THEME: MONSOON & COVID

CHETNA

Issue No. 1 I October 2020 I CIIF-SEEDS Disaster Monitor for Western States

A compendium of strategy and solutions to help people and business prevent, prepare better for and recover faster from disasters.

Disaster can strike anyone, anytime and anywhere. Who would have ever imagined in January 2020 that a small outbreak in China's Wuhan would become a global pandemic with a devastating impact on lives and livelihoods across the world?


Relief provided while maintaining social distancing norms.

As economies and people reeled under the impact of the outbreak of Coronavirus, Governments and people redoubled their efforts to find ways to mitigate the loss of lives and livelihood.

The CII Foundation, set up in 2011 to undertake a range of development and charitable initiatives pan-India by facilitating industry partnership for inclusive development, took the lead in providing relief and rehabilitation. Working across 28 states it impacted over 80 lakh people through its various initiatives working closely with Government, industry and communities of people.

To help the industry be better prepared for disasters, CII Foundation is happy to present the **CIIF-SEEDS Disaster Monitor**, which is a region-specific knowledge paper with a focus on select disaster-prone states within the region. The update captures valuable information on a region, its risks and vulnerabilities, especially for industry, and workable solutions. A section of international efforts in disaster management will throw light on practical solutions and practices that may be useful for the industry in India.

The **CIIF-SEEDS Disaster Monitor** will enable the industry to assess the potential risks better and prepare a strategy to cope with disasters with minimal loss of lives and negative impact on the business. In the new world that is emerging from Covid-19, it will not be 'business as usual'. Preparing for the new world on all fronts will be a prerequisite for sustainable development and success.

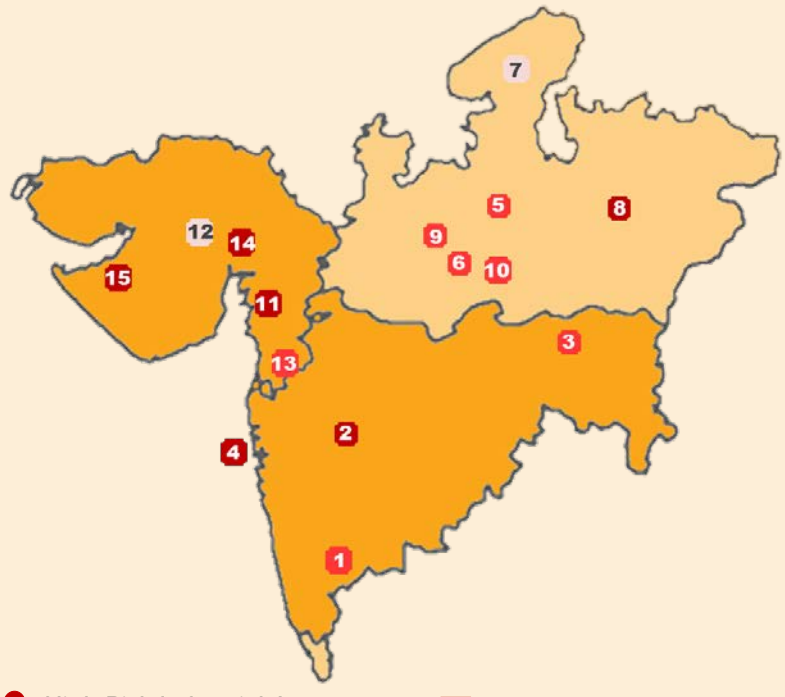
Hope you find the read useful and we look forward to your feedback.

Chandrajit Banerjee,

Managing Trustee, CII Foundation

Hazard Map – Western Region

The map highlights hazards vulnerability of 15 key industrial regions[6].



- High Risk Industrial Areas
- Medium Risk Industrial Areas
- Low Risk Industrial Areas
- Medium Risk States
- High Risk States

- Pune, Mumbai, Jabalpur, Ahmedabad, Jamnagar and Surat face a very high risk of flooding.
- Jamnagar, Jabalpur, Pune, Dewas, Mumbai and Kolhapur are prone to high damage from an earthquake.
- 12 of the 15 industrial regions have a high number of COVID cases. Mumbai, Pune, Thane, Ahmedabad, Surat are among major hotspots of COVID-19 outbreak.

1 Kolhapur, 2 Pune, 3 Nagpur, 4 Mumbai, 5 Bhopal, 6 Indore, 7 Gwalior, 8 Jabalpur, 9 Ujjain, 10 Dewas,11 Surat, 12 Sanand, 13 Valsad, 14 Ahmedabad, 15 Jamnagar

Hazard Profiling – Western Region

The western region is geographically characterized by arid to semi-arid region of Saurashtra and Kutch in the north which is affected by earthquakes caused by high seismicity. The region also has a long coastline making it prone to cyclones and heavy rainfalls. These present huge challenges to key industries in the region. The following table illustrates the major hazard vulnerability of states in the western region. The data is based on the report from the National Disaster Management Authority of India[7].

State/UT	Earthquake	Cyclone	Flood	COVID-19 Pandemic	Composite hazard
Gujarat	High	High	Medium	High	High
Maharashtra	Medium	High	High	High	High
Madhya Pradesh	Medium	Low	Low	High	Medium
Goa	High	Medium	Low	Low	Low

Case of flooding in Surat: Surat experiences flooding mostly during the months of August and September and often due to emergency discharges of water from the Ukai Dam. The dam is fed by the Tapi river flowing through Maharashtra and Madhya Pradesh. In 2006, a severe flood hit Surat which affected 75% of the city's total area, causing an economic loss of Rs.16,000 crores. The textile and diamond industries suffered losses of Rs.2,000 crores and Rs.2,600 crores. An estimated 77% of the working population lost 15–30 working days[7].

MAHARASHTRA

47.78 lakh Enterprises

29.24 lakh Workers hired

Rs.5.09 lakhs average investment in fixed asset per enterprise

All districts in MH are highly vulnerable to flood

2 lakh hectares of area in MH is flood prone

Rs.14,000 crore loses between 2005 and 2015 due to floods caused by heavy rains.

Diseases accelerated by Flood: Dengue, Malaria, Typhoid, Leptospirosis, Japanese encephalitis

Maharashtra is a highly industrialized state in western India with a rapidly increasing number of industrial units[8]. But at the same, it is highly vulnerable to various disasters, presenting huge challenges to the growth of industries in the state with flooding being the most prominent disaster risk.

The highly variable rainfall in Maharashtra ranges from 400 to 6000 mm and occurs in a four-month period between June – Sept. About 85% of rainfall is from the south-west. The number of rainy days generally varies from 40 in the scarcity zone to 100 in the heavy rainfall zone.

Most floods in Maharashtra are flash floods due to sewage overflows and poor drainage systems. Also worsened by unsustainable and rapid urbanization with decreased drainage, construction blocking natural water channels, and reduced groundwater recharge. All districts in Maharashtra are prone to floods.[9] More than two lakh hectares of land in Maharashtra is prone to floods. Extreme heavy rainfalls result in cloud bursts, landslides, mud flow and dam failures and dam bursts.

Industrial Risk Profile : Maharashtra[8]

The economy of Maharashtra is mainly driven by manufacturing, finance, international trade, mass media, technology, petroleum, fashion, apparel, gems and jewelry, IT & ITES, and tourism.

Mumbai is one of the world's top 10 centers of commerce in terms of global financial flow, generating 5% of India's GDP, and accounting for 25% of industrial output, 70% of maritime trade in India (Mumbai Port Trust &JNPT), and 70% of capital transactions to India's economy.

Every year floods drastically affect the industrial sector of Mumbai. Mumbai experiences extreme precipitation events with alarming regularity. Over 200 mm of rainfall in a 24-hour period observed 2-3 days every year in Mumbai

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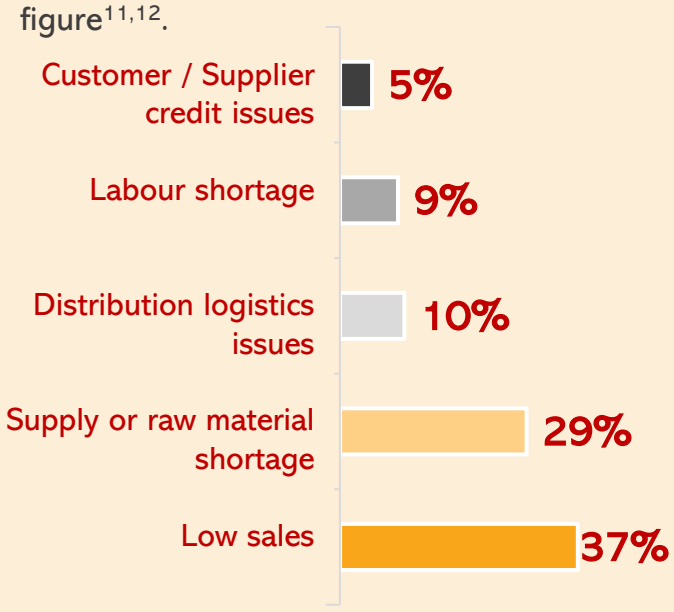
Micro Small and Medium Enterprises and COVID

Challenge

In a recent study by KREA University on the impact of COVID on MSMEs, over 50% of enterprises reported that they were uncertain about the future while 19% stated that they might not be able to recover completely or must close their enterprise[10]. This uncertainty among enterprises stems from the challenges they are presently facing as detailed in the figure[11,12].



- Over 57% of MSMEs reported not having any cash reserves to survive. In addition, the availability of employees in several enterprises has been negatively impacted due to the lockdown.
- Over 37% of the workers in the MSME sector are migrants and most of them have returned to their hometowns during the lockdown, creating a labor shortage.

Solution

MSMEs are also adopting different strategies to overcome the challenges posed by COVID, some of them are listed below.

Different Marketing & distribution strategies (Ex. Home delivery, E-commerce)	New products (Ex. Focussing on essential goods)	Offering credit to end-users
New line of business (Leveraging existing assets of customer base)	New technologies (Ex. Online payments)	Apply for Govt. crisis assistance for business and workers.
Work from home policies	Social distancing and sanitizing workspaces	New lines of communication with customers and vendors

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Micro Small and Medium Enterprises and Flooding

Challenge

The direct and indirect impacts of COVID and natural disasters are devastating to MSMEs. MSMEs are highly vulnerable as they are relatively resource-constrained and less resilient. Having a sound understanding of the adverse impacts of flooding on MSMEs is useful for entrepreneurial resilience. MSMEs are vulnerable to flooding in four major areas:

1. **Capital :** Cashflows tend to fall with enterprises unable to operate but expenditures increase in managing challenges posed by flooding.
2. **Labor :** Finding manpower is difficult as workers are the immediate victims of the flood.
3. **Logistics and Supply Chain :** MSMEs must find alternative logistic support when flood severely damages the public infrastructure system.
4. **Demand :** During any disaster there is a spurt in the demand for basic commodities and a dip in demand for non-essentials.

MSME resilience requires partnerships and cooperation among the firms, government and other private organizations.

Impact of major Floods on MSMEs in India[13]

On an avg. 20,000 – 30,000 MSMEs are affected	Rs.1,000 crores worth machinery and building damaged
1.5 to 2 lakh workers in MSMEs affected	20 -30% MSMEs unable to recover completely from the disaster

State authorities undertake pre-monsoon activities such as response preparedness, fumigation to prevent diseases caused by flooding and clearing drains to prevent clogging. This year, pre-monsoon work has not been taken up on schedule with physical and economic resources diverted towards COVID. Also, migrant workers usually engaged for jobs have gone home post the lockdown. This reality necessitates additional preparedness among enterprises to tackle the challenges that will be caused by monsoon ranging from flooding, bottlenecks in transportation, damage to inventory, and machinery while taking cognizance of the various aspects of COVID related challenges and employee safety and support.

Solution: Business continuity planning

Business continuity (BC) refers to maintaining business functions or quickly resuming them in the event of a major disruption, whether caused by a fire, flood, or malicious attack by cybercriminals. A business continuity plan outlines procedures and instructions an organization must follow in the face of such disasters. It covers business processes, assets, human resources, business partners and more.

Solutions for MSMEs to combat Floods

Taking inputs from the UN Global Compact Principles on Environment[14] and the UNDP assessment of impact of disaster on MSME[15] the below table lists some key solutions for risk assessment and management during a disaster such as flooding.

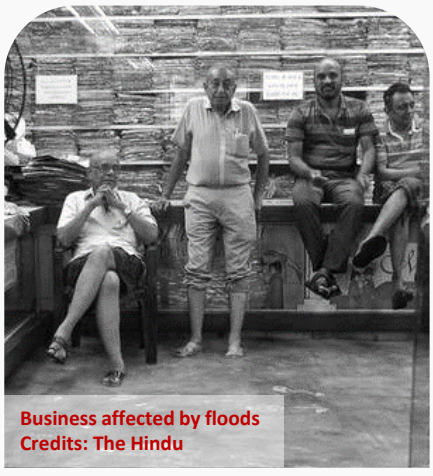
AREAS	SUGGESTIVE SOLUTION
EMPLOYEE	1. Train employees and provide them with resources to respond during a flood at the factory/office and in their homes. 2. Develop structured benefits, insurance protection at the least for critical employees in disaster-prone areas.
CONTRACTS	1. Have strong and formal contracts with vendors and corporate buyers, include the Force Majeure clause. 2. Explore the MSME SAMADAAN scheme and take advantage when payments are delayed from buyers.
BUILDING CODE	1. Adopt flood-resistant building techniques and materials. Have a flood cognizant effluent and hazardous chemical management plan. 2. Have machinery placement and floor plans that consider potential flooding.
POST FLOOD ACTION PLAN	1. Have standards and equipment for drying and debris cleaning. 2. Have guidelines and mechanism for draining flooded premise.
SUPPLY CHAIN PLAN	1. Have a plan for the delivery of goods considering the potential disasters and put in place communication protocols to be implemented with corporate customers if a disaster occurs. 2. Adopt alternate marketing channels using digital means and e-commerce platforms.
UTILITY PLAN	1. Have a disaster safety kit that includes stock of battery-operated lights and generator back-up especially during the potential flood periods.
BUSINESS CONTINUITY PLAN	1. Put in place a plan for man, material, and goods pre and post a disaster. 2. Have a trained internal first response team. 3. Enforce safety and distancing norms during an evacuation. 4. Conduct checks for assessment of structural, electrical, and effluent discharge safety. 5. Put in place SOP for disinfecting premises and damage evaluation process.
FINANCIAL PLAN	1. Have a structured plan to formalize borrowings by creating a credit history with financial institutions. 2. Adopt digital payments. 3. Choose suitable insurance based on the disaster vulnerability of the district where the MSME is located.

Impact of FLOOD on Business

Most retail businesses operate from the ground floor or in single-story structures leading to high yearly costs incurred in repairs. Businesses suffer damage to machines and tools, refrigerators, escalators, electrical switches, and wiring. Raw materials, inventory, and finished products also sustain extensive damage every year. Most losses were caused by damage to fixed assets and infrastructure.

A study on Mumbai and Chennai noted that only 37% of businesses had insurance against natural calamities and only 50% of the insurance claimed was received.[13] Damage to equipment was greater than that of buildings or inventory. Many firms also lost soft/hard copies of documents when electronic equipment, such as computers, were washed away. Some key aspects to be noted while choosing insurance and making claims are listed below:

- It is important to choose a comprehensive motor insurance products. Look for policies that provide engine protection cover.
- Building structure insurance does not pay for articles inside. Select a policy to cover loss and damage to machinery and inventory.
- Only if the policy has a zero depreciation cover, the replacement cost is borne by the insurance company, else only a depreciated cost of the machinery or part will be provided.
- Avoid starting motor vehicles immediately post-flooding, it may damage the engine, and the same is mostly not covered in the insurance.
- Use technology to your advantage to click Photos and videos as evidence of the damage, even if civic authorities move them away.
- Some insurers allow for claim intimation and photos of the damage to be uploaded using mobile applications. Check for the same and take advantage as most policies insist on intimation of loss within seven days of occurrence.
- Insurers note placement of insured articles and the water level mark caused by flooding and the precautions taken before ascertaining claim.



Business affected by floods
Credits: The Hindu

Estimated losses suffered by businesses due to flooding[13]

Avg. loss due to Damages:
- Premise/equipment: Rs.1.7 lakhs
- Product: Rs.1 lakh

Avg expenditure post flood:
- Disinfecting premises/ removing debris: Rs.46,000
- Other costs: 1 lakh

Revenue loss: Rs.60,000
Recovery time: 1 to 10 Days

The India Disaster Resource Inventory: An online database of equipment & resources with Govt. machinery at the Central & State.
https://idrn.nidm.gov.in/

International Effort on Disaster Management

Government builds Business Continuity Planning Course : Thailand

Representatives from small and medium enterprises (SMEs) have joined government officials from the Ministry of Industry, Office for Small and Medium Enterprise Promotion (OSMEP) and the Department of Disaster Mitigation and Preparedness (DDPM) to take part in a course to build capacity for developing and promoting business continuity planning (BCP) for SMEs in Thailand. The course was developed by ADPC with the support of the JTI foundation. Government representatives feel that BCP for SMEs will pave the way for speedy post-disaster economic recovery in the future and ensure that losses for small business owners are less severe. “Resilient businesses are crucial parts of safer communities and societies. The long-term economic efficiency of investment in disaster risk reduction has become very evident in recent years,” says Mr. Aslam Perwaiz, Head of ADPC’s Disaster Risk Management Systems Department.

MNC sets up Zurich Flood Resilience Alliance

Zurich a global multi-line insurance provider established the Zurich Flood Resilience Alliance, a multi-sector partnership focusing on finding practical ways to help communities strengthen their resilience to floods globally was launched in 2013. The organization uses its expertise as a global insurer to help customers and communities reduce the devastating impacts of floods - even before a flood hits - and build community flood resilience in a more integrated way. Besides fundraising, they encourage effective public policy and develop sound practices and policies among organizations in support of flood resilience.

Business Continuity Plan in Action : JAPAN[15]

Suzuki Kogyo Co. Ltd in Sendai city, Miyagi prefecture, has 67 employees and is engaged in the collection and transport of industrial waste, recycling, and water purification and provision. The tsunami washed away most machinery, vehicles and other equipment while the incinerator and water processing facilities were buried in sludge and rubble. Despite the overwhelming damages to the business, Suzuki Kogyo was able to recover all its business operations within one month, thanks to the BCP it had begun to draft in 2008. Suzuki Kogyo completed the first version of its BCP in 2009, held in-house training with outside experts, and carried out simulations and drills. As a result, the company was able to smoothly evacuate staff from the processing plant and quickly confirm the safety of all employees, including those who were out of the office with customers. Furthermore, the company contacted contractors with satellite phones, as indicated in the BCP, who came to assess the necessary repairs the next day. All operations were completely restored within a month.

SEEDS (Sustainable Environment and Ecological Development Society) is a not-for-profit organization that enables community resilience through practical solutions in the areas of disaster readiness, response and rehabilitation.

Since 1994, the organization has worked extensively on every major disaster in the Indian subcontinent – grafting innovative technology on to traditional wisdom. It has reached out to families affected by disasters and climate stresses; strengthened and rebuilt schools and homes; and has invariably put its faith in skill-building, planning and communications to foster long-term resilience.

SEEDS is also India's first agency to be certified for the global Core Humanitarian Standards – an international certification system for quality and accountability in humanitarian response. SEEDS completed 26 years of outstanding service to humanity in 2020 and is re-anchoring its approach to building resilience through innovation. It continues to empower the most vulnerable across Asia to build a better future.

Natural and man-made disasters cause immense loss of lives and property. The CII has been at the forefront of supplying relief and rehabilitation by involving and engaging the Indian industry to contribute and support the affected communities. CII also works with various agencies to help communities across India manage major disasters.

The CII Foundation, a trust set up by CII, anchors the disaster relief and rehabilitation work with the support of the 68 CII offices across the country and the support of the industry members. It played a crucial role in providing relief and rehabilitation across India during disasters such as the floods in Kerala and Tamil Nadu, benefitting millions of people.

Over 80 lakh people residing in 28 states have been positively and directly impacted by CII during the Covid-19 lockdown and as the lockdown was gradually lifted across India.

To know more, visit www.ciifoundation.in

Write to us at chetna@seedsindia.org

List of organizations working on Disaster Management in Maharashtra

1. Name: SEEDS (Sustainable Environment and Ecological Development Society)
   Expertise / Focus: Disaster Risk Reduction and developing disaster resilient communities.
   Contact: 91-11-26174272, www.seedsindia.org
   Email: Write to us at chetna@seedsindia.org

2. Name: National Disaster Management Authority, Government Of India
   Maharashtra Control Room, Disaster Management, Govt. of MH
   Expertise / Focus: Govt. Dept. working on programs for disaster relief.
   Contact: 022-22027990

3. Name: District Mumbai City, Control Room, Disaster Management, Govt. of MH
   Expertise / Focus: Govt. Dept. working on programs for disaster relief.
   Contact: Toll Free – 1077, 022-22664232, 022-22694725

4. Name: Pune District Control Room, Disaster Management, Govt. of MH
   Expertise / Focus: Govt. Dept. working on programs for disaster relief.
   Contact: Toll Free – 1077, 020-26123371

5. Name: Nagpur District Control Room, Disaster Management, Govt. of MH
   Expertise / Focus: Govt. Dept. working on programs for disaster relief.
   Contact: Toll Free – 1077, 0712-2562668

6. Name: Mumbai Mesonet Observations, Indian Institute of Tropical Meteorology, Pune, India Meteorological Department, Govt. of India.
   Expertise / Focus: Provide live data on rainfall
   Contact: http://mumbairain.tropmet.res.in/

7. Name: Regional Meteorological Centre, Mumbai (RMC), India Meteorological Department
   Expertise / Focus: Analyze and interpret meteorological observations and issue forecasts.
   Contact: 022-22150517, 022-22174707, http://www.imdmumbai.gov.in/

To identify NGOs recognized by Govt. please search on this link:
https://ngodarpan.gov.in/index.php/search/

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