



## **ASEAN SAFE SCHOOLS INITIATIVE (ASSI)**

ASEAN Working Together as One to Ensure Children in Schools and Communities Resilient to Disasters

# **ASEAN Safe Schools Initiative: ENHANCING THE ENABLING ENVIRONMENT FOR EDUCATION CONTINUITY IN MULTI-HAZARD SETTINGS IN ASEAN**

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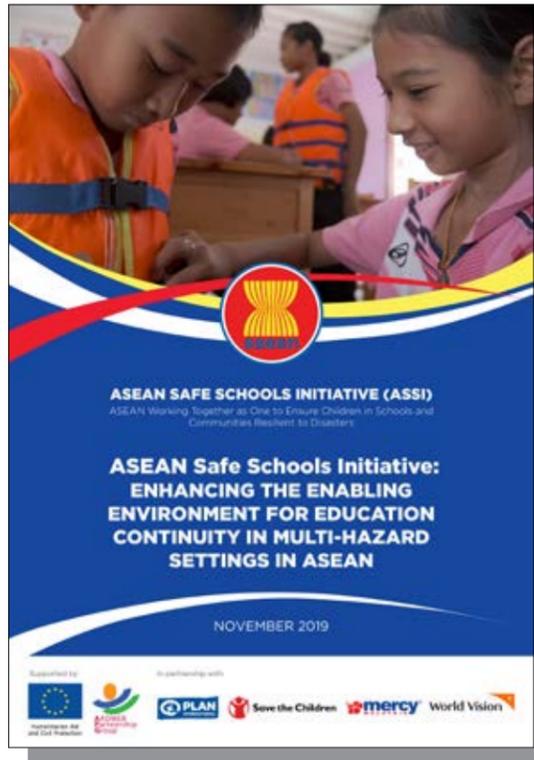
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## AFFIRMATION:

Except as acknowledged by the references in this paper to other authors and publications, **Enhancing the enabling environment for education continuity in multi-hazard research in ASEAN** described herein consists of original work, undertaken by World Vision in collaboration with other ASEAN Safe Schools Initiative (ASSI) Consortium Partners. It is undertaken to guide future activities, describe and advance learning, and generate evidence of World Vision's development effectiveness as part of the requirements of World Vision's Learning, Evaluation, Accountability and Planning System.

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Resilience Education. “Education continuity” is viewed as cross-cutting CSS Pillar 1 and 2. Nevertheless, all DRR interventions and investments within the ACFCSS pillars have significant roles to enable the attainment of education continuity. Those interventions can be implemented before a disaster, during emergency response, as well as in post-disaster stages. The current ACFCSS is ideal and has the potential as an integrator for monitoring the region and its Member States progress towards the Target D of Sendai Framework for Disaster Risk Reduction (SFDRR), particularly since it has defined a target to maintain education continuity with six agreed indicators. However, the level of data readiness is still quite low for nurturing a strong foundation of education continuity baseline. In addition, past research and interventions for education continuity were mostly done under a single-hazard scenario.

This research aims to examine education continuity management efforts in the region during or post-disasters or emergencies. It intends to update and bring new evidence and findings on educational continuity efforts and challenges, with multi-hazard perspectives and based on more recent disaster cases in ASEAN region. The research looks to illustrate the linkages among education development programming, disaster risk reduction in education sector and emergencies and provides a reference for the governments in enacting their policies in school safety. Furthermore, this research has specific objectives as follows: 1) Map and assess significant education continuity efforts in ASEAN during emergency and/or post-disasters; 2) Identify and examine the challenges and gaps in the implementation of education continuity plans in ASEAN; 3) Explore existing regulatory frameworks (for instance, policies, guidelines, budgetary, regional and national coordinating mechanisms) that support education continuity management in the region; and 4) Recommend ways to enhance the education continuity implementation in the region

Guided by the objectives, this research put general propositions that “the degree of CSS approach adoption into national and sub-national policy, and its implementation, is affecting the education continuity indicator performance”. The general propositions are tested in four cases of different multi-hazards scenario threatening education continuity: 1) multi-hazards disrupting education in rural settings (Cambodia); 2) a sudden catastrophic disaster triggered by a single/several geophysical sources of hazards resulted in cascading events (Indonesia); 3) a phased disaster triggered by hydro-meteorological hazards, e.g. typhoon resulted in flooding, landslide, prolonged inundation, and increased prevalence of disease (Philippines); and 4) a transboundary scenario triggered by a combination of man-made and natural factors triggering health hazards (affecting Indonesia, Malaysia, and Singapore). Subsequently, this research has managed to identify the regionally relevant significant efforts done for and challenges of maintaining education continuity in the face of various hazards threatening school community in ASEAN region (Section 4). It also demonstrates how the inter-linkages between sectors and governmental affairs revolving around education may enable or become operational blockers for education continuity. Based on the findings from all case studies, consultation at country level FGDs, as well as feedback in the Learning Exchange Workshop, the research provides four key recommendations for creating an enabling environment that enhances the education continuity at national level with support from regional capabilities.

## EXECUTIVE SUMMARY

ASEAN region is home to various types of disasters, large and small scales caused by various drivers. Risk drivers in ASEAN countries may vary, but among many vulnerable groups and sectors, children regularly lose school days, have more detrimental effects and bear the negative impacts on their education over their whole school experience. Damaged school buildings and road access to schools during disasters or emergencies cause disruption of children’s education. The long-term impacts of disasters also increase the risks of psychological stress and physical injuries to girls and boys, making them more likely to drop out of school.

Against this background, the ASEAN Common Framework for Comprehensive School Safety (ACFCSS) was born with overall goals to protect learners and education workers from death, injury and harm in schools; to plan for educational continuity in the face of all expected hazards and threats; to safeguard education investments; and to strengthen risk reduction and resilience through education (ASEAN, 2016, p. 9). To achieve the goals, the ACFCSS has three pillars namely Pillar 1 on Safe Learning Facilities, Pillar 2 on School Disaster management, and Pillar 3 on Risk Reduction and



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## LIST OF ABBREVIATION

<b>AADMER</b>	The ASEAN Agreement on Disaster Management and Emergency Response	<b>ICT</b>	Information and Communication Technologies
<b>AHA Centre</b>	ASEAN Coordinating Centre for Humanitarian Assistance	<b>INEE</b>	Inter-Agency Network for Education in Emergencies
<b>AJDRP</b>	ASEAN Joint Disaster Response Plan	<b>Kemendikbud</b>	Ministry of Education and Culture of Republic of Indonesia
<b>ASEAN</b>	Association of Southeast Asian Nations	<b>LAPAN</b>	National Institute of Aeronautics and Space of Republic of Indonesia
<b>ASSI</b>	ASEAN Safe Schools Initiative	<b>M</b>	Magnitude
<b>API</b>	Air Pollution Index	<b>MMI</b>	Modified Mercalli Intensity
<b>BAPEDAL</b>	Decree of the Environmental Impact Management Agency of Republic of Indonesia	<b>MoET</b>	Ministry of Education and Training of Vietnam
<b>BNPB</b>	National Disaster Management Agency of Republic of Indonesia	<b>NDRRMC</b>	National Disaster Risk Reduction and Management Council of the Philippines
<b>CARI!</b>	Search Engine for Research on Risk and Resilience	<b>NGO</b>	Non-Government Organizations
<b>CO</b>	Carbon monoxide	<b>NO2</b>	Nitrogen dioxide
<b>ACFCSS</b>	ASEAN Common Framework for Comprehensive School Safety	<b>O3</b>	Surface ozone
<b>DELSA</b>	Disaster and Emergency Logistic System for ASEAN	<b>PDRRMC</b>	Provincial Disaster Risk Reduction and Management Council of the Philippines
<b>DepEd</b>	Department of Education of the Philippines	<b>PM10</b>	Dust particles < 10um
<b>DILG</b>	Department of Interior and Local Government of the Philippines	<b>PoEYS</b>	Provincial Office for Education, Youth, and Sport
<b>DOH</b>	Department of Health of the Philippines	<b>PUPR</b>	Ministry of Public Works and Public Housing of Republic of Indonesia
<b>DSWD</b>	Department of Social Welfare and Development of the Philippines	<b>Radar</b>	Rapid Assessment of Damages Report
<b>DRR</b>	Disaster Risk Reduction	<b>RS</b>	Richter scale
<b>DRRM</b>	Disaster Risk Reduction and Management	<b>SD</b>	Indonesian Elementary School
<b>DRRM-CCA</b>	Disaster Risk Reduction and Management-Climate Change Adaptation	<b>SDO</b>	The School Division Office of the Philippines
<b>ECHO</b>	European Civil Protection and Humanitarian Aid Operations	<b>SIB</b>	School in Box
<b>EiE</b>	Education in Emergencies	<b>SMS</b>	Short Text Messages
<b>EMIS</b>	Education Management and Information Systems	<b>SNPP</b>	Suomi National Polar-orbiting Partnership
<b>FGD</b>	Focus Group Discussions	<b>SO2</b>	Sulfur dioxide
<b>GADRRRES</b>	Global Alliance for Disaster Risk Reduction and Resilience in the Education Sector	<b>TLS</b>	Temporary Learning Spaces
		<b>UNICEF</b>	The United Nations Children's Fund
		<b>URI</b>	Upper Respiratory Infection
		<b>UTC</b>	Coordinated Universal Time

# 1. INTRODUCTION



## 1.1 Background: Education Continuity as part of the ASEAN CSS amidst Increasing Multi-Hazard Risks

### 1.1.1 Risks, Impact to Education Sector, and Birth of the ASEAN CSS

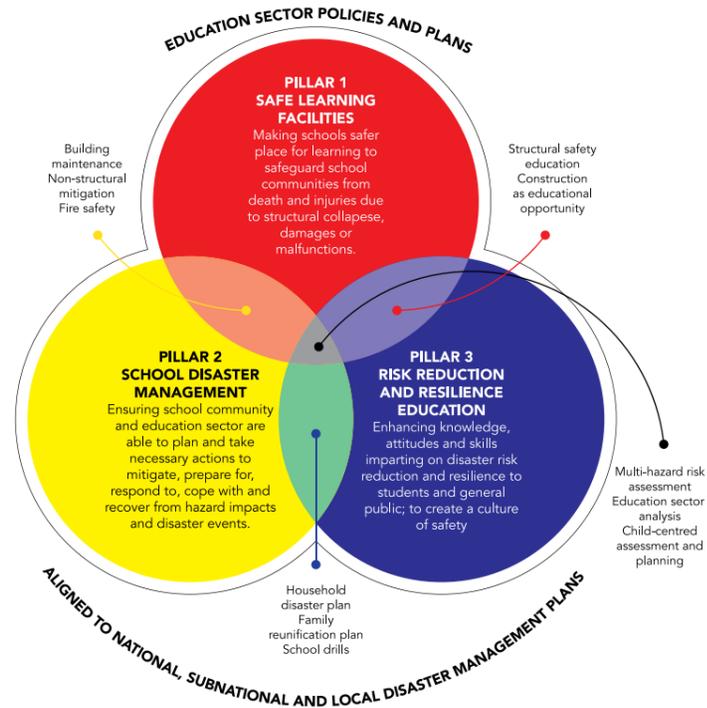
ASEAN region is home to various types of disasters, large and small scales, caused by various drivers. ASEAN Coordinating Centre for Humanitarian Assistance (AHA Centre) recorded that 1,218 disasters occurred in the region in 2012-2018 period, with an estimated average damage of USD 15.91 billion or 3 times than its collective annual GDP (AHA Centre, 2019). Disasters, both natural or human-induced, have impacted the education sectors and it is one of the basic services suspended and underfunded in times of crisis and disasters (ECHO, 2019). One estimate indicated that 200 million children per year will have their lives disrupted by disasters in 2015-2025 period (Nazar, 2015; in Ireland, 2016).

Risk drivers in ASEAN countries may vary, but among many vulnerable groups and sectors, children regularly lose their school days, have more detrimental effects and bear the negative impacts on their education over their whole school experience (Ireland, 2016). Damaged school buildings and road access to schools during disasters or emergencies caused disruption of children's education. The long-term impacts of disasters also increase the risks of psychological stress and physical injuries to girls and boys, making them more likely to drop out of school. In the Marawi crisis in the Philippines, approximately 86,000 children affected by school closures and 22,700 children could not return to school (Save the Children, 2017). In the recent catastrophic M 7.6 earthquake in Central Sulawesi, Indonesia, around 180,000 children were affected due to earthquake and tsunami in Palu, Central Sulawesi, Indonesia in 2018 (Save the Children, 2018).

Education is always a human right for every child up to the age of 18 to have equal access to quality education. When a disaster occurred, often than not schooling systems are disrupted, therefore affecting a fundamental right of children, the right to education (UNICEF, 2012). Furthermore, in disasters and conflict setting, a quick restoration and good quality education can restart familiar routines that mitigate psychosocial impacts of violence and displacement as well as promote inclusion (Talbot, 2013).

Against this background, the ASEAN Common Framework for Comprehensive School Safety (ACFCSS) was

**Figure 1** Comprehensive School Safety Framework (ASEAN, 2016)



developed. The overall goals of the CSS framework are: 1) to protect learners and education workers from death, injury and harm in schools. 2) to plan for educational continuity in the face of all expected hazards and threats; 3) to safeguard education investments; and 4) to strengthen risk reduction and resilience through education (ASEAN, 2016, p. 9). The CSS has three pillars namely Pillar 1 on Safe Learning Facilities, Pillar 2 on School Disaster Management, and Pillar 3 on Risk Reduction and Resilience Education, which can be seen in the figure above. As the figure suggests, across the three pillars, the three key essentials are including multi-hazard risk assessment within the education sector analysis as well as child-centered assessment and planning.

### 1.1.2 Education continuity within the ASEAN CSS Framework: A systematic literature review

In this sub-section, the research provides result of a systematic literature review to “education continuity” within the context of the ASEAN CSS Framework, using steps outlined in Section 2.2.

Education continuity planning is a critical component of school disaster management. In the ASEAN CSS term, this is the cross-cutting element of CSS Pillar 1 and 2, particularly the importance of “developing education continuity plan for education management units/areas and for individual schools including temporary learning shelters and spaces, alternative delivery modes and prepositioning learning materials” (ASEAN, 2016, p. 29). Furthermore, the term “education continuity planning” has also been defined as “planning for education to continue during times of emergencies and disasters” (Paci-Green, Miscolta, Petal, & McFarlane, 2017). In the baseline study of CSS policy trends in Asia and Pacific, 7 out of 10 ASEAN countries were identified of having a type of education continuity planning (*ibid*). However, only one ASEAN country has a nation-wide standard operating procedure for disasters and emergencies (*ibid*). Nonetheless the 7 other

countries have a certain document and practices on response preparedness. Another aspect that the CSS also highlights is key activities in Pillar 2 on supporting education continuity, that is whether a temporary learning spaces are identified (ASEAN, 2016).

Nevertheless, the first line of defense for education continuity is the CSS Pillar 1 or safe learning facilities (ASEAN, 2016). In the face of seismic hazards, “promotion of the seismic resilience of schools is not only critical for children’s safety and the continuity of their education but also for the effective post-earthquake recovery of communities” (Baytiyeh, 2017). In an ideal setting, all education facilities are supposed to be free from immediate hazards and provide spaces that are safe, accessible, and inclusive for learning and social protection; where educational facilities are used for other purposes (for example, to be used as evacuation shelter), plans should be made to manage the timely return of facilities to priority educational functions (World Bank, 2019).

World Bank (2019) highlighted three phases in ensuring education continuity as part of recovery efforts: 1) response phase, 2) recovery phase, and 3) preparedness phase. In the response phase, in an immediate timeframe, the goal is to restore educational access to all affected students. Meanwhile, the goal of recovery phase in the short-term after disasters is to restore the basic functions of the education systems. Lastly, the goal of preparedness phase, or medium-term viewed in a disaster management cycle, is to develop, improve, and sustain education sector resilience. It goes further to suggest the following concrete measurements of education continuity: 1) measures to ensure payment of teachers in the event of a disaster, 2) alternative facilities or locations for the continuation of schooling, 3) accommodating an influx of internally-displaced persons (IDPs) as inclusive as possible, and 4) development of local leadership capacity to coordinate activities and promote safety and resilience (World Bank, 2019).

School safety and education continuity requires the dynamic and continual participations of managers and all interested parties, particularly for the preparedness planning. This means all school stakeholders need to participate in the formulation of disaster risk assessment documents, school action plans for disaster management, early warning systems, school preparedness SOPs, disaster management maps, and evacuation location verification. (Wang, 2016). Nonetheless, various scholars and practitioners highlight the key importance of headmasters and teachers (Paci-Green et al., 2017; Sakurai et al., 2017; Pambudi & Ashari, 2019). At minimum, as a systematic review suggests, the roles of headmasters and teachers are crucial in implementing disaster education, empowering the role of schools in critical situations, mapping and determining the location of evacuations and temporary learning centers or spaces (Sakurai et al., 2017; Pambudi & Ashari, 2019). As of 2017, a survey informed that only 3 out of 10 ASEAN countries have a nationwide capacity building in the form of teacher training in school disaster management (Paci-Green et al., 2017). In correlation to CSS Pillar 2, a disaster recovery plan in an educational setting, at least should include “(the bare minimum assets required to keep an organization in operational status” and it entails regular review and updating processes (Omar, Udeh, & Mantha, 2010).

Past research has suggested that it is possible to have a pro-active strategy for schools to transform traditional education into an online learning environment to restore education delivery during school closures after earthquake which disrupts face-to-face teaching and denies students and staffs access to schools (Baytiyeh, 2018). Beyond online learning environment, “blended learning” strategies can also be used by academic leaders, headmasters, and teachers to prepare themselves for unanticipated interruptions whereas teachers’ ability to navigate available online and offline learning materials become critical (Mackey, Gilmore, Dabner, Breeze, & Buckley, 2012).

The current ASEAN CSS Framework is quite ideal and has the potential as an integrator for monitoring the region and its Member States progress towards the Sendai Framework for Disaster Risk Reduction (SFDRR), particularly Target D on “substantially reducing disaster damage to critical infrastructure and disruption of

basic services, among them health and education facilities". Specifically, the CSS Framework has a target on education continuity (stated as "educational continuity is maintained") with six agreed indicators:

1. # of days school closure due to hazard impacts
2. # of days of school closure made up through school calendar adjustments
3. # of students displaced from school for # days
4. # of hours reduction in school day for # days % increase in average class size for # days
5. # student relocation to temporary learning facilities
6. #of students not returning to schools

However, upon our review, not all ASEAN countries have consistently recorded the above indicators as can be seen in the table below. Green color indicates that the data required for these indicators are available and consistently recorded for all education disruption caused by disasters. Indicators indicated in orange are where data required are available for certain types of disasters. We found that data are recorded during large-scale disasters but not consistently recorded on a day-to-day basis. In particular, education continuity indicator number 4 (the numbers of hours of reduction in school days for a total number of school day loss and the percentage increase in the average of class size) is the one with least data available at national level. Von Meding et al (2018) has done an estimate on this indicator for some schools in Thailand, in the context of Thailand Flood 2011; hence this is not nationally applicable.

**Table 1** Data Readiness on Education Continuity in Selected ASEAN countries

No	ASEAN Country	Edu Cont Indicator #1	Edu Cont Indicator #2	Edu Cont Indicator #3	Edu Cont Indicator #4	Edu Cont Indicator #5	Edu Cont Indicator #6
1	Cambodia	■	■	■	■	■	■
2	Indonesia	■	■	■	■	■	■
3	Philippines	■	■	■	■	■	■
4	Thailand	■	■	■	■	■	■
5	Viet Nam	■	■	■	■	■	■

■ data required fully available and recorded ■ data required available for certain disasters ■ least data available at national level

### 1.1.3 Past Research on Education Continuity in ASEAN

Disruption to education sector has been studied in the past and will always require further investigation (Ireland, 2016; Cadag et al., 2017; Sakurai et al., 2017; von Meding et al., 2018). Most past studies were piece-meal in approach, nevertheless each case brings new perspectives that need to be knitted for building regional understanding.

In the case of Philippines, at least in the context of Metro Manila, impacts of small-scale floods to school communities (students, teachers, and staffs) have already been well-understood and their cumulative impacts may be comparable or more important than large-scale floods (Cadag, et al., 2017). They found

that around 8-12 school days could be lost by small-scale floods in Metro Manila (Cadag et al., 2017). In addition, local capacities of school communities which are more apparent in times of small-scale floods are also neglected. The study then argues that meaningful policies and actions which aim to reduce disaster risk and thus address global learning crisis in the education sector should fully consider small-scale disasters and floods.

Thailand and Viet Nam share a similar driver that disrupts education continuity in the countries, particularly with recurring and routine floods affecting urban and rural areas. In Vietnam, the most damaging and frequent disaster is flooding. Even in multi-hazard settings, flooding is the secondary disaster to typhoon that causes disruptive school days. In 2007-2008, more than \$50 million USD of losses occurred in Quang Binh Province (Quang Binh Irrigation and Flood Control Department, 2010). In 2017, Typhoon Doksuri damaged or destroyed 635 schools among Quang Tri, Quang Binh, and Ha Tinh provinces. More than 220,000 students were affected, and loss and damages were equal to more than US\$ 11 million in September 2017 (MoET, Vietnam, 2017). For Thailand, the 2011 Bangkok floods were severe and caused extensive damages to the school education system. Total damage to the education sector was estimated at US\$430.5 million, while losses were US\$59.3 million. For both countries, urban floods have widespread impacts on the education sector, including school buildings and infrastructure, institutional and organizational structures, as well as individual and community health and well-being (Forino & Von Meding, 2018).

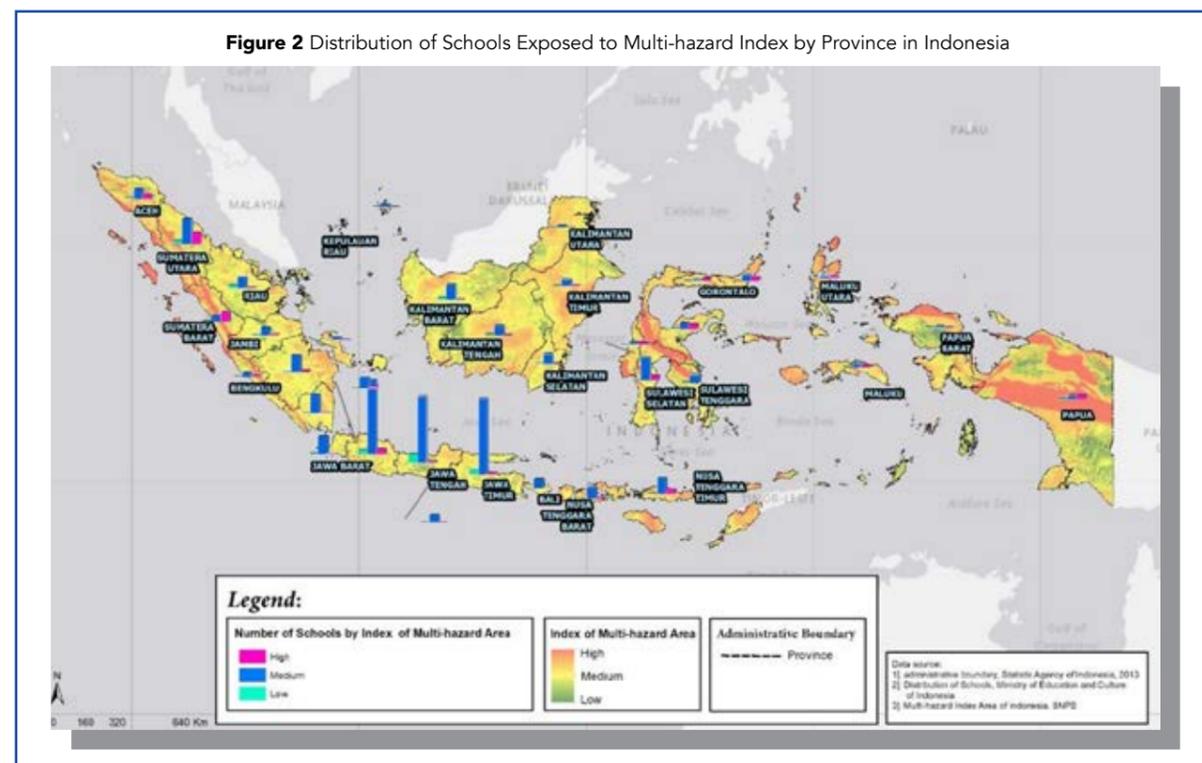
Past researches in Thailand and Viet Nam found three types of impact to education sector due to urban floods; i.e. impact to infrastructure, impact in terms of pedagogical, and impact on psychosocial (von Meding et al., 2018). Impact to infrastructure is detrimental due to factors such as damage to buildings (e.g. building failures or hazardous clean-up), solid waste management; school locations that are not aware of the flood risks and insufficient planning regulations; drainage systems; and transportation disruptions. The key impact in terms of pedagogical is crucial whereas communication breakdown may leave families without technology excluded and uninformed students have more risk. It also interrupted learning processes, affecting school scheduling as well as change of use of learning facilities (e.g. schools became shelter). Furthermore, impact in terms of psychosocial is detrimental due to basic needs fulfillment, health, stress, uncertain living conditions, shifting priorities and marginalization factors within the affected communities. Based on the lessons learned from Thailand and Viet Nam, potentially the operational blockers (elements that prevent an enabling environment) of education continuity includes lapses on standard operating procedures, lack of equipment or trained staff to perform first aid provisions, lack of external supports to schools, internal governance within and among education stakeholders (e.g. disorganized, reliance on NGOs), as well as unavailability or lack of preparedness and emergency planning.

### 1.1.4 The Need for Education Continuity Research in a Multi-hazard Risk Setting

To this stage, all the past researches reviewed above were mostly considering single cause of hazard. Based on our systematic literature review and data readiness investigation, only for Indonesia can we generate school exposure to multi-hazard profile at sub-national level, by combining publicly available various risks related to layers with basic education sector datasets. Meanwhile, in the Philippines, even though the datasets are publicly available, there is still an effort required to combine both datasets. As for Cambodia, more investment to enrich the type and volume of both disaster-related education data as well as information management infrastructure for education continuity analysis is still required.

From the figure below, there are significant numbers of school facilities exposed to high level of multi-hazards risk in North Sumatra, West Sumatra, West Java, South Sulawesi, and Central Sulawesi provinces.

Nevertheless, in the case of Indonesia, this analysis of multi-hazard exposure to school facilities is only limited to the composite index developed based on the 14 hazards recognized under the Law 24/2007 on disaster management, and there is no consolidated function for combining risks composed of natural, health, man-made, and everyday hazards. Accordingly, the research on education continuity practices and policy across ASEAN countries is valid to be conducted to date.



Accordingly, this research redefined the context of multi-hazard threats to the school community in ASEAN region, with the following type of scenario and each is covered in Chapter 3:

1. Multi-hazards disrupting education in rural settings
2. A sudden catastrophic disaster triggered by a single/several geophysical sources of hazards resulted in cascading events
3. A phased disaster triggered by hydro-meteorological hazards, e.g. typhoon resulted in flooding, landslide, prolonged inundation, and increased prevalence of disease such as dengue
4. A transboundary scenario triggered by a combination of man-made and natural factors triggering health hazards.

Ensuring education continuity has various benefits. During disasters and emergencies, education continuity ensures not only continued learning and teaching but also encompasses child protection and psycho-social supports (ECHO, 2019), and essentially serves as key and strategic areas of intervention in humanitarian operations. It also plays an important role in providing a protective bridge between the steady education program progress and emergencies to safeguard education investment and restore a sense of normalcy for children (UNICEF, 2019).

Despite its benefits, ensuring education continuity is oftentimes less prioritized and challenged by many factors including the pre-existing vulnerability of national education system, schools being damaged or

used as temporary shelters, under siege of armed groups and turning into a military objective while teachers and education providers unavailable. The lack of coordination on efforts in education continuity has also been one of the challenges. In some ASEAN countries, budget to education continuity is at times allocated on an ad-hoc basis (Paci-Green et al., 2017) despite its being required by policies to be included in the overall education budget. Accordingly, a more systematic efforts to understand the challenges in creating enabling environment for education continuity needs to be undertaken.

## 1.2 Research Objectives

Based on the background above that highlights the result of a systematic literature review, this research aims to examine education continuity management efforts in the region during or post-disasters or emergencies, particularly focusing on the structures, design or approaches, effectiveness (accessibility, quality, reach to the most affected/marginalized including considering gender lens, children with disability, children in displacement and urban areas), capacities, actors, and gaps. It intends to update and bring new evidence and findings on educational continuity efforts and challenges, with multi-hazard perspectives and based on more recent disaster cases in ASEAN region. The research looks to illustrate the linkages among education development programming, disaster risk reduction in education sector and emergencies and provides a reference for the governments in enacting their policies in school safety.

Furthermore, this research has specific objectives as follows:

1. Map and assess significant education continuity efforts in ASEAN during emergency and/or post-disasters;
2. Identify and examine the challenges and gaps in the implementation of education continuity plans in ASEAN;
3. Explore existing regulatory frameworks (for instance, policies, guidelines, budgetary, regional and national coordinating mechanisms) that support education continuity management in the region; and
4. Recommend ways to enhance the education continuity implementation in the region

Guided by the objectives, in the context of this research, broadly we put general propositions that “the degree of CSS approach adoption into national and sub-national policy, and its implementation, is affecting the education continuity indicator performance”. Figure 3 below illustrates the conceptual framework analysis of this research.

**Figure 3** Conceptual Framework of Education Continuity in a Multi-hazard setting



Phase for enabling Education continuity	PILLAR 1 Safe Learning Facilities	PILLAR 2 School Disaster Management	PILLAR 3 Risk Reduction and Resilience Education
Response Phase (immediate)	Efforts to sustain/support education continuity	Efforts to sustain/support education continuity	Efforts to sustain/support education continuity
	Challenges & gaps in the implementation	Challenges & gaps in the implementation	Challenges & gaps in the implementation
Recovery Phase (short-term)	Efforts to sustain/support education continuity	Efforts to sustain/support education continuity	Efforts to sustain/support education continuity
	Challenges & gaps in the implementation	Challenges & gaps in the implementation	Challenges & gaps in the implementation
Preparedness Phase (medium-term / in normal times)	Efforts to sustain/support education continuity	Efforts to sustain/support education continuity	Efforts to sustain/support education continuity
	Challenges & gaps in the implementation	Challenges & gaps in the implementation	Challenges & gaps in the implementation

TEST CASE

**Multi-hazards Type 1:**  
Multi-hazards disrupting education in rural setting

**Multi-hazards Type 2:**  
A sudden catastrophic disaster triggered by a single/several geophysical sources of hazards resulted in cascading events

**Multi-hazards Type 3:**  
A phased disaster triggered by hydrometeorological hazards

**Multi-hazards Type 4:**  
A transboundary scenario triggered by a combination of man-made and natural factors triggering health hazards

### 1.3 Research Questions

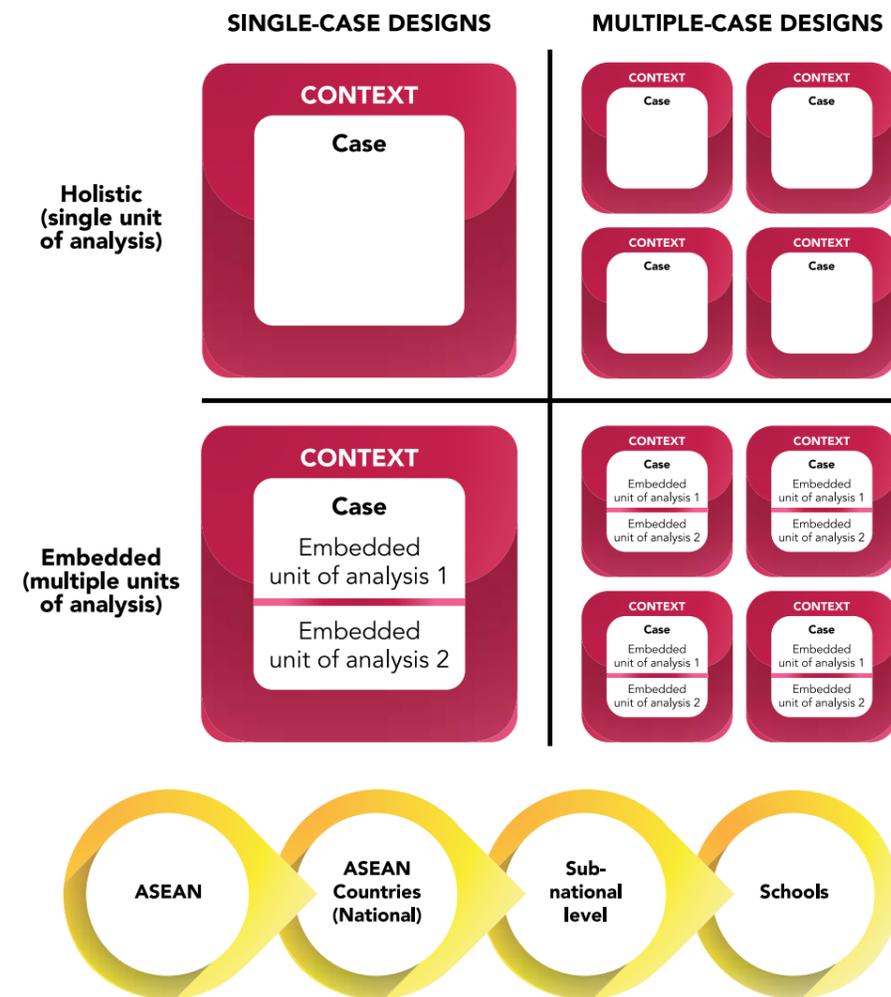
Guided by the specific research objectives and in consultation with ASSI Project Management Team, the following research questions are addressed in this project:

1. What are the examples of efforts undertaken to sustain continuity efforts in ASEAN during emergency and post-disaster situations?
2. What are the challenges and gaps in the implementation of education continuity plans in ASEAN?
3. To what extent the existing regulatory frameworks (policies, guidelines, budgetary, regional and national coordinating mechanisms, etc.) supports or impedes education continuity management in the region?
4. What are the potential recommendations to enhance the education continuity implementation in the region?

## 2. RESEARCH DESIGN: Case Studies Selection, Analysis, and Data Collection

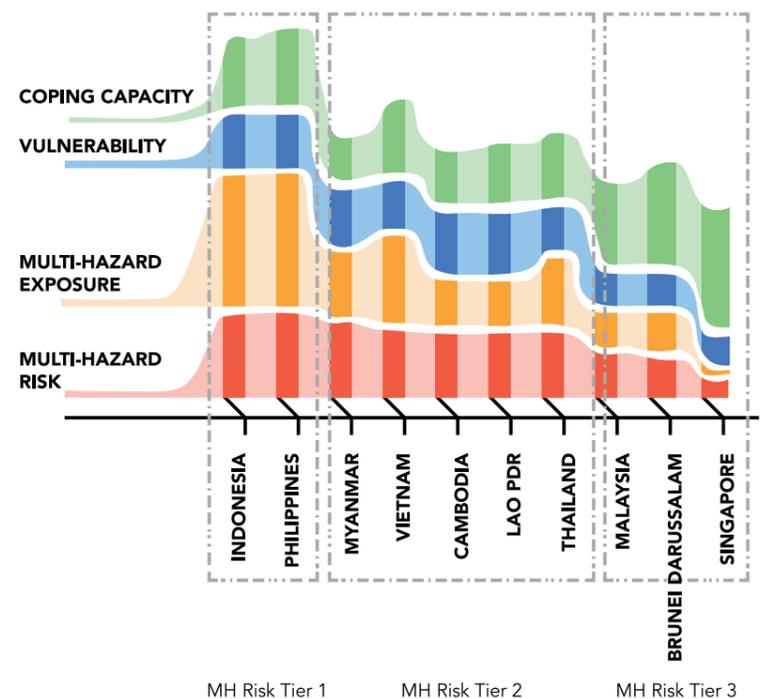


Figure 4 Variety of Case Study Research (Yin, 2017)



The research is mainly qualitative in nature and complemented by descriptive quantitative analysis. Hence, it will serve all the exploratory nature of the research objectives. The research scope is regional, despite in-depth analysis being conducted in several ASEAN Member States. Accordingly, among various alternative designs of a Case Study (Yin, 2017), the proponent suggested the conduct of a “Multiple-case design with several embedded analysis”. By having multiple cases, this research was expected to deliver a variety of disaster education, school safety, and education continuity context that represents the diversity of ASEAN region.

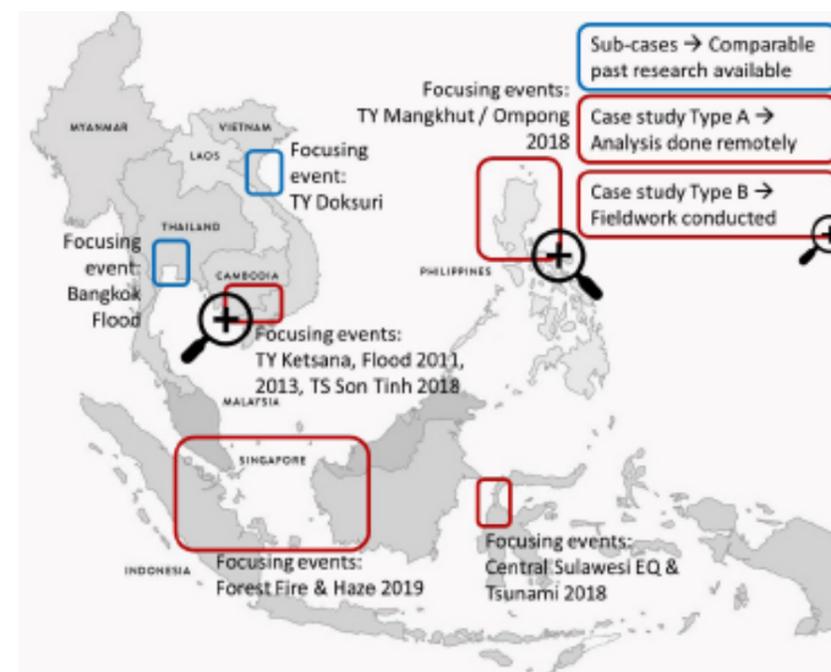
**Figure 5** Multi-hazards risk tiers of ASEAN Countries (AHA Centre, 2019)



Taking into consideration the multi-hazards risk index of ASEAN countries (Figure 5), this research employed purposive and representative country and case selections. In particular, analysis to the countries in Tier 1 and 2 are the priority. It also ensured that case studies selected for fieldwork and in-depth investigations represented each of the archipelagic and inland ASEAN countries.

Considering these factors, the research considers three types of case. First, sub-cases of comparable past researches on the topic of education continuity whereas the findings of those researches are relevant and have considerable generalization at regional level. For this type, past research by Von Meding et al (2018) on post-flood education continuity was used as part of this research, i.e. as has been described in Chapter 1. Secondly, case study Type A where analysis was done remotely, mainly by utilizing secondary data. The 2018 Central Sulawesi Earthquake in Indonesia and the 2019 trans-boundary haze crisis were objects of the research. Lastly, Case Study Type B included the Philippines and affected areas due to Typhoon Mangkhut/Ompong and Cambodia, particularly due to national flooding caused by the Tropical Storm Son-Tinh. For this type, fieldwork activities (key informant interview, FGD, and school visit) were conducted.

**Figure 6** Selected Case studies and sub-cases for the research



## 2.2 Data analysis methods

As proposed, there are four main analytical techniques employed to serve the qualitative nature and descriptive quantitative nature of this research, as can be seen in the table below.

**Table 2** Matrix of Research Specific-objectives and Methodology

METHODOLOGY PROPOSED	Systematic (Machine-assisted) Literature Review	Process Tracing, Content & Policy Analysis	Regulatory/ Discourse Network Analysis	Co-reflection & Co-creation with relevant stakeholder
<b>SPECIFIC OBJECTIVES</b>				
1) Map and assess significant education continuity efforts in ASEAN during emergency and/or post-disasters	Yes	Yes		
2) Identify and examine the challenges and gaps in the implementation of education continuity plans in ASEAN		Yes		Yes
3) Explore existing regulatory frameworks (policies, guidelines, budgetary, regional and national coordinating mechanisms, etc.) supporting education continuity management in the region		Yes	Yes	
4) Recommend ways to enhance the education continuity implementation in the region		Yes	Yes	Yes

**Methodology 1 (Desk study): Systematic and machine-assisted literature review on implementation and investment on disaster education and school safety for education continuity in a multi-hazard setting in ASEAN**

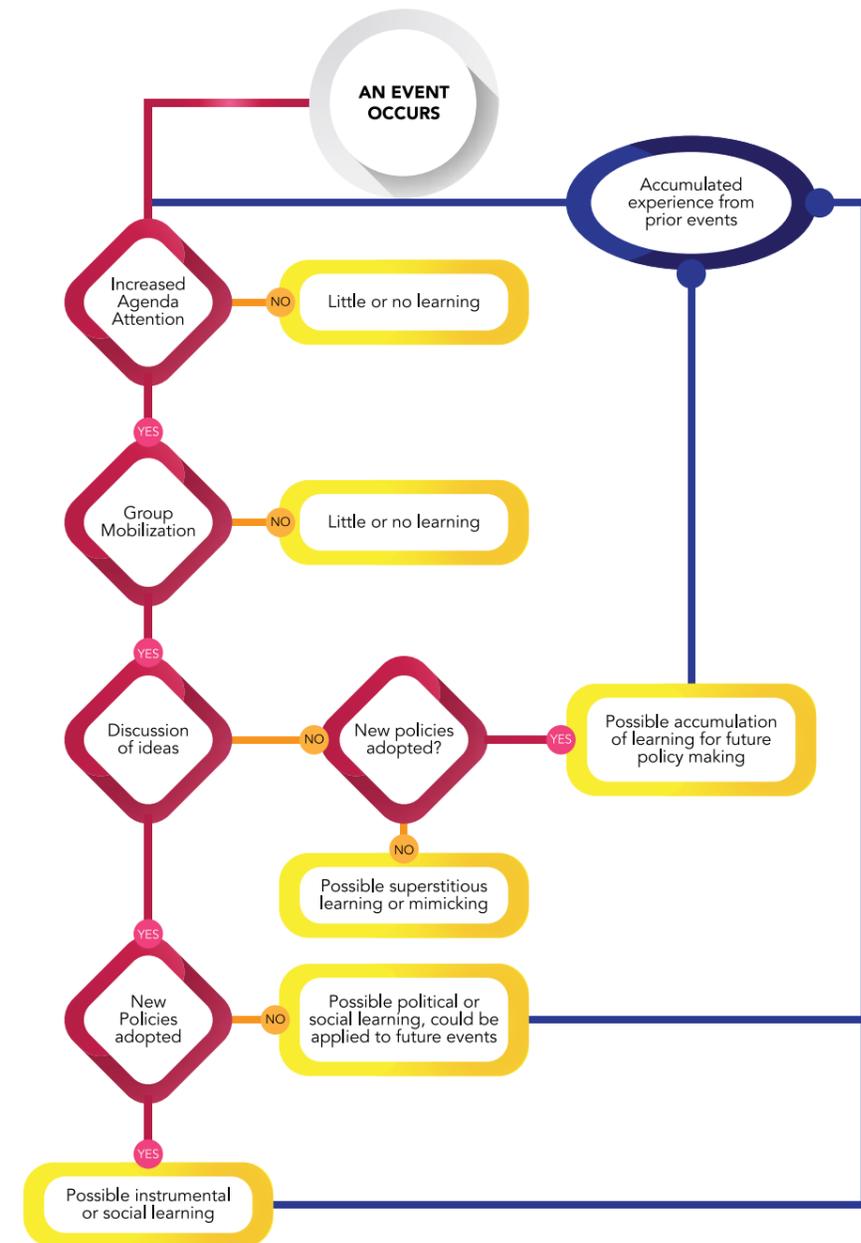
As the initial stage of the research, the proponent recommended a systematic and machine-assisted literature review on the implementation and investment of education continuity in a multi-hazard setting in ASEAN region. This helped to map and assess significant education continuity efforts in ASEAN during emergency and/or post-disasters. While systematic literature review has been employed in the past disaster studies (Djalante, 2017), a more advanced tool with a specific algorithm design to process a large amount of information and knowledge is still limited. Here, the proponent proposed the use of algorithm and engine currently used in the prototype of CARI! (<https://caribencana.id>), a spatial-based portal that combines live disaster-research repository, scientometric, and machine learning to provide insights and analytics on various disaster risk reduction inquiries. Although the current spatial feature of the platform is designed only for Indonesia, the algorithm could be used for crawling, mining, and providing insights on various academic publication and implementation documents of disaster education and school safety research and programs for education continuity efforts.

As an illustration, with a manual approach, Selby and Kagawa (2016) managed to analyze around fifty key documents to draw lessons on DRR curriculum in 30 countries. In a general search on Scopus database, 9,188 document results can be fetched by employing the term "education continuity". Meanwhile, library of the GoogleScholar would generate 2,110 documents. On the second round, we employed the term "education continuity", "safe school", "multi hazards", and "disaster education", and ensembled both the results of Scopus and GoogleScholar database, which included academic articles and "grey literature" from practitioners. With this, one can generate 384 document results. Lastly, this research also used geotag documents that investigated the research topics with empirical observations in any of the ASEAN countries. This yielded 86 key documents.

In terms of the initial approach, the algorithm was designed by considering initial disaster education and education in emergencies (EiE) key words in publication from Swamfield (2013), Selby & Kagawa (2016), and combined with documents from GADDRESS and ASSI. For instance, typology on a school milieu on education and disasters were used, which categorized the nature of disaster education as follows: curriculum integration, stand-alone courses (e.g., special courses on disasters), project work, incidental teaching opportunities (e.g., mention of disaster events during teaching hours), extra-curricular activities, supplementary material (e.g., books) and the hidden curriculum (e.g., the choice of classroom posters). This is crucial, since most of the researches on disaster education, do not clearly describe the level of integration in the school milieu, and few studies consider how schools are able to respond to disasters and challenges (Swamfield, 2013). Contents and quality of educational materials at school levels have not been seriously reviewed and monitored; as a result, the extent of efforts to include risk considerations into curricula has not been assessed (Ronnan, 2014). Another challenge has been measuring the impact of education on children's attitudes and behaviors to motivate them to take actions for DRR, as well as cross-cutting to other aspects, e.g. DRR education vis-à-vis general school safety, school health management, resilient infrastructure, and gender consideration. At this stage, the CARI! search engine also was used to crawl documents relevant for/on ASEAN from Inter-Agency Network for Education in Emergencies (INEE), global education cluster (and its counterpart in ASEAN countries), and other stakeholders of ASSI.

**Methodology 2: Process tracing, content, and policy analysis on disaster education and school safety in ASEAN countries**

**Figure 7** Model of Policy Change after Catastrophic Events (Birkland, 2006)



A combination of qualitative research technique of process tracing, content analysis, and policy analysis was done to answer two objectives: to identify and examine the challenges and gaps in the implementation of education continuity plans in ASEAN; and to explore existing regulatory frameworks (policies, guidelines, budgetary, regional and national coordinating mechanisms, etc.) supporting education continuity management in the region. This will be framed by using Birkland's model, which essentially guides assessment of whether policy change(s) occurred after disasters and genuinely incorporated social and political learning. The model is also in line with the subject-matter experts view



**Methodology 4: Co-reflection & Co-creation with relevant stakeholders on disaster education and school safety for ensuring education continuity in ASEAN**

Based on the importance of this research, on one hand, it is important to strategically engage ASSI stakeholders and at national level for a co-reflection activity to identify and examine the challenges and gaps in the implementation of education continuity plans in ASEAN. On the other hand, it is important to maintain and ensure that co-creation element exists at the report writing stage, and for recommending ways to enhance the education continuity implementation in the ASEAN region. The quality of recommendations for co-creation highly depended on the generalization from the findings.

In international development, the generalizations form the basis for transferring lessons from one country to another as well as for ‘scaling-up’ a desirable intervention within the same country (Yin, 2013; Richards, 2016). According to Yin (2013), instead of pursuing the sample-to-population logic, analytic generalization can serve as an appropriate logic to generalize the findings from a case study. The extraction of a more abstract level of ideas from a set of case study findings – ideas that nevertheless can pertain to newer situations other than the case(s) in the original case study(s). The desired analytic generalization should present an explanation of how and why the initiative evaluated produced results (or not) – or for non-evaluation studies, how and why the studied events occurred (or not). The preferred manner of generalizing from case studies and case study evaluations is likely to take the form of making an analytic or conceptual generalization, rather than of reaching for a numeric one. Analytic generalization offers improved ways of generalizing from case study evaluations; hence the proponent highly recommended this approach for-reflection and co-creation with relevant ASSI stakeholders on disaster education and school safety in order to ensure education continuity in ASEAN.

**2.3 Data collection methods**

Starting the research in August 2019, the data gathering started with the desk research and developed the research framework. The initial phase of this research set the baseline studies based on the previous researches on education continuity in Southeast Asia in order to avoid repetitions in this study and aimed to complement and provide the new education continuity perspectives in the region.

The desk research found that a similar research has been conducted by Save the Children on studies about critical factors for post-disaster education continuity in urban floods in Viet Nam and Thailand. Therefore, reflecting on the case selection on the ASEAN member countries, the field work was conducted in the Philippines, Cambodia, and regional level during the ASSI Regional Exchange Learning Workshop.

The data collection efforts conducted in the Philippines and Cambodia involved in-depth interviews with key informants and focus group discussions. The interview questionnaires were developed as the main instrument to interview the key informants with the various professional backgrounds including teacher, school director, district and provincial education department, national education department, and national disaster mitigation agency. Also, the data were collected through FGD activities at the national level, both in the Philippines and Cambodia. However, in the case of Indonesia, this research mainly used secondary data documented during the response consolidated by the education post.

**Table 4** Timeline of Implemented Activities

ACTIVITIES	AUGUST				SEPTEMBER				OCTOBER			
	1	2	3	4	1	2	3	4	1	2	3	4
Desk Research	■	■	■	■	■	■	■					
Field Work in Philippines									■			
Field Work in Cambodia										■		
Learning Exchange												■

**Figure 9** Field Research in the Philippines



**Figure 10** Focus Group Discussion in Manila



**Figure 11** Field Research and Focus Group Discussion in Cambodia



An in-depth interview was conducted by involving school teachers and principal, and to the district and provincial education office in two areas in the Philippines. The Focus Group Discussion (FGD) was conducted in Quezon City, Philippines on 27 September 2019. The FGD convened representatives from relevant governments in the Philippines, including National Disaster Risk Reduction Management Council (NDRRMC), Department of Health (DOH), Department of Social Welfare and Development (DSWD), Department of Interior and Local Government (DILG), Central Department of Education (DepEd), DepEd Nueva, DepEd Caloocan, DepEd Pasig, DepEd Malolos, DepEd Valensulu, DepEd Pangasinan, DepEd Binan; as well as non-government organizations, including Save the Children, Philippines Red Cross, World Vision International Philippines, and Philippines Disaster Resilience Foundation. The FGD sought to discuss further about all findings on the preliminary study and field visit in the Philippines.

### 3. CASE STUDIES ANALYSIS



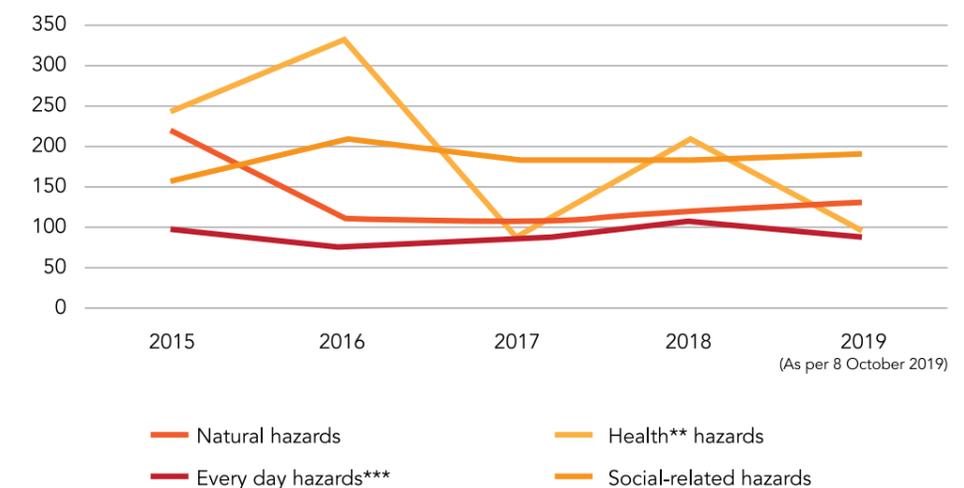
In this chapter, we will present the case studies representing four types of multi-hazard scenario in ASEAN region that threaten school community. Description of each case study will follow a similar structure: 1) description of the events and impact to the education sector, 2) efforts undertaken by various stakeholders for sustaining/supporting education continuity in the affected areas and challenges faced, and 3) analysis on the enabling factors for education continuity viewed from the lenses of policy networks and resource mobilization.

#### 3.1 Case Study 1, Cambodia, Multiple Flooding in the country 2009-2018

##### 3.1.1 Exposure to Education Sector: Investment, Infrastructure, Teachers, and Students

Representing the non-archipelagic country under ASEAN Members States, Cambodia recorded as a vulnerable country toward multi-hazard disasters both natural and human-induced disasters. Despite, flood has been the most severe disaster to disrupt the education continuity. This research also found that everyday hazard such as traffic accident and other hazards such as health and social hazards contributed to the multi-hazard contexts.

Figure 12 Media Report on the Hazards claiming lives of students in Cambodia

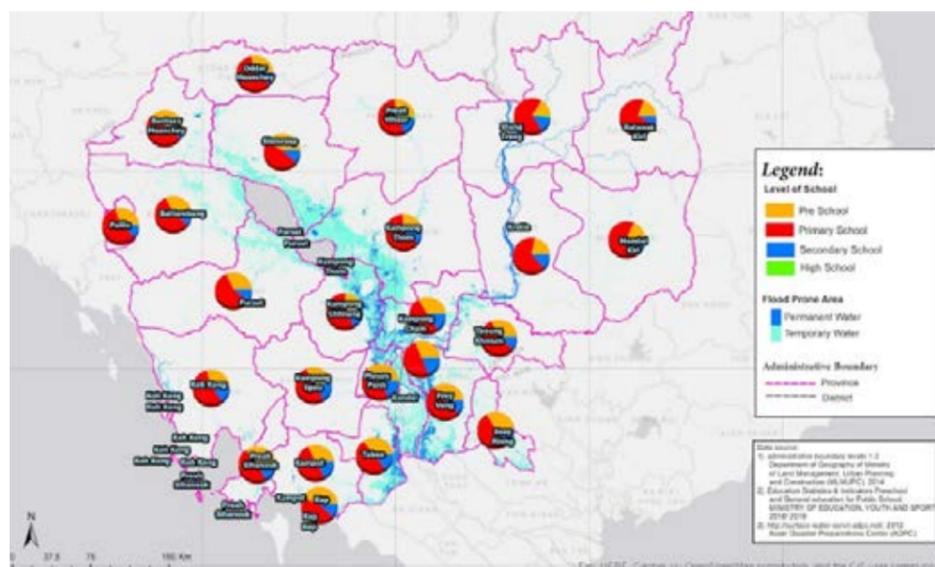


Health hazard and daily hazard due to traffic accidents are significant concerns for several ASEAN countries, including Cambodia, Lao PDR, Thailand, and Viet Nam (Kitamura et al., 2018; Shibamura et al., 2018). According to Kitamura et al (2018), 70% of road accidents in Thailand, Cambodia and Laos involve motorcycles and three-wheelers, but despite this situation, the regulatory framework for motorcycles remains undeveloped.

Furthermore, in Cambodia, 73% of traffic accident fatalities among 15- to 19-year-olds involve unlicensed riders, and 73% of all traffic fatalities involve motorcycles (Yamaguchi, 2018). As for health-related hazards, Shibamura et al (2018) found that communication on the risks of inappropriate care, health-risks and diseases, as well as the importance of timely and appropriate health care are key factors to the rather inferior health indicator performances in Cambodia. Accordingly, it is important to factor in these hazards for this research, in addition to concern on the impact of natural hazards to educational continuity in Cambodia.

However, this alone could not explain or suggest whether general attention to daily hazard, such as traffic accidents effect to students are concerning in Cambodia. To complement, we look into the media coverage, as proxy of general public attention to the hazard's driver. This research found that between 2015-2019 the health hazard becomes the main problem that country is currently faced as the general public significantly observed; e.g. food poisoning due to the use of chemical fertilizers on the agricultural activities.

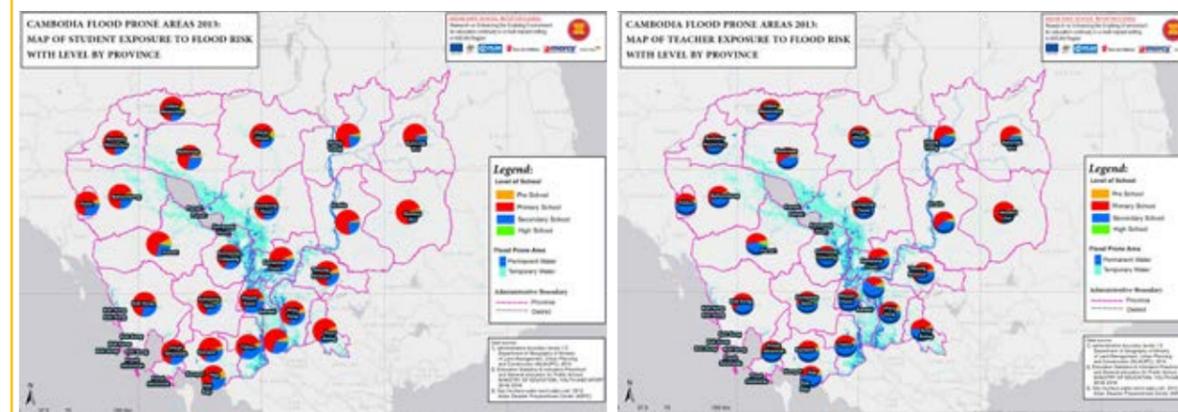
**Figure 13** Flood Prone Area Exposure to education



Located along the Mekong River basin, Cambodia regularly experiences floods that affected the school activities. In the past ten years, at least four floods happened in the country as an effect of typhoon or rainy season, namely Typhoon Ketsana 2009, major floods across the country on 2011 and 2013, and flooding due to Tropical Storm Son-Tinh 2018.

The maps in Figure 13 and Figure 14 show the distribution of schools, proportion of students' exposure to floods (by level of education), and proportion of teachers' exposure to floods based on the 2013 flood hazard information along the Mekong River basin. As it can be seen, exposures to elementary school buildings, students, and teachers were the highest. This indicates that protecting students at elementary school level from the disruption of disasters is critical for the context of Cambodia. From the fieldwork, disruption to students' education access can be attributed to the direct damage a flooding brought to schools (e.g. schools submerged and no longer accessible) or indirect damage due to the effects of the flooding to students' dwelling or infrastructure (e.g. roads or bridges). According to one of the headmasters, floods also often bring hazardous materials or creatures (e.g. snakes), hence, it was also attributed as one of the reasons that may prolong school closure.

**Figure 14** Flood Exposure in Cambodia and Ratio of Schools, Teachers, and Students

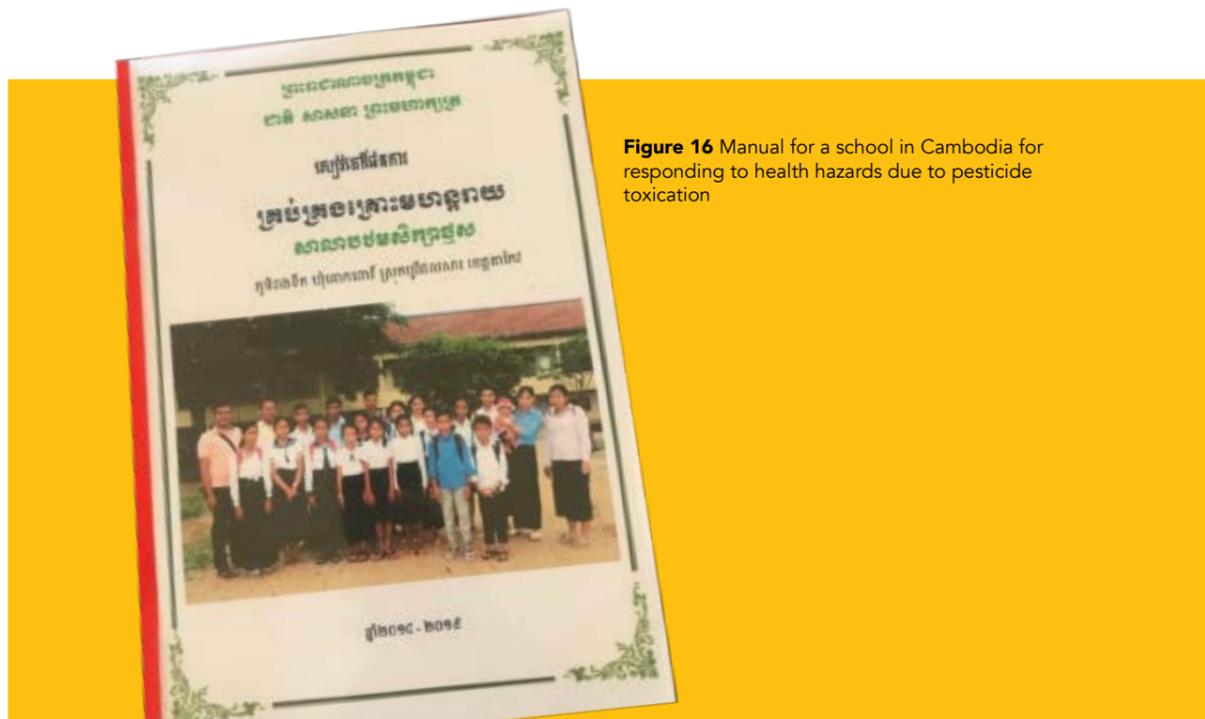


### 3.1.2 Education Continuity Efforts and Challenges

The research also identified a scenario where students and school community in general was at risk to health hazards due to its proximity to the agricultural activities. Thmor Sor Primary School in Takéo Province located next to vast area of farming area, and hence it is exposed to health risk due to the pesticide utilization by the farmers. During the farming season, mostly February to July, farms are often contaminated and caused health risks including itchy body or even worse nausea. Recognising these hazards, the school has developed a manual for guiding emergency response to this situation, since based on the record at least five to eight students, experienced the symptom every year and lost 3 school days on average.

**Figure 15** A School with Exposure to Health-hazard due to Agricultural Activities





**Figure 16** Manual for a school in Cambodia for responding to health hazards due to pesticide toxication

With the consideration on whether or not various types of hazard have significant effects to education performance in Cambodia, participants of the national FGD suggested that the impact for the big floods that happened in the Cambodia at the worst caused the school to be suspended for two weeks. However, most participants agreed that it will not affect the education performance in the region as the schools practice the emergency classes and extra hours after the suspended classes. On the other hand, everyday hazards, such as traffic accident, is claimed not to affect education activities significantly in Cambodia. Using some potential health hazards scenario, in the extreme condition, the school might be suspended up to one week due to the poisoned environment. The impact to the education due to the health hazards caused a decrease in the number of students' enrollment rate. The FGD in Cambodia also suggested that any social hazard in Cambodia may lead to discontinuity of individual level education activities; however, it is most likely that it will not disrupt the whole school activity.

Some schools in Cambodia also managed to conduct DRR interventions as part of their school safety improvement (Plan International, 2019). For instance, some schools in Stung Treng Province have elevated their ground level by adding layers of soil which prevented the school from floods during the rainy season. The key activities of this action plan are the rehabilitation of culverts, to improve safe access for children going to school and returning home; distribution of life jackets to children who traveled by boats to school; and, raising awareness of using helmets when travelling on bicycles and motorbike to school. Such knowledge and awareness enable children to become resilient to disaster prone problems whilst travelling to school and returning home. However, most of safe schools' intervention in Cambodia, have not yet addressed the issue of educational disruptions, even though there are anecdotal evidences that schools had to close when interrupted by poor weather conditions, commonly flooding and storms. The distribution of education continuity efforts identified at the school level, based on those surveyed, can be found below.

**Table 5** Range of Efforts for Education Continuity in Cambodia

	Secure School Facilities	Report through Telegram	Clean Up Additional Budget	Pagoda Utilization during Emergency	DRR Drill Activities	More than 3 Hazards Self Assessed	School DRR Mitigation Plan	Community Efforts
School 1		■		■				■
School 2	■	■		■				■
School 3	■	■	■	■	■	■	■	■
School 4		■	■	■		■	■	■
School 5		■		■			■	■

According to the fieldwork, in Cambodia, the reporting mechanism of "major events" at schools is led by the school directors to make an emergency report by using 'Telegram' application from the school teachers to the District Education office, and subsequently to Provincial Education office, and all the way up to national level. The report contains information on the school condition, detailed duration of school suspension and decision whether to close the school.

**Figure 17** Good practice of safeguarding education investment against recurring flood risk in Cambodia



**Figure 18** MoEYS Declaration on the Change of Academic Year in Cambodia, in consideration to flooding calendar



Government support obtained by the schools are limited to the education materials only, while the cleaning process is handled by the school and community around the school. Since, the flood has been quite regular, the school and community are accustomed to being self-reliant in responding the disaster. In general, the education continuity in Cambodia is still regulated by the central government while the provincial and

district levels will follow it. In addition, the school management decided to increase the height of the schools in order to minimize the loss of education materials due to the flood waters. At times, students cannot access the school buildings and learning activities had to relocate at the nearby Pagoda.

Interview conducted with the school's principal in five schools, confirmed that a policy change was made in 2015 to reduce the number of school days lost due to flooding. The regular pattern in Cambodia suggests that flood season usually happens in August–October period and accordingly up to two weeks of school days were lost in those schools. Accordingly, MoEYS released a Declaration (*Sech Kdei Samrach*) entitled “*Sekdey Chun Dam Neung*” in 2015 to all PoEYS and schools in the country with regards to the change / adjustment of the beginning of academic year from 1 October to 1 November. This made future occurrences of flooding in Cambodia took place during holiday season and eliminates loss of school days.

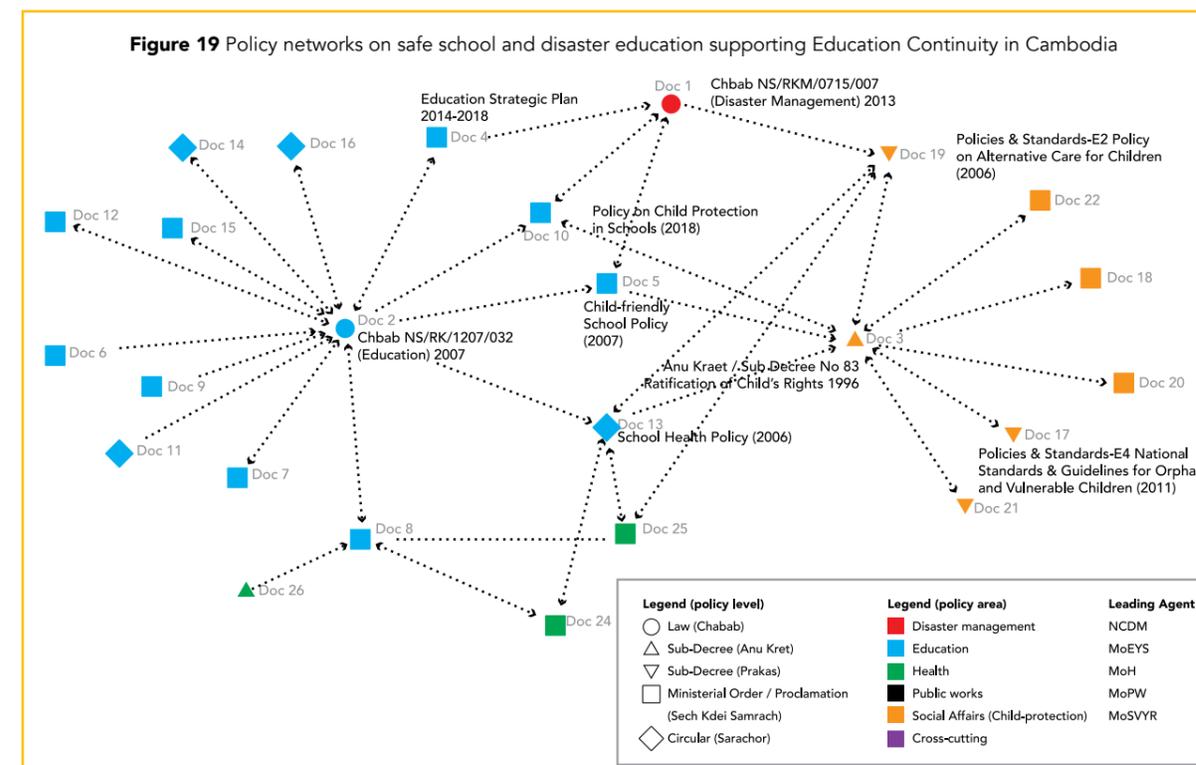
### 3.1.3 Enabling Environment or Operational Blockers? Regulatory Frameworks, Policy, and Budgeting

From 1996 to 2018, there were 26 policy documents in Cambodia at all tiers regulated in Cambodian hierarchy of law. The research found no sub-national policy or regulations created that are related to disaster education, safe school, or education continuity. As can be seen in the table below, most of them were issued by education or social affair sectors. The content from each policy was further assessed on its inter-linkages with other policies and result can be found below.

**Table 6** DRRM-CCA and Child Protection Policies in Cambodia

Doc No	English Name of Law / regulations / policy	Doc Number	Year	Type of Policy	Type of Policy	Sector / Governmental affairs
1	Law on Disaster Management	NS / RKM / 0715 / 007	2013	Law	Chbab	Disaster Management
2	Law of Education	NS / RK / 1207 / 032	2007	Law	Chbab	Education
3	Ratification of the Convention on the Rights of the Child and establishment of the CNC	Sub Decree No 83 ANK	1996	Regulation	Anu Kret	Social Affairs
4	Education of Strategic Plan		2014-2018	Ministerial order	Sech Kdei Samrach	Education
5	Child Friendly School Policy		2007	Ministerial order	Sech Kdei Samrach	Education
6	Policy on Education for Children with Disabilities		2008	Ministerial order	Sech Kdei Samrach	Education
7	National Policy on Early Childhood Care and Development		2010	Ministerial order	Sech Kdei Samrach	Education
8	Standards for Primary School Libraries		2011	Ministerial order	Sech Kdei Samrach	Education
9	Teacher Policy Action Plan		2015	Ministerial order	Sech Kdei Samrach	Education
10	Policy on Child Protection in Schools		2018	Ministerial order	Sech Kdei Samrach	Education

Doc No	English Name of Law / regulations / policy	Doc Number	Year	Type of Policy	Type of Policy	Sector / Governmental affairs
11	Master Plan for Research Development in the Education Sector		2011-2015	Circular	Sarachor	Education
12	Policy on Reserach Development in the Education Sector		2010	Ministerial order	Sech Kdei Samrach	Education
13	School Health Policy		2006	Ministerial order	Sech Kdei Samrach	Cross-cutting health / education
14	Master Plan for Information and Communication Technology in Education		2009-2013	Circular	Sarachor	Education
15	Policy on Higher Education		2014	Ministerial order	Sech Kdei Samrach	Education
16	Education for All National Plan		2003-2015	Government Policy	Sarachor	Education
17	Policies & Standards - E4 National Standards & Guidelines for Orphan and Vulnerable Children		2011	Ministerial order	Sech Kdei Samrach	Children Protection
18	Policies & Standards - E1 National Policy on Cambodia Youth Development		2011	Ministerial order	Sech Kdei Samrach	Education
19	Policies & Standards - E2 Policy on Alternative Care for Children		2006	Regulation	Prakas	Children Protection - Social Affairs
20	Policies & Standards - E7 Life Skills Policy		2006	Ministerial order	Sech Kdei Samrach	Education
21	Policies & Standards - E8 Policy on Protection of Rights of Victims of Human Trafficking		2009	Regulation	Prakas	Children Protection - Home Affairs
22	Policies & Standards - E9 Village Commune Safety Policy		2010	Ministerial order	Sech Kdei Samrach	Home Affairs
23	Law on the Establishment of the Ministry of Health	NS / RKM / 0196 / 06	1996	Law	Chahab	Health
24	Prakas on the Management of Health Center located inside or nearby referral hospital		2002	Ministerial order	Sech Kdei Samrach	Health
25	Prakas on the Organization and Functioning of Capital and Provincial Health Department		1998	Ministerial order	Sech Kdei Samrach	Health
26	Sub Decree No 21 on health and education		2007	Regulation	Anu Kret	Health



From the figure above, it can be understood that all regulatory relations (relevant for CSS and education continuity) in Cambodia are indirect in nature. Almost all relevant regulations and policies from the education and social affairs-youth government sector were established in 2013, before the issuance of Disaster Management Law. Therefore, the correlation between these regulations and DM Law is basically indirect. The research found some strategic entry point for strengthening education continuity can be done through updating / revising key Prakas and Sech Kdei Samrach from both education and social affairs-youth-child protection sectors.<sup>1</sup> For instance, in Section 3.1.3, the research found that a Pagoda generally is the preferred temporary learning space for teachers to continue studying in the case of flooding in their schools. Monks can mobilize or get accessed to funding from the MoSVYR, and hence they also support education activities in emergencies. In addition, based on the interview, public works and land management concern for schools are embedded in the Education Ministry regulations and therefore, minimum consultation is needed with public works and land management/urban planning ministries.

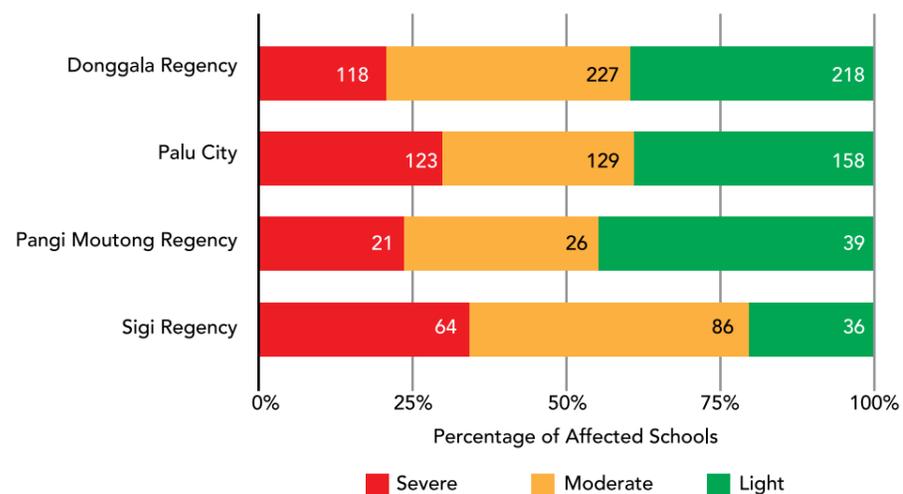
### 3.2 Case Study 2, Indonesia, Multiple Hazards, The 2018 Central Sulawesi Earthquake, Liquefaction, Landslide, and Tsunami

#### 3.2.1 Exposure to Education Sector: Investment, Infrastructure, Teachers, and Students

On 28 September 2018, Central Sulawesi Province of Indonesia was struck by a series of disasters at once. It was started with an M 7.4 earthquake at 18.02 UTC+8 and followed by tsunami, liquefaction, and landslide in various locations across the province. Naturally the most affected areas are four cities/regencies in Central Sulawesi Province, namely Palu City, Donggala Regency, Sigi Regency, and Parigi Moutong Regency, which felt intensity IV – VIII MMI. According to the Save the Children (2018), more than 2700 schools were destroyed or damaged due to these catastrophic events with more than 180,000 children affected.

<sup>1</sup> Prakas: Regulation issued by ministerial in Cambodia. Kedei Samrach: Executive regulation issued by Prime Minister in Cambodia

**Figure 20** Distribution and classification of Affected Schools in Central Sulawesi (Source: Education Post / Education Cluster)



Even though the catastrophic events did not occur on school days, there were several other factors that contributed to the difficulty level in recovery for educational activities. In the areas shown on Figure 20, based on distribution and classifications on the Education Post reported by Ministry of Education and Culture of Republic of Indonesia (Kemendikbud) on 29 October 2018, at least 326 schools were severely damaged, 470 schools were moderately damaged and 451 were slightly damaged. Among these schools, there was at least one school affected by tsunami and 8 schools were impacted by liquefaction.

### 3.2.2 Education Continuity Efforts and Challenges

Not until 4 days after the disaster events, the access to Palu, Sigi, Donggala and Parigi were completely cut off. This issue delayed the logistic distribution process for any kind of purposes. Mutiara SIS Al Jufrie Airport was closed completely for 24 hours after the 7.4 SR earthquake event. The airport opened 3 days later for small aircrafts only. Although the seaports were damaged, ships still could approach the coast of Central Sulawesi. However, it took more time to distribute logistics through the sea. Furthermore, there were a lot of damaged roads on land route to the impacted areas. The roads were covered by landslide and held logistic distribution for days.

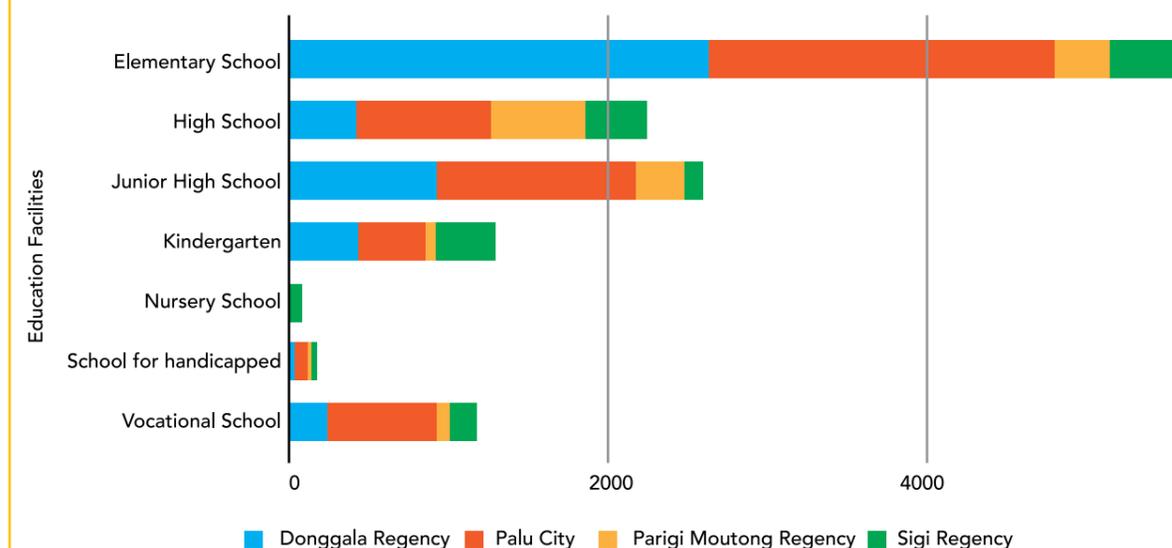
Even though the distribution access was cleared, another issue raised on the emergency period. Two months prior to the catastrophic events of Central Sulawesi earthquake, Lombok Island was hit by a 7 SR earthquake. Based on 2018 Lombok Earthquake Pospenas Situation Report, the Government has spent numerous tents to support the education continuity in this island. Therefore, based on the 2018 Central Sulawesi Earthquake Pospenas Situation Report, it took a lot of participations from various stakeholders to supply the tent demands and temporary learning spaces for supporting the education continuity in Central Sulawesi, including Wahana Visi Indonesia, Yayasan Sayangi Tunas Cilik (Save the Children), KERLIP, PKPU/HI, UNICEF, UN Agencies, Pertamina, and other stakeholders.

Interviews with teachers in the affected areas reported that despite the fact that the temporary learning spaces and school tents reached their area and were used, the teaching activities were not optimum at all.<sup>2</sup> There are several factors to this; i.e. one, the learning spaces were mostly shared with other classes and make unnecessary noises from each other; second, due to the hot weather in the affected areas, students

<sup>2</sup> Based on interview record shared by other Wahana Visi Indonesia research team in Central Sulawesi.

concentration were limited; third, the teachers themselves experienced physical and mental fatigue. In addition, it was also reported by the Education Post that a lot of children were afraid to go back to schools for the first week of school reactivations due to the trauma and a lot of teachers were affected by the catastrophic events to conduct the education activities.

**Figure 21** Distributions of Affected Teachers in Central Sulawesi (Source: Education Post, 29 October 2018)



The high population in exodus after the disaster also contributed to the paralysis of the teaching and learning process in Central Sulawesi. They were mostly local governments, teachers and students. The data on the population in exodus lacked records in fatalities and therefore, created missing data of teachers and students.

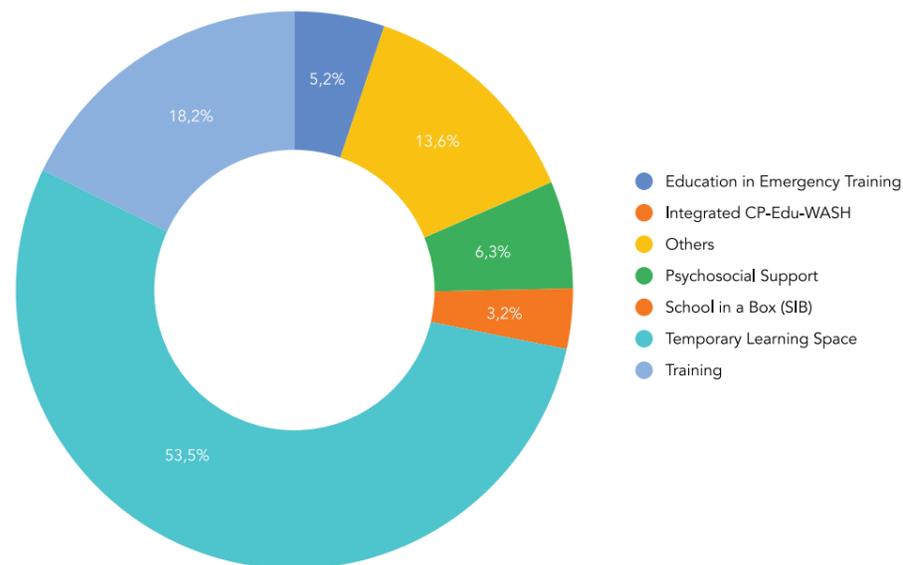
In general, a wide area of the damage made the coverage for education in emergencies challenging in the case of 2018 Central Sulawesi Earthquake. This condition resulted in the majority of assistance and humanitarian activities concentrated in Palu City area. The activities carried out on a small scale from several NGOs took the most accessible locations. To avoid this build-up, the Education Post conducted regular coordination with NGOs involved through communication channels and met directly at the Education Post and held regular coordination meetings.

During the emergency period, the Education Cluster was activated and was convened by the Ministry of Education and Culture, the Education Cluster and UNICEF. Their range of activities included damage and loss assessment in the education sector, information sharing, and management in education sector, as well as coordination in education in emergencies.

**Figure 22** Education cluster meeting (Source: BNPB, 2018)



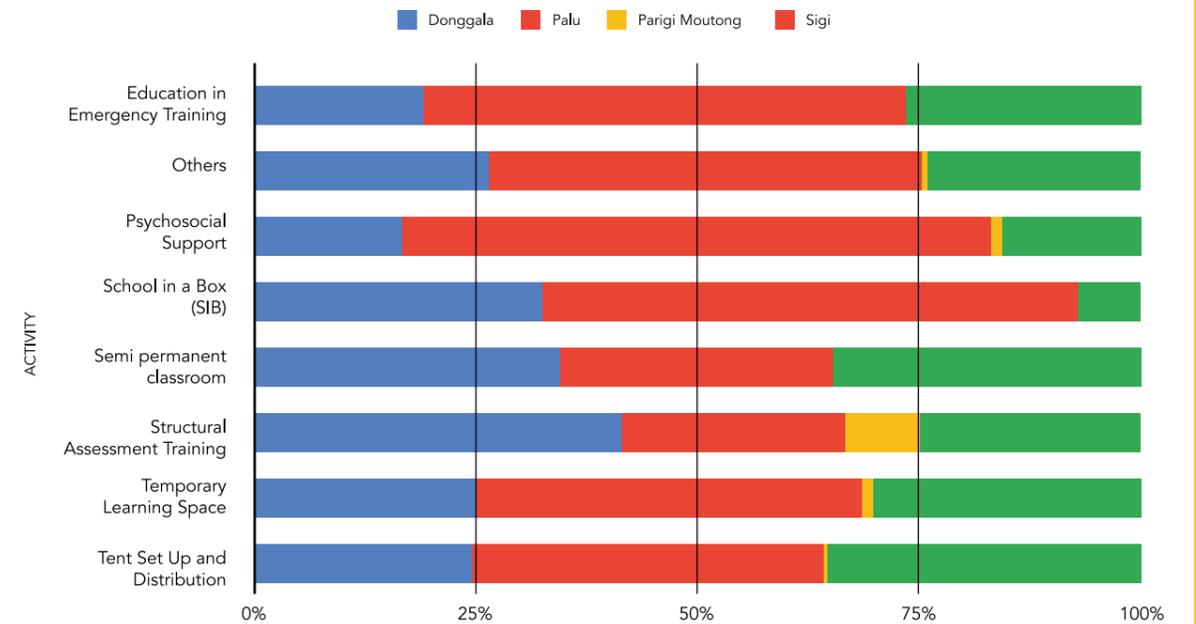
**Figure 23** Activities supporting education continuity in Central Sulawesi (Covering response in the period of 1 October 2018 – 4 January 2019)



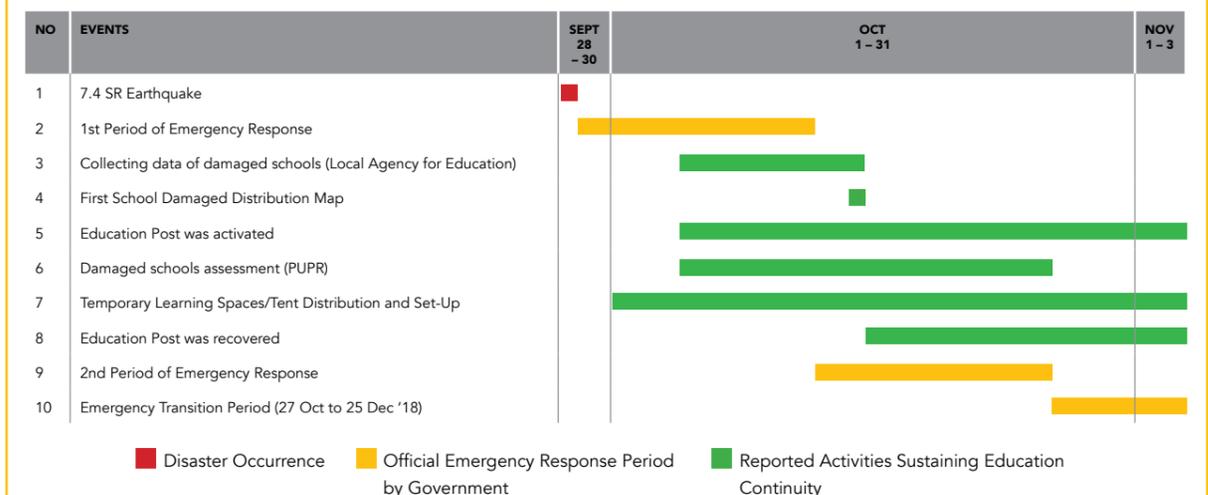
The Figure 23 shows the range of activities undertaken by the government and humanitarian partners during the emergency phase of education sector. As it can be seen the majority of assistance provided (53.5%) were temporary learning space constructions, with UNICEF's School-in-a box (3.2%) as one of the methods. Around 18.2% of assistance in education was related to training for teachers to conduct education in emergency situation, and last but not least 6.3% of the activities went to psychosocial support for teachers.

The distribution of aid and education cluster programs in responding to disasters in Central Sulawesi shown in Figure 23 is relatively evenly distributed except (as mentioned above) in a handful of assistance that tends to accumulate in Palu city, such as School in Box and Psychosocial Support. However, the assistance in terms of Structure Assessment Training was also increased evenly to each district by the Ministry of Public Works and Public Housing of Republic of Indonesia (PUPR) to Local Education Department and Education Post volunteers, particularly aimed to speed up the process of damage/loss assessment for each area in education sector.

**Figure 24** Distribution of activities supporting education continuity in Central Sulawesi 1 October 2018 – 4 January 2019 (Source: Education Post / Cluster)



**Table 7** Education Continuity Timeline in 2018 Central Sulawesi Earthquake



Source: Consolidated from situation reports compiled at BNPB's National Assisting Post

Unfortunately, according to the report of the Education Post on 1 November 2018, these numerous joint efforts from government and NGOs were still not enough to fully support the recovery of education continuity in time. In general, the schools were suspended for at least 2 weeks. By the first week of November 2018, the education activities were 82% recovered.

However, there were several lessons learned in the case of 2018 Central Sulawesi Earthquake. One of the lessons in the case of 2018 Central Sulawesi Earthquake is the importance of involving the community and local resources for the construction of a temporary learning place. Carried out on 25 October 2018, at SD Negeri Palu, community involvements and resources in the local area could accelerate the recovery of teaching and learning activities and close the gap of education continuity requirements. They used local resources such as bamboo to accelerate the provision of temporary learning places, see figure below.



Figure 25 Community Involvement for Education Continuity

According to education cluster meeting notes, the following challenges were frequently mentioned and agreed by its members: a) lack of technical resources to assess the school condition after disaster; b) Limited tents for emergency school; c) Limited access to distribute the needed logistics; and d) Limited teachers to conduct emergency education activities. Furthermore, there was also a challenge in transforming the coordination nature of National Safe School Secretariat into “emergency mode” *ala* education cluster.

### 3.2.3 Enabling Environment or Operational Blockers? Regulatory Frameworks, Policy, and Budgeting

In Indonesia, this analysis was done prior to this research that modelled policy and regulations on disaster education and safe school at national and one sub-national level (Bisri & Sakurai, 2017). At that time, it clearly shows that even after ten years from the 2004 Indian Ocean Tsunami, education and child-related laws are still response-oriented rather than inclusive in supporting a total DRR approach. By taking example of Indonesia, one can see that while in the past, stakeholders put too much focus on the BNPB’s Regulation 4/2012, which did not have comparable regulation in the Education Ministry. With regards to education continuity, other laws pertaining to child-protection and children, and its subsequent regulations, need to be further assessed. Bisri & Sakurai (2017) recommended a ministerial level regulation from the education sector for further scaling up implementation of safe school.

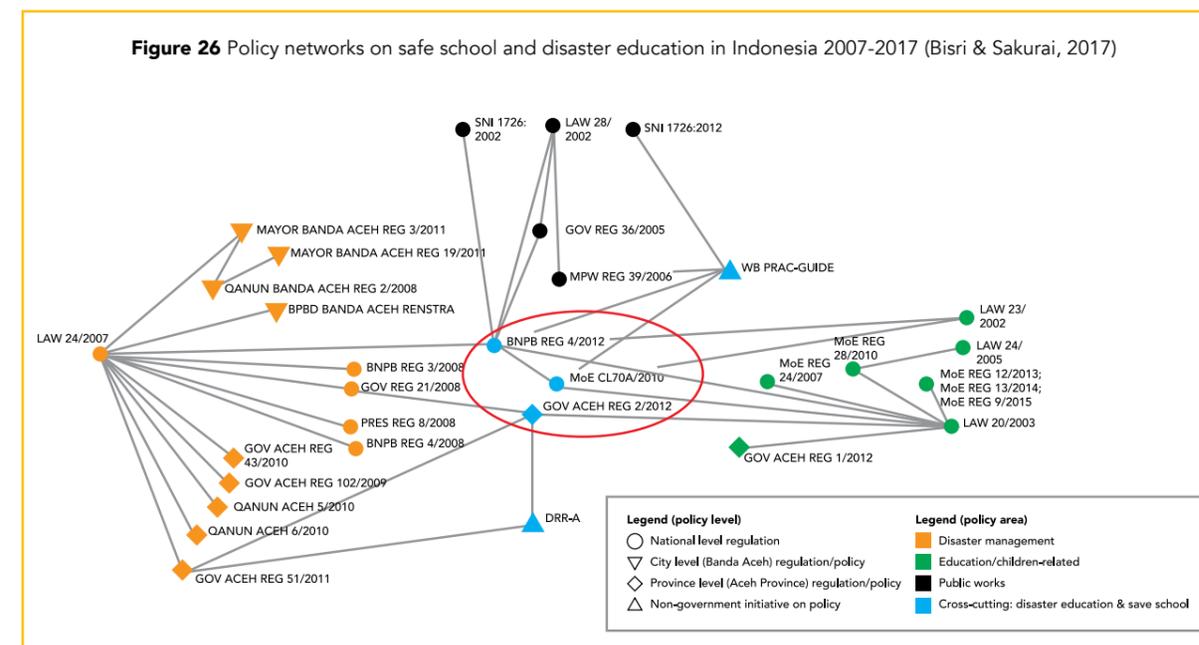


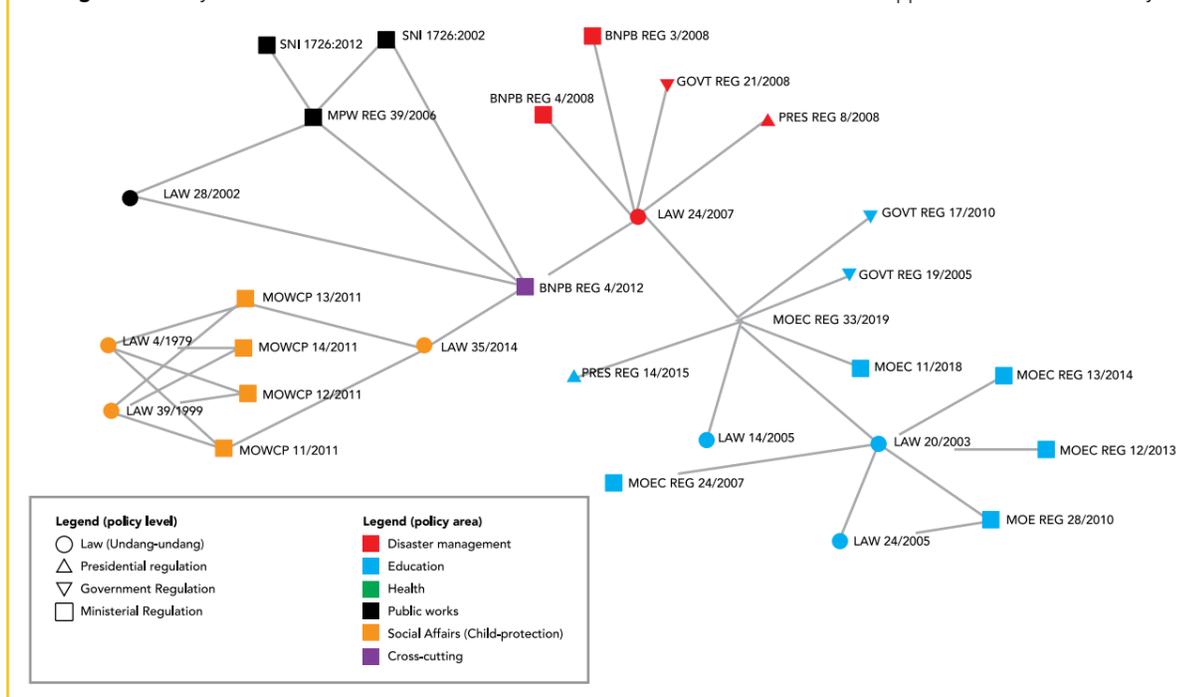
Figure 26 Policy networks on safe school and disaster education in Indonesia 2007-2017 (Bisri & Sakurai, 2017)

Nevertheless, after more than one year of promulgation and consultation, Ministry of Education and Culture released its **Ministerial Regulation 33/2019 on Implementation of Disaster-safe Education Unit** in early October 2019. This is essentially a significant achievement for further improving nation-wide roll out of safe education units. A quick glance into the regulations indicate quite substantial components are addressed for education in emergencies and in ensuring education continuity at the time of emergencies (Article 4). This regulation further requires all schools to prepare standard operating procedure to be prepared against future disaster emergency (Article 8-f). Furthermore, the regulation also put the main responsibility to the Ministry of Education and Culture (MoEC) at the time of disaster emergency (article 11), particularly with regards to coordination with the local government of the affected areas, policy decision for the affected schools, monitoring and evaluation of education continuity at the time of emergency, provision of livelihood and other supports for school community, as well as for reporting progress of education sector recovery.

Furthermore, Article 12 of the regulation identifies seven areas of intervention to support education continuity including a) ensuring access to emergency temporary learning facilities, b) facilitation of safe, inclusive, and child-friendly teaching activities, c) fulfillment of the needs of teachers and school management, d) community participation in support of education in emergencies, e) potential use of schools as evacuation center up to a certain period of time, f) ensuring safety of school buildings, and g) psychosocial support for supporting education activities. Under this new regulation, as per Article 14, the MoEC can also intervene on the readmission of affected students to schools outside of affected areas, dispatch order for teachers across areas, and implement and manage the national examination in the affected areas. The regulation also identifies ten duties of local governments at the time of emergency to support education sector and five core duties of school management at the time of emergency.

Updated version of the policy networks on safe school and disaster education in Indonesia 2007-2019 in support of education continuity is presented in the figure below. It is clear that the MoEC Regulation 33/2019 serves as the key policy documents that can enable mobilization of resources. However, it does not connect or consider a more technical input classified under BNPB Regulation 4/2012 on safe school. With regards to pillar 1 in CSS, the regulation does not specifically regulate how the technical regulation in public works domain is internalized at school level. Based on the content, MoEC Regulation 33/2019 also limits itself to disaster emergency situations triggered by natural or non-natural factors, however it does not identify the type of other hazards threatening school community.

**Figure 27** Policy networks on safe school and disaster education in Indonesia 2007-2019 in support of education continuity



The research also found a clustering effect on regulations on child-friendly cities initiated by Ministry of Women and Child Protection, i.e. set of MoWCP regulations series 11 until 14 in 2011. Its anchor to Law 35/2014 and the regulation contents are actually reinforcing and relevant with the BNPB 4/2012, albeit no direct and indirect ties with the new MoEC Regulations 33/2019. Nevertheless, this series of regulations trigger more investment and efforts for a creation of child friendly space. It opens the room to create a collaboration among government, NGOs, and private sector (WVI, 2018).

One of the most recent strongest typhoons is Typhoon Mangkhut (Ompong). It was formed on September 6, 2018 and dissipated on September 17. As described on Figure 1, the typhoon made a landfall in Cagayan Province on September 14, 2018. It was classified as a super typhoon or category 5. Based on the situation report issued by the National Disaster Risk Reduction and Management Council (NDRRMC), schools in the Philippines were suspended for at least 1 day during the typhoon event. However, the northern part of the Philippines experienced more suspension of their school days as depicted on the Table 1 below. As reported by the Provincial Disaster Risk Reduction and Management Council (PDRRMC) in Pangasinan Province, San Vicente was suffering from flood due to the Typhoon Mangkhut aftermath, therefore the barangays required more school days to suspend.

**Table 8** City/Municipality with the longest education disruption due to the Typhoon Mangkhut

No	Region	Province	City-Municipality	School levels-disrupted	#school-day-disrupted
1	Region I	Pangasinan	Calasiao	All levels	6
2	Region I	Pangasinan	San Vicente	All levels	8
3	Region II	Cagayan	Tuguegarao City	All levels	4
4	Region III	Bulacan	Calumpit	All levels	5
5	Region III	Pampanga	Candaba	All levels	4
6	Cordillera Administrative Region	Apayao		All levels	5
7	Cordillera Administrative Region	Benguet	La Trinidad	All levels	5
8	Cordillera Administrative Region	Benguet	Baguio City	All levels	5
9	Cordillera Administrative Region	Kalinga	Tabuk City	All levels	5

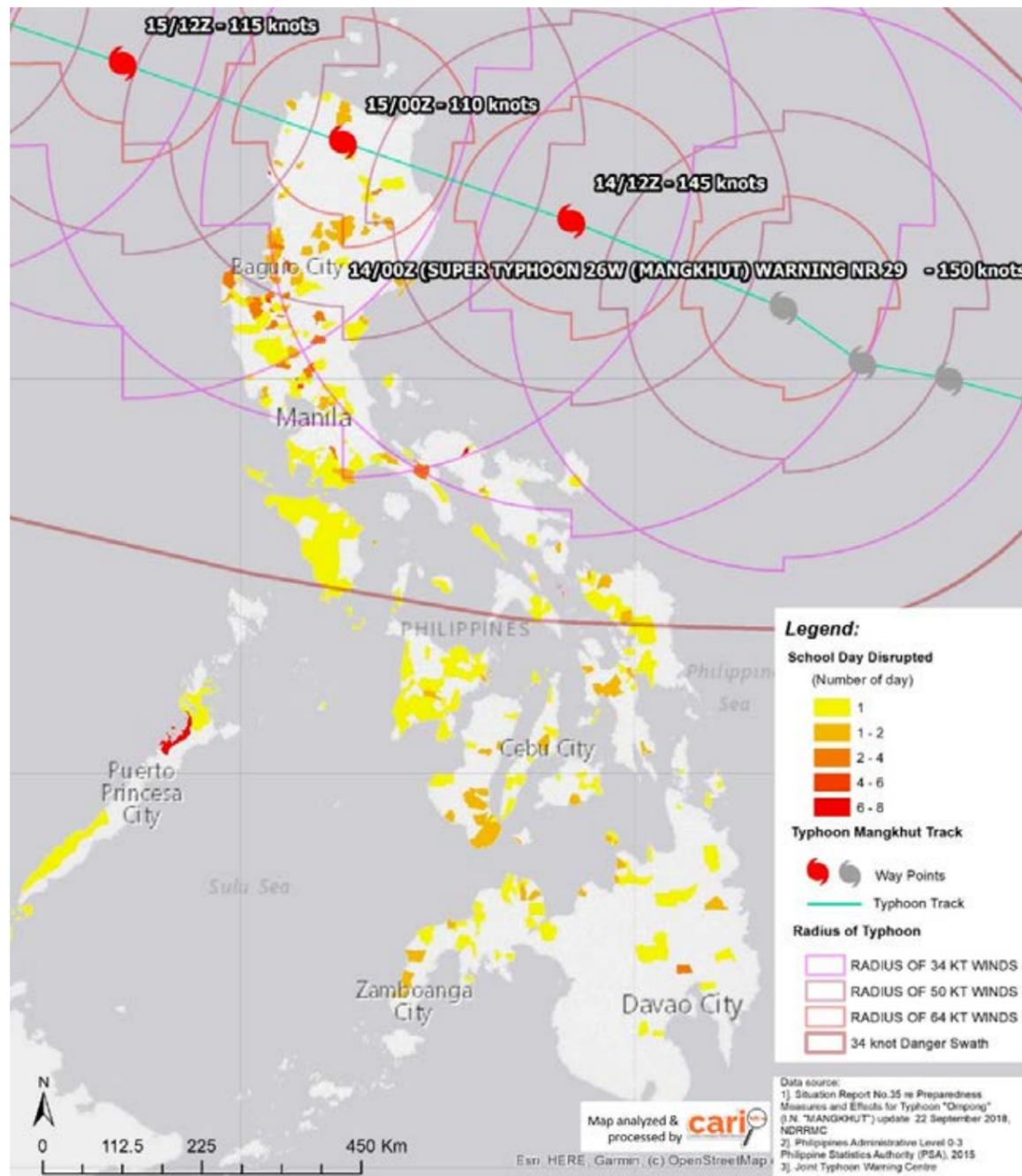
### 3.3 Case Study 3, The Philippines, Multiple hydro-meteorological hazards scenario – the 2018 Typhoon Ompong/Mangkhut

#### 3.3.1 Exposure to Education Sector: Investment, Infrastructure, Teachers, and Students

As one of the countries with the highest risk index in the world, the Philippines faces earthquakes, landslides, floods, volcanoes, storm surges and heavy winds such as typhoon for almost every year. In the context of multi-hazards, each area in this country is also exposed to the risks down to city or municipal levels. Typhoon and its secondary disasters contribute as the most destructive event in the Philippines. Climate change has been tipped as one of the reasons that increases the number of typhoons affecting Philippines in one calendar year.

Typhoon generates series of secondary events that generate impacts on education continuity in this country. Both natural and epidemic disasters could occur once the typhoon has blown away. For natural hazards, flood is the most common secondary event that comes after typhoon. In some places within the country, this event could last for weeks and contribute more days to school suspension. However, the epidemic disasters that come after both typhoon and flood are also threatening, for example, the dengue outbreak. This could disrupt schools' activities and even caused numerous death tolls to children.

**Figure 28** Impact of Typhoon Mangkhut and Distribution of Education Disruption



Even though the typhoon made a landfall in Cagayan Province, the locals claimed that they had already been prepared to face the typhoon. According to the locals around Cagayan Province, the occurrence of Typhoon Mangkhut was still manageable compared to the 2013 Typhoon Yolanda (Haiyan). They have already learned from past lessons and done several preparations after receiving warning signals about the typhoon. Unfortunately, Typhoon Mangkhut still swept numerous schools in the Philippines (Figure 28).

**Figure 29** After one year: typhoon debris at a school in Cagayan Province



In Cagayan Province, local reports claimed that the building structures were too vulnerable to face strong winds. Schools with strong building could also be suspended longer as the rooms were being used as evacuation shelters. However, policy brings so many pros and cons within the country emphasizing the needs for evacuation shelters and the needs of facilities for learners to continue the education activities. To clear the issue, the Department of Education stated that schools could only be used as evacuation shelters for no longer than 15 days.

### 3.3.2 Education Continuity Efforts and Challenges

In the context of preparedness to support the education continuity, the Philippines also has committed to conduct evacuation drill for 4 times a year that is held simultaneously nationwide. The participation of this event involves all sectors, including the education sector. Schools are obligated to participate and conduct the evacuation drill with suitable hazard scenario. Through this event, schools often collaborate with local stakeholders to enhance students' knowledge in reducing disaster risk and building capacity. They are used to have joint collaboration with fire fighter, police, health department, local government unit, and even non-government stakeholders for conducting the evacuation drill.

The government of Philippines also has done several efforts to support the education continuity in emergency situation systematically (Table 2). At the school level, schools are ordered to assign one coordinator and form a School Disaster Risk Reduction and Management (DRRM) team. The DRRM Team and Coordinator are expected to manage the DRRM activities within the school environment, including assessing and reporting any damaged classrooms within 72 hours to the Central Department of Education (DepEd) after the occurrence of disaster events using the Rapid Assessment of Damages Report (RADAR) templates via SMS.

Any efforts of recovery and rehabilitation assistance, including disbursement of clean-up funds, construction of temporary learning space (TLS), provision of learning kits, and reconstruction of damaged classrooms are disbursed and distributed based on the RADAR report submission of schools. DepEd's social media sites such as Twitter and Facebook are also actively used to report damaged schools by posting photos and other necessary information. However, the distribution and disbursement process for TLS, clean-up funds and other supporting needs from the government practically takes times.

**Table 9** Range of support for education continuity in the Philippines

9.a Point of view of school beneficiaries in Cagayan Province

	Secure school facilities	Report through RADAR	Clean up	Emergency School Class	TLS	Learner's Kit	Teacher's Kit	Donations	Community Efforts
School 1		■	■					■	■
School 2		■	■					■	■
School 3	■	■	■		■	■		■	■
School 4		■	■	■	■	■		■	■

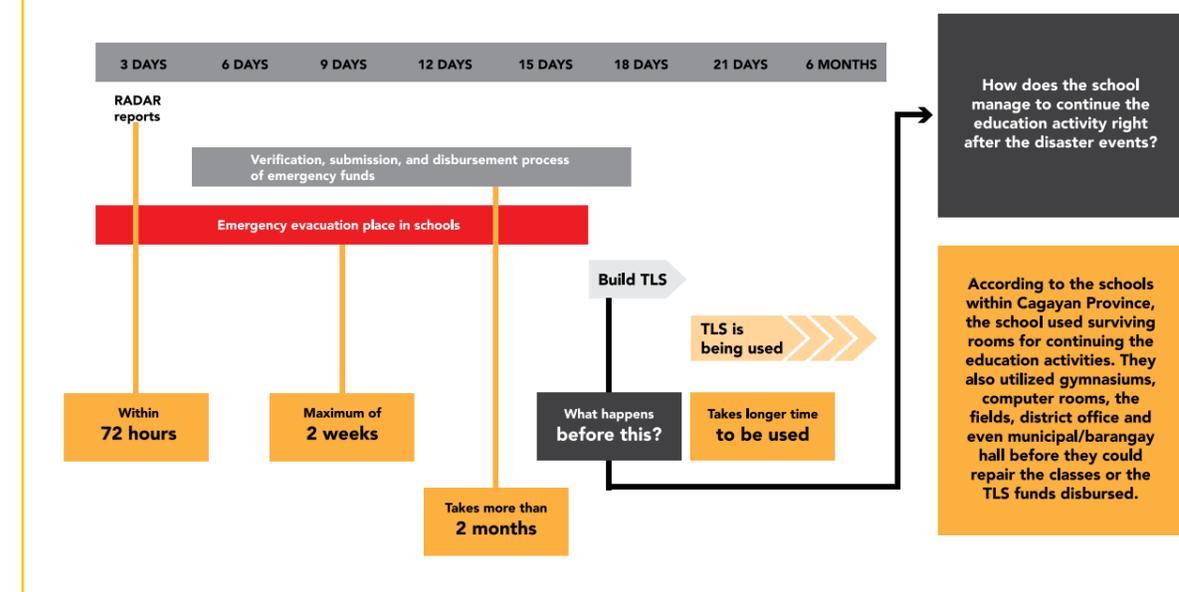
9.b Point of view of providers

	Fundings	Goods	Manpower	Psychosocial Supports	Tents	Learner's Kit	Teacher's Kit	Recovery Support
Department of Education Central Office	■	■		■		■	■	■
Provincial Disaster Risk Reduction and Management Council				■				
Municipal Disaster Risk Reduction and Management Council			■	■				
School Division Office	■	■	■			■		
Local Government Unit	■	■	■			■		
Barangay Unit			■	■		■		
NGO	■	■	■	■	■	■		■

Based on the interview with DRRM School Coordinators, in average it took around 6 months to receive the TLS funds in some schools within Cagayan Province. The schools utilized surviving rooms, gymnasiums, computer rooms, district offices, and municipal/barangay halls around the schools to continue the education activities prior to the establishment of TLS. Tents were uncommon to be used as first option facilities to support the education continuity; in emergency, schools in Cagayan Province usually prefer to conduct the education activity under the trees in the fields around schools. They stated that strengthening the building structure would be best to reduce the disaster risk and accelerate the education continuity process in emergency period. This is because in some cases, the school building will easily get damaged by another hazard even before the recovery is finished.

However, NGOs and private sectors are responsive to fill the gap. As shown on Table 9b, they usually distribute supporting goods and assistances directly to schools. Then, the schools must report to the school district officers for any goods and assistances received during the emergency period and after. Accordingly, Figure 30 indicates the comparison between speed of assistance distribution, including the TLS, based on the regulation and actual implementation.

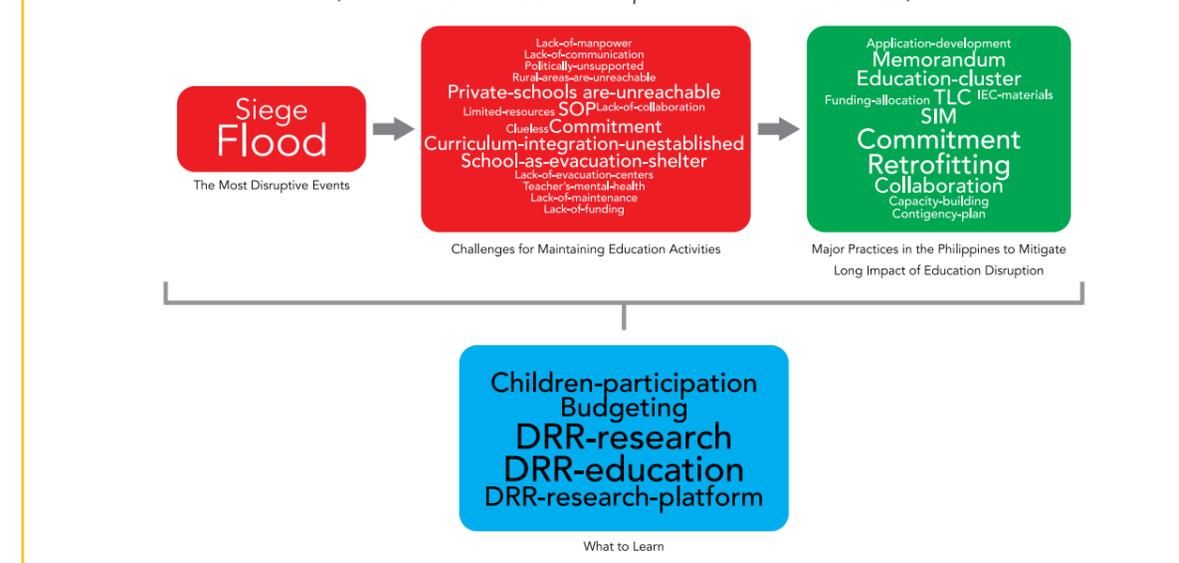
**Figure 30** Timeline of Emergency Response for Education Sector in the Philippines (upper side: according to policy, lower side: author's analysis)



Despite the challenges, this country has initiated many best practices in order to support the education continuity. The Philippines has good collaboration among the government offices, communities, and schools to accelerate the recovery process. In the Philippines, to ensure the sustainability of DRR at school, Department of Education Philippines and NGOs such as: World Vision International work at the community level. Children and community members are empowered in conducting local risk assessments and to communicate their aspiration for DRR strategies and programs as part of the processes at the corresponding local DRRM council (WV International, 2016)

To summarize the analysis on the Philippines, the Figure 31 below showcases the word-count of all four research questions pertaining to education continuity in the country, especially during the field visit and Focus Group Discussions.

**Figure 31** Education Continuity Spectrum in the Philippines (Source: the authors based on response from fieldwork and FGD)



As shown from the figure above, with regards to the most disruptive events, after consultations with various actors including school community, SDOs, Ministries/Agencies, NGOs as well as private sectors, the most concerning disaster was flood and then followed by the experience during the siege cases in 2013 (Zamboanga) and 2018 (Marawi). The range of challenges was quite diverse, but the top three are 1) private schools are unreachable by the current policy frameworks, 2) curriculum integration for use in the case of emergency is not established, and 3) the dilemma on the use of school as evacuation shelter. With regards to the major practices for supporting or implementing education continuity, commitment to retrofitting of schools turns to be the most beneficial one, followed by the swift deployment of temporary learning development, as well as various memorandums and DepEd orders followed by actors in the education sector. Lastly, with regards to the aspect that Philippines education sector stakeholders would like to learn from the other ASEAN countries, they noted that the DRR-research application to education sector was the most interested one.

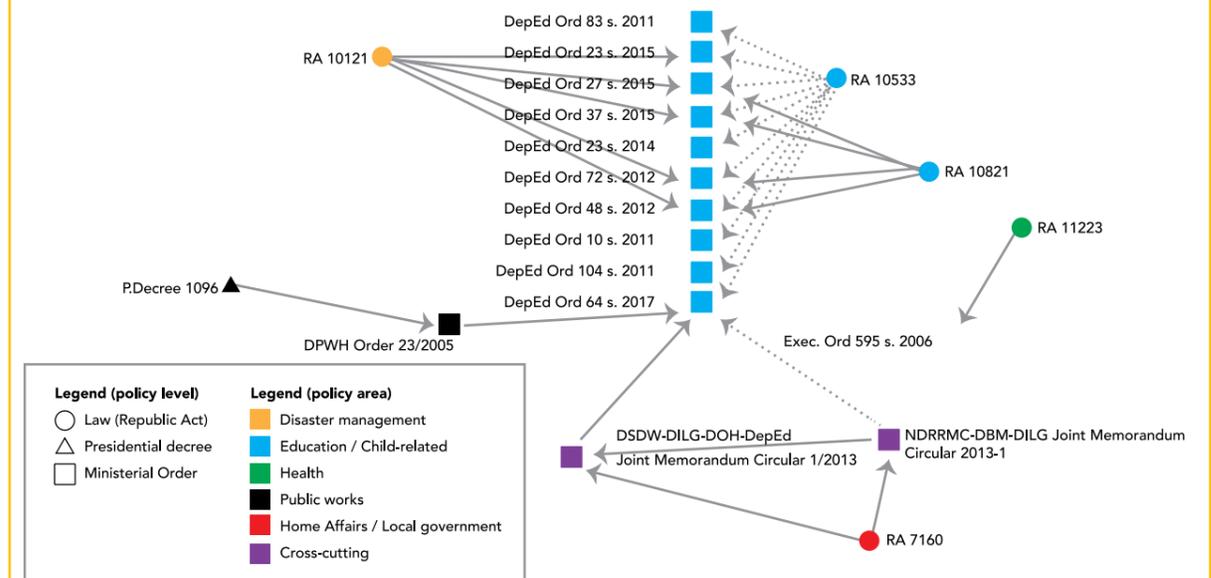
### 3.3.3 Enabling Environment or Operational Blockers? Regulatory Frameworks, Policy, and Budgeting

In general, Philippines has come up with numerous efforts to support accelerating the recovery activities from any kinds of disaster, as can be seen in the table below. The government has its own disaster risk management unit in every ministry and agency to cope with the emergency situation. One of the good practices in the education cluster within the country is to have well managed end-to-end communication. The Department of Education Central (DepEd Central) has formed Disaster Risk Reduction and Management (DRRM) Team to strengthen the efforts for education continuity. The DRRM Team has been established since 2018 as one of the attempts to accelerate the management process for disaster risk reduction, emergency response and recovery. They are coordinating directly with Disaster Risk Management (DRM) focal point in public schools all over the Philippines. Table 10 and Figure 32 illustrate the available policies and its interlinkages.

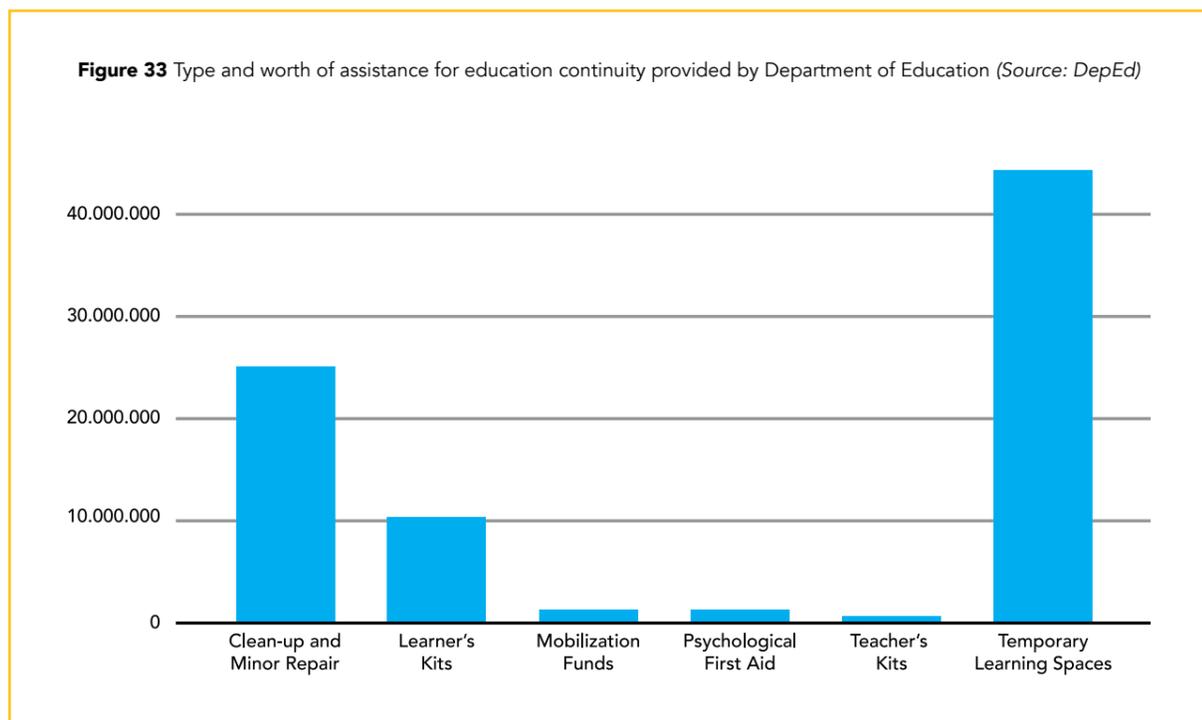
**Table 10** DRRM-CCA and Child Protection Policies in the Philippines

POLICY NUMBER	TITLE
<b>DRRM-CCA POLICIES</b>	
DO 44 s.2018	Formation of DepEd DRRM Team in the Central Office
DM 84 s.2018	Partnership with Philippines Red Cross for the Promotion of First Aid, Youth Development, Volunteerism, Health and Safety, Community Resilience, and the International Humanitarian Law
DO 65 s.2017	Guidelines on the Conduct of Post Disaster Needs Assessment in the Education Sector
DO 28 s.2016	Strengthening the Fire Safety and Awareness Program
DM 112 s.2015	Designation of Ms. Ronilda R. Co as Director IV of the DepEd DRRMS
DM 69 s.2015	2015 National Disaster Consciousness Month
DM 41 s.2015	Implementing Brigada Eskwela 2015
DO 37 s.2015	The Comprehensive DRRM in Basic Education Framework
DO 27 s.2015	Promoting Family Earthquake Preparedness
DO 23 s.2015	Student-led School Watching and Hazard Mapping
DO 21 s.2015	DRRM Coordination and Information Management Protocol
DO 43 s.2012	Guidelines on the Implementation of EO 66 (Suspension of Classes)
DO 83 s.2011	Disaster Preparedness Measures in Schools
DO 50 s.2011	Creation of Disaster Risk Reduction and Management (DRRMO)
DO 82 s.2010	Reiteration of Related Implementing Guidelines on CCA-DRR at the Schol Levels
<b>CHILD PROTECTION AND EIE IN ARMED CONFLICT POLICIES</b>	
DM 100 s.2017	Public Manifestation of DepEd's Declaration of Schools as Zones of Peace
DO 57 s.2017	Policy on the Protection of Children in Armed Conflict
DM 221 s.2013	Guidelines on the Protection of Children during Armed Conflict
DD 40 s.2012	DepEd Child Protection Policy
DO 44 s.2005	Declaration of Schools as Zones of Peace

**Figure 32** Policy networks on safe school and disaster education supporting Education Continuity in the Philippines



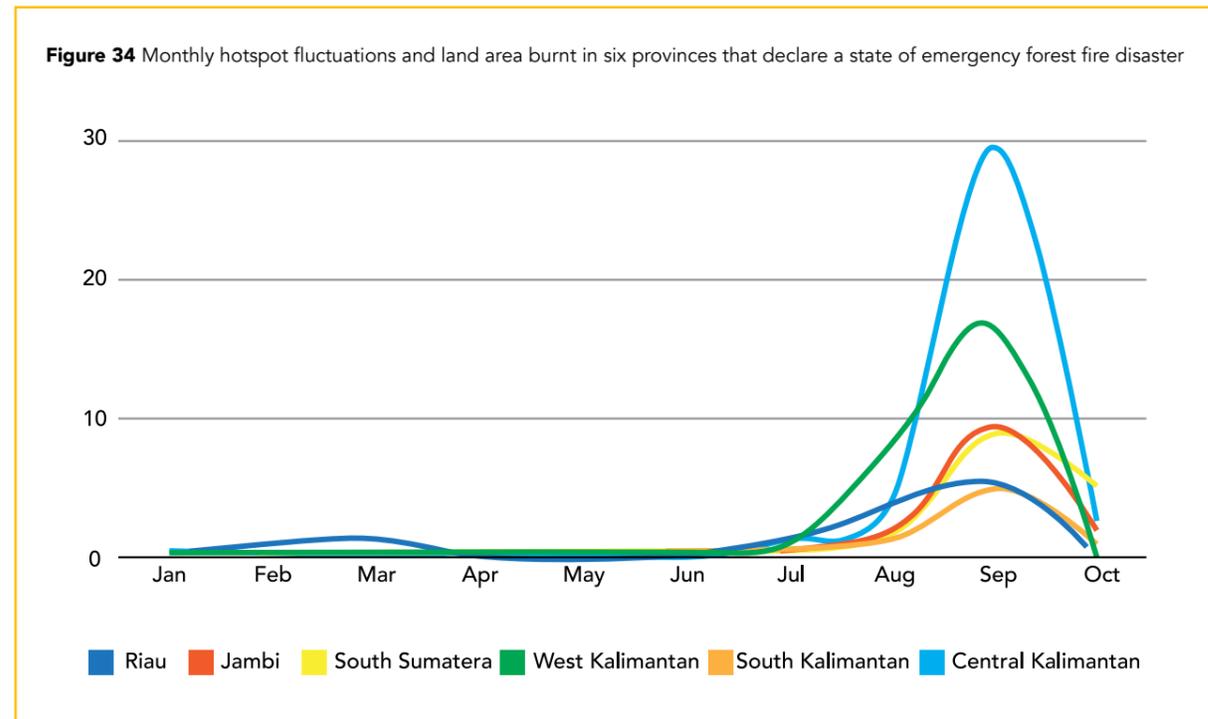
The constellation of policy network above enables resource mobilization from the state budget to support the education continuity. For Typhoon Mangkhut, for instance, the Department of Education spent 42,735,300 PHP on Temporary Learning Spaces (TLS). The highest disbursement went to Cagayan Province in Region II for 26,101,800 PHP. Each impacted school received 20,000 PHP for clean-up and minor repairs. According to the schools within the Cagayan Province, the reusable knock-down TLSs were also provided and pooled at the School-district office. They could be used anytime when needed. However, in some cases, the disbursement process for Temporary Learning Schools' funds that should have only taken for 2 weeks could take for 2-3 months and even 6-12 months. Tents were not provided to substitute the TLS. Same situation also went to clean-up and minor repair funds. The following figure highlighted the worth of assistance provided by the government during the Typhoon Mangkhut response.



#### Case Study 4, Cascading scenario of Man-made, Natural, and Health Hazards: the 2019 Trans-boundary Haze Crisis

##### 3.4.1 Exposure to Education Sector: Investment, Infrastructure, Teachers, and Students

In the dry season of 2019 Indonesia experienced forest and land fires in several areas which caused haze disasters. Spatial distribution of haze disasters escalated into a transboundary crisis because of the severity of forest fires in the end of September 2019 (Figure 34). It reached some parts of Malaysia, Singapore, and even the Philippines. In Indonesia, the provinces that are the most affected by the haze in 2019 include Riau, Jambi, West Sumatra, South Sumatra, West Kalimantan, Central Kalimantan and South Kalimantan. The forest and land fire disasters are a frequent disaster that occurs in the dry season every year. To overcome this, provinces that regularly experience forest and land fires have activated emergency alert status during the dry season.

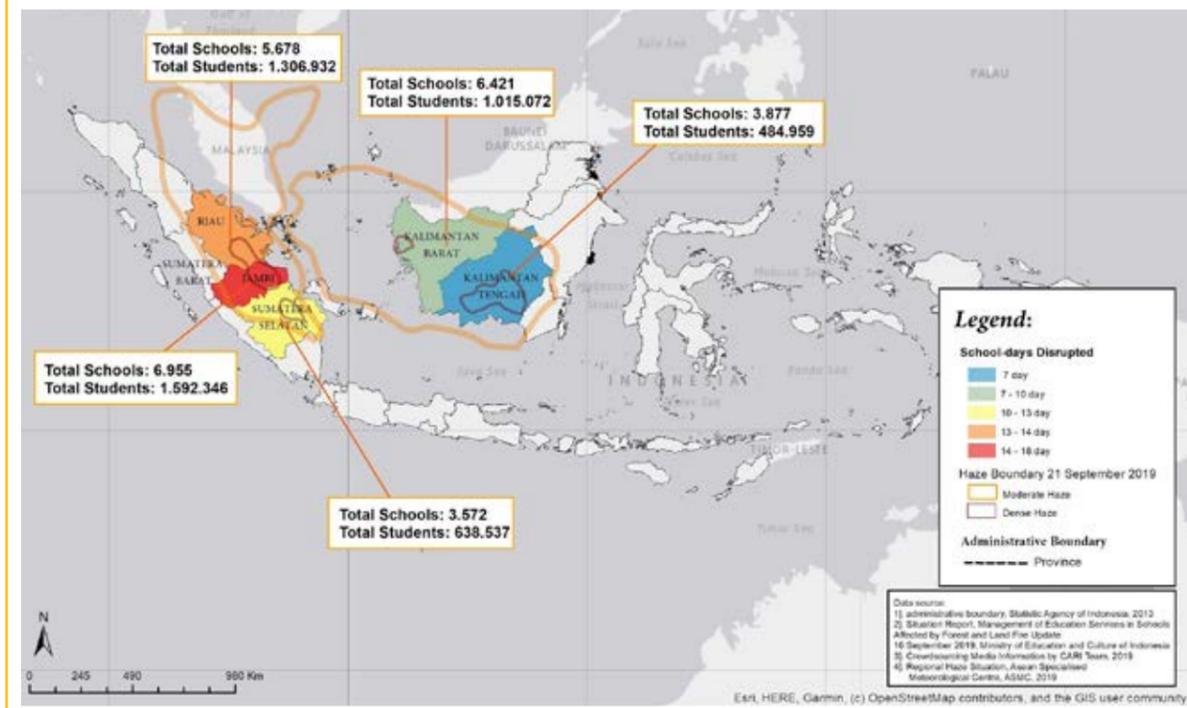


The hotspot based on TERRA/AQUA and SNPP published by the National Institute of Aeronautics and Space (LAPAN) is used as a predictor and has been used by Indonesian government to monitor the forest fire. Hotspot basically explains the temperature conditions on the areas around there; however, the hotspots do not indicate the size of the fired area. The resolution of the hotspot also represents the possibility of the forest fire within 1 km range.

Haze is a secondary disaster that is commonly followed by forest and land fires. Haze that occurs in an area for a long time will cause a decrease in air quality. Air Pollution Index (API) is used to describe how clean or contaminated the air quality is and how it impacts human health after breathing the air for several hours or days. API is determined based on 5 main pollutants, namely: carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), nitrogen dioxide (NO<sub>2</sub>), surface ozone (O<sub>3</sub>), and dust particles (PM<sub>10</sub>). In Indonesia API is regulated based on the Decree of the Environmental Impact Management Agency (Bapedal), Number 107 on November 1997. There are 5 levels of air pollution based on API values. The level of air pollution based on API values includes Good (0-50), Moderate (51-100), Unhealthy (101-199), Very Unhealthy (200-299) and Dangerous (> 300). Air pollution due to haze in an area can reduce air quality significantly; in certain cases, it can reach dangerous levels. Such conditions illustrate that air quality is very poor and can seriously harm health in the population including effecting eye irritation, and Upper Respiratory Infection (URI).

As shown in the figure below, the spread of haze has affected school activities, disrupting the learning processes as well as well-being of students and teachers. At the peak of the haze crisis, more than five million students at 26,503 schools of all levels in six provinces of Indonesia were affected. As can be seen from the map on the right, Jambi Province has the greatest number of students affected at the longest period of school days disrupted.

**Figure 35** Distributions of School Days Disrupted by Province due to the 2019 Haze Crisis



As the figure above indicated, the haze released also exposed people living in Malaysia. Various media reports suggested that more than 2,600 schools closed in five states (the peak) on 20 September 2019, hence, around 1.7 million students were affected.<sup>3</sup> Sarawak has the most affected schools at 987, followed by 939 in Selangor, Penang (399), Kuala Lumpur (296) and Putrajaya (25). The decision of school closure was taken since the API in Malaysia reached above 200. Around half of the schools closed in Malaysia and halted their school activities up to three days since 16 September 2019.<sup>4</sup> Similarly, the transboundary haze sparks concerns of general public in Singapore and schools were considered for temporary closure as well.<sup>5</sup>

**Table 11** Disaster emergency period proposed by provinces due to haze in Indonesia

Province	Month											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Riau		29								31		
Jambi							23			20		
South Sumatra			8							31		
West Kalimantan		12										31
Central Kalimantan					28			26				
South Kalimantan						1				31		

Source: Consolidated from Provincial Government Decree of all provinces

3 One of the media report in Malaysia: <https://www.thestar.com.my/news/nation/2019/09/19/haze-2646-schools-to-close-on-friday-sept-20> and verified with key informant from NADMA.  
 4 Validated from five national media of Malaysia, i.e. articles dated from 15 to 25 September 2019.  
 5 <https://www.channelnewsasia.com/news/singapore/school-closure-haze-moe-air-quality-hazardous-11907922>

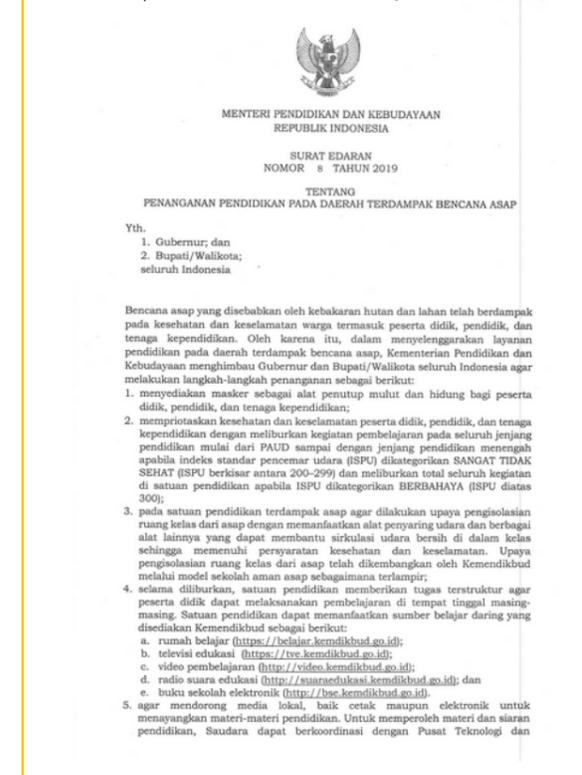
As can be seen from the table above, West Kalimantan Province is one with the longest official declaration emergency period due to forest fires and haze in 2019, i.e. effectively from 12 February until 31 December 2019. The decision was taken not only based on the haze situation, but also in anticipation of future fire incidents since most of the hotspots are located in the province as well. Similarly, the official emergency response period to haze was also substantial in Riau Province from 29 February until 31 October 2019. Jambi Province has the shortest official emergency period for forest fire and haze from 23 July to 20 October 2019.

### 3.4.2 Education Continuity Efforts and Challenges

From the national level, the Ministry of Education and Culture of Republic of Indonesia (Kemendikbud) released a Circular Letter (No. 8 of 2019) concerning the management of education in (haze) Hazard-Affected Areas. There were eight key contents in the circular letter whereas three of them were on the efforts to minimize negative exposure to students and teachers from the haze, and five of them were on strategies and advice to ensure education continuity. The summary of the circular letter can be found below, with the picture of the circular depicted.

1. Provide masks for students, educators and education staff
2. Prioritize the health and safety of students, educators and education personnel by dismissing learning activities when API is categorized as VERY hazardous (200-299) and dismissing total activities in educational units if API is classified as DANGEROUS (> 300).
3. Isolating classrooms by utilizing air filters and various other tools. In order to help clean air circulation so that it meets health prerequisites. One method that can be applied is the Smoke Safe School developed by the Kemendikbud.

**Figure 36** Indonesia MoEC circular letter on education operations in areas affected by haze crisis

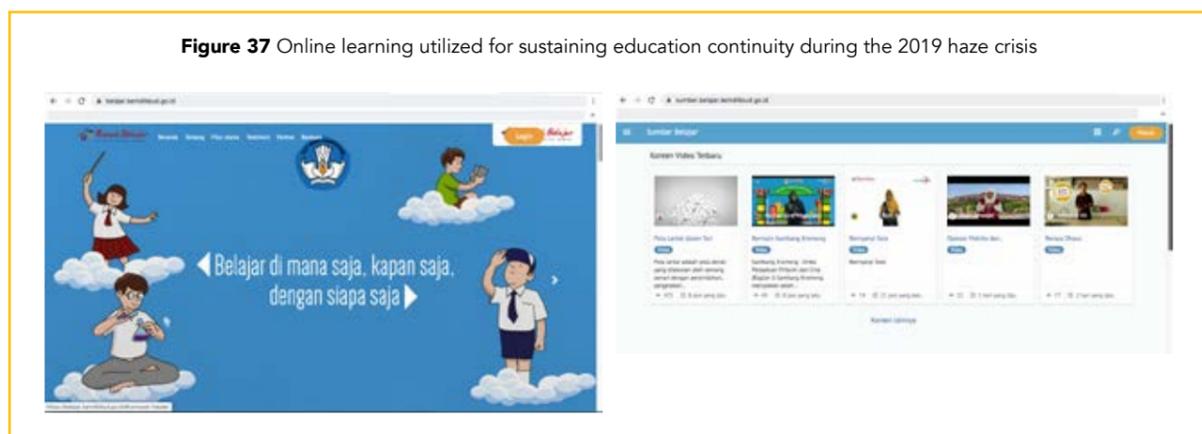


4. Give structured assignments so students can study independently in their respective homes. Schools may use some of the following sources of online learning materials produced by the Kemendikbud.
5. Encourage local media to display educational materials, including reuse of online learning materials provided by the Kemendikbud.
6. Adjusting class hours, academic calendars, curriculum achievement targets, and exam schedules for education units that include > 28 days of learning activities.
7. Educators and education personnel monitor the progress of learning carried out by students in each place of residence.
8. Continue to provide full professional and other allowance benefits to educators and education personnel whose education units are closed.

In the case of Indonesia, Kemendikbud further developed five alternative online learning platforms, which have been endorsed to support education continuity in the time haze crisis of 2019. It includes the following:

- Rumah belajar (online learning from home), <https://belajar.kemdikbud.go.id>
- Televisi edukasi (educational television), <https://tve.kemdikbud.go.id>
- Video pembelajaran (educational videos), <https://video.kemdikbud.go.id>
- Radio suara edukasi (educational radio), <https://suaraedukasi.kemdikbud.go.id>
- Buku sekolah elektronik (e-book), <https://bse.kemdikbud.go.id>

**Figure 37** Online learning utilized for sustaining education continuity during the 2019 haze crisis



The "Rumah belajar" platform is accessible through website, its smartphone application, as well as through YouTube channel. Based on the record, more than 50,000 users have downloaded the App and approximately 15,300 users are following their channel on YouTube. This demonstrates that the developments of online, electronic and distant learning materials are also useful in the case of emergency for supporting education continuity. Albeit this effort, the research found little evidence on how it has effectively substituted the school day loss, since there is no feedback and monitoring tools for measuring its effectiveness vis-à-vis curriculum.

**Figure 38** Smoke-free School Concept in Indonesia



Another innovation that emerged after the forest fire and transboundary haze in Indonesia was the concept of smoke-free school, developed by Bandung Institute of Technology and Kemendikbud, as depicted with the concept on the right. It looks into the ventilation and filtration of the classroom, including installation of exhaust fan. It ensures filtration of the polluted air that enters the classroom, ensures air circulation in the classroom, and prevents infiltration from running air outside the classroom. In addition, it applies damp cotton to close the ventilation holes and also recommends some plants that can be placed within the classroom to help with clearing of the air.

**Figure 39** Press Release on Standard Operating Procedure in Malaysia as response to Trans-Boundary Haze



Ministry of Education of Malaysia also released a Standard Operating Procedure after the forest fire 2019 incident occurred, released on 18 September 2019 as depicted here. There are nine pointers advised by the ministry to schools. In principles, main discretion is given to headmaster for the closure of education activities. It also stated that schools in Selangor, Pulau Pinang, WP Putrajaya, and Kuala Lumpur closed for two days. In the case of Malaysia, school-days loss did not need to be replaced as they are categorised as school break due to disasters (article 6).

In the case of Singapore, Ministry of Education also considered to discontinue education activities as per their standard haze management measures, although it was deemed unthreatening in September 2019.<sup>6</sup> The threshold for Singaporean authority to consider air quality as very unhealthy is between 201-300 based on the 24 hours Pollutant Standards Index Forecast. In such a case, there are four general measures: 1) schools will minimize outdoor activities; 2) students with pre-existing lung or heart conditions or are unwell would be exempted from all outdoor activities; 3) students, including those with pre-existing lung or heart conditions, will be in an enclosed indoor space with air purifiers deployed; and 4) students and staff who are unwell will be temporarily accommodated in an air-conditioned room with an air purifier, before they are taken to seek medical attention. Parents of these students will also be notified. Based on the secondary data available, it was not clear whether schools must maintain education continuity agenda in the face of disruption through other means of teaching, i.e. either offline or online.

<sup>6</sup> See Ministry of Education Singapore Haze Management Measures: <https://www.moe.gov.sg/haze-management-measures>

### 3.4.3 Enabling Environment or Operational Blockers? Regulatory Frameworks, Policy, and Budgeting

Despite the transboundary nature of the forest fire and haze crisis in 2019, clearly it did not trigger regional and international response from outside of the affected countries (Indonesia, Malaysia, and Singapore). None of the past transboundary haze incidents also triggered a regional-wide response and there is still a gap in the operational integration between the existing ASEAN Transboundary Haze Pollution Agreement<sup>7</sup>, ASEAN Agreement on Disaster Management and Emergency Response (AADMER)<sup>8</sup>, as well as in relation to the mandate of the AHA Centre stipulated in its establishment agreement. Nevertheless, the regional haze monitoring provided by ASEAN Specialized Meteorological Centre (ASMC) contributed to the awareness of the situation and serve as early warning for triggering early action, including in education sector.

With regards to potential regional emergency response in the event of forest fire and haze, the ASEAN Transboundary Haze Pollution Agreement Article 12 provides a legal basis for potential response. Nevertheless, the fact that ASEAN Centre for Transboundary Haze is de-facto non-existent and still attached to the ASEAN Secretariat Environmental Division, little can be done at operational level. From the AHA Centre side, there are precedents of responding to crisis triggered by not solely natural hazards; hence, it requires approval and guidance from its Governing Board. Neither is the scenario of transboundary haze officially part of the ASEAN Joint Disaster Response Plan (AHA Centre, 2016). There are neither dedicated modules for the education in emergencies in general as part of the ASEAN Joint Disaster Response Plan, nor for the case of transboundary haze. However, moving forward, this issue can be attached to the Module 5 on Non-Food Items. The secondary analysis also suggests that from the AADMER Partnership Group side, specifically those partners working in education and child protection sectors, there was no precedent of international efforts/collective efforts in dealing with transboundary haze problems. Nevertheless, work programmes in the health sector of ASEAN do not specifically prepare for a regional mobilization of resources and capabilities for a transboundary haze situation.<sup>9</sup>

<sup>7</sup> See more: [https://haze.asean.org/?wpfb\\_dl=32](https://haze.asean.org/?wpfb_dl=32)

<sup>8</sup> See more on AADMER: <https://ahacentre.org/publication/asean-agreement-on-disaster-management-and-emergency-response-aadmer/>

<sup>9</sup> It was mentioned in the the ASEAN health development agenda of 2016-2020 (ASEAN, 2016, p. 31) noting that ASEAN Environmental Health will be established by 2020 and tackle health issues caused by haze problem. However, no direct linkages to specific intervention to schools and as of 2019 it was not operational yet. See more: [https://asean.org/?static\\_post=asean-post-2015-health-development-agenda-2016-2020](https://asean.org/?static_post=asean-post-2015-health-development-agenda-2016-2020)

## 4. CONCLUSIONS



This research has explored a range of efforts for and challenges of maintaining education continuity in the face of various hazards threatening school community in ASEAN region, i.e. including against four types of multi-hazards scenario (see section 1.3). With regards to the first objective of the research, the range of commonalities of efforts for sustaining education continuity found across the cases can be seen in the table below.

**Table 12** Significant Efforts for Education Continuity in ASEAN by CSS Pillars and Phases

ASEAN CSS PILLAR PHASE FOR ENABLING EDUCATION CONTINUITY	PILLAR 1 SAFE LEARNING FACILITIES	PILLAR 2 SCHOOL DISASTER MANAGEMENT	PILLAR 3 RISK REDUCTION & RESILIENCE EDUCATION
<b>RESPONSE PHASE (IMMEDIATE)</b>	<ul style="list-style-type: none"> <li>✓ Quick decision to identify space for temporary learning spaces (3 cases, but limited coverage)</li> <li>✓ Provision of assistance for safe learning facilities (all cases vary; e.g. TLS, school-tent, school-in-box<sup>1</sup>, use of mosque / pagoda)</li> </ul>	<ul style="list-style-type: none"> <li>✓ First-aid capabilities by teachers and students (all cases, but not all schools)</li> <li>✓ Use of schools as evacuation centers (1 case)</li> <li>✓ Clear reporting mechanism on effect of disaster &amp; response activities (all cases and varies in the instrument used)</li> </ul>	<ul style="list-style-type: none"> <li>✓ Blended learning materials (1 case) available for teachers and students</li> <li>✓ Used on online materials for continuing DRR and resilience education (1 case)</li> </ul>
<b>RECOVERY PHASE (SHORT-TERM)</b>	<ul style="list-style-type: none"> <li>✓ Established SOPs for fund disbursement for school reconstruction (2 cases)</li> <li>✓ Innovative in-situ school facility recovery (3 cases)</li> </ul>	<ul style="list-style-type: none"> <li>✓ Clear procedure for fund disbursement for teacher's salary (1 case)</li> </ul>	<ul style="list-style-type: none"> <li>✓ Same as above and continued to early recovery stage</li> </ul>
<b>PREPAREDNESS PHASE (MEDIUM-TERM / NORMAL TIMES)</b>	<ul style="list-style-type: none"> <li>✓ Existing manual / SOP / protocol for maintaining school safety against natural hazards (all cases)</li> <li>✓ School facilities / infrastructures elevated from the ground level</li> <li>✓ Improvement of drainage near schools (some cases)</li> <li>✓ Coordination with professional engineers (two cases)</li> <li>✓ Cross-sectoral regulations support (2 cases)</li> </ul>	<ul style="list-style-type: none"> <li>✓ Establishment of emergency response unit / alike at schools (all cases, but on school cases basis)</li> <li>✓ Disaster preparedness drills (all cases, but not all schools)</li> </ul>	<ul style="list-style-type: none"> <li>✓ Class discussions on natural hazards, health hazards, everyday hazards (all cases)</li> <li>✓ Awareness and other campaign materials on natural hazards, health hazards, everyday hazards (all cases)</li> </ul>

Based on the table above, the education continuity in ASEAN region needs to be fostered further as it sustains all the educational efforts and provides bridge for educational development. It can also infer that education continuity, from the cases presented, requires a mechanism to restore a sense of normalcy

to learners and school community. The findings also substantiate the basic understanding that structural assessment and its safeguarding efforts are of utmost importance, not only do they protect learners and school community in times of disasters but also prepare the schools to be temporary shelter, despite the mandate to regulate in advance the use of school buildings as shelters, particularly on the number of days, as demonstrated with the case of Philippines. Furthermore, owing to the second research objective, the analysis posits the range of challenges found across the cases as described below.

**Table 13** Challenges in Sustaining Education Continuity in ASEAN by CSS Pillars and Phases

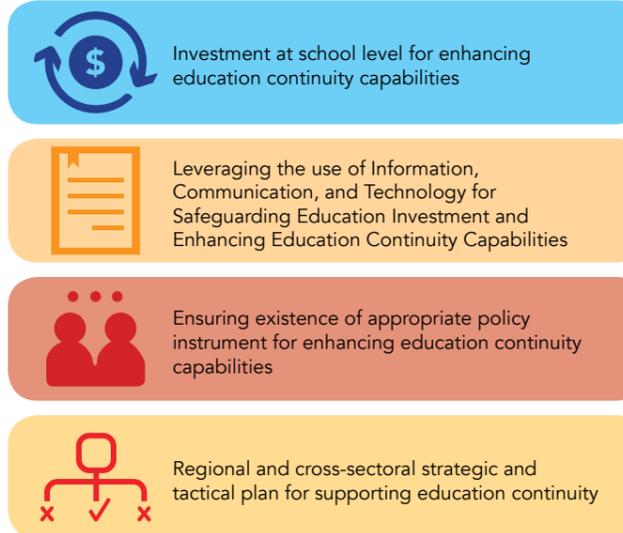
ASEAN CSS PILLAR	PILLAR 1 SAFE LEARNING FACILITIES	PILLAR 2 SCHOOL DISASTER MANAGEMENT	PILLAR 3 RISK REDUCTION & RESILIENCE EDUCATION
<b>PHASE FOR ENABLING EDUCATION CONTINUITY</b>			
<b>RESPONSE PHASE (IMMEDIATE)</b>	<ul style="list-style-type: none"> <li>✓ Unfriendly and unhealthy learning facilities, e.g. school-tents, limited area and ratio to number of teachers and students (2 case)</li> <li>✓ Limited in coverage of assistance, i.e. subject to availability and number of assistance provided by government and humanitarian partners (all cases)</li> </ul>	<ul style="list-style-type: none"> <li>✓ Limited support on psychological well-being of teachers and students (all cases)</li> <li>✓ Partial overseeing by education authority in response phases (all cases)</li> <li>✓ Not all schools have focal point and contingency plan for emergency response; and not necessarily activated if the plan exists (all cases, varied across schools)</li> </ul>	<ul style="list-style-type: none"> <li>✓ Teachers are not capacitated fully for using various modes of teaching at the time of emergency (all cases, vary among schools)</li> <li>✓ Varying understanding and interpretation of type of hazards (including against the risk of multi-hazards cascading scenario) threatening schools' children</li> </ul>
<b>RECOVERY PHASE (SHORT-TERM)</b>	<ul style="list-style-type: none"> <li>✓ Delay in funding disbursement not in accordance to existing regulations or SOPs</li> </ul>	<ul style="list-style-type: none"> <li>✓ Delay in funding disbursement and assistance for teacher's salary (1 case)</li> </ul>	
<b>PREPAREDNESS PHASE (MEDIUM-TERM / NORMAL TIMES)</b>	<ul style="list-style-type: none"> <li>✓ Limited cross-sectoral coordination and partial regulations harmonization for education continuity at risk to various hazards (all cases with varying challenges at national level)</li> <li>✓ Limited consideration to other type of hazards beyond those triggered by natural hazards and health hazards (all cases)</li> </ul>	<ul style="list-style-type: none"> <li>✓ Limited support to the established emergency response unit / alike at schools (all cases, but on school cases basis)</li> <li>✓ No regular monitoring on quality and update of contingency plan for emergency response (all cases, but on school cases basis)</li> <li>✓ Not all schools conduct disaster preparedness drills and anticipate cascading scenario (all cases, but not all schools)</li> </ul>	<ul style="list-style-type: none"> <li>✓ Non-standardized interpretation on the role of how headmasters, teachers, and education board / agency / department in resilience education and school disaster/emergency management (all cases, vary between schools and sub-national government)</li> </ul>

## 5. RECOMMENDATIONS: Enhancing Education Continuity at National and Sub-National Levels Supported by Regional Capabilities



Based on the findings from all case studies, consultation at country level FGDs, as well as feedback in the Exchange Learning Workshop, the followings are preliminary recommendations for creating an enabling environment that may enable enhancement of education continuity at national level with support from regional capabilities.

**Figure 40** Recommendations to Enhance Education Continuity



**Figure 41** Recommendations on Investment at School Level



### 1. Investment at school level for enhancing education continuity capabilities

National and sub-national investment and public resource mobilization are crucial for ensuring schools have certain capabilities and equipment useful for sustaining education continuity. This research suggests investment in teacher's capacity and prerequisite well-being at the time of emergencies are crucial to ensure they have a conducive environment and skills to perform education times of emergencies. This includes ensuring teacher's access to recover their well-being.

Depending on their level, students and learners also have potential capacity, which can be channeled to participate in sustaining education continuity. Once the overall situation has improved, particularly from the security aspect and existence of any collateral hazards, it is crucial for headmaster and teachers to announce to the students to return to school. At the initial stage, teachers need to ensure health and psychological well-being of the students. Afterwards simple activity and initial school clean-up activities can be used as one of the events to reconnect between teachers and children after a disaster. Lastly, it is crucial to build the preparedness and capacity of students' overtime.

As part of a social sector, education sector also needs to embrace a planned approach for education continuity. The research suggests that some schools may have contingency plan, which is designed for activation when an emergency occurs with live-saving orientation objective. However, education continuity plan goes beyond that. Both headmaster and teachers at school level as well as governments at sub-national / national level, must be equipped with capabilities to estimate the impact of a particular emergency situation to the curriculum. They also must have list of options, within the education continuity plan, that can be chosen for quickly resuming teaching activities. The range of options may include alternative locations for temporary learning spaces, tactics for teacher's rotational assignment during emergencies, remote assignments and remote learning materials, etc.

The research suggests that currently all of ASEAN countries have a better policy, regulations, and standards that reflect Pillar 1 of ASEAN CSS on safe learning facilities, than it used to be few years ago. As the first line of defense in protecting safety of students, consistent enforcement of national policy on safe learning facility is indispensable.

## 2. Leveraging the use of Information, Communication, and Technology for Safeguarding Education Investment and Enhancing Education Continuity Capabilities

This research has found that ASEAN countries are progressing in monitoring the investment and capital formation in the education sector. At minimum, ASEAN countries are now having a good spatial database of school locations and starting to combine and understand the mechanics of hazard and risk exposure to schools. The next crucial step is for policy makers at national level to combine education sector database and overlay it with multi-hazards risk information. Some countries have clear and well-structured Education and Information Management Systems (EIMS), this can be further enhanced by ICT upgrades.<sup>1</sup>

As the experience of Indonesia suggests, utilization of ICT through online / electronic / distant learning materials creation are also beneficial for supporting efforts to maintain education continuity. Specifically, BNPB has provided the enabling infrastructure for integrating education sector data, particularly school locations, as part of the understanding to the national risk level and its distribution. In Thailand, Office of the Basic Education Commission (OBEC) together with World Vision, Asian Disaster Preparedness Centre supported by the Thailand Safe School Network launched an inclusive national online training for all teachers in 2019. Ministry of Education in Lao PDR has developed School-based Self-assessment in collaboration with Save the Children to assess school disaster management, school facilities, risk reduction and resilience education. Department of Education (DepED) the Philippines developed RADAR (Rapid Assessment of Damages Report) System to determine the damage of school facilities and support needed by school and school watching application to improve the level awareness of the

<sup>1</sup> This topic was extensively discussed during the 3<sup>rd</sup> ASEAN Conference on School Safety, 3-4 April 2019, Bangkok, Thailand. Some of the examples are elaborated here.



students. Lastly, Vietnam Disaster Management Authority (VNDMA) developed an Online/offline Mobile App to circulate Safe Schools and DRR knowledge, news, key messages for early actions against various hazards, and emergency contacts.

Providing additional supports to reinforce this aspect has two benefits for both general DRR and for emergency response. By having a better understanding of school's exposure to various hazards and its risk factor, a more tailor-made DRR investment can be made per school at sub-national level. Second, at the time of emergency, education sector / cluster will have a common operational dataset, which can be used for quick estimation of damages, impacts, and humanitarian assistance distribution. Moving forward, this is an area where humanitarian partners can also support in tandem with education ministry/agency of each ASEAN country.

## 3. Ensuring existence of appropriate policy instrument for enhancing education continuity capabilities

By employing policy network analysis, this research illuminates that relevant resources (in-kind, services, or financial) useful for sustaining education continuity may not necessarily be regulated through the policy instruments of disaster management and education sector. In some cases, they may come from social affairs or child-related governmental affairs, as well as health sector. Emergency managers from disaster management and education sectors require capabilities to quickly pinpoint policy instruments available, which may open access for resource mobilization to support education continuity. The policy network analysis and recognition to each country's hierarchy of law also recommends national-level evaluation to the current policy structure. Once this understanding exists, there is a need to draft an appropriate policy instrument that can enable pre-emergency education continuity planning.

## 4. Regional and cross-sectoral strategic and tactical plan for supporting education continuity

The research also advocates for a regional and cross-sectoral strategic and tactical plan for supporting education continuity in the face of significant disruptions in the region, which leverages the

existing ASEAN disaster management tools and mechanisms. Essentially, a cross-sectoral approach can strategically expand the scale of ASEAN assistance in emergencies.

To bridge this strategic and tactical consideration, it is crucial to ensure impact assumption of catastrophic events in ASEAN, outlined in the ASEAN Joint Disaster Response Plan (AJDRP), has a better understanding of potential impact in education sector and potential resources to be deployed. For instance, consistent approach on information management for education in emergencies at both national and regional levels can enable a faster assessment of situation on the ground and whether auxiliary support is needed for recovering education resumption. In addition, with the rich in-situ experience, ASEAN as a region already is at the level of good understanding on potential regional standby assets & capacities for supporting education-continuity in emergencies. This may range from various concepts and models of temporary learning spaces, school-in-box, school tents, smoke-free schools, teachers' kit, students' kit, and others. The current AJDRP modules can be expanded with the potential regionally needed relief items for education sector. With the fact that ASEAN has now three regional warehouses and more space available, under the DELSA scheme, a closer coordination across sectors can nurture efforts to stock those relief items useful for education in emergencies. Furthermore, AJDRP modules are not only about relief items, but also good model of capabilities (e.g. psychosocial support for teachers and students) can be listed as regional resources available. Essentially, for supporting education continuity in the region, humanitarian partners may also consider beyond relief items, but also services and capabilities required by students or teachers, for resuming education activities as soon as possible after any disruptions.

Lastly, such regional cross-sectoral strategies and tactical plan for supporting education must be coordinated with the ASSI cross-sectoral coordination committee at the regional level and national coordinating platform at national level to make sure the inter-coordination of all sectors and all phases of disaster management (prevention, preparedness, response, recovery, rehabilitation) in the affected schools and education sectors. This is to maintain interlinkage and inter-coordination for Education, DRR in Education sector, and Education in emergencies. Another important role that ASEAN can play as a region is to ensure continuous learnings on education continuity documented and shared across the ASEAN region for adaptation, adoption, and replication.

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# 7. ANNEX



## 7.1 Research Instrument

### ASEAN SAFE SCHOOLS INITIATIVE (ASSI)

Research on “Enhancing an Enabling Environment for Education Continuity in Multi-hazards setting”

#### RESEARCH INSTRUMENT 01

Key Informant Interview Guideline for

National/Local Education sector Authority/Ministry/Department and

National/Local Disaster Management Organization

##### Introduction – Research team members are required to read this first.

This interview is the part of the ASSI research on entitled “Enhancing an Enabling Environment for Education Continuity in Multi-hazards setting” implemented by ASSI Consortium partners and supported by European Civil Protection and Humanitarian Aid Operations. This research aim to examine education continuity management efforts in the region during or post-disasters or emergencies, particularly focusing on the structures, design or approaches, effectiveness (accessibility, quality, reach to the most affected/marginalized including considering gender lens, children with disability, children in displacement and urban areas), capacities, actors, and gaps. The research looks to illustrate the linkages among education development programming, disaster risk reduction in education sector and emergencies and provide a reference for the governments in enacting their policies in school safety.

This interview is recorded for documentation and analysis purpose, your participation is voluntary, and the data and information used will only be use for the purpose of this research.

##### Do you agree to continue?

By starting the interview, it implies that the resource persons agree to continue and accept the conditions mentioned in this part.

Name : \_\_\_\_\_

Institution : \_\_\_\_\_

Position : \_\_\_\_\_

Address : \_\_\_\_\_

Phone : \_\_\_\_\_ Email : \_\_\_\_\_

Research on “Enhancing an Enabling Environment for Education Continuity in Multi-hazards setting”

RESEARCH INSTRUMENT 02

Key Informant Interview Guideline for Sub-National Education sector agency and disaster management agency

**Introduction – Research team members are required to read this first before interaction with KIs**

This interview is the part of the ASSI research on entitled “Enhancing an Enabling Environment for Education Continuity in Multi-hazards setting” implemented by ASSI Consortium partners and supported by European Civil Protection and Humanitarian Aid Operations. This research aim to examine education continuity management efforts in the region during or post-disasters or emergencies, particularly focusing on the structures, design or approaches, effectiveness (accessibility, quality, reach to the most affected/marginalized including considering gender lens, children with disability, children in displacement and urban areas), capacities, actors, and gaps. The research looks to illustrate the linkages among education development programming, disaster risk reduction in education sector and emergencies and provide a reference for the governments in enacting their policies in school safety.

This interview is recorded for documentation and analysis purpose, your participation is voluntary, and the data and information used will only be use for the purpose of this research.

**Do you agree to continue?**

By starting the interview, it implies that the resource persons agree to continue and accept the conditions mentioned in this part.

Name : \_\_\_\_\_

Institution : \_\_\_\_\_

Position : \_\_\_\_\_

Address : \_\_\_\_\_

Phone : \_\_\_\_\_ Email : \_\_\_\_\_

CORRESPONDING SPECIFIC RESEARCH OBJECTIVES	QUESTIONS
RO 1	<ol style="list-style-type: none"> <li>1. What was/were the most disruptive events ever experienced by schools in the Philippines? How long educational activities were stopped and what were the impact to education performance?</li> <li>2. What are the major practices in your country to mitigate long-impact of education disruption and to recover faster? (Hint: education continuity plan / contingency plan / show the result of policy network analysis, e.g. DepEd related orders on education continuity?)</li> <li>3. What are the modalities that your organization can support / mobilize to sub-national governments and/or school communities for sustaining education continuity?</li> <li>4. Among the following hazard sources (Read: natural hazards, health-related hazards, everyday hazards such as traffic or security compromise, and social conflict), which are the most concerning for your school community?</li> </ol>
RO 2	<ol style="list-style-type: none"> <li>5. In your opinion, what are the key challenges for maintaining educational activities at the time of disasters / other types of disruptions faced by the headmasters, teachers, and school management?</li> <li>6. In the light of recent disasters in 2018 and 2019, as well as other threats to school communities (e.g. Forest fire in Indonesia, dengue outbreak in the Philippines), what are the main challenges for national government to ensure education sector resumption (and disaster management support to other social sectors)?</li> </ol>
RO 3	<ol style="list-style-type: none"> <li>7. Here we have develop the policy network analysis from governmental sectors that may have relevance to support educational continuity. What is your impression? Can you confirm whether the model is valid?</li> <li>8. Has the current related laws, regulations, and policy provided sufficient justification for resource mobilizations that sustain educational continuity against various hazards?</li> <li>9. What is the area of improvement required for enabling environment that can sustain education continuity?</li> </ol>
RO 4	<ol style="list-style-type: none"> <li>10. Based on your country experience, what are the positive elements for education continuity that can be learn or replicable for other ASEAN countries? (Hint: maybe each AMS version of #walangpasok? OR the most-relevant DepEd orders / NDRRMC policy to be replicate by other ASEAN countries?)</li> <li>11. If anything, what would be the critical education continuity element that you want to learn from other ASEAN countries?</li> </ol>

If there are any questions that you do not want to answer about your experiences, please leave it as a blank / do not answer

**SECTION 1 – EXPERIENCE AND OBSERVATION DURING THE 2018 TYPHOON MANGKHUT**

**A. About yourself**

- 1) Did you experience the Typhoon Mangkhut on September 2018?
  - Yes  No
  - If 1) is yes,
    - a) Were you at a school or nearby a school when the disaster occurred?
      - Yes  No
    - b) If a) is yes, which school and city were you?
    - c) If A1 is no, please answer the reason that you have not experienced the 2018 typhoon disaster:
      - Because I was out of the Province/ country at that time
      - Because I was not living in Philippines at that time. Where were you then? (.....)
      - Other reasons (Please specify:.....)
- 2) Have you ever participated in training workshops seminars lectures on the following?
  - Knowledge on disaster emergency response planning (when? .....) )
  - Rescue and evacuation, school documents/ logistics, (when? .....) )
  - Early warning training/ simulation (when? .....) )
  - Training on to teach disaster related information and knowledge at school curriculum (when? .....) )
  - None
- 3) If (3) is "Yes" how many hours training was it? And when did you receive? How many times?
  - (.....) hours in total
  - How many times?.....
    - Once  Twice  More than three times
  - When was that? (.....)

**B. About the schools in your city/municipality/ province (all levels: elementary, middle, and high school, and types, including school for the special needs)**

- 4) Do you know what kinds of damages were caused at your school by the 2018 typhoon?
  - No
  - Yes (please describe about the damage)
    - 4 a) Facility damage (.....)
    - 4 b) Human damage (.....)
- 5) If yes, do you know organizations donating and support rehabilitation of school buildings in the city?
  - Yes (Name: ..... ) (When:.....)
  - No
- 6) What kinds of natural hazards exposed schools in your city/municipality/province?
  - Typhoon  Landslide  Flooding
  - Fire  Others (.....)
- 7) How does schools in your city/municipality/ province receive evacuation message when typhoon happens?
  - No message expected to come. I need to decide.
  - From city board of education by (SMS, phone, others)
  - From city disaster management agency (SMS, phone, others)
  - A text message or other warning products from PAGASA or PHIVOLCS
  - Did you already register for receiving the message?  Yes  No
  - Others (describe)
- 8) Do you think all schools in your city/ municipality/province have an evacuation route/maps:
  - Yes  No
  - (when was it created by who? .....) )

- 8a) if yes, please describe the safety on the designated/planned the evacuation site and route.
- 8b) If Yes, is schools evacuation route/maps ever updated regularly?
  - Yes (by: .....)
  - No
- 8c) If Yes, which hazard does the plan expect?
  - Don't Know  Typhoon  Landslide
  - Flooding  Fire
  - Others (specify.....)
- 8d) If yes, have school community ever actually visited the evacuation place and checked the safety of the route to the evacuation place?
  - Yes
  - No
- 8e) If yes, have school community ever use the evacuation route and place map for the schools' evacuation drill?
  - Yes
  - No
- 8f) If no, do you think where would be the alternative evacuation site for children?
  - Yes (where .....)
  - No
- 9) Have all schools in your city/municipality/ regency ever conducted any evacuation drills?
  - Yes (when .....)
  - No
- 9a) If Yes, how many times in a year does schools have the drills? (.....)
- 9b) If yes, was it jointly organized with others?
  - No
  - Yes, with whom
    - University
    - Disaster Management Agency
    - Education office
    - Parents
    - Community
    - Red Cross
    - Others (NGO: .....) )

- 10) At schools in your city/regency/province, is disaster education being taught?
  - Yes
    - Typhoon  Landslide
    - Flooding  Fire
    - Others (.....)
  - No
- 10a) If yes, in which grades, are the disaster education classes taught?
- 10b) How many class hours are spent for disaster education in a year?
- 10c) What kinds of teaching aid and materials does your school have?
  - Textbooks on disaster
  - Supplemental readings
  - Others (.....)
- 11) Do you teach about historical event of typhoons in all schools?
  - Yes  No
- 11a) If Yes, what do you use for teaching about the disaster experience?
  - Newspaper/magazines articles
  - Photos
  - inviting Local Story Tellers
  - Others (.....)
- 12) Do schools use any fiscal transfer from central government block grant to prepare for disaster?
  - Yes  No
- 12a) If yes, how much does it cost for what purpose?
  - Cost in a year (PHP.....)
  - Total amount of the block grant at the school (PHP. ....)
  - Use of spending for preparedness (PHP.....)

- 13) How do schools in the city collaborate with the community for supporting education continuity?
- Regularly meet with the community people on school management
  - Regularly organize meetings with parents on children's school performance
  - Jointly organize community events at the school
  - Jointly organize disaster preparedness event at the school or at the community
  - Others ( ..... )
- 14) Do you think all schools have good collaborative relationships with the community?
- Very much collaborative
  - Collaborative
  - Do not know
  - Not much collaborative
  - Not collaborative at all

**C. About Education Continuity in Schools within the city/municipality/province**

- 15) Do all schools have SOP for disaster response?
- Yes
  - No
- 16) If Yes, does it ensure the education continuity program during disaster events?
- Yes
  - No
- 17) If Yes, how well do you think the implementation of this SOP during 2018 Typhoon Mangkhut?
- Very easy to conduct
  - Can be conducted
  - Do not know
  - Not easy to be conducted
  - Not applicable at all
- (Describe: .....)

- 18) Did schools report to the Department of Education using RADAR reporting system?
- Yes
  - No
- 19) If Yes, how well do you think the implementation of RADAR reporting system during 2018 Typhoon Mangkhut?
- Very easy to conduct
  - Can be conducted
  - Do not know
  - Not easy to be conducted
  - Not applicable at all
- (Describe: .....)
- 20) Was schools in this city/municipality/province greatly damaged because of 2018 Typhoon Mangkhut?
- Yes
  - No
- 21) If Yes, how long did it take to have temporary learning spaces built for schools damaged?
- 22) How well do you think the submission process to request temporary learning spaces in your area?
- Very easy to request
  - Manageable
  - Do not know
  - Complicated
  - Hard
- (Describe: .....)
- 23) Are you familiar with the post-disaster cleanup fund?
- Yes
  - No

- 24) How well do you think the disbursement process for the post-disaster cleanup fund in your area?
- Very fast
  - On time
  - Do not know
  - Overdue
  - Never receive
- 25) Do you think the post-disaster cleanup fund is helpful for schools in the city?
- Yes
  - No
- 26) If Yes, how do you spend the post-disaster cleanup fund for schools in your city?
- (Describe: .....)
- 27) Did schools in the city receive learner's kit post 2018 Typhoon Mangkhut?
- Yes
  - No
- 28) If Yes, how many packages distributed for schools in the city?
- 29) How well do you think the learner's kit in supporting the education continuity of school?
- Very helpful
  - Helpful
  - Do not know
  - Less helpful
  - Do not fulfill learner needs
- 30) What did your school get inside the learner's kit?
- (Describe: .....)
- 31) Did your school receive teacher's kit post 2018 Typhoon Mangkhut?
- Yes
  - No

- 32) If Yes, how many packages distributed for your school?
- 33) How well do you think the teacher's kit in supporting the education continuity for your schools in the city?
- Very helpful
  - Helpful
  - Do not know
  - Less helpful
  - Do not fulfill learner needs
- 34) What was the content of the learner's kit?
- (Describe: .....)
- 35) What kind of activities done to replace school days loss because of 2018 Typhoon Mangkhut?
- (Describe: .....)
- 36) How many students joined the school activities during the emergency period (please add the percentage as well)?
- 37) How many teachers were available to conduct the school activity during the emergency period (please add the percentage as well)?
- 38) What were the challenges when conducting the education activity during the emergency period of the 2018 Typhoon Mangkhut?
- (Describe: .....)

**SECTION 2 – OPEN QUESTIONS ON SPECIFIC RESEARCH OBJECTIVES**

CORRESPONDING SPECIFIC RESEARCH OBJECTIVES	QUESTIONS
RO 1	12. Aside from the 2018 Typhoon Mangkhut, what was/were the most disruptive events ever experienced by schools in the Philippines? How long educational activities were stopped and what were the impact to education performance? 13. What are the major practices in your country to mitigate long-impact of education disruption and to recover faster? (Hint: education continuity plan / contingency plan / show the result of policy network analysis, e.g. DepEd related orders on education continuity?) 14. What are the modalities that your organization can support / mobilize to sub-national governments and/or school communities for sustaining education continuity? 15. Among the following hazard sources (Read: natural hazards, health-related hazards, everyday hazards such as traffic or security compromise, and social conflict), which are the most concerning for your school community?
RO 2	16. In your opinion, what are the key challenges for maintaining educational activities at the time of disasters / other types of disruptions faced by the headmasters, teachers, and school management? 17. In the light of recent disasters in 2018 and 2019, as well as other threats to school communities (e.g. Forest fire in Indonesia, dengue outbreak in the Philippines), what are the main challenges for national government to ensure education sector resumption (and disaster management support to other social sectors)?
RO 3	18. Here we have develop the policy network analysis from governmental sectors that may have relevance to support educational continuity. What is your impression? Can you confirm whether the model is valid? 19. Has the current related laws, regulations, and policy provided sufficient justification for resource mobilizations that sustain educational continuity against various hazards? 20. What is the area of improvement required for enabling environment that can sustain education continuity?
RO 4	21. Based on your country experience, what are the positive elements for education continuity that can be learn or replicable for other ASEAN countries? (Hint: maybe each AMS version of #walangpasok? OR the most-relevant DepEd orders / NDRRMC policy to be replicate by other ASEAN countries?) 22. If anything, what would be the critical education continuity element that you want to learn from other ASEAN countries?

**ASEAN SAFE SCHOOLS INITIATIVE (ASSI)**

**Research on “Enhancing an Enabling Environment for Education Continuity in Multi-hazards setting”**

**RESEARCH INSTRUMENT 03**

**Key Informant Interview Guideline for School Headmaster / DRR or Emergency Response Focal Point / Teachers AND School Observation Sheet**

**Introduction – Research team members are required to read this first before interaction with KIs**

This interview is the part of the ASSI research on entitled “Enhancing an Enabling Environment for Education Continuity in Multi-hazards setting” implemented by ASSI Consortium partners and supported by European Civil Protection and Humanitarian Aid Operations. This research aim to examine education continuity management efforts in the region during or post-disasters or emergencies, particularly focusing on the structures, design or approaches, effectiveness (accessibility, quality, reach to the most affected/marginalized including considering gender lens, children with disability, children in displacement and urban areas), capacities, actors, and gaps. The research looks to illustrate the linkages among education development programming, disaster risk reduction in education sector and emergencies and provide a reference for the governments in enacting their policies in school safety.

This interview is recorded for documentation and analysis purpose, your participation is voluntary, and the data and information used will only be use for the purpose of this research.

**Do you agree to continue?**

By starting the interview, it implies that the resource persons agree to continue and accept the conditions mentioned in this part.

Name : \_\_\_\_\_

Institution : \_\_\_\_\_

Position : \_\_\_\_\_

Address : \_\_\_\_\_

Phone : \_\_\_\_\_ Email : \_\_\_\_\_

If there are any questions that you do not want to answer about your experiences, please leave it as a blank.

### A. About yourself

- 1) Did you experience the 2018 Philippines Typhoon Mangkhut on September 2018?
  - Yes  No

If 1) is yes,

  - a) Were you at school when the disaster occurred?
    - Yes  No
  - b) If a) is yes, which school and city were you?
  - c) If A1 is no, please answer the reason that you have not experienced the 2018 typhoon disaster:
    - Because I was out of the Province/ country at that time
    - Because I was not living in Philippines at that time. Where were you then? (.....)
    - Other reasons (Please specify.....)
- 2) Have you ever participated in training workshops seminars lectures on the following?
  - Knowledge on disaster emergency response planning (When? .....) )
  - Rescue and evacuation, school documents/ logistics (When? .....) )
  - Early warning training/ simulation (When? .....) )
  - Training on to teach disaster related information and knowledge at school curriculum (When? .....) )
  - None
- 3) If (3) is "Yes" how many hours training was it? And when did you receive? How many times?
  - (.....) hours in total
  - How many times?
    - Once  Twice
    - More than three times
  - When was that? (.....)

### B. About your school

- 4) Do you know what kinds of damages were caused at your school by the 2018 typhoon?
  - No
  - Yes (please describe about the damage)
    - 4 a) Facility damage (.....)
    - 4 b) Human damage (.....)
- 5) If yes, do you know which organization recover your school building?
  - Yes (Name:.....) (When:.....)
  - No
- 6) What kinds of natural hazards is your school exposed to?
  - Typhoon  Landslide
  - Flooding  Fire
  - Others (.....)
- 7) How does your school receive evacuation message when typhoon happens?
  - No message expected to come. I need to decide.
  - From city board of education by (SMS, phone, others)
  - From city disaster management agency (SMS, phone, others)
  - A text message or other warning products from PAGASA or PHIVOLCS
  - Did you already register for receiving the message?
    - Yes  No
  - Others (describe)

- 8) Does your school have an evacuation route/ maps:
  - Yes  No

(when was it created by who? .....) )

  - 8a) If yes, please describe the safety on the designated/planned the evacuation site and route.
  - 8b) If Yes, is your school evacuation route/maps ever updated?
    - Yes (by:.....)
    - No
  - 8c) If Yes, which hazard does the plan expect?
    - Don't Know  Typhoon
    - Landslide  Flooding
    - Fire
    - Others (Specify.....)
  - 8d) If yes, have you ever actually visited the evacuation place and checked the safety of the route to the evacuation place?
    - Yes  No
  - 8e) If yes, have you ever use the evacuation route and place map for the schools' evacuation drill?
    - Yes  No
  - 8f) If no, do you think where would be the alternative evacuation site for children?
    - Yes, where: .....
    - No
- 9) Has your school ever conducted any evacuation drills?
  - Yes (when .....) )
  - No
  - 9a) If Yes, how many times in a year does your school have the drills? (how many times )
  - 9b) If yes, was it jointly organized with others?
    - No
    - Yes, with whom
      - University
      - Disaster Management Agency
      - Education office
      - Parents
      - Community
      - Red Cross
      - Others (NGO: .....) )

- 10) At your school, is disaster education taught at the school?
  - Yes
    - Typhoon  Landslide  Flooding
    - Fire  Others (.....)
  - No
  - 10a) If yes, in which grades, are the disaster education classes taught?
  - 10b) How many class hours are spent for disaster education in a year?
  - 10c) What kinds of teaching aid and materials does your school have?
    - Textbooks on disaster
    - Supplemental readings
    - Others (Specify.....)
- 11) Do you teach about historical event of typhoon in your school?
  - Yes  No
  - 11a) If Yes, what do you use for teaching about the disaster experience?
    - Newspaper/magazines articles
    - Photos
    - inviting Local Story Tellers
    - Others (Specify.....)
- 12) Does your school use school block grant to prepare for disaster?
  - Yes  No
  - 12a) If yes, how much does it cost for what purpose?
    - Cost in a year (PHP.....)
    - Total amount of the block grant at the school (PHP.....)
    - Use of spending for preparedness (PHP.....)

- 13) How does your school collaborate with the community for supporting education continuity?
- Regularly meet with the community people on school management
  - Regularly organize meetings with parents on children's school performance
  - Jointly organize community events at the school
  - Jointly organize disaster preparedness event at the school or at the community
  - Others (specify)

- 14) Do you think that your school has good collaborative relationships with the community?
- Very much collaborative
  - Collaborative
  - Do not know
  - Not much collaborative
  - Not collaborative at all

### C. About Education Continuity in Your School

- 15) Does your school have any SOP for disaster response?
- Yes  No

- 16) If Yes, does it manage the education continuity program during disaster events?
- Yes  No

- 17) If Yes, how well do you think the implementation of this SOP during 2018 Typhoon Mangkhut?
- Very easy to conduct
  - Can be conducted
  - Do not know
  - Not easy to be conducted
  - Not applicable at all
- Describe: .....

- 18) Did your school report to the Department of Education using RADAR reporting system?
- Yes  No

- 19) If Yes, how well do you think the implementation of RADAR reporting system during 2018 Typhoon Mangkhut?
- Very easy to conduct
  - Can be conducted
  - Do not know
  - Not easy to be conducted
  - Not applicable at all
- Describe: .....

- 20) Was your school damaged because of 2018 Typhoon Mangkhut?
- Yes  No

- 21) If Yes, how long did it take to have temporary learning spaces built for your school?

- 22) How well do you think the submission process to request temporary learning spaces in your area?
- Very easy to request
  - Manageable
  - Do not know
  - Complicated
  - Hard
- Describe: .....

- 23) Are you familiar with the post-disaster cleanup fund?
- Yes  No

- 24) How well do you think the disbursement process for the post-disaster cleanup fund in your area?
- Very fast
  - Do not know
  - Never receive
  - On time
  - Overdue

- 25) Do you think the post-disaster cleanup fund is helpful for your school?
- Yes  No

- 26) If Yes, how do you spend the post-disaster cleanup fund for your school?
- Describe: .....

- 27) Did your school receive learner's kit post 2018 Typhoon Mangkhut?
- Yes  No

- 28) If Yes, how many packages distributed for your school?

- 29) How well do you think the learner's kit in supporting the education continuity for your school?
- Very helpful
  - Helpful
  - Do not know
  - Less helpful
  - Do not fulfill learner needs

- 30) What did your school get inside the learner's kit?
- Describe: .....

- 31) Did your school receive teacher's kit post 2018 Typhoon Mangkhut?
- Yes  No

- 32) If Yes, how many packages distributed for your school?

- 33) How well do you think the teacher's kit in supporting the education continuity for your school?

- Very helpful
- Helpful
- Do not know
- Less helpful
- Do not fulfill learner needs

- 34) What did your school get inside the learner's kit?
- Describe: .....

- 35) What kind of activities done to replace school days loss because of 2018 Typhoon Mangkhut?
- Describe: .....

- 36) How many students joined the school activities during the emergency period (please add the percentage as well)?

- 37) How many teachers were available to conduct the school activity during the emergency period (please add the percentage as well)?

- 38) What were the challenges when conducting the education activity during the emergency period of the 2018 Typhoon Mangkhut?
- Describe: .....



13) Availability of Typhoon Evacuation-related sign

ITEM / SIGNAGE	AVAILABILITY		COMPLIANCE TO GOVERNMENT GUIDELINE (IF ANY)		DESCRIPTION (DO TAKE PHOTO)
	a. Yes	b. No	a. Yes	b. No	
1. Typhoon (and collateral hazards) evacuation map					
2. Typhoon (and collateral hazards) Typhoon evacuation route					
3. Typhoon (and collateral hazards) safe zone					
4. Typhoon (and collateral hazards) event information					
6. Typhoon or other disasters commemoration site					

...

Research on “Enhancing an Enabling Environment for Education Continuity in Multi-hazards setting”

RESEARCH INSTRUMENT 04

Key Informant Interview Guideline for

Resource persons from other related ministries/departments supporting education continuity

(e.g. public works, health, home affairs, social welfare/affairs)

**Introduction – Research team members are required to read this first before proceeding with interview**

This interview is the part of the ASSI research on entitled “Enhancing an Enabling Environment for Education Continuity in Multi-hazards setting” implemented by ASSI Consortium partners and supported by European Civil Protection and Humanitarian Aid Operations. This research aim to examine education continuity management efforts in the region during or post-disasters or emergencies, particularly focusing on the structures, design or approaches, effectiveness (accessibility, quality, reach to the most affected/marginalized including considering gender lens, children with disability, children in displacement and urban areas), capacities, actors, and gaps. The research looks to illustrate the linkages among education development programming, disaster risk reduction in education sector and emergencies and provide a reference for the governments in enacting their policies in school safety.

This interview is recorded for documentation and analysis purpose, your participation is voluntary, and the data and information used will only be use for the purpose of this research.

**Do you agree to continue?**

By starting the interview, it implies that the resource persons agree to continue and accept the conditions mentioned in this part.

Name : \_\_\_\_\_

Institution : \_\_\_\_\_

Position : \_\_\_\_\_

Address : \_\_\_\_\_

Phone : \_\_\_\_\_ Email : \_\_\_\_\_

CORRESPONDING SPECIFIC RESEARCH OBJECTIVES	QUESTIONS
RO 1	<p>23. Based on your organization's mandate / functions, do you think you have roles to support education sector and disaster management sector for ensuring education continuity? What are the major practices / examples that you can provide? (Hint: please provide examples on the role of DPWH to support DepEd in assuring resilience of school buildings against various disasters)?</p> <p>24. Among the following hazard sources (Read: natural hazards, health-related hazards, everyday hazards such as traffic or security compromise, and social conflict), which are the sources that your organization has potential role to mitigate / respond to its occurrence and in turns support education continuity?</p>
RO 2	<p>25. In the light of recent disasters in 2018 (Central Sulawesi Earthquake / Tsunami, Typhoon Makghut/Ompong, Tropical Storm Son Tinh) and 2019, as well as other threats to school communities (e.g. Forest fire in Indonesia, dengue outbreak in the Philippines), what are the main coordination and implementation challenges for national government to ensure education sector resumption (and other government agencies support to other social sectors)?</p> <p>(Hint for Philippines: how DPWH (and its sub-national counterparts ensure safe / well built Temporary Learning Spaces or school reconstruction efforts?)</p>
RO 3	<p>26. Here we have develop the policy network analysis from governmental sectors that may have relevance to support educational continuity. What is your impression? Can you confirm whether the model is valid?</p> <p>(Hint: show the preliminary model of policy network analysis à let's discuss the content and formulation process of Presidential decree 1096 – National building code &amp; DepEd Order 64/2017on Minimum Performance Standards and Specifications MPSS of public schools. Is there any other policy instruments that need to be considered?)</p> <p>27. Has the current related laws, regulations, and policy provided sufficient justification for resource mobilizations that sustain educational continuity against various hazards?</p> <p>28. What is the area of improvement required on school building constructions and quality control that can sustain education continuity?</p>
RO 4	<p>29. Based on your country experience, what are the positive elements for education continuity that can be learn or replicable for other ASEAN countries? (Hint for Philippines: will you recommend substance and process of developing Presidential decree 1096 – National building code &amp; DepEd Order 64/2017on Minimum Performance Standards and Specifications MPSS of public schools)</p> <p>30. If anything, what would be the critical safe-school practices that you want to learn from other ASEAN countries?</p>

## ASSI Regional Contacts

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**Education, Youth, and Sport Vision**  
ASEAN Secretariat  
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### (Footnotes)

1 See an example of School-in-a-box [https://www.unicef.org/supply/index\\_40377.html](https://www.unicef.org/supply/index_40377.html)



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[www.aseansafeschoolsinitiative.org](http://www.aseansafeschoolsinitiative.org)