communal/ethnic hatred and create unrest by spreading rumours of alleged sacrileges/violence. The rampant use of technologies for promoting hatred and planning activities such as logistics, fundraising etc. emphasizes the importance of having holistic and robust information security frameworks.

Cyber Espionage

With governments acknowledging the importance of timely intelligence, there has been a steady rise in state-sponsored cyber espionage programmes. With India's traditional adversaries (Pakistan and China) rapidly building up their capabilities in cyber warfare, India's information is more and more susceptible to data theft by state-sponsored hacker groups. We do not as yet have adequate capability to gather credible cyber-intelligence to pre-empt cyber attacks, or carry out post event forensics using cutting edge technology. In the absence of tools to establish the identity of attackers, especially of adversary governments, it is difficult to hold attackers accountable for their actions, or equip our diplomatic channels for negotiations on deterrence. Even if the hackers are traced back to their source, the lack of legislation in this area can prove to be a grey area for the targeted companies and state institutions.

Smartphone Vulnerability

It is predicted that by 2016 India will reach 236 million smartphone users and 314 million by 2017. India has the third largest Internet user base in the world out of which more than 50 per cent are mobile-only Internet users. The ever-increasing mobile market has only escalated the risks associated with smartphones. Operating systems such as Android and iOS that dominate the smartphone market are plagued with security issues. With an explosion in the use of free applications, users are vulnerable to even more risks as hackers and cyber criminals may often exploit back-doors in such apps, or piggy-back such apps to access user data.
Technology Risks

Malware, Ransomware and Phishing

Malware is software written specifically to harm and infect the host system. Malware includes viruses along with other types of software such as Trojan horses, worms, spyware, and adware. Users may be asked to download an anti-virus software that is actually a virus itself. Or users may visit a page that installs software on their computer without authorization. With the Internet propagating relentlessly, the risk of malware propagating via the Internet to different types of devices is also multiplying. Increasing reliance on ecommerce websites also exposes the users to attack vectors such as malware. According to a security report, India is the 4th biggest target of mobile based malware; with New Delhi hosting the highest number of SMS attacks sending mobile malware.

Ransomware is a type of advanced malware which is used to commit financial fraud and extort money from computer users. Ransomware typically restricts access to the infected computer in some or the other way and coaxes the users to pay a ransom to remove the restriction. These are types of malware that might encrypt certain files on a hard drive, simply lock the system by displaying a fake message generally from a law enforcement agency claiming that the system has been used for illegal activities, contain illegal content or is running pirated software. The user is then forced to pay some amount of money as ransom to let the system run. 2015 saw the presence of encryption based

Smartphone Penetration in India (in millions)

Mobiles and mobile accessories have taken up the maximum share of the digital commerce market in India. An automated mobile app vulnerability scanner survey has revealed that 98 per cent of mobile apps of the top 50 e-Commerce companies in India are vulnerable to security attacks. These apps have serious security issues, which if exploited by attackers to perform malicious activities, can cause great harm to the users and the concerned brands. In such a scenario, when market players are transforming from mobile-first to mobile-only and users getting increasingly comfortable with online payments, recent hacks of Zomato, Ola Cabs, Gaana, Foodpanda and others are a cause for concern.
ransomware on Android OS as well, and was responsible for 17 per cent of known infections to the Google operating system. Attacks using ransom-ware are soon going to proliferate to non-Windows based operating systems such as Linux and Apple based platforms. Currently the sophistication levels of ransom-ware attacks is pretty low in India as compared to attacks elsewhere. However, it is expected that with the influx of mobile malware in the Indian ecosystem, these attacks are only going to increase in numbers as well as in complexity.

Phishing is an act of sending an email to a user impersonating a legitimate enterprise in an attempt to scam the user into disclosing confidential information that can be used for identity theft. A phishing email typically directs the user to visit a forged website where they are asked to update personal information such as a password, credit card, social security, or bank account numbers, that the legitimate organization already has. Data from the FBI shows an alarming 270 per cent increase in losses connected with tricking the end user to transfer funds into an account that's actually run by cyber-criminals. In India, currently 74 per cent of the population have mobile phones, and as per RBI records 22 million of 589 million bank account holders use mobile banking apps. Putting these numbers in perspective, security attacks using Internet based vectors such as phishing are expected to rise consistently over the next few years.

Critical infrastructure in India is susceptible to cyber attacks because of outdated Supervisory Control and Data Acquisition (SCADA) systems, which are computer-based industrial control systems that manage their operations. Generally, critical infrastructure elements include energy, transportation, water supply, information and communication services, emergency services, law enforcement, financial services, health care, food supply and high vulnerability industries.

In addition to the ever growing threat of terrorist attacks, a cyber attack on these systems can be devastating. Stuxnet, a computer malware that targeted a uranium enrichment in Iran is a good example of a cyber attack on critical national assets. The majority of the SCADA systems used in India were installed 20-30 years ago, in the pre-internet era. Initially, running on proprietary controls, these have evolved with the availability of low-cost Internet Protocol (IP) devices, thus increasing the possibility of cyber security vulnerabilities and incidents.

The arrival of technology and augmented accessibility of broadband connectivity together with smartphones have eased the way in which consumers interact and transact online. The reliance of consumers and businesses on cyberspace and interconnected networks would continue to increase. It is
Technology Risks

important for India, which is in the process of building critical infrastructure assets as part of its economic growth ambitions, to reckon with its geo-political compulsions, recognize the true nature of the threats, and develop strategies to secure their protection from cyber attacks.

The government has set up Indian Computer Emergency Response Team (CERT-In) to respond to the cyber security incidents and take steps to prevent recurrence. What also exists and works operationally is the National Critical Information Infrastructure Protection Centre (NCIIPC). Businesses which are engaged in or are majorly dependant on the availability of critical infrastructure, must understand the vulnerabilities that present themselves and factor it into their Disaster Recovery and Business Continuity plans.

Bring Your Own Device

The flexibility and the opportunity of reducing investment have led many organisations to incorporate a Bring Your Own Device (BYOD) policy into their framework. However, such moves expose companies to risks like data theft and access denial.

In allowing employees to access corporate information and networks on the device of their choice, the company transfers much of the responsibility of security to individual employees. With BYOD devices, the company has little control or knowledge in terms of the software security of the individual devices accessing company data. With software coding errors, connection to third-party Wi-Fi, third-party applications, unsanctioned spyware, and cloud-based storage services, the security vulnerabilities for a company’s data are exponential.

Managing devices with varied operating systems is a challenge for security administrators. Several manufacturers are developing solutions to target this issue in partnership with IT firms, but this might be too costly an investment for smaller enterprises with limited resources. Many organisations may also lack the capability to manage security systems in-house and others may even lack the motivation to do so. In sectors where massive groups of individuals are exposed due to the institutional policies, regulators may go in for blanket implementation of new security standards; which would increase cost of compliance, and also expose non-compliant companies to losing licences and bearing penalties.
Technology Risks

Social Media, Analytics & Cloud Security

Social media enables two-way communication and collaboration which can help organisations engage with their customers on a personal level. Yet many may not realise the full potential of social media, or engage poorly, which could lead to missed opportunities and/or open them to a variety of risks. These include reputation risks (due to negative publicity), security (accounts may be hacked) and direct criticism by customers on the platform.

With big data analytics, data scientists can analyse huge volumes of data that conventional analytics and business intelligence solutions could not earlier exploit. However, data security, data privacy, irrelevant or incorrect data collection, misinterpretation of collected data are some of the risks that could potentially lead to loss of business.

Cloud technology security remains a major concern for organisations. Companies risk not having their data stored in compliance with government regulations if the physical storage location resides in a different country. Security laws vary from country to country, making it important for administrators to understand where their information is residing. With increasing innovations in technology, it is imperative for organisations to factor-in the associated risks and mitigate them.

Social Media Usage in India

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<th>TOTAL POPULATION</th>
<th>ACTIVE INTERNET USERS</th>
<th>ACTIVE SOCIAL MEDIA USERS</th>
<th>UNIQUE MOBILE USERS</th>
<th>ACTIVE MOBILE SOCIAL USERS</th>
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<td>URBANISATION: 31%</td>
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<td>PENETRATION: 46%</td>
<td>PENETRATION: 8%</td>
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Source: wearesocial.sg

Internet of Things (IoT)

The concept of Internet of Things (IoT) has gained prominence in recent years because of the rising Internet penetration in our daily lives. Multiple devices are getting connected to each other over the Internet and constantly sharing information over a variety of protocols, domains and applications. These devices could include everything from mobile phones, wearable devices and thermostats to coffee machines, refrigerators and automobiles. The huge influx of connected devices generates huge amounts of data, which is not only difficult to manage, but also difficult to protect from cyber-criminals.
Technology Risks

The challenge is that to secure all the devices as there may not be enough memory to run security software on them, thus the network has to be better protected to discover breaches or even better, prevent them entering the network. The current Internet infrastructure was not developed with such security concerns in mind. The IoT is likely to disrupt business models and ecosystems across a range of industries.

What organisations can do now is to implement best practices and standards based on their own unique needs:

- Educate and raise awareness among the management about game-changing new technologies like the IoT and the role of risk management.
- Ensure all workplace devices owned by the organisation are updated regularly with security upgrades.
- Require all employee-owned devices to be wirelessly connected through the workplace guest network rather than the internal network.
- Provide cyber-security training for all employees to make them aware of best practices and the different types of cyber-attacks.
ECONOMIC RISKS
The Indian economy is set to be one of the strongest-performing emerging markets in the world in 2016, as well as the fastest-growing BRICS economy. Economic growth engines for India in 2016 will be strengthening consumer demand and an upturn in infrastructure development in a wide range of power, transport and urban development projects.

- Rajiv Biswas
Chief Economist, Asia Pacific
IHS Global Insight
Economic Risks

There is elevated expectation and increase in investor confidence since the government of Prime Minister Modi took office. Since coming to power, the government has worked on making incremental economic reforms. While some have complained of the absence of 'big bang' reforms, many feel that the government needs further time to build consensus.

The government has also put forward a number of 'big ideas' such as 'Make in India', crafting 100 'Smart Cities' and 'Clean India'; with the aim of inclusive prosperity, infrastructure development and reframing India’s skewed model of services-driven growth to an export oriented manufacturing center. Modi is also actively in quest of using foreign policy to deliver economic priorities as shown by his recent overtures to Japan, US, UK, China and the BRICS. However, the government has not managed yet to pull off significant large reforms, mainly because of its weak position in Rajya Sabha, the upper house of parliament.

Political Pressures

Long periods of stalemate in parliament, failure to pass promised reforms, and lack of majority in the upper house of parliament, has meant that the present government has not been able to deliver on its promised economic reforms. A resurgent and often united opposition has presented roadblocks for the government.

Political pressures have not only slowed down the decision-making process of the government, but have also led to reversal of certain government decisions such as the land acquisition bill (LAB). The Goods and Services Tax (GST) Bill, which promises to be the biggest reform in indirect taxes since Independence, is stuck in the Rajya Sabha because of the political logjam. Despite the positive economic environment created by the current government, cumbersome bureaucracy and political deadlocks will continue to be a challenge for doing business in India.

Inadequate Infrastructure

India's inadequate infrastructure has held back growth in the manufacturing sector. According to the Reserve Bank of India, "infrastructure bottlenecks are emerging as the single most important constraint on India's economy." Though building 13 km road per day, construction in India's cities has not kept pace with the rapid growth in the urban population, and the state of public transportation remains poor. Only two of the 53 cities with a population of one million or more have significant public rail programme. A CRISIL report in October 2015 stated that 7,500 km of build-operate-transfer highway projects are at risk.
Economic Risks

Nearly a third of under-construction projects are in danger of not being completed because of cost over-runs. These bottlenecks have contributed to a host of problems in India’s cities, including traffic congestion, high numbers of road accidents, and air and water pollution.

India meets its electricity demands with 65 per cent use of non-renewable sources; 19 per cent of the demand is met by hydropower, 12 per cent from renewables, and 2 per cent from nuclear power. Demand is far outpacing supply in meeting the rapidly growing electricity needs of the country. While lower supply and growing demand are part of the problem, transmission losses contribute equally to electricity shortfalls.

Complex Regulations & Unfriendly Tax Policies

The World Bank’s ranking on ease of doing business, puts India at 134 among 185 countries; way behind its BRICS counterparts. Exposure to foreign markets and increasing business complexity is pushing up the cost of regulatory compliance in India. While India is often criticized for complex regulations, most regulations are consistent across the country making it simpler than some of the western nations. For example, the Companies Act of 2015 eliminated the procedural common seal, declarations for commencement of businesses, and minimum paid-up capital requirements. However, India still remains a challenging country in which to conduct business. Considering that multi-national institutions already face a heightened level of global enforcement with respect to both anti-corruption and anti-money laundering; such institutions must ensure that they have a robust, comprehensive compliance program firmly in place before committing to business in India.

Meanwhile, India’s complex and multi-layered tax structure not just makes it a difficult place to do business, but makes it a high-cost option as well. The Goods and Services Tax (GST) is a comprehensive indirect tax reform that will subsume excise and service tax and other local levies; it has been hanging fire since 2006-07, and is currently stuck in the Parliament. Amalgamating several Central and State taxes into a single tax should lead to easier administration and enforcement. With this new tax regime, businesses would no longer have to obtain multiple VAT registration, thereby improving the ease of starting a new business in India. A simplified tax regime is expected to improve compliance and can significantly improve the revenue collections over a period of time, including several standalone taxes. As per some estimates, such reforms are expected to add at least one to two per cent to the GDP.
Economic Risks

Currency Fluctuation

Heavy dollar demand by foreign investors, who are liquidating their holdings in India, and high trade deficit pushed the rupee lower in 2015; yet the Indian rupee is likely to be the strongest currency in Asia in 2016.

Yet, the rupee is facing turbulent weather because of the impact of both global and domestic issues. One reason why the rupee is falling at a time when inflation is cooling off and growth is projected to be higher next fiscal is that the sustained fall in crude oil prices to a five-year low has led to concerns over global growth, prompting a sell-off in emerging market currencies.

Foreign exchange risk in particular, impacts firms engaged in exporting, importing, and borrowing in foreign currency. Currency fluctuations will severely affect the software export sector, manufacturing and infrastructure; the rupee depreciation could affect profitability and even the viability of smaller Indian companies.

The strengthening of the US dollar has also caused an element of volatility in the currency market. If imports (gold imports) rise further and capital inflows decline, the Indian currency will move downwards. Stock markets are also uncomfortable with a weakening rupee.

Monetary policy easing is likely to support both private consumption and investment, which also benefits from the fall in the oil price. While the year 2015 saw severe currency volatility across the globe, especially the emerging markets, the Indian rupee was among the best performing currency depreciating just five per cent versus the US dollar. Analysts expect that the rupee will continue to outperform other emerging market currencies, given its superior macroeconomic fundamentals and policy credibility.

Currency Fluctuation (INR per USD)

Source: www.xe.com
Economic Risks

Fiscal Deficit

The International Monetary Fund expects India’s fiscal situation to improve over the next five years though the country’s overall government deficit will still be substantially high. At 5.7 per cent of GDP, India’s direct tax collection is among the lowest in the world. The government has announced that it would bring down fiscal deficit to 3.9 per cent of gross domestic product (GDP) in 2015-16, and to 3.5 per cent and 3 per cent in the next two years. Reducing deficits beyond 2015/16 will be challenging as oil prices are unlikely to fall further. A likely rise in oil prices, a drop in corporate tax rates and the burden of the Seventh Pay Commission (which will increase salaries of government employees) will make it tough for the government to stick to its fiscal consolidation road map starting 2016-17.

The lacklustre disinvestment so far this fiscal year may also pose a threat to meeting the fiscal deficit target, if the government does not keep its finances under control in the second half of the year. It budgeted the raising Rs 69,500 crore through disinvestment in the current fiscal year. Of this, Rs 41,000 crores were to come from minority stake sale in public sector undertakings (PSUs) and another Rs 28,500 crores from the sale of strategic stakes. With nine months into the current fiscal year, the government has been able to sell stakes in just four companies (Power Finance Corp. Ltd, Rural Electrification Corp. Ltd, Dredging Corp. of India Ltd and Indian Oil Corp. Ltd) to net Rs 12,600 crores. The disinvestment process is challenging because of the global slowdown in commodities and many identified public sector units are from this space.

Fiscal Deficit (% of GDP)

Source: Ministry of Finance, Government of India
Economic Risks

Corruption

According to the World Economic Forum, corruption is one of the most challenging factors for doing business in India. The country’s vast and complex bureaucracy creates abundant opportunities for government officials to demand bribe payments in exchange for assistance or benefits. The sheer number of licenses and permits required by the government for multinational corporations to operate in many business sectors, including the financial sector, ensures that such opportunities are plentiful. Internal controls and procedures at many government organizations and agencies involving the tendering, bidding, allocation and/or procurement processes have been criticized in various reports by the Comptroller and Auditor General of India and India’s Central Vigilance Commission.

Transparency International’s Corruption Perception Index (CPI) ranked India at 85 (out of 175 countries) in 2015, with a score of 38, on a scale where 0 is highly corrupt and 100 very clean.

The primary law governing corruption of public officials is the Prevention of Corruption Act (PCA); and a number of other statutes such as the Indian Penal Code, The Right to Information Act and Prevention of Money Laundering Act also address corruption-related activities. However, the complex inter-twining of politics and business in India results in few convictions.

According to Deloitte, some of the corruption-related key high risk areas include:

- Sale to government customers
- Obtaining licenses and permits
- Inspections
- Land acquisition
- Setting up plants and operations
- Customs and taxes
- Lower level judiciary

Measures like the Right to Information Act (RTI) and an attempt by the Central Vigilance Commission (CVC) to increase public awareness of corruption, bode well for the future. The landmark Anti-Corruption Bill, popularly known as Lokpal Bill (Ombudsman Bill) 2013 created an ombudsman that has the authority to investigate and prosecute politicians and civil servants for corruption. However, the effectiveness of the anti-graft bill in curbing corruption in public life is yet to be seen.

Given the complex bureaucratic, taxation and political environment in India, it is important for companies to tailor their anti-corruption compliance programs proportionate to the specific sectoral/regional corruption risks faced by the organization and not simply part of a “one size fits all” program.
Economic Risks

Oil Price Volatility

Since June 2014, global crude oil prices have more than halved. Continuous fall in world oil prices have various ramifications for global economy in general, and India in particular. Financial markets across the world have been living with the consequences of the energy deflation since mid-2014, and the fallout has been pervasive. More than a trillion dollars of market capitalisation has been wiped off from oil stocks, worldwide. New investments in global equities, bonds and real estate from oil-fuelled sovereign wealth funds are already drying up amid reports of billions of dollars of withdrawals by state institutions from private asset managers. India, which is the fourth largest consumer of oil, is a big beneficiary of falling oil prices. The reduced prices will not only lower the import bill but also help save valuable foreign exchange. The subsidy burden for the government of India will decline significantly because of fall in crude oil prices, which will help contain fiscal deficit.

Falling oil prices will also cut down production cost of other essential items and thus will bring down overall inflation in the economy. This in turn would result in lower interest rates and greater investments. However, India’s exports to oil producing economies could get impacted when the growth rates of those economies take a dip due to low oil prices. India is also the world’s sixth largest petroleum product exporter. Fall in oil prices would hurt this segment of the economy.

Bank Frauds

There has been a 100 per cent increase in bank fraud over the last year, as per RBI data. The frauds range from cheque alteration to fake loans, debit/credit card fraud to cyber fraud. Public-sector banks appear to have borne the brunt of the fraud-spike. The spike is mainly because of a multi-fold increase in cases of fraud recorded by banks in Maharashtra and West Bengal, both states accounting for more than 50 per cent of the total loss through fraud. While banks in Maharashtra saw a 150 per cent increase in fraud, banks in West Bengal notched a six-fold increase in fraud. The largest number of frauds was found in the retail banking segment followed by those in corporate banking.

A survey by Deloitte found that the major reasons for the increase in frauds included lack of oversight by line managers and senior management, business pressures to meet unreasonable targets,
Economic Risks

lack of tools to identify potential red flags, and collusion between employees and external parties. Further, the common causes of frauds observed in corporate banking include diversion and siphoning of funds; whereas fraudulent documentation and absence/overvaluation of collateral are the main reasons for fraud in retail banking as well as business pressures to meet unreasonable targets. Investigations into bank frauds have revealed violations of a number of basic banking rules, including know-your-customer (KYC) norms, anti-money laundering (AML) rules and the Foreign Exchange Management Act, 1999 (FEMA). With aggressive innovations and infusion of technology in the industry, cyber-criminals are also getting a bigger playing field, and the scams are also likely to increase. While the banking sector has been amongst the first sectors in India to adopt technology for business expansion and ease, they have not yet leveraged technology to the maximum extent, as part of their fraud risk mitigation efforts. This is possibly one of the reasons why the sector continues to see a rise in fraud as well as delays in detection and recovery.

Globally, as bank frauds and malpractices have risen, so have prosecutions and fines. In India, the regulators have yet to toughen their stance and policies. Traditionally, banks have relied on guidance from the RBI to develop its fraud control policies. It is expected that the RBI or the government will soon come out with new set of guidelines on fraud detection and prevention, which may increase compliance costs. However, in light of the changing fraud landscape (such as rise in technology-facilitated frauds) it is important that banks also focus on periodically assessing fraud risks and tweaking their fraud control policies to cover these fraud risks.
Economic Risks

Labour Issues

Many industries across India experience industrial disputes, emanating from factors such as tension between contract and permanent workers, poor pay, lack of transparency and inequitable land acquisition practices. Some or all of these factors affect manufacturing businesses in many parts of India, often leading to production halts. Labour-related unrest also dents investors' confidence.

The reasons for labour disputes tend to vary, but organizations should bear in mind both financial and non-financial risks to ensure long term business viability and success. Political and community risks, presumed as “softer risks,” often have a huge financial impact, from something as simple as theft of goods and materials cutting off the supply chain, to more extreme disruption to operations caused by arson, kidnap, extortion or labour unrest. It's important to understand that industrial disputes and unrest can stem from many sources, and businesses need to treat the risks rather than just tolerate them. Businesses also often need to strike a balance in providing employment to the local community. Unrest can emanate from perceived loss of work, and local politics are quick to play a part. Labour unions in India are not always truly representative of the larger workforce; and in a country where politics and administration often interferes with business, it is difficult to prevent vested interests from influencing business operations.

Labour reforms have long been pending in India:
- The Labour Code on Wages may restrict the power to fix minimum wages to just the state governments and may lead to a race to the bottom among states.
- The proposed amendment to Industrial Disputes Act will allow companies employing up to 300 workers to fire or hire employees without seeking any government permission (the earlier limit was 100 workers).
- Creating a labour union will become more difficult as 30 per cent of workers will be required to sign for its creation (earlier only 10 per cent).
- The amendments to Factories Act (which is a social legislation aimed at ensuring occupational safety, health and welfare of workers at the workplace) propose raising the numbers of workers to 20 for firms with power supply (earlier 10) and 40 with no power supply (earlier 20).
- The most significant change is in the Contract Labour Act, important because contract labour forms almost half the workers and they are often poor migrants. Changes to this Act will exempt companies employing less than 50 workers from the ambit of the Act (from the earlier limit of 20).

Labour laws are often cited as a reason for unrest, as they make it advantageous to have more contract labour than a permanent workforce, which brings down administrative costs. States with
Economic Risks

Flexible labour laws have been able to take advantage of export opportunities, and the per capita household income has risen much faster in such states. States with rigid labour laws have led local entrepreneurs to prefer casual workers or contract workers with finite employment time periods; in essence, more rigid and inflexible labour law states see increased informal employment. India is never short of cost effective labour options; as agents masquerading as staffing solutions providers act as recruitment conduits, resulting in the deployment of contract workers who, predominantly, are unskilled.

Outlook for 2016

- As per most estimates, India would grow at 7.5 per cent this fiscal year.
- Consumer products, industrials, technology, media and telecom and life sciences sectors, are set to drive India’s growth in the near term.
- The rupee has seen a downward momentum of late, as Asian markets were touched by financial instability.
- According to an IMF report, inflation in India is expected to decline further in 2016, reflecting the fall in global oil and agricultural commodity prices.

Labour Strikes in India

2016 GDP growth forecasts (percentage)

Source: Labour Bureau, Government of India

Source: The Economist
SAFETY RISKS
India has the best safety standards and safety protocols for industrial safety in the world, but very rarely are they visible at the ground level in most of the factories across the country.

- Jitu Patel
American Society of Safety Engineers (ASSE)
For the past three years, India has continuously reported the second-highest number of road crash fatalities after China.

- A majority of road accidents in India can be attributed to a lack of proper knowledge on part of the driver about road rules and regulations, lack of proper roads and infrastructure defects, weather conditions and unsatisfactory enforcement of traffic rules.
- A less-than stringent process of issuance of driving licenses compounds the problem.
- Cities with most road crash fatalities are Delhi, Chennai, Jaipur, Bengaluru, and Mumbai.
- Road accidents cause an annual economic loss of three per cent of the GDP.

In spite of the government making the right noises to improve road safety, reforms needs to trickle down to the local level to have any effect in reduction of fatalities. Defensive driving, understanding local conditions and training of drivers are some measures that would aid in survival on Indian roads.
Safety Risks

Rail Safety

The Indian Rail network carries 23 million passengers a day. It is one of the world's largest railway networks comprising 115,000 km of track over a route of 65,808 km and 7,112 stations. It continues to be plagued by ageing infrastructure and a lack of foresight from policy makers resulting in regular accidents that damage its credibility. According to a Railways Safety Review Committee Report, nearly 25 per cent of the total railway track in India is over aged and is due for replacement.

Some significant rail accidents in 2015:

**September 12th 2015**: Three coaches of a chartered Kalka-Shimla Shivalik Queen (toy train), derailed in Himachal Pradesh killing two British nationals and injuring 13 more.

**August 5th 2015**: 25 people were killed after the Kamayani Express from Mumbai to Varanasi and the Mumbai-Jabalpur Janata Express derailed in Madhya Pradesh.

**March 20th 2015**: 39 dead, 150 people injured as Dehradun-Varanasi Janta Express derailed in Uttar Pradesh's Rae Baraeli district.

**February 13th 2015**: 12 dead and 100 injured as Bangalore City - Ernakulam Intercity Express derailed near Anekal town (Bengaluru outskirts). The coaches derailed due to a boulder on the track.

Congestion in railway networks is also one of the key reasons for continuing incidents of train derailments and collisions. A large number of new trains are introduced every year in the Indo-Gangetic plain region; to appease local demand and to gain political mileage, without planning and implementing the necessary improvement of railway infrastructure.

An analysis of railway data reveals a steady decline in the effect of accidents over the past four years. Both indicators - train accidents and casualties in train accidents - show a continuous downward trend. This trend is expected to continue over the next year.

Fire & Industrial Safety

In India, fire & structural safety and inadequate emergency response continue to remain areas of concern.

- A number of incidents in the industrial sector throughout 2015 highlighted risks due to poor maintenance procedures, flouting of safety norms and untrained staff.
- Non-compliance to emergency procedures undermined management inclination towards safety and security of its staff and assets, as the on-ground reality is very different due to ineffective implementation of safety procedures.
Safety Risks

• Numerous incidents of gas leakages, fires, blasts, roof/wall collapse, etc. kill around 1,500 workers annually in the organised sector and injure far more.
• Such accidents result in loss of reputation for companies, which face massive losses in damages, compensations and penalties.
• These incidents also draw the attention of NGOs, backed by political activists, which incite the local populace and labour unions to interfere with operations.

Building collapses are common in India, as massive demand for housing and lax regulations often encourage builders to cut corners by using substandard materials. Several incidents of building collapse were reported from densely populated cities like Delhi and Mumbai, in 2015. The need for structural safety gains even more importance as almost 60 per cent of India's land area is vulnerable to moderate/severe earthquakes. Studies undertaken by experts following the earthquakes in Nepal confirmed the need of retrofitting the majority of existing buildings in India to protect them against earthquakes.

Fire Accidents & Fatalities in India

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Source: National Crime Records Bureau
Safety Risks

Building Structural Safety

Multiple significant seismic events were witnessed in South Asia this year. The most devastating of these earthquakes struck Nepal in April and May, and Afghanistan-Pakistan in October. Tremors of these earthquakes were felt across northern and north-eastern India. The devastation caused by this seismic activity raises concerns about compliance to structural safety norms in buildings in India. The Indo-Australian tectonic plate is predicted to witness further events in the future, and it is imperative that relevant earthquake-resistant building codes are complied with for all constructions.

India is defined under five seismic zones. Zone V, which witnesses the maximum intensity in case of a seismic event, includes the region of Kashmir, parts of Bihar, the north-eastern states of India and the Rann of Kutch in Gujarat. The proximity of major India cities - Delhi, Mumbai and Kolkata (themselves located in Zones IV and III) - to these regions is a great risk to buildings located here. Several studies commissioned by government and non-governmental organisations following the Nepal earthquakes found that in Delhi, Kolkata and Mumbai, most of the building construction is not resilient to earthquake forces.

Earthquake-resistant building design must be incorporated into all buildings during the planning phase. An earthquake resistant building can provide safety for its occupants during an earthquake. The standards for these designs vary according to the location of the proposed building (five seismic zones), and can be applied as appropriate. For existing buildings, a structural safety compliance check can help identify any deficiencies in the structure. Retrofitting can be undertaken to give the buildings the structural resilience required to withstand earthquake shocks.

Food & Water Safety

Food safety remains a serious public health concern in India. The challenges are aggravated due to rampant corruption and lack of proper government policies. Lack of a clearly defined food regulatory policy gives rise to haphazard response to violations of food regulations.

- The recent controversy about Nestlé’s Maggi instant noodles has thrust the issue of food safety into the national political spotlight.
- After the Food Safety and Standards Authority of India (FSSAI) discovered unhealthy levels of lead in the noodles, the Indian government banned Maggi. However, tests in six countries, including Canada, Singapore, UK and the US, had determined the product to be safe for consumption.
- This controversy greatly reduced the credibility of FSSAI among
Safety Risks

the domestic public and international communities and investors. This undermines government efforts to protect citizens against legitimate health threats.

Most water sources in India are contaminated by sewage and agricultural runoff. The World Bank estimates that 21 per cent of communicable diseases in India are related to unsafe water. In India, diarrhoea alone causes more than 1,600 deaths daily. There is a high incidence of food-borne and water-borne diseases in India (including meningitis, cholera, typhoid, hepatitis, etc). Access to proper sanitation facilities is extremely poor in rural India; only 14 per cent of the rural population have access to proper sanitation.

Water Borne Diseases - Fatalities in 2015

Source: Department of Health & Family Welfare
With recent incidences of environmental disasters, concerns about environmental risks have multiplied, thus there is an urgent need to strengthen our preparedness in disaster management.

- Dr Shirish Garud
The Energy and Resources Institute (TERI)
Environmental and Health Risks

Natural Hazards

Approximately 85 per cent of India is vulnerable to some natural hazard – from earthquakes to cyclones, tsunamis, floods, heat and cold waves, drought and landslides, apart from chronic urban stresses like traffic snarls and un-breathable air in some cities.

- Of India's 29 states, 22 fall in the category of disaster-prone. In the last ten years, there have been 179 natural disasters, more than 14.3 million people have been affected.
- Almost 58.6 per cent of the country's landmass is prone to earthquakes of moderate to very high intensity. Some of India's largest cities Delhi, Varanasi, Lucknow, Patna, Srinagar fall in seismic zones 4 or 5.
- Over 40 million hectares (12 per cent of land) are prone to floods and river erosion; of the 7,516 km long coastline, close to 5,700 km is prone to cyclones and tsunamis; 68 per cent of the cultivable area is vulnerable to drought and hilly areas are at risk from landslides and avalanches.

The risk of disasters is on account of a number of factors; both natural and human, such as adverse climatic conditions, topographic features, environmental degradation, population growth, urbanisation, industrialization, non-scientific development practices etc.

Earthquakes

The edge of the Indian tectonic plate runs through Pakistan, North India, Nepal and the north-eastern parts of India. In 2015, this belt has witnessed three major earthquakes (Nepal - April & May and Afghanistan - October); the regularity of occurrence and intensity of seismic events is expected to increase in the future.

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Environmental and Health Risks

Floods & Droughts

Floods and droughts impact the majority of India significantly, though they are most prevalent in the eastern and north-western regions, respectively.

- The western part of the country, including Rajasthan, Gujarat and some parts of Maharashtra (Marathwada region) are arid, and as a result are hit frequently by droughts. In the last few years, drought-like situations have triggered many farmer suicides; such numbers have only increased in the past few years despite government relief packages.

- India's main monsoon season is from June to September and heavy rains usually trigger flooding and landslides in western and eastern India. Severe flooding affected parts of the western states of Gujarat and Rajasthan in 2015.

- In July, landfall of Cyclone “Komen” aggravated the situation in the eastern states of West Bengal, Odisha, Manipur and Mizoram. At least 204 deaths were reported across these states and close to 10 million people were affected, including approximately one million people displaced.

- Indian cities, even the ones which receive regular heavy rainfalls, are under-prepared to handle monsoons; the city of Mumbai and Chennai being a key example. The unprecedented heavy rains in Chennai in November-December brought businesses and daily life to a near standstill. Many parts of the city of Chennai were submerged due to water-logging and the city remained shut for nearly two weeks.

- Water, sanitation and health are major issues in the aftermath of cyclones and floods, and a quick response is crucial to prevent the spread of diseases.

The disaster management of India remains under-prepared to handle large-scale natural disasters; and the armed forces are usually called in for succour.

Air Pollution

Air pollution has emerged as a global public health problem and is identified as a major environmental health hazard by international agencies such as the World Health Organization (WHO) and governments around the world.

- In recent years, air pollution has acquired critical dimensions and the air quality in most Indian cities fails to meet WHO guidelines for safe levels.

- The levels of air-borne particles smaller than 2.5 micrometres in diameter and 10 micrometres in diameter; as well as concentration of dangerous carcinogenic substances such as Sulphur Dioxide (SO₂) and Nitrogen Dioxide (NO₂) have reached alarming proportions in most Indian cities, putting people at additional risk of respiratory diseases and other health problems.
According to a World Bank report, Delhi topped the list of 381 most polluted urban settlements, from developing countries worldwide. Delhi recorded almost three times higher air pollution than Beijing and had 15 times greater concentration of fine particulate matter in its air than the WHO guidelines.

Patna, Gwalior, Raipur, Ahmedabad, Lucknow, Kanpur, and Amritsar are among other Indian cities also in the list. The major contributors for air pollution in India include:

- Coal-powered thermal power plants which emit SO2 and NO2.
- Growing number of cars in Indian cities; low standards for vehicle exhaust emissions.
- Rural households using kerosene as a primary source of energy.
- Households depend on biomass for cooking; burning of biomass is a leading cause of indoor air pollution.

The Government of India and the state governments have recognized the adverse effect of air pollution and there is increased seriousness about addressing the air quality issue among all the stakeholders. This is indicated by the regulations imposed in Delhi on diesel vehicles, observing car-free days in the metro cities and the proposition of having odd/even numbered vehicles plying on alternate days.

**Air Pollution in Major Cities**

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*Source: National Ambient Air Quality Standards*
Environmental and Health Risks

Pandemics/Diseases

Due to industrialisation and inequality in health status between and within the states, India faces a “triple burden of diseases” – communicable diseases, emerging non-communicable diseases (lifestyle related) and emerging infectious diseases.

Some facts about the Indian healthcare system:
- WHO has ranked India's health system at a low 112 out of 190 countries.
- Experts estimate that India loses 6 per cent of its annual GDP to preventable illness and premature deaths. India has only 0.7 beds/thousand of population (WHO recommends 3.5 hospital beds) and would need 340,000 more doctors by 2020.
- Many of government schemes do not reach backward areas, tribals, Dalits, poor and marginalised communities.
- India has a shortage of medical staff, inadequate facilities, untrained paramedics and midwives, unaccredited labs and high cost of advanced diagnostics.

Some diseases such as small pox, polio and guinea worm have been eradicated. India has made some progress in reducing maternal and child mortality, made investments in immunization, setting up AIIMS and improved drug regulatory system; however, fundamental challenges abound.

- Non-communicable diseases like cancer, diabetes and cardiovascular diseases are on the rise due to urbanization and change in lifestyle.
- Communicable diseases like malaria, tuberculosis, dengue, and other vector borne diseases continue to be a major health problem in India. Diarrhoeal diseases, respiratory infections, tuberculosis and malaria cause about one quarter of all the deaths in the country.
- In addition to such vector-borne diseases, there is also the threat of new emerging or re-emerging infectious diseases like Ebola, Avian Influenza, SARS and H1N1 influenza among others.

Source: National Centre for Disease Control
Water Scarcity

The total available water in India is 4000 billion m³ per annum. Out of this, a third of the water is lost due to evaporation, transpiration and runoff, reducing the available water to two thirds and the usable water to one third. The country’s water resources are a combination of groundwater and surface water resources.

- While rivers support most of the cities, for towns and villages across the country groundwater is vital to many.
- As a majority of the rivers in the country are not perennial except the glacial rivers in North and East India, groundwater sustains much of the population during lean months.
- As per available data, 54 per cent of India's ground water wells are depleting and this number will increase in future.
- Presently, despite good rainfall distribution, the country is unable to make good use of rain water, because of lack of awareness and poor infrastructure for storage in form of dams and reservoirs.
- It is pertinent to note that only 18 per cent of the rainwater is used effectively.
- Pollution of water sources is another major concern. One of the most serious challenges for supply of clean water is the growing population, which puts tremendous stress on the limited supply of water resources.

India's water crisis is often attributed to lack of government planning, increased corporate privatization, industrial and human waste and government corruption. Water scarcity in India is expected to worsen as the overall population is expected to increase to 1.6 billion by year 2050. There is an immediate need to make the best use of the available technologies and resources to conserve existing water resources, convert them into consumable form and make efficient use of these for agriculture, industrial production and human consumption.

Per Capita Water Availability (m³/year)

Source: Central Water Commission
Biological diversity deals with the degree of nature's variety in the biosphere. India has considerable bio-diversity that is under threat. Bio-diversity losses can be attributed to the resource demands of our rapidly growing human population.

Indian forests face threats on account of diversion of forest land for agriculture, industry, human settlements, and other developmental projects. Construction of roads and canals, quarrying, shifting cultivation and encroachments are other threats. Degradation of forests results from illicit felling, excess removal of forest products, fodder, fuel wood, forest floor litter, overgrazing and forest fires. As a result, many keystone and endemic forest species are now left with eroding populations that need to be urgently conserved.

Bio-diversity in India is also facing threats from various sources of pollution; the major ones being improper disposal of municipal solid waste, inadequate sewerage, excessive use of chemical pesticides and continuous use of hazardous chemicals even where non-hazardous alternatives are available. New industrial processes are generating a variety of toxic wastes, which cannot be dealt with by currently available technology in the country.

Urban areas in India generate more than 1,00,000 metric tons of waste every day. Waste disposal is the bane of most cities, and bustling metros such as Chennai, Delhi, Mumbai and Bengaluru are no exception. Twenty-three Indian cities will each generate more than 1,000 metric tonnes of solid waste per day in the next five years. They will cumulatively generate 93,000 tonnes of waste every day. Indian municipalities are responsible for solid waste management (SWM) in their cities. However, most of them are currently unable to fulfil their duty to ensure environmentally sound and sustainable ways of dealing with waste generation, collection, transport, treatment, and disposal.

The failure of municipal solid waste management can result in serious health problems and environmental degradation. A combination of recycling, composting, small-scale biogas and waste-to-energy combustion can help to move towards sustainable waste management. Outreach to both environmental groups as well as the public at large is important in order to demonstrate the benefits of waste-to-energy technology. The much-hyped 'Swachh Bharat Abhiyan', or 'Clean India Mission' which aims to accomplish the vision of 'Clean India' by 2019, has come as a major step in the right direction; but unless it backs the intent with technology infusion and financial outlay it is unlikely to achieve realistic goals.
India has improved its position from last year's 134 to 130 in the World Bank’s Doing Business 2016 ranking. The Indian economy is expected to grow faster than other major emerging economies, with the IMF projecting a growth rate of 7.5 per cent for India in 2016 as compared to China's 6.3 per cent.

The government has worked on making incremental economic reforms; with a number of 'big ideas' such as 'Make in India', crafting 100 'Smart Cities' and 'Clean India' with the aim of inclusive prosperity, infrastructure development and reframing India's skewed model of services-driven growth to a major export-oriented manufacturing center. It will continue to struggle with inadequate infrastructure to aid its big economic reform plans.

India will continue to benefit from the fall in the oil price and from the first effects of the structural reforms. However, a rejuvenated and at-most-times united opposition; combined with the lack of majority in the government in the upper house of the parliament, means that the government will struggle to actualize 'big ticket reforms'.

Internal security will remain an area of concern in 2016; and Maoism continues to be a challenge in the states affected by left-wing extremists. Cross-border terrorism on India's northern borders will not show any signs of decline in 2016, unless India-Pakistan relations show some major signs of improvement. Indian security agencies will be faced with growing religious radicalization of youth, and the increasing efforts of the terrorist group, Islamic State (IS). The threats from Al Qaeda and other fundamentalist terrorist groups will continue to remain a real threat for India in 2016.

Large parts of India remain vulnerable to natural disasters (including cyclones, tsunamis, droughts, floods and earthquakes). With mushrooming numbers of automobiles on India's 3 million km of roads, poor safety standards and lackadaisical enforcement of rules, transport safety will continue to be a serious risk in 2016.

Along with physical security of critical infrastructure, with more and more information going digital, the security of information/critical data will pose a bigger challenge in the next year. The impact and criticality will continue to grow disproportionately in the coming year as the Digital India campaign starts to bear results over the next 2-3 years.

India continues to grow in status as a preferred investment destination. Organizations in India will have a huge pool of untapped resources, but there are challenges in terms of identifying the right skills sets, infrastructure, security culture and capabilities. Risk management must thus remain an integral part of business strategy and project planning, if the opportunities that India presents are to be exploited sustainably and profitably.