

The Policy Design on Preparation and Coping with Flash Flood Mekong River Basin Entrance Inequality Deduction Form Disaster: A Case Study of Mueang Nong Khai District Nong Khai Province, Thailand

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Abstract: The objective of this research is (1) to raise awareness and prepare for flash flooding among people in the Mekong region which promotes inequality reduction from disasters by using Muang Nong Khai District, Nong Khai Province as a model area, and (2) To develop a policy proposal by designing a joint policy for flash flood preparedness in the Mekong region to promote inequality reduction from disasters. This research is action research in conjunction with policy design focusing on brainstorming. Group discussions with in-depth interviews. The research results were found that: [A] People have a basic understanding of (1) the nature of the disaster, and (2) the experience of the flash flood disaster encountered by the WiangKhuk Sub-district people is about remembering the severity Looking at the floods that have been associated, but in terms of preparation, community leaders see together that they want to develop into a system and plan for a joint rehearsal in the future. [B] Flash flood response weaknesses are (1) Weaknesses for early warning, evacuation, and flash flood drills, (2) Weaknesses of flash flood plans for areas that have not yet been formally planned, And (3) weaknesses in communication. [C] The interesting common policy design guidelines that should be developed are (1) Flash flood knowledge development, (2) direction and coordination for emergency operations, (3) agreements that Formal and informal for flash flood response, (4) resource mobilization focused on the certainty of emergency work. [D] The policy recommendations are: (1) Appropriate policy guidelines for flash flood preparedness in the Mekong River Basin should include precautions, evacuation, flash flood drills, and community-level plans to tackle flash floods. (2) The public sector, civil society, and communities should jointly develop policies to prepare for flash floods, that is, to develop flash flood knowledge to keep up with the changing circumstances of the local context. (3) The key policy to deal with flash floods to help reduce inequality is to develop community capacity or community potential. This is a collaboration of community organizations, the government sector, civil society in the area, which together with driving a community-level response plan. [E] The operation recommendations include (1) the community must be the host to invite government organizations such as the Provincial Disaster Prevention and Mitigation and the Mekong Community Organization Council to drive community-level planning. (2) Organizing a network meeting on flash flood response such as communities, Provincial Disaster Prevention and Mitigation Agency, and Mekong Community Organization Council should hold meetings at least twice a year to understand the situation and implement measures to deal with flash floods in a timely manner. (3) Flash flood drills should be conducted at least once a year in order to build mutual learning among communities and networks in flash flood preparedness, it is also an analysis of the weaknesses each year and can be used to develop the capacity and capacity of the community to handle the flash flood in the future..

Keywords: Policy design, Preparation and Coping, Flash Flood

1. Introduction

Nowadays, the disaster situation is closer to the people of Isaan, especially the Isan region of Thailand has important river basins such as the Mekong River, Nong Khai Province, which is faced with the risk of flash floods which is considered a disaster that affects the wider population. From the 2018 review of the flash flood situation and the ecological change data, it was found that the flash flood situation in Nong Khai Municipality, Nong Khai Province after the heavy rain continued from the middle of the night until the morning of the date (17 June 2018), there are rainfall measuring up to 137.20 mm, which resulted in flash flooding in Nong Khai municipality, especially PrajakSillapakom Road, which is the main road, has flooded, namely secondary roads or various alley roads such as Don Pho Soi1, and Don Pho Soi2 community, wild water from the outside flowed into Saphan Thong creek causing the water to flood the road more than 100 meters long, the small cars have difficulty traveling (Thai Post,2018). In addition to the situation, the main concerns of the 2018 ecological change are the following: (1) High water problems with higher water levels during the dry season: In January-May 2018, the mean altitude of the Mekong was significantly higher than that during 1983-1991 This is likely from the Xayaburi Dam water discharge to test the power generation, irregularity of the water level that is not seasonal, causing a phenomenon "Flood in the dry season, dry water in the rainy season" is a natural crisis affecting the ecosystems of plants and animals, including the way of life of the people who live and make a living on the banks that depend on

the Mekong River. 2) Tide levels rapidly without general advance notice, water release information from Chinese dams and Xayaburi Dam in Lao PDR. It will be displayed on the website of the Secretariat of the Mekong River Commission (MRC), the Secretariat of the Thai National Mekong Commission (TNMC), and the National Water Resources Agency (NIA). The general public will not be able to access, together with the Thai people's notification mechanism is not thorough and often short of time, emphasizing the notification from only the channels of government agencies which is not connected to the network of the public sector widely enough, causing people to be unable to prepare for timely cope, affecting their livelihood and career greatly (MontreeJanthawong et al,2018).

From the aforementioned situations, it can be seen that flash floods, which can be regarded as a form of disaster that is becoming more and more violent, are a serious problem. In addition, the literature review reveals that the most important information is that disasters are linked to inequality, the United Nations' Keynote on Disaster Risk Across Asia Pacific concludes: Disasters are linked to inequality, which creates greater inequality and is a major obstacle to solving poverty. The essence of this information, however, concludes that the disaster is the main obstacle undermining the economic growth potential of poverty reduction and inequality by 2030 (2030 will be the final year for the implementation of the Social Development Goal SDGs). Disaster impacts affect society's health, education, and livelihoods, resulting in inequality of opportunity transmitted over generations, this creates a vicious circle of poverty, an inequality that makes it inaccessible to development, disasters are also linked to inequality, increasing inequality and a major obstacle to poverty. Major obstacles undermining the economic growth capacity of poverty reduction and inequality to come by 2030. Disaster impacts affect society's health, education, and livelihoods, resulting in inequality of opportunity transmitted over generations. This creates a vicious circle of poverty, the inequality that makes it inaccessible to development.

The report shows that climate change or Climate change is a major cause of disasters, with a one percent increase in original impacts an overall increase of the genie coefficient by 0.24 (Gini coefficient means to summarize it more easily, that is how close the Gini coefficient means one, this implies that the gap in income distribution is even wider), and nearly 40 percent of disaster-affected societies will affect health systems, education and livelihoods, inevitably resulting in inequality in the distribution of opportunities (Access to quality infrastructure and public services in education, access to social welfare, and access to funding or inputs) transmitted from generation to generation (ESCAP- UN, 2019).

All of the above-mentioned violent situations reflect the Gap of knowledge in flash flood preparedness and preparedness in the form of joint policy design to fill in the knowledge gaps in the preparedness and response in flash flood areas with the past paradigm of thinking in Thai society that solving the problem must focus on only the government sector. In fact, disaster resolution and management is a matter of everyone involved, not just the government sector, the addition of such knowledge is therefore important and reframe in order to raise awareness of disaster preparedness as a society that does not leave anyone behind together. Especially on "Policy design to prepare for flash flood preparedness in the Mekong River Basin in order to promote inequality reduction from the Nong Khai disaster problem". It can be said that the area is a prototype for future solutions to this problem as mentioned above.

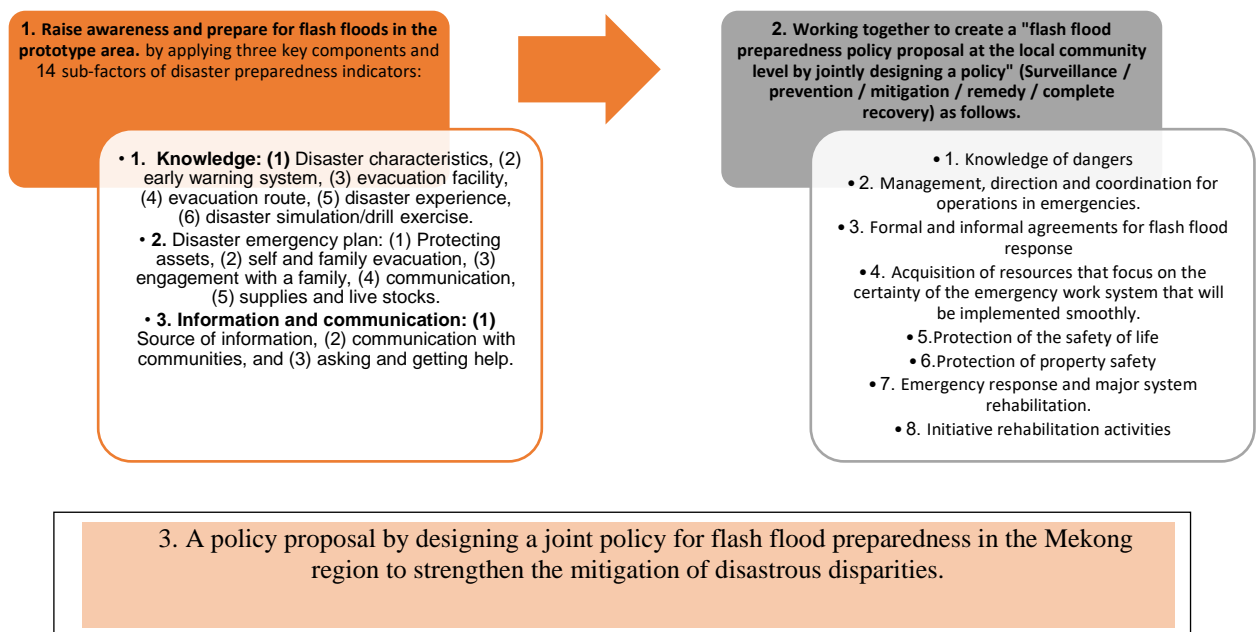
This research focused on the participatory Action Research by researchers, along with local people affected by flash floods in the area, including local community leaders such as the village headmen, local leaders, local administrators. Including government agencies involved in the area responsible for the prevention and mitigation of public disasters at the district level, etc. In order to provide academic benefits and make policy recommendations for flash flood preparedness in the underlying problem areas, it is a key base for bottom-up policy oriented proposals. This research project is in line with the 20-year National Strategy in Strategy 4 on Opportunity and Social Equality was the strengthening of the community in self-management with groups of people and agencies that benefit both the public image, local government organization in the area and the Provincial Disaster Prevention and Mitigation Office, including the central government agency, Disaster Prevention and Mitigation, Ministry of Interior, Provincial Disaster Prevention and Mitigation Bureau, local government organization in the model area, etc., that will use the information and results from such research to be further utilized.

2. Research objectives

The purpose of this research is (1) to raise awareness and prepare for flash flooding among people in the Mekong area, in order to promote inequality reduction from disaster problems, (2) To develop a policy proposal by designing a joint policy for flash flood preparedness in the Mekong region to promote inequality mitigation from disasters by using the area of Muang Nong Khai District, Nong Khai Province as a model area.

3. Research Conceptual Framework

This research focuses on Policy. design from the consultation and cooperation of network partners. (Deliberative) by Participatory action research to create policy proposals to prepare for flash flooding, in order to strengthen the mitigation of disastrous disparities. The conceptual framework for this research aimed to raise awareness of flash flood response by brainstorming among those involved in the prototype area by applying three key components and 14 sub-factors of disaster preparedness indicators: 1. Knowledge: (1) Disaster characteristics, (2) early warning system, (3) evacuation facility, (4) evacuation route, (5) disaster experience, (6) disaster simulation/drill exercise. 2. Disaster emergency plan: (1) Protecting assets, (2) self and family evacuation, (3) engagement with a family, (4) communication, (5) supplies and live stocks. 3. Information and communication: (1) Source of information, (2) communication with communities, and (3) asking and getting help (ReinnyPatrisina et al.2018). It is integrated into conjunction with the Delphi technique by interviewing relevant experts on the issue, seeking input from the opinions of experts in conjunction with the comprehensive disaster preparedness framework (Sutton, J., & Tierney, K. 2006). To build a partnership from Brainstorming to tackle future flash floods through the process, this will link to a policy proposal that is inaccurate, leading to a policy proposal that promotes inequality reduction from disaster. According to the disaster risk report data, there is a disparity in Opportunity Inequality, which will lead to a policy proposal to prepare for flash flood preparedness in the Mekong region to strengthen the mitigation of disastrous disparities in the study area.



4. Research methodology

1. Research Methods: as Participatory Action Research with Qualitative Research in conjunction with Policy design focusing Brainstorming, Focus group in the prototype area to create Collaborative) for analysis from the real data of the area is important to bring to the policy proposal from the photo area. Bottom-up policy oriented with the in-depth -expert interview related to flash flood preparedness in the Mekong area, Nong Khai Province, by the Delphi method, to select experts by seeking information from the opinions of the expert group to compile and synthesize the results of the research.

2. Research population: Because it is the qualitative research, the term purposive population is chosen. Sampling from relevant and experienced people is the key informants about flash flood preparedness issues in the Mekong River Basin, Nong Khai Province as follows: (1) People affected by flash flooding in the area, (2) Local representative, sub-district chief, village headman, (3) Local representatives such as administrators of local government organizations in the area, (4) Local representative, sheriff/bailiff or representative, (5) Representative of the Provincial Disaster Prevention and Mitigation Office/District, (6) Specialist in risk management/local government

3. Data Collection: Beginning with Documentary research to obtain information on policies, laws related to policy design for flash flood preparedness in the Mekong to reinforce the reduction of inequality from the disaster problem, Nong Khai Province is preparing to join the Brainstorming stage, Including Focus Group to suit each

target group and use In depth - Interview by Delphi technique to select and interview relevant experts on the issue by seeking information from the expert group's perspective to compile and synthesize research findings, which are interviews with important persons directly involved (Key Informant) to enhance the accuracy and consistency of data collection issues.

4. Data Analysis and Presentation: Use Analytic. Induction by Typology and Taxonomy.

When appropriate, logically and appropriately presented, Narrative Analysis is presented for each issue.

5. Research results

1. Raising awareness and preparing for flash floods for people in the Mekong area, which will support the reduction of disparity from the disaster, found the following issues:

1.1 the people's awareness of WiangKhuk Subdistrict, Muang District, Nong Khai Province, the importance of the flash flood problem, this view that their communities lack a systematic map for dealing with flash floods in the Mekong River Basin and is reflected in the following key data. People have a basic understanding of (1) disaster characteristics: In the understanding of flash flood characteristics, people living in the Mekong River can understand the nature of flash floods from their familiarity in the previous experience that they occur in the rainy season, however, in the past two years, an anomaly has been found. From the original. In other words, floods, drought and dry rains caused the villagers in that district to start talking, arguing and communicating more and help each other to be careful through everyday conversations. 2) Disaster experience: The flash flood that WiangKhuk people encountered is about the memory of the flash flood impact from the chasing the flood periods that have been involved, but in terms of preparation, community leaders see together that they want to develop as a system and have plans for rehearsal together in the future.

1.2 Weaknesses of flash flood response in the issue of:

1.2.2 Warning, evacuation and flash flood drills: (1) The Early warning system found that the warnings of WiangKhuk Subdistrict took the form of an official community leader, Sub-District chief, the headman announces the broadcasting tower, but what is lacking is a practical response process, such as there is not yet a meeting point or a meeting point that meets the principles of disaster risk reduction that the community wants to develop. (2) The Evacuation facility found that residents had not yet had an agreement in place to evacuate, but were expected to go to a height known to the community. (3) Evacuation route, there has been no agreement since in the past that each household would take responsibility for themselves from hearing announcements from Sub-District chief and village headman. (4) The Disaster simulation/drill exerciser found a lack of simulated practice sessions mentioned above.

1.2.1 Local flash flood response plans: Area plans can be said to be a Disaster emergency plan in regard to local emergency plans. (1) the protecting assets) Protecting assets is a matter of local communities in the event of flash floods and to help each other in situations such as carrying goods, but there is no formal plan to protect assets. (2) the self and family evacuation found that the evacuation was based on listening to news from the aforementioned community leaders and conducting evacuation operations such as driving to highlands, for example, going further from the Mekong riverbank.

1.2.3 the communication: (1) the engagement with a family found that communicating within the family and taking care of the situation lacks a systematic plan and sub-responsible person, apart from community leaders using communication, which broadcast broadcasting towers from community leaders is Sub-District chief and village headmen of all eight communities and use the App Line group in the leadership group and tell the Line group leaders to announce that their community is responsible. (2) the supplies and live stocks found that the immediate evacuation did not have a clear plan. (3) the information and communication, it was found to be heard from the community leaders, the Sub-District chief and the village headman, including municipalities, it is a one-way reception and communication with communities, using broadcast towers and a communication application line that focuses primarily on community leaders who should enhance their interpersonal communication styles. (4) the asking and getting help through everyday meetings and situations.

3. The following interesting policy proposals from the joint policy design are:

3.1 Knowledge development of flash floods found that the community agreed that knowledge should be given by government agencies and made knowledge to communicate in the community that during what month should flood surveillance be monitored and how the plan will be executed, which should be a matter of all people in the district, not just a matter of community leaders?

3.2 Providing direction and coordination for operations in emergencies It was found that the community board system was an effective work, but it had to be applied to flash floods with community plans including responsible persons, committees, meeting appointments should be no more than three months at a time, and virtual flash flood drills should be practiced as these events begin frequently every year.

3.3 Formal and informal agreements for flash flood response found that the community proposed a formal agreement with a systematic view, that should have a specific plan specifying a committee working on flash floods, having roles and responsibilities for communicating with the people of the community, making training appointments, coordinating the district State and educational agencies such as the university joins the work in driving and linking with the local government organization, WiangKhuk Sub-District Municipality, to create a formal flash flood drills, which should be carried out at least once a year to reduce Loss from flash floods and better preparedness.

3.4 Resource mobilization focused on the certainty of work in emergencies, it was found that the community viewed government agencies such as the WiangKhuk Municipality, as well as the district and provincial departments, as important units in terms of budget support and relevant tools when needed. such as cargo vehicles include rubber boats, motor boats. When it is used in times of need and wants to include this in a public sector action plan with the community, focusing on the protection of the safety of life and property, the community has a common proposition that when setting up a steering committee The floods have already begun, community openings and life care committees have been established by using community health volunteer mechanisms as the core of each community, together with the district central committee as committees from all 8 villages. It can be seen that the conclusions of the evacuation point are gathered together that there should be two major sub-districts, namely Don Pae Subdistrict and Thung Ma Lan Subdistric, both of these points are suitable for evacuating people when the actual incident occurs, if it is very heavy, it is set up as an aid center waiting for government agencies such as the Department of Prevention and Mitigation of Public Disasters can join the aid which is considered to be an emergency response. The establishment of a committee from representatives of the communities of 8 villages, one person per village to work with the WiangKhuk Municipality and prevent and mitigate public disasters at both the district and provincial levels. Initiating rehabilitation activities in the event of flash flood damage, the community's view of the need to begin with a clear co-operation plan, and divided roles and duties and received drills to deal with flash floods in order to create a picture of what activities should be thought of that requires a common nature to consult.

6. Discussion

Interesting issues and discussion of the results seen from this research are as follows.

The first: Multisectoral collaboration is essential in disaster response (flash floods): People of WiangKhuk Sub-district have realized the importance of flash floods that, their communities lack a systematic map for dealing with Mekong flash floods, reflected through key data: People have a basic understanding of (1) disaster characteristics, (2) Disaster experience. Weaknesses of flash flood response were also found, such as (1) the early warning system, (2) the disaster emergency plan, and (3) the information and communication. This is consistent with research by Meng, Dabrowski, Stead (2020), describing adaptation to flood response with a focus on a new approach to common spatial planning was the collaboration processes, in terms of decentralized cooperation, collaboration rather than collaboration between organizations, affect the effectiveness of planning in collaboration. In addition, appropriate financial allocation and access to planning-related information, information sharing between sectors and the public's right to openly known information was required, and the establishment of planning cooperation will enable. Established joint capacities including development of joint capacity in inter-agency planning for flood management.

The second: Developing the capacity of communities to deal with flash floods will help reduce inequality found that the critical community issues found to be the aforementioned weaknesses, we can call it the capacity of the community with weaknesses, constraints such as (1) the early warning system, (2) the disaster. emergency plan, and (3) the information and communication, these was in line with Nick Wilson (2015) on the topic capability means the level of competence of departments within the organization, such as departments, departments or the organization itself arises from the collaboration of all personnel in the organization or of all personnel in that organization. That is, an agency or organization with high capabilities must be able to manage the work of personnel in the agency or organization to work together to achieve the vision, objectives and goals of that agency or organization. It can be said that WiangKhuk Subdistrict, Nong Khai Province is an organizational unit that should work in cooperation with WiangKhuk Sub-District Municipality, Nong Khai Disaster Prevention and Mitigation, Network of the Mekong River Community Organization Council of 7 provinces in the Northeast which is an organizational unit that must develop and drive together in the capacity to handle flash flood. Because flash flood readiness is an improvement in the capacity of communities to reduce disaster losses and reduce inequality, in line with the 2018 Asia Pacific Disaster Report by United Nations (ESCAP- UN, 2019) has shown

that these disasters are closely linked to inequality and poverty, showing the negative impact of disasters on the regional economy, and investments are likely to make the greatest difference in disaster risk across Asia Pacific. Thus, disasters are linked to inequality, creating inequality widening and a major obstacle to poverty, in other words, disasters will be a major obstacle undermining the economic growth capacity of poverty reduction and inequality to come by 2030. (2030 is the year in which the work ends towards achieving the Social Development Goal SDGs). The consequences of disasters affect the society of health, education and livelihoods, resulting in inequality of opportunities conveyed. This creates a vicious cycle of poverty, inequality that makes it inaccessible to development, disasters are linked to inequality by increasing inequality and creating a major obstacle to solving poverty. In addition, disasters affect society's health, education and livelihood, resulting in inequality of opportunity distribution (Access to quality infrastructure and public services in education, access to social welfare, and access to capital or inputs) that is transmitted from generation to generation, which, if we can develop capacity and capacity at the community level in disaster response, in this case flash floods, will help reduce inequality and expand the concept and action of planning. Cope with flash floods, starting from WiangKhuk Subdistrict, Muang District, Nong Khai Province. Community plan and operating since 2021 onwards and expand to nearby sub-districts and nearby provinces.

7. Policy recommendations

First: the appropriate policies for flash flood preparedness in the Mekong River Basin should include early warning, evacuation, flash flood drills, community-level planning to tackle flash floods. And the communication issues that each community in the Mekong Basin should conduct by using the relevant database on this matter that is specific to each community to develop into policies and community plans that connect Held the work of government organizations and civil society related to flash floods in the area

Second: the policy that governments, civil society, and communities should jointly develop to prepare for flash floods is to develop flash flood knowledge to keep up with the changing situations of the local context, providing direction and coordination for emergency operations, establishing formal and informal agreements on flash flood response, and resource mobilization focused on the certainty of emergency operations.

Third: the key policy to tackle flash floods to help reduce inequality is to develop community capacity or community potential through collaboration between community organizations, government, civil society in the area. Establish a community-based response plan, where the community is a key base driven by the government and civil society organizations, helping to reinforce the concept of a communal system from the past to a co-operation by the government and civil society in the area. It allows the community to be driven primarily by themselves.

8. Operation suggestions

First: the community must be the host to invite government organizations such as Provincial Disaster Prevention and Mitigation, the Mekong Community Council to join forces to make community-based plans for flash flood preparedness.

Second: the organization of a network meeting on flash flood response such as communities, provincial disaster prevention and mitigation agencies, the Mekong Community Council should hold meetings twice a year to better understand the situation and implement immediate measures to deal with flash floods.

Third: Flash flood drills should be conducted at least once a year in order to build mutual learning among communities and network partners in flash flood preparedness and to analyze weaknesses each year, and can be used to develop the capacity of the community to handle the flash flood in the future.

References

- Meng, Dabrowski and Stead. (2020). Enhancing Flood Resilience and Climate Adaptation: The State of the Art and New Directions for Spatial Planning. [Online] <https://www.mdpi.com/2071-1050/12/19/7864/html> [21 January 2021]
- Montree Janthawong et al (2018). Community Model Research and Development Project on Health Based on Security, Food and Natural Resources in the Mekong Basin and Resilience from Disaster Risk Factors. Nong Khai: Association of Network Organizations of the Mekong River Basin 7 Provinces in the Northeast.
- Nick Wilson (2015). Entrepreneurial Opportunities for All?: Entrepreneurial Capability and the Capabilities Approach. *The International Journal of Entrepreneurship and Innovation*. 16 (3): 159-169
- Reinny Patrisina et al. (2018) Key performance indicators of disaster preparedness: a case of a Tsunami disaster. Retrieved September 20, 2019
file:///C:/Users/PC/Downloads/Key_performance_indicators_of_disaster_preparednes%20(1).pdf

- Sutton, J., & Tierney, K. (2006). Disaster preparedness: Concepts, guidance, and research. [Online] ,<http://www.fritzinstitute.org/pdfs/whitepaper/disasterpreparedness-concepts.pdf> [20 September 2019]
- Thai Post. (2018). Continuous heavy rains 'Nong Khai Municipality' floods. [Online] <https://www.thaipost.net/main/detail/38731>. [20 September 2018]
- United Nations Economic and Social Commission for Asia and the Pacific (ESCAP- UN). (2019). The Disaster Riskscape Across Asia-Pacific: Pathways for resilience, inclusion and empowerment Asia-Pacific Disaster Report 2019. [Online] https://www.unescap.org/sites/default/files/publications/Asia-Pacific%20Disaster%20Report%202019_full%20version.pdf[20 December 2019]