

# **HASMUN'19 STUDY GUIDE**

## **The United Nations Economic and Social Council**

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**Realizing a Resilient infrastructure:  
in disaster predisposed regions**

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## LETTER FROM SECRETARY-GENERAL

Dear Delegates and Advisors,

It is a great pleasure and honour to officially invite all of you to HASMUN 2019 which will be held between **26th and 28th of April 2019** at Kadir Has University Haliç Campus in Istanbul which is located in the Golden Horn area.

I am personally thrilled to take part in the making of this conference and I am sure that the academic and organisation teams share my passion about this instalment of HASMUN in which we have chosen to focus on topics that bring humanity together. And we have also included committees which will simulate historical events that can be considered existential threats which brought the international committee or some nations together. The general idea that we would like to introduce is that humanity can achieve great things in little time if we are united, or can eliminate threats that threaten our very existence.

I strongly believe that the first half of this century would be remembered in human history where we enter into a new era through technological advance. Unfortunately we haven't quite grasped the importance of this generation, as we progress we leave a print on this world and for the first time modern world is facing an existential threat, for the first time every human being on the planet is facing the threat of a considerable change in their and their ancestors living or worse, our very existence is on the line. I believe it will be events like these marked down in history which bring humanity together if we unite with no ambition of national gains and handle these crises. Our highlighted special committee of World War Z will be based on the book with the same name written by Max Brook which tells the story of how world is affected by a Zombie outbreak and the Humanitarian Advancement and Security community or HASCOM will take place in the year of 2050 where the delegates will rebuild the world from its ashes and have the chance of changing how it works.

The other committees will be focusing on current problems that are born out of neglect for an extensive amount of time either due to lack of public interest or because of economical reasons and solving these issues will have long-lasting positive effects or if they are left unsolved they may have bigger consequences in the near future.

With that I welcome and look forward to seeing all of our participants and guests on the 26th of April, at HASMUN 2019, hoping that you will have an exquisite time, debates and most importantly have fun while changing the world, only you can do it.

*Best Regards*

Ata Mavi  
Secretary-General of HASMUN'19

## **LETTER FROM UNDER-SECRETARY-GENERAL**

Dear Participants,

My name is Zahide Nur Kantarcıođlu and I study Political Sciences and International Relations in French at Yeditepe University. It's an utmost pleasure to welcome you all to the 6th edition of HASMUN 2019.

Being a challenging committee, ECOSOC will have a focus on Realizing a Resilient Infrastructure: In Disaster Predisposed Regions. This document provided by HASMUN 2019 Secretariat illuminate you throughout the process for the committee. Therefore, it is a crucial importance for the participants first to read the whole document deeply and do further research about the topic.

Lastly, I appreciate my lovely assistant Ms Eylül Yasasever for helping me on this study guide and I would like to thank Secretary-General Mr Ata Mavi for letting me a part of this conference and for trusting me.

Should you have any questions, please do not hesitate to contact me via:

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Zahide Nur Kantarcıođlu  
Under Secretary-General Responsible for ECOSOC

## **I. INTRODUCTION TO COMMITTEE**

The Economic and Social Council is one of the six principal organs of the United Nations as established by the UN Charter in 1945. ECOSOC 's primary focus is economic, social and sustainable development issues as well as health, education and environmental topics. It is a platform for debating and thinking innovatively to achieve goals that are agreed by all member nations.

There are 54 member nations in the Economic and Social Council. Eighteen of them retire every year, and 18 nations are elected immediately after. A country is eligible for re-election right after it has retired.

The Economic and Social Council is responsible for promoting higher standards of living, less unemployment, finding solutions for international economic, social and health problems, creating international educational and cultural co-operation. It also encourages universal respect for human rights and freedom.

ECOSOC consults with more than 2,500 NGOs (Non-governmental Organisations). ECOSOC also provides a gateway for UN partnership and participation by the rest of the world. It offers a notably different meeting point for productive dialogues between policymakers, assembly members, academic authorities, foundations, and businesses. Each year, ECOSOC structures work on an annual theme of global importance for sustainable development and by emphasizing combined economic, social, and environmental concerns and encourages agreement on discussed policies and actions that link all the fundamental pillars of sustainable development.

ECOSOC serves as the central mechanism for the activities of the United Nations system, its agencies and supervises the expert bodies in the economic, social and environmental fields. ECOSOC underwent reforms in the last decade to strengthen the Council and its working methods, giving special attention to the coordinated implementation of, the outcomes of all major United Nations conferences summits in the economic, social and other related fields.

## II. INTRODUCTION TO AGENDA ITEM

<sup>1</sup>Disasters impact poor and rich countries differ in the point of vulnerability which means exposure and probability of a population to risks. In the circumstances, for example, earthquakes. It is even easier to distinguish between poor and rich population since poor population have less choice than the wealthy population to choose where to live or have a stronghold.

Specifically in poor countries, due to rapid urbanization, there is lack of strong infrastructure and it creates hazardous areas in the cities. Otherwise, disasters cost more money in rich countries because infrastructures are expensive to rebuild but for sure it ensures that disasters result in less death.

Even worse, disasters affect countries' economies in a bad way especially it damages sustainable production and workforce. According to the information provided by Munich Re, the cost of ten natural disasters in the last five years to the world is \$ 378 billion. It includes earthquakes in Japan, New Zealand, Thai calamities; floods in Australia and China; and hurricanes, wildfires in America.

Happily, in the 21st century we have early-warning systems, tornado-proof rooms, tougher building codes in quake-prone areas and better public information about evacuation to minimize death rates caused by hazards. But of course, the economic costs of the consequences of these disasters are increasing this is because of the hence of concentration of the population and economic activities in high-risk places such as river deltas, earthquakes fault lines or tropical coasts.

### A. Earthquakes

<sup>2</sup>Earthquakes are happening because of the seismic waves through Earth's rocks. When energy is stored in Earth's crust is immediately released the masses of the rock straining against one another suddenly fracture and slip. The earthquakes happen because of geologic faults and the main fault lines of the world are located are the outer limits of the tectonic plates that the part of the Earth's crust. Seismology is the scientific study that searches the earthquakes. Above the centuries millions of people died because of the earthquakes.

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<sup>1</sup> "Infrastructure and Disaster." A Contribution by the United Nations to the Consultation Leading to the Third UN World Conference on Disaster Risk Reduction. December 18, 2014. Accessed March 21, 2019. [https://www.preventionweb.net/files/40429\\_infrastructure.pdf](https://www.preventionweb.net/files/40429_infrastructure.pdf).

<sup>2</sup> Bolt, Bruce A. "Earthquake." Encyclopædia Britannica. December 28, 2018. Accessed March 17, 2019. <https://www.britannica.com/science/earthquake-geology>.

## **B. Forest Fires**

<sup>3</sup>Forest fires are happening because of more than one factor: the human element, wildfires, climate changes, land-use. Forest fires are also named wildfires. Wildfires burn millions of acres every year, leaving death and destruction in their wake. In recent years the wildfires are increased, and their burning amount has extended.

## **C. Impulse Waves**

Impulse waves have a destructive potential of damage mixed with the uncertainty. Impulse waves are occurring because of tremendous momentum exerted by this mass usually produces shallow waves. Deepwater waves and wind have a linear theory applied in this reaction.

## **Ç. Landslides**

Landslide is movement a mass of rock, debris or earth down a slope. Landslides are typically mass wasting which represents the down-slope movement: falls, topple, slides, spreads and flows. Landslides can be established in hills already on the edge of movement by rainfall, snowmelt, changes in water level, stream erosion, changes in groundwater, earthquakes, volcanic activity, disturbance by human activities, or any integration of these factors.

## **D. Rockfalls**

A rockfall is a form of mass movement or mass wasting in which segments of rock falls descending through falling, bouncing and rolling after they divorced from the slope. <sup>4</sup>Freezing and melting of ice within cracks may also affect large rockfalls can authorize catastrophic mass movements because of their weight and vertical fall distance. Rocks are directly affecting the people and their vehicles, but the people are building homes and roads by those rocks.

## **E. Wind Loads**

Wind loads are mainly about the static and dynamic loads and their pressure. Wind loads are damaging the roofs, walls, and facades, tents towers, bridges. Structures and

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<sup>3</sup> Bradford, Alina. "Wildfires: Causes, Costs & Containment." LiveScience. August 28, 2018. Accessed March 17, 2019. <https://www.livescience.com/63458-wildfires.html>.

<sup>4</sup> "Rockfall." World of Earth Science. . *Encyclopedia.com*. (March 17, 2019). <https://www.encyclopedia.com/science/encyclopedias-almanacs-transcripts-and-maps/rockfall>

materials should be done in the correct standard. The government in the hills of the mountains and open land such as coastal areas are needed for special arrangements.

#### **F. Snow Avalanches**

<sup>5</sup>An avalanche can be defined merely as a mass of snow that moves quickly down a mountain. Also, the liquid content is an important issue because of the mass calculations. The reason that the snow avalanches happen because of the echo of the human voice, snowstorm and wind direction, heavy snowfall, human activities such as winter sports and vibration or movement of an object might affect the snow avalanches. It is damaging the life and properties also it has an economic impact according to ski resorts.

#### **G. Ice Avalanches**

Ice avalanches form when a significant amount of mass from ice breaks off from a glacier, drops downslope driven by gravity and become smaller pieces of ice. The situation of ice avalanching is infrequent events, and the rule explains that if a particular one has happened before, it might happen again in the same way.

### **III. IMPORTANCE OF INFRASTRUCTURE FOR DISASTER RESPONSE AND REHABILITATION**

<sup>6</sup>Public services and social infrastructures are vital in disaster areas. Transportation infrastructure and rehabilitation are critical, especially for assistance to the region after the disaster. In addition, sewage, electricity, water infrastructures such as basic needs of human-being are must be brought into service quickly after the disaster.

Following the hazard, local authorities should report the damages of infrastructure and request a subvention from the national government within ten days. After government receipts the report and subvention request, they make a disaster assessment in two months and approves the subvention. In order to ensure rehabilitation, local governments can implement their rehabilitation projects immediately after the disaster, before applying for a subvention.

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<sup>5</sup> Howard, Rosie. "ATSC 113 Weather for Sailing, Flying & Snow Sports." 7j - Avalanche Types. Accessed March 17, 2019.

[https://www.eoas.ubc.ca/courses/atsc113/snow/met\\_concepts/07-met\\_concepts/07j-types-of-avalanche/](https://www.eoas.ubc.ca/courses/atsc113/snow/met_concepts/07-met_concepts/07j-types-of-avalanche/).

<sup>6</sup> Sagara, J., & Ishiwatari, M. Infrastructure Rehabilitation. Retrieved from

<https://openknowledge.worldbank.org/bitstream/handle/10986/16141/800630drm0kn4010Box0377295B00PUBLIC0.pdf?sequence=1&isAllowed=y>

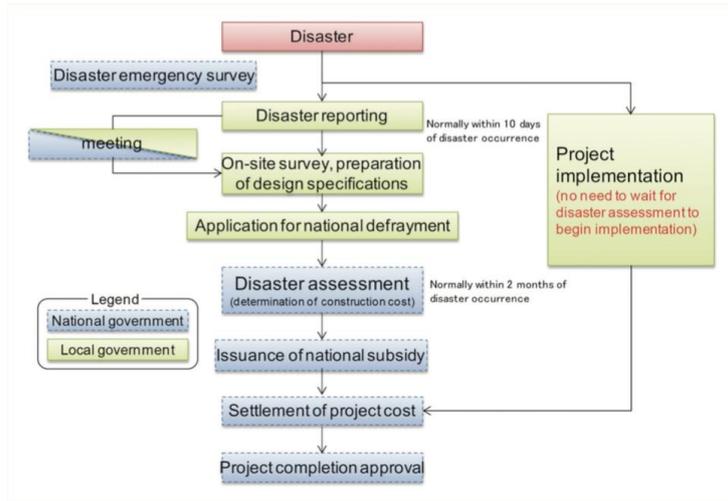


Figure 1 : Steps in infrastructure rehabilitation, [http://www.bousai.go.jp/3oukyutaisaku/higashinihon\\_kentoukai/3/kokudokoutu2.pdf](http://www.bousai.go.jp/3oukyutaisaku/higashinihon_kentoukai/3/kokudokoutu2.pdf).

In order to reach out to the people in need with domestic and foreign assistance, the roads should be opened within a week. If the region has coasted to the seas or oceans, the ports are the second priority for the aid ships to enter ports. After a disaster, sanitation can be vital for citizens and maintenance of water supply services without sufficient sanitation has led to diseases and hygiene problems.

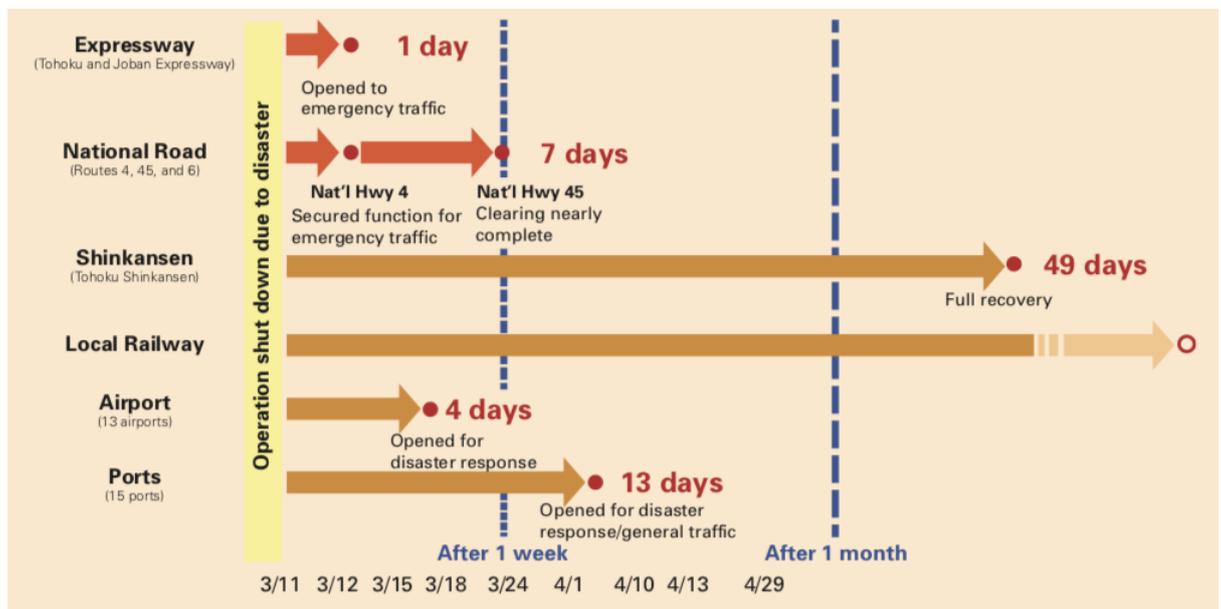


Figure 2 : Securing emergency transportation, [http://www.bousai.go.jp/3oukyutaisaku/higashinihon\\_kentoukai/3/kokudokoutu2.pdf](http://www.bousai.go.jp/3oukyutaisaku/higashinihon_kentoukai/3/kokudokoutu2.pdf).

It should not be forgotten that effective emergency and rehabilitation procedures depend on social infrastructure and public services. Arrangements are necessary to initiate and complete rehabilitation work;

1. Financial arrangements to regulate budget sharing mechanisms between local governments and the central government.
2. Predisaster agreements with the private sector for immediate rehabilitation workforce.
3. Establishing an emergency support team
4. Developing disaster-resilient infrastructure
5. Identifying key infrastructure within the country

#### **IV. DISASTER RISK REDUCTION AND RESILIENCE IN THE 2030 AGENDA FOR SUSTAINABLE DEVELOPMENT**

The Sustainable Development Goals, in other words, are the call for universal action to eliminate poverty and ensure that all people live in peace and prosperity. There are 17 main objectives and 169 global targets that are linked to each other.

On this respect, reducing the risks of disasters, in the sustainable development goals there is various ways under the light of 10 SDGs and 65 targets related to the topic. For instance, the targets about promoting education can help for building resilient infrastructure.

<b>Sustainable Development Goal</b>	<b>Related disaster risk reduction target</b>
Goal 1: End Poverty in all its forms everywhere	Target 1.5: By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extremes and other economic, social and environmental shocks and disasters
Goal 2: End hunger, achieve food security and improved nutrition and sustainable agriculture promote	Target 2.4: By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality.
Goal 3: Ensure healthy lives and promote well-being for all at all ages	Target 3.d: Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks.
Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	Target 4.7: By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development.

<p>Goal 6: Ensure availability and sustainable management of water and sanitation for all.</p>	<p>Target 6.6: By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes.</p>
<p>Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation</p>	<p>Target 9.1: Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with focus on affordable and equitable access for all.</p> <p>Target 9.a: Facilitate sustainable and resilient infrastructure development in developing countries through enhanced financial, technological and technical support to African countries, least developed countries, landlocked developing countries and small island development states</p>
<p>Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable</p>	<p>Target 11.3: By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries.</p> <p>Target 11.5: By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations.</p> <p>Target 11.b: By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015- 2030, holistic disaster risk management at all levels</p>
<p>Goal 13: Take urgent action to combat climate change and its impacts</p>	<p>Target 13.1: Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries</p> <p>Target 13.2 Integrate climate change measures into national policies, strategies and planning.</p>
<p>Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development</p>	<p>Target 14.2 By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans</p>
<p>Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.</p>	<p>Target 15.1 By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements.</p> <p>Target 15.2 By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally.</p>

*Table 1 : Sustainable Development Goals and targets related with disaster risk reduction and resilience,*

<https://www.un.org/sustainabledevelopment/sustainable-development-goals/>

## V. OPPORTUNITIES FOR REDUCING DISASTER RISK AND BUILDING A RESILIENT FUTURE

<sup>7</sup>Disaster risk management helps us to reduce the risks with prevention, transfer, mitigation and preparedness. Also, disaster risk management has four keystones; understanding, awareness, measurement and awareness. The government, households and businesses should invest in reducing their risks level. Especially governments should invest in collecting data, disseminating and managing the risk information.

Until the 20th century, disasters recognized as not natural even they are related to hazard and the only way to reducing disaster helps us on preventing losses and alleviating the impacts of disasters.

<sup>8</sup>But mainly we know that we can't reduce some natural disasters, vulnerability and exposure should be our main opportunity for reducing risks. And this to main opportunities actually related to lack of urbanization (bad urban development choices and practices), climate change, poverty and inequality, poor economies and degradation of the environment.

Disaster risk management includes these strategies;

1. Prevention of new risks
2. Taking necessary measures for existing risks and concentrating on them
3. spread and share risk to prevent losses and poverty caused by disasters.

<sup>9</sup>First of all, we have to accept and understand the vulnerability and exposure of people to those hazards and the presence of the hazard. Acknowledge that there is no “one-size fits all” modality to disaster risk management, there are lots of frameworks to implement effectively to reducing risks but this framework should address underlying and different layers of risks. A successful disaster risk reduction composed by these approaches; institutional strategies and changes from bottom to top, local and community-based and the combination of top and down. But it shouldn't be forgotten that Disaster risk management should be applied with other development plannings and practices since we know that disasters are the indicators of unsustainable social and economic processes and unsuccessful developments.

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<sup>7</sup> Disaster risk reduction & disaster risk management. Retrieved April 7, 2019, from <https://www.preventionweb.net/risk/drr-drm>

<sup>8</sup> UNISDR annual report 2015. Retrieved from [http://www.unisdr.org/files/48588\\_unisdrannualreport2015evs.pdf](http://www.unisdr.org/files/48588_unisdrannualreport2015evs.pdf)

<sup>9</sup> UNISDR annual report 2013. Retrieved from [https://www.unisdr.org/files/37302\\_annualreport2013.pdf](https://www.unisdr.org/files/37302_annualreport2013.pdf)

<sup>10</sup>Preventing contains all measures and activities to avoid disaster risks. It is also a method of prevention to relocating exposed people and assets far away from to disaster area.

Mitigating contains the limitation and lessening of the harmful consequences of disasters. It is also a method of mitigation to planting trees to reduce the risk of slopes or constructions of flood defences.

Transferring contains all financial or social benefits exchanges between one party to another whereby a household, community, enterprise or state authority, for example, insurance.

Preparedness contains all knowledge of organizations, government, individuals and communities to respond and recover from to impacts of the disaster. For example, warning systems and designating evacuation routes.

## **VI. FLOOD PROTECTION AND INFRASTRUCTURAL DEFENSE**

<sup>11</sup><sup>12</sup>There are many countries around the world which threatened by floods. Floods are not devastating disasters when necessary measures and infrastructures are taken. Flood-prone areas can protect by tubes, storm surge barriers and flood defences systems but these systems require development and continuous attention. Additionally, there are various other types of hydraulic infrastructure such as sluices and gates for purposes of navigation and water management. But the demand of countries or companies change because of intense use, stringent standards or sea level rise.

<sup>13</sup>Purpose of flood risk management based on analyzing the probabilities and evaluating flood risk. Flood risk management consists of five steps;

1. Analyzing the risk of flood by determining frequencies of hydraulic loads such as waves and water levels.

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<sup>10</sup> UNISDR annual report 2017. Retrieved from [https://www.unisdr.org/files/58158\\_finalannex120162017resultsframework.pdf](https://www.unisdr.org/files/58158_finalannex120162017resultsframework.pdf)

<sup>11</sup> Developments in the management of flood defences and hydraulic infrastructure in the Netherlands. Retrieved April 7, 2019, from <https://www.tandfonline.com/doi/full/10.1080/15732479.2018.1441317>

<sup>12</sup> Yadsmi. There are many countries around the world which lack basic infrastructure. Retrieved April 10, 2019, from <https://www.coursehero.com/file/p6up0h1r/There-are-many-countries-around-the-world-which-lack-basic-infrastructure/>

<sup>13</sup> Jonkman, S. N., Bockarjova, M., Kok, M., & Bernardini, P. (2008). *Integrated hydrodynamic and economic modelling of flood damage in the Netherlands*(Vol. 66). AMSTERDAM, NETHERLANDS: LSEVIER SCIENCE BV.

2. Analyzing reliability of flood defence systems by determining failure of the mechanism such as piping, overtopping or instability.
3. Simulating flood scenarios, the risks that may occur in accordance with the failures of the mechanism (in the second step) are simulated to facilitate estimation of damage that may occur.
4. Estimation of damage and losses, estimating the maximum loss that may occur in case of flood and determining the magnitude of the measures to be taken, for example, building shelters.
5. Mapping and risk quantification by using different risk metrics.

## **VII. POINTS THAT RESOLUTION SHOULD COVER**

- How can we achieve Sustainable Development Goals related to reducing disaster risk?
- How can we improve the infrastructure and rehabilitation, before and after the disaster?
- How can we improve the ways of protection from floods with infrastructure?
- How can we reduce the risk of a disaster?
- How can we improve disaster risk management systems?
- What precautions should we take for disasters?

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