

CHETNA

Issue No. 1 | October 2020 | CIIF-SEEDS Disaster Monitor for North Eastern 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?

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.

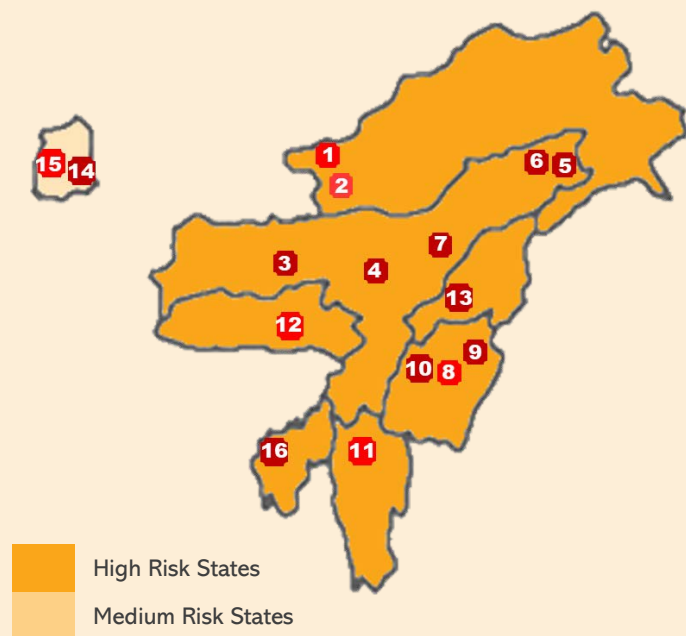
The **CIIF-SEEDS Disaster Monitor** will enable the industry to assess the potential risks better and prepare a strategy to cope with disasters with minimal loss of lives and negative impact on the business. In the new world that is emerging from Covid-19, it will not be 'business as usual'. Preparing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

The map highlights hazards vulnerability of 16 key industrial regions⁶.



- All key industrial areas are prone to earthquake and landslide. All industrial areas of Assam are prone to flooding.
- Assam and Tripura are districts affected by a relatively high number of COVID cases.

1 Tawang, 2 West Kameng, 3 Kamrup, 4 Nagoan
 5 Tinsukia, 6 Dibrugarh, 7 Jorhat, 8 Nillakuthi, 9 Ukhrul,
 10 Imphal, 12 Aizawl, 13 East Khasi Hills, 14 Kohima,
 15 East Sikkim, 16 South Sikkim, 17 Agartala

High Risk Industrial Areas
 Medium Risk Industrial Areas

Hazard Profiling – North Eastern Region

The region is affected by severe monsoons and is prone to earthquake, landslides and cyclones. Over 50% of the area, 1,82,500 sq. km is prone to landslides.⁵⁻¹ These present huge challenges to development of MSMEs and key industries in the region. The following table illustrates the major hazard vulnerability of states in the north-eastern region. The data is based on the report from the National Disaster Management Authority of India.

State/UT	Earthquake	Landslide	Flood	COVID-19 Pandemic	Composite hazard
Arunachal Pradesh	High	High	Low	High	High
Assam	High	Low	High	High	High
Manipur	High	High	Low	High	High
Meghalaya	High	High	Low	Medium	High
Mizoram	High	High	Low	Low	High
Nagaland	High	High	Low	High	High
Sikkim	High	High	Low	Low	Medium
Tripura	High	High	Medium	High	High

COVID and flood slash tea production by 40% in Assam⁷: The lockdown imposed due to the COVID pandemic, floods and incessant rains in North of Assam, account for a total production loss of close to 40%. According to government estimates, Assam's annual average production of about 700 million kg, could fall to about 500 million kg in 2020. Assam tea industry has already lost an estimated 80 million kg just to the nationwide coronavirus lockdown and its effects. According to the Tea Board of India, based on last year's price of Rs.152.26 per kg, the total revenue loss for 2020 because of the lockdown alone can be pegged at Rs.1,218 crore. In turn this is expected to have adversely affected livelihood of close to 4 lakh temporary workers.

ASSAM



12.14 lakh Micro Small and Medium enterprises



18.15 lakh employed in MSMEs



Rs.91,000 average investment in fixed asset per enterprise



More than **54 Lakh** people affected by floods in over **30 districts** of Assam in 2020.



45% of area and **17 districts** in Assam are prone to severe flooding⁸



Over **Rs.10,000 crores** worth economic loss between 2009 and 2018 due to flooding.

The economy of Assam substantially depends upon the primary sector consisting of agriculture and other related sub-sectors like animal husbandry, fishing, horticulture, forestry etc.

Assam is located within a hazard prone area and it faces risks of disasters like floods, landslides, storms, earthquake etc. The state falls within a high rainfall intensity zone, with annual rainfall ranging from 1,750 mm to 6,400 mm. With excessive rainfall concentrated during the monsoon months from May to October. The state and the neighboring areas experience spells of heavy rainfall and windy storms, which can lead to flash floods.

The growth of activities and construction on unstable hill slopes has exposed large numbers of people to the hazards of landslides. Further, the entire region falls within Zone V, the most vulnerable seismic zone making it highly prone to earthquakes.

Industrial Risk Profile : Assam⁹

Assam has more than 600 ha of land dedicated to industrial use. To capitalize on its pool of natural resources (tea, oil and natural gas to name a few), the state also has a dedicated tea park, food processing park, agriculture export zones, and four oil refineries.

The state is the largest producer of onshore natural gas in India and contributes 50% to tea production in India. It also has high potential in horticulture processing and bamboo.

But enterprises need to prepare themselves to overcome recurrent floods in the state. Nearly two-fifths of the area of the state has been officially assessed as being flood prone. Further, floods are accompanied by riverbank erosion and sand deposition. In fact, the affected places experience several waves of flooding.

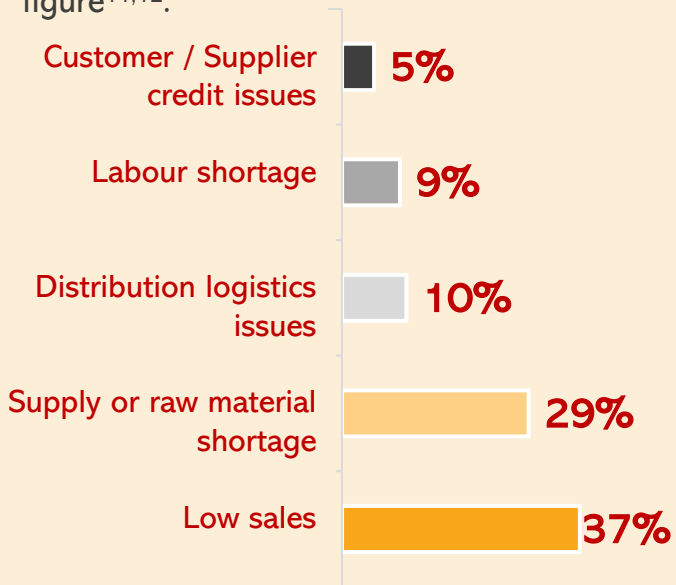


Flood relief activities in Assam

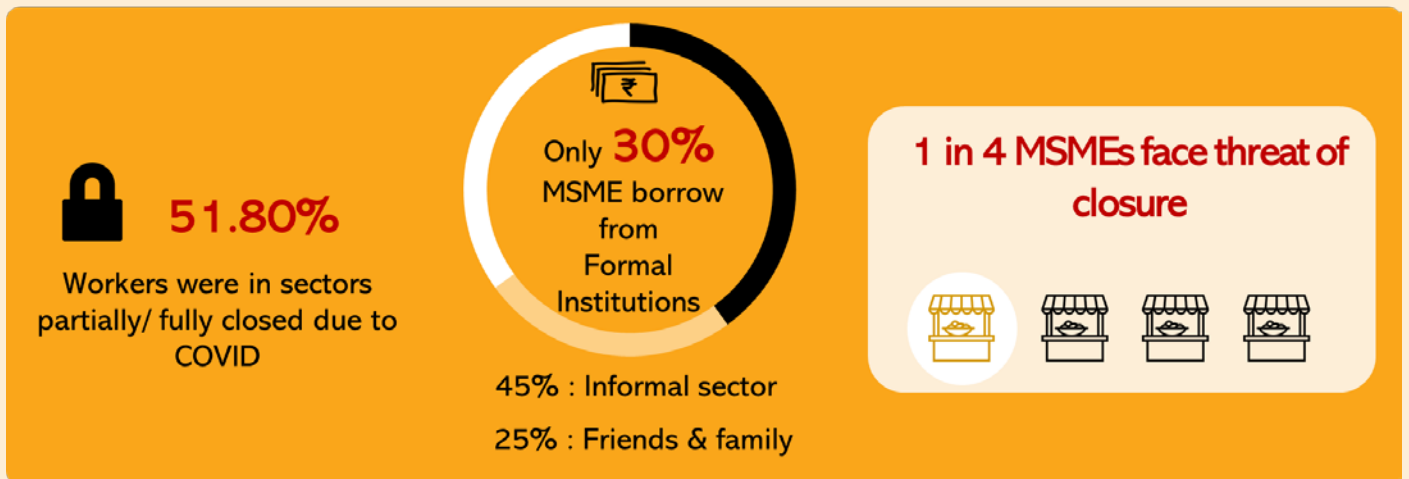
Micro Small and Medium Enterprises and COVID

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 enterprise¹⁰. 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

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 India¹³

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 Environment¹⁴ and the UNDP assessment of impact of disaster on MSME¹⁵ the below table lists some key solutions for risk assessment and management during a disaster such as flooding.

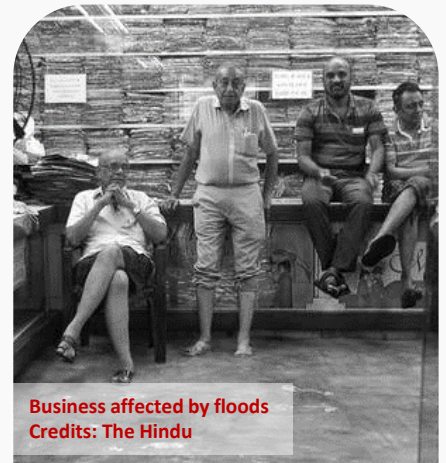
AREAS	SUGGESTIVE SOLUTION
EMPLOYEE	<ol style="list-style-type: none"> 1. Train employees and provide them with resources to respond during a flood at the factory/office and in their homes. 2. Develop structured benefits, insurance protection at the least for critical employees in disaster-prone areas.
CONTRACTS	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 1. Have standards and equipment for drying and debris cleaning. 2. Have guidelines and mechanism for draining flooded premise.
SUPPLY CHAIN PLAN	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 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.



Estimated losses suffered by businesses due to flooding¹³

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 : JAPAN¹⁵

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



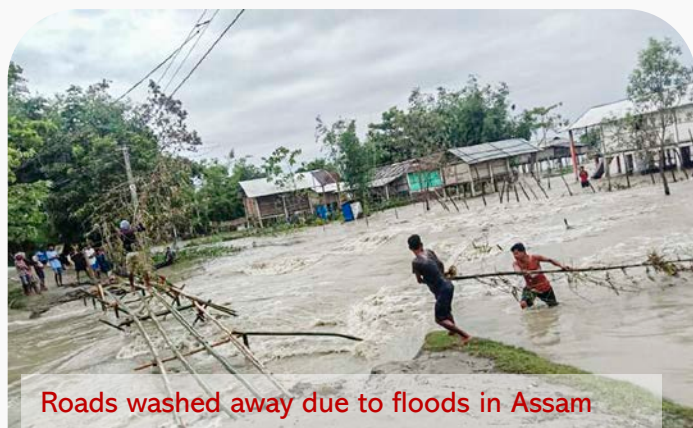
Write to us at chetna@seedsindia.org

List of organizations working on Disaster Management in Assam

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: Flood and River Erosion Management Agency of Assam
Expertise / Focus: Govt. Dept. working on programs for disaster relief.
Contact: Phone No: 9435310034, fremaa.assam.gov.in, eot-fremaa@assam.gov.in
3. Name: Assam State Disaster Management Authority, Govt. of Assam
Expertise / Focus: Govt. Dept. working on programs for disaster relief.
TOLL Free Nos of State Emergency Operation Centre : 1070, 1079, 0361-2237219/2237460, sdmassam.nic.in, asdmaghy@gmail.com, asdma.assam.gov.in
4. Name: Assam Water Research And Management Institute Society, Govt. of Assam
Expertise / Focus: Provides Hydrological data and modelling.
Contact: 9435550077, <http://awrmis.assam.gov.in/>
5. Name: Regional Meteorological Centre, Guwahati, India Meteorological Department, Govt. of India
Expertise / Focus: Analyze and interpret meteorological observations and issue forecasts.
Contact: 0361 - 2840238 / 2840243, ddgm-rmc-guw@nic.in,
https://mausam.imd.gov.in/imd_latest/contents/current_weather.php?%20obs_name=Guwahati&submit=Go, www.imdguwahati.gov.in,

To identify NGOs recognized by Govt. please search on this link:

<https://ngodarpan.gov.in/index.php/search/>



Roads washed away due to floods in Assam



Fumigation in the face of flooding in Assam

References

1. Global Climate Risk Index 2020 (December 2019) https://germanwatch.org/sites/germanwatch.org/files/20-2-01e%20Global%20Climate%20Risk%20Index%202020_14.pdf
2. Ministry of Jal Shakti, Govt. of India, (9th March 2020) <http://cwc.gov.in/sites/default/files/final-flood-damage-data-2018.pdf>
3. KPMG, (April, 2020) <https://home.kpmg/content/dam/kpmg/in/pdf/2020/04/potential-impact-of-covid-19-on-the-indian-economy.pdf>
4. The Economic Times, (21st Apr 2020) https://economictimes.indiatimes.com/news/company/corporate-trends/more-than-half-of-indian-companies-expect-moderate-impact-of-covid-19-on-business-survey/articleshow/75273690.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst
5. The Economic Times, (19th May 2020) <https://m.economictimes.com/small-biz/startups/newsbuzz/indias-startups-story-hanging-by-a-thread/articleshow/75817730.cms>
- 5.1. Geological Survey of India, (Landslide scenarios in North East Himalaya) http://msdma.gov.in/ne_cf_els_presentations/technical_session2/Dr_P_Jaiswal_GHRM_Centre_CHQ_Kolkata_Landslide_Scenarios_in_NE_Himalaya.pdf
6. Disaster Vulnerability Data, (2019), <https://bhuvan-app1.nrsc.gov.in/nfvas/>, <https://www.guwahatipius.com/daily-news/pandemic-flood-assam-tea-industry-sees-48-32-decline-in-production>
7. Assam State Disaster Management Authority, Scoping Analysis on Livelihood Generation for Recovery, (2013) <http://sdmassam.nic.in/download/Scoping%20Analysis%20on%20Livelihood%20Generation%20of%20Recovery.pdf>
8. Ministry of MSME, Annual Report, (2019), <https://msme.gov.in/sites/default/files/Annualrprt.pdf>, http://www.mospi.gov.in/sites/default/files/publication_reports/NSS_KI_73_2.34.pdf
9. Industrial Profile of Assam (2020), <https://www.investindia.gov.in/state/assam>
10. KREA University, (2020), <https://dashboard.massentrepreneurship.org/business>
11. The Hindu (2020): <https://www.thehindu.com/business/msmes-will-be-the-biggest-casualty-of-covid-19-in-india-study/article31084751.ece>
12. The Business Line (2018): <https://www.thehindubusinessline.com/money-and-banking/nearly-40-of-lending-to-msmes-is-through-informal-channels/article25560192.ece>
13. Impacts Of Natural Disasters On Households And Small Businesses In India, (December 2019) <https://www.adb.org/sites/default/files/publication/547031/ewp-603-disasters-households-small-businesses-india.pdf>
14. UN, (2020), <https://www.unglobalcompact.org/what-is-gc/our-work/environment>
15. UNDP, (2016) https://www.undp.org/content/dam/undp/library/Climate%20and%20Disaster%20Resilience/Disaster%20Resilience/Small_Businesses_Impact_of_Disasters_and_Building_Resilience_Case_Studies.PDF

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