EDUCATION SECTOR SNAPSHOT for COMPREHENSIVE SCHOOL SAFETY and EDUCATION IN EMERGENCIES

VIETNAM

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List of Acronyms and Abbreviations

CCA	Climate Change Adaption
DRM	Disater Risk Management
DRR	Disater Risk Reduction
HAP	Humanitarian Accountability Partnership
INEE	International Network for Education in Emergencies
INGO	International Non-Governmental Organization
JICA	Japan International Cooperation Agency
MOET	Minisry of Education and Training
NGO	Non-Governmental Organization
SDM	School Disater Management
UNDP	United Nations Development Program
UNICEF	United Nations Children's Fund

1. DEMOGRAPHIC CONTEXT

Vietnam is a multi-ethnic country with 54 ethnic minority groups. Kinh ethnic group accounts for 86% of population, while the rest make up 14%.

Vietnamese is official language used in administration, diplomacy, education, etc. and common communication language for all ethnic minority groups across the country.

1.1. Population size

Vietnam has a total population of 85,789,573 people in 2009 (on 1st April 2009, Vietnam Population Census), with 25,374,262 people living in urban areas making up 29.6% and 60,415,311 people residing in rural areas making up 70.4%. The number of males was 42,482,549 constituting 49.5% and there were 43,307,024 females constituting 50.5%.

Table 1.1. Population size and population growth rate of Vientam, period 1979-2009

No.	**Year**	**Population** *(thousand of people)*	**Average annual population growth rate** *(%)*
1	1979	52,742	-
2	1989	64,376	2.1
3	1999	76,323	1.7
4	2009	85,790	1.2

[Source: Central Population and Housing Census Steering Committee, The 2009 Vietnam population and housing census: completed results, HaNoi , 2010]

In the period between two population census 1999 and 2009, average annual population growth rate was 1.2%/year (increase about 952 thousand of people each year). Compared to this figure, that for previous period 1989-1999 was 1.7%/year. This proved that birth rate of Vietnam was continuously reducing in recent years.

1.2. Population density

Vietnam population distributes inequally in different regions across country. The two most populuous regions is Red River Delta and Mekong Delta region. These are deltas of two big rivers with favourabe condition to agricultural cultivation. Northern Midland and Mountainous region and Central Highland Region have low population density, including provinces with lowest population density. These are mostly mountainous provinces with unfavourable transportation settled by the minority.

Table 1.2. Population distribution and density in different economic region in 2009

No.	Economic regions	Area *(%)*	Population *(%)*	Population density *(people/km^2)*
	Total	***100.0***	***100.0***	***259***
1	Northern Midland and Mountainous Region	28.8	12.9	116
2	Red River Delta Region	6.3	22.8	930
3	Northern Central Region and Southern Central Coastal Region	29.0	22.0	196
4	Central Highland Region	16.5	6.0	93
5	Southeastern Region	7.1	16.3	594
6	Mekong River Delta Region	12.3	20.0	423

[Source: Central Population and Housing Census Steering Committee, The 2009 Vietnam population and housing census: completed results, HaNoi , 2010]

Recently, urban-rural ratio, under impacts of economic economy, has changed with the increse in urban rate; at the same time, redistribution of population occurs across the country with Central Highland Region, Southeastern Region seeing higher immigration and Northern Central Region and Southern Central Coastal Region, Mekong Delta Region witnessing higher migration rate.

Table 1.3. Urban-Rural ratio and average annual population growth rate of Vietnam in different economic region, 1999-2009

No.	Economic Regiion	Population *(people)*		Urban rate *(%)*		Average Annual Growth Rate over period 1999-2009 *(%)*
		1999	*2009*	*1999*	*2009*	
	Total	**76,323,173**	**85,789,573**	**23.7**	**29.6**	**1.2**
1	Northern Midland and Mountainous Region	10,033,878	11,064,449	13.8	16.0	1.0
2	Red River Delta Region	17,852,989	19,577,944	21.0	29.2	0.9
3	Northern Central Region and Southern Central Coastal Region	18,087,097	18,835,485	19.1	24.1	0.4
4	Central Highland Region	4,059,928	5,107,437	27.2	27.8	2.3
5	Southeastern Region	10,158,606	14,025,387	55.1	57.1	3.2
6	Mekong Delta Region	16,130,675	17,178,871	17.2	22.8	0.6

[Source: Central Population and Housing Census Steering Committee, The 2009 Vietnam population and housing census: completed results, HaNoi , 2010]

1.3. Gender and Age Structure

Vietnam has a young population with people aged 0-14 making up a high percentage (33.1% in 1999 and 24% in 2009), and people 65 plus making up a low percentage (5.8% in 1999 and 6.6% in 2009). However, Vietnam population is now suffering ageing process due to decreasing birth rate and increasing longevity.

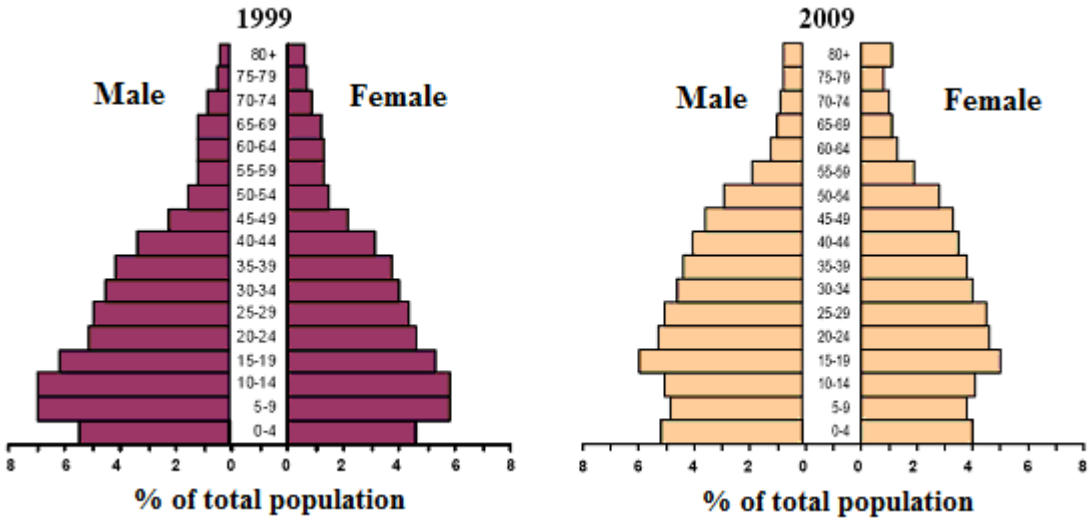
Table 1.4. Gender and Age structure of Vietnam population in 1999 and 2009

Unit : %

Age group	Total		Male		Female	
	1999	2009	1999	2009	1999	2009
Total	***100.0***	***100.0***	***100.0***	***100.0***	***100.0***	***100.0***
0-4	9.4	9.0	9.8	8.5	9.0	7.9
5-9	11.8	8.4	12.4	8.0	11.3	7.6
10-14	11.9	9.0	12.4	8.5	11.4	8.1
15-19	10.8	10.6	11.1	10.2	10.5	9.8
20-24	9.1	9.3	9.2	9.2	9.0	9.2
25-29	8.6	8.9	8.8	8.9	8.5	8.8
30-34	7.9	8.0	8.0	7.9	7.8	7.8
35-39	7.3	7.7	7.3	7.6	7.4	7.5
40-44	6.0	7.0	5.8	7.0	6.1	7.0
45-49	4.1	6.3	3.9	6.4	4.3	6.5
50-54	2.8	5.0	2.6	5.3	2.9	5.5
55-59	2.3	3.3	2.1	3.6	2.6	3.8
60-64	2.3	2.1	2.0	2.3	2.5	2.5
65+	5.8	5.3	4.7	6.6	6.8	7.9

[Source: Central Population and Housing Census Steering Committee, The 2009 Vietnam population and housing census: completed results, HaNoi , 2010]

Figure 1.1. Vietnam Demographics Tower, 1999 and 2009



2. EDUCATION SECTOR OVERVIEW

2.1. Vietnam National Education System

Vietnam National Education System consists of formal education and continuing education. There are 4 different education levels:

- Pre-school education with nursery and kindergartens providing care for children from 3 months to 6.
- General education includes primary education, lower secondary education and upper secondary education.
    + Primary education covers 5 school years from grade 1 to grade 5. Children aged 6 are entitled to grade 1.
    + Lower Secondary Education covers 4 school years from grade 6 to grade 9. Children completing primary education and aged 11 will be transferred to Grade 6.
    + Upper Secondary Education covers 3 school years from grade 10 to grade 12. Students admitted to Grade 10 must be aged 15 and hold a Lower Secondary Diploma.
- Professional Education with professional secondary education and vocational training.
    + Professional Secondary Education is organized in 3-4 years for those holding Lower Secondary Diploma and 1-2 years for those getting Upper Secondary Diploma.
    + Vocational training is of 1 year for elementary training and 1-3 years for intermediate and upper intermediate training.
- Under-graduate and Post-graduate Education (University Education) include under-graduate and post-graduate levels, master and doctoral degrees.
    + College programme lasts 2-3 years depending on specialization for those holding Upper Secondary Diploma or Professional Secondary Diploma; or one and a half to two years for those graduating Professional Secondary Education in similar major.
    + University programme offers four to six year program depending on fields of study for students holding Upper Secondary Diploma or Professional Secondary Diploma, two and a half to four year program for those graduating Professional Secondary Education in the same field of study; or one and a half to two year programme for students graduating college in the same field of study.
    + Master programme lasts one to two year for those having university degree.
    + Doctoral degree study lasts 4 years for those having university degree, two to three years for those holding master degree. In some special cases, duration for doctoral degree can be extended in accordance with Minister of Education and Training's regulations.

In national education system, there is the existence of continuing education apart from formal education. This type of education enables people to study whiling earning a living, learn continously to develop personality, improve educational level, expertise and professional competence in order to raise living standard, secure a job or create job for themselves and become more adaptive to different social development period. Government has policies to develop continuing education, education for all and establish learning society.

Schools in national education are organized in the following forms:

- State-owned schools: founded by Government with infrastructure investment and funding from Government;

- People-founded schools: community establishes, invests in infrastructure and covers operation expenses;
- Private schools: founded by social/economic organization or individual with infrastructure investment and funding from this organization and individual.

The Government provides conditions for State-owned schools to play key roles in the national education system..

In Vietnam national education system, there is still the existence of special types of schools, including ethnic minority boarding school, ethnic minority semi-boarding school, pre-university schools, schools for the disabled and schools for crime-committing students.

2.2. School network

School network has developed across country with a variety of types. By 2009-2010, there were12,357 kindergarten schools, 28,413 general education school, 282 professional secondary education school, 227 colleges and 149 universities in the country *[Statistical Yearbook, 2010]*.

In general, there are kindergartens in almost all communes; there are primary schools in every communes and, lower secondary schools in some communes or in inter-communal areas, and upper secondary schools in district. Vocational schools, colleges and universities have been established in almost all big residential areas and provinces. Mountainous provinces and almost mountainous districts have established semi-boarding schools and boarding schools for ethnic minority students.

Table 2.1. Number of kindergarten and general education schools in Vietnam, 2006-1013

Unit: School

Level	2004-2005	2006-2007	2008-2009	2010-2011	2012-2013
Kindergarten	10,453	11,509	12,190	12,908	13,548
Primary education	14,518	14,839	15,051	15,242	15,361
Lower Secondary Education	10,075	10,401	10,576	10,744	10,847
Upper Secondary Education	2,224	2,355	2,487	2,607	2,708
Professional Secondary Education	285	269	273	290	294

[Source: Education data of Statistical Yearbook, 2013, MOET]

2.3. Number of students

Given rapid development of education including the expansion of school network for compulsory education for children under 5, the number of student tend to increase dramatically, especially kindergarten children.

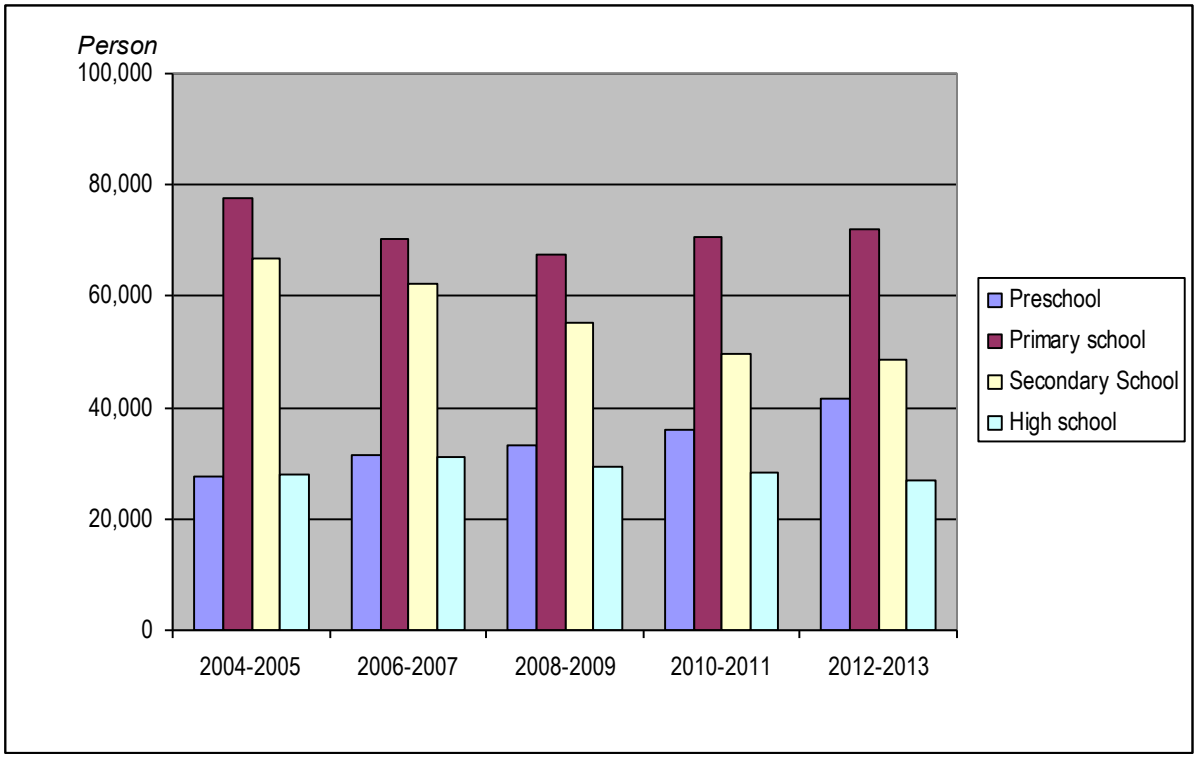
Table 2.2. The number of Vietnamese students, 2004-1013

Unit: School

Level	2004-2005	2006-2007	2008-2009	2010-2011	2012-2013
Preschool	2,754,094	3,147,252	3,305,039	3,599,663	4,148,356
Primary school	7,773,484	7,041,312	6,745,016	7,048,493	7,202,756
Secondary School	6,670,714	6,218,457	5,515,123	4,968,302	4,869,839
High school	2,802,101	3,111,285	2,951,889	2,835,025	2,675,302

[Source: Statistic Yearbook 2013, Education & Training Data, Moet]

Figure 2.1. Number of students in Vietnam, 2004-2013



2.4. Teacher and Educational Management Staff

In recent years, the development of teacher's quantity and the improvement of teaching quality are continuously taken into account for education. The number of teachers with standardised professionalism has been incresing.

Table 2.3. Teachers and Educational Management Staffs, 2013

Indicator	Total *(person)*		Level above standard *(%)*	Ethnic minorites *(person)*
	Male	Female		
Preschool teacher	12,783	231,695	93.22	30.288
Preschool Management staff	20,238	30,921	-	3.105
Primary school teacher	90,204	291,228	99.69	47.096
Primary school	16,751	18,566	100	3.104

Indicator	Total *(person)*		Level above standard *(%)*	Ethnic minorites *(person)*
	Male	Female		
Management staff				
Secondary school teacher	103,221	212,184	99.33	24.668
Secondary school Management staff	15,437	9,119	100	1.907
High school teacher	59,497	91,418	99.61	7.947
High school Management staff	7,367	-	100	-

[Source: Statistic Yearbook 2013, Education & Training Data, Moet]

In general, preschool and regular school teachers meet the demand for both quantity and quality. However, the abundance and shortage of teachers is still a regional issue. There is a shortage of preschool teacher (mostly due to populazation of preschool education for children under 5), and primary school teacher (due to the demand of teaching English in primary school and teaching 2 sessions per day) while some provinces suffer the abundance of lower and upper secondary school teacher. In terms of subjects, teachers of some specific subjects like Music, Arts, English, Information Technology, Technology, Civil Education and Defense Education are still scarce.

Table 2.4. Teachers and Educational Management Staffs in different regions in 2013

Types of teachers	Regions *(unit: person)*						Ratio of teacher to class
	Red River Delta	Northern Mountainous region	Northern Central and Southern Central Coastal Region	Central Highland	South-East region	Mekong Delta	
Preschool teacher	77110	49362	51009	13809	29215	23973	-
Preschool Management Staff	8782	6700	7760	1880	3871	3390	-
Primary school teacher	73331	71514	86531	30294	43986	75776	1.3
Primary school management staff	6330	7439	8412	2930	3526	6680	-
Lower Secondary school teacher	69339	52805	79070	23027	36431	54733	2.16
Lower Secondary school management staff	5280	5566	6625	1805	1895	3385	-
High school teacher	645201	329070	733820	192336	381220	393673	2.2
High school management staff	1681	1204	1774	565	850	1239	-

[Source: Statistic Yearbook 2013, Education & Training Data, Moet]

Professional secondary teachers and professor at colleges and universities have improvement in quantity and quality.

Table 2.5. Colleges and University Education Statistic

TT	Indicator	2000-2001	2002-2003	2004-2005	2006-2007	2008-2009	2009-2010
I	**Professional Secondary Educaiton**						
1	**Professional Secondary Schools**	**253**	**268**	**285**	**269**	**273**	**282**
	- Non-public		30	47	64	73	75
2	**Students**	**254,535**	**309,807**	**466,504**	**527,286**	**625,770**	**703,326**
	- Non-public	2,973	25,156	100,252	93,972	139,158	179,206
3	**Teachers**	**10,189**	**10,247**	**13,937**	**14,540**	**16,214**	**17,525**
	- Non-public		570	2,438	3,959	5,578	6,486
	Percentage of teachers with master degree	5.72	7.61	13.37	14.67	19.78	21.11
4	**Management staffs and Assistant staffs**	5,808	5,841	6,499	6,086	4,332	
II	**College**						
1	**College**	104	121	137	180	223	227
	- Non-public	5	6	7	17	29	30
2	**Students**	186,723	213,933	273,463	366,942	476,721	597,263
	- Non-public	14,801	20,688	24,821	36,301	66,837	104,685
3	**Professor**	7,843	11,215	13,677	15,381	20,183	23,620
	- Non-public	479	563	985	1,012	2,295	3,383
	Percentage of professors with master degree	18.71	20.26	22.51	23.85	28.81	29.35
	Percentage of professors with doctor degree	1.39	1.69	1.80	1.40	1.91	2.40
4	**Management staff and Assistant staffs**	5,414	7,477	7,189	8,957	11,777	12,464
III	**UNIVERSITY**						
1	**University**	**74**	**81**	**93**	**118**	**146**	**149**
	- Non-public	17	17	22	30	45	46
2	**Students**	**731,505**	**746,759**	**1,046,291**	**1,136,904**	**1,242,778**	**1,358,965**
	- Non-public	89,464	91,168	112,939	157,170	151,352	173,268
3	**Professor**	**24,362**	**27,393**	**33,969**	**38,137**	**41,007**	**45,961**
	- Non-public	4,037	4,698	6,668	6,706	3,991	5,882
	Percentage of professors with master degree	27.08	30.40	33.74	38.29	41.57	43.36
	Percentage of professors with doctor degree	18.28	19.30	17.60	14.86	14.34	14.09
4	**Management staff and Assistant staffs**	**13,868**	**15,621**	**18,235**	**20,612**	**24,618**	

[Source: Statistic Yearbook 2013, Education & Training Data, Moet]

3. HAZARDS AND RISKS OVERVIEW

3.1. Hazard

Hazard is a dangerous phenomenon, substance, human activity or condition that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage. *[UNISDR, 2009]*.

Hazard is classified into 2 categories: natural hazard and man-made hazard according to causes.

Natural hazard is natural process or phenomenon that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage. Natural hazard includes 3 main categories:

- Hydro meteorological hazard is process or phenomenon of atmospheric, hydrological or oceanographic nature that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage.
- Biological hazard is process or phenomenon of organic origin or conveyed by biological vectors, including exposure to pathogenic micro-organisms, toxins and bioactive substances that may cause loss of life, injury, illness or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage. Examples of biological hazards include outbreaks of epidemic diseases, plant or animal contagion, insect or other animal plagues and infestations.
- Geological hazard is geological process or phenomenon that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage. Geological hazards include internal earth processes, such as earthquakes, and other related geophysical processes.

Table 3.1. Classification of natural hazards based on main cause

Hydrometeorological hazard	Biological hazard	Geological hazard
Drought	Plant contagion	Earthquake
Flood	Animal contagion	Tsunami
Flash flood	Epidemic diseases	Volcanic eruption
Whirlwind	Insect plague	Rockslide
Tornado	Infestation	Landslide
Storm		Depression
Typhoon		Coastal erosion
Snowstorm		
Thunderstorm		
Dust storm		
Rainstorm		
Hailing		
Heat wave		

3.2. Disaster

3.2.1. Definition

Disaster is a serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources.

It is very crucial to clarify the difference between hazard (often used to refer to a physical phenomenon) and disaster. A hazard may not result in a disaster. But if a hazard highly affects community, having large impact area, causing tremendous damage and disruption of functioning of community, then disaster happens.

Disasters are often described as a result of the combination of: the exposure to a hazard; the conditions of vulnerability that are present; and insufficient capacity or measures to reduce or cope with the potential negative consequences. Disaster impacts may include loss of life, injury, disease and other negative effects on human physical, mental and social well-being, together with damage to property, destruction of assets, loss of services, social and economic disruption and environmental degradation. [UNISDR, 2009].

Vulnerability is the characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard. *[UNISDR 2009]*. There are many aspects of vulnerability, resulting from different physical, social, economic, environmental factors.

Capacity is a combination of all the strengths and resources available within a community, society or organization for dealing with disadvantaged situations, emergencies or disasters.

Disaster often cause serious damage to developing countries rather than developed countries that are more experienced in forecasting, responding and reducing disaster risk. Less advantageous group in community also suffer from disaster-related severe damage.

3.2.2. Specific factors of disaster

3.2.2.1. Activating factor

Based on the origin, factors activating disaster is categorized into 2 groups:

- Internal factors includes all processes happening beneath Earth's surface (mainly related to geological activities), for instance, earthquake, volcano and tsunami.
- External factors include all processes happening on Earth's surface (mainly related to atmosphere and hydrosphere conditions such as precipitation, wind, surface flow, temperature, …) able to activate natural disasters like landslide, river flood, coastal flood, soil erosion,…

However, some disasters (soil erosion, flood, and landslide) are concerned with human activities. It is, therefore, very difficult to obviously determine that a disaster is completely due to nature (heavy rain, rising flood, weathering) or completely due to human (irrigation and hydroelectric constructions, unreasonable land using, deforestation,…).

3.2.2.2. Spatial distribution

Disaster occurs anywhere in the world but each type occurs in some specific areas, such as:

- Earthquake occurs along tectonic plate boundaries, and volcanic erruption occurs along Pacific tectonic plate boundary;
- Tsunami occurs in area near tectonic plate boundaries, but sometimes in area far away from these boundaries as tsunami move a long distance;
- Typhoons often hit coastal areas of Pacific and Indian Ocean;

- Landslide occurs in mountainous and hilly regions;
- Flood and inundation often strikes regions in basin of river and stream, valley and low-lying areas along river banks.

The study of spatial distribution and impact area of disasters in the past provides important evidences for understanding and predicting spatial appearance of similar phenomenon in future.

3.2.2.3. Disaster's starting time and duration

- There are some events happening prior to the appreance of main disaster, which make the main disaster predictable. These events are seen as *warning signals,* and happen prior to main disaster several days, several hours, or several seconds or even do not happen depending on disaster type. Rising period commences from starting time of disaster until disaster's peak.
- Disaster duration is period from starting time to ending time of a disaster. There are some disasters lasting in a short period but some happening in a long period.

3.2.2.4. Frequency

Frequency is probability of a disaster occurring in a particular area in particular time (every year, every decade, every century,etc.)

This is an important base to study probability forecast of some disasters in a particular time. There is a link between probability and intensity of a disaster. In general, disasters with great intensity often have low frequency but disasters with small intensity often occur in high frequency. For instance, a small flood occurs every year but severe floods occur only once every several years or several decades, centuries.

3.2.3. Disaster in the world

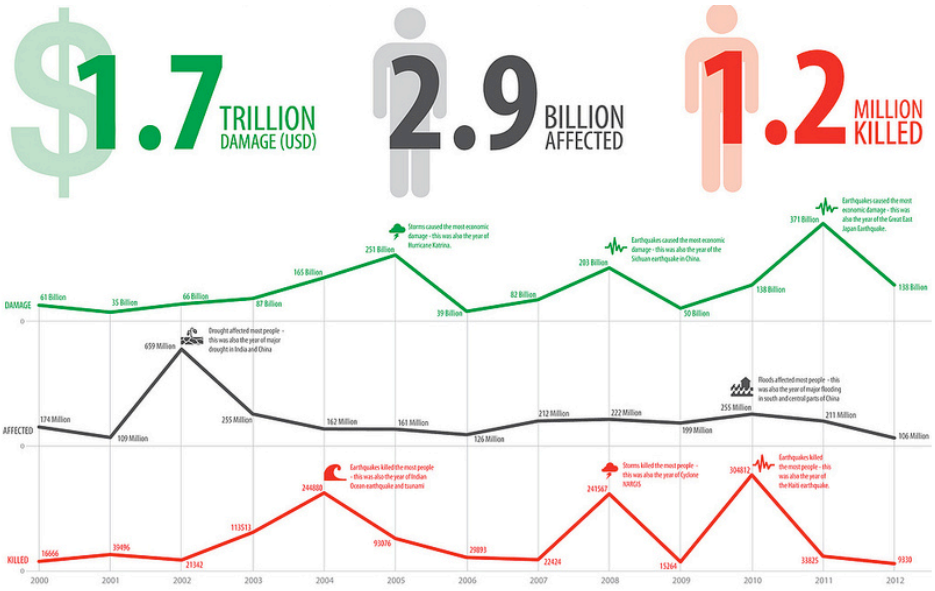
Disaster in the world, especially earthquake, tsunami, storm, flood and drought is becoming more and more complicated, unpredictable and severely affects human lives, property and socio-economic activities.

Figure 3.1. Number of climate-related disaster in the world, 1980-2011

[Source: UNISDR, http://www.unisdr.org/we/inform/disaster-statistics]

Over the last 20 years, there has been annually 100,000 deaths, 220 million directly-affected people and $115 billion dollar damage caused by disasters.

Figure 3.2. Damage on human lives and property caused by disaster worldwide in period 2000-2012



[Source: UNISDR, http://www.unisdr.org/we/inform/disaster-statistics]

3.2.5. Disaster in Vietnam

3.2.5.1. Topography

Vietnam has an area of 330,991 square kilometers with a long coastline of 3260 kilometers. In mainland, Vietnam territory stretches across from $23^0$22'N (Lung Cu commune, Dong Van district, Ha Giang province) to $8^0$30'N (Mui hamlet, Rach Tau commune, Nam Can district, Ca Mau province). The westernmost tip of Vietnam is at $102^0$10'E (A Pa Chai commune, Muong Te district, Lai Chau province) and the easternmost one is at $109^0$24'E (Hon Gom Island, Van Ninh district, Khanh Hoa province).

Figure 3.3. Natural geography map

[Source: National report on disaster reduction in Vietnam, For the World Conference on Disaster Reduction, Kobe-Hyogo, Japan, 18-22 January 2005]

Vietnam territory has its length 4 times longer than its width; the widest area is of approximately 500km from Mong Cai (Quang Ninh province) to Bac Dien Bien. The straitest area is of about 50 km, at the end of road no. 20 on the border Vietnam-Laos in Quang Binh province. In the sea, Vietnam has continental shelf and numerous archipelagoes and islands with a variety of sizes surrounding.

Three quarters of Vietnam mainland is occupied by mountains and hills but the country has 2 big fertile deltas, Red River Delta in the north and Mekong Delta in the south.

Due to the location in tropical area of North hemisphere and highly affected by monsoon, Vietnam has humid tropical monsoon climate that is typical by hot and humid weather, 2 obviously different seasons: dry season and rain season, and short cold winter. The average temperature is above 200C, the highest in June and July is roughly 35-360C and the lowest in December and January is about below 150C. Humidity is high, about 80% in average and the annual average rainfall reaches 2000mm. Rainfall distributes unequally in space and time; rainfall in summer months makes account for 80% of the total.

3.2.5.2. Typical disasters in Vietnam

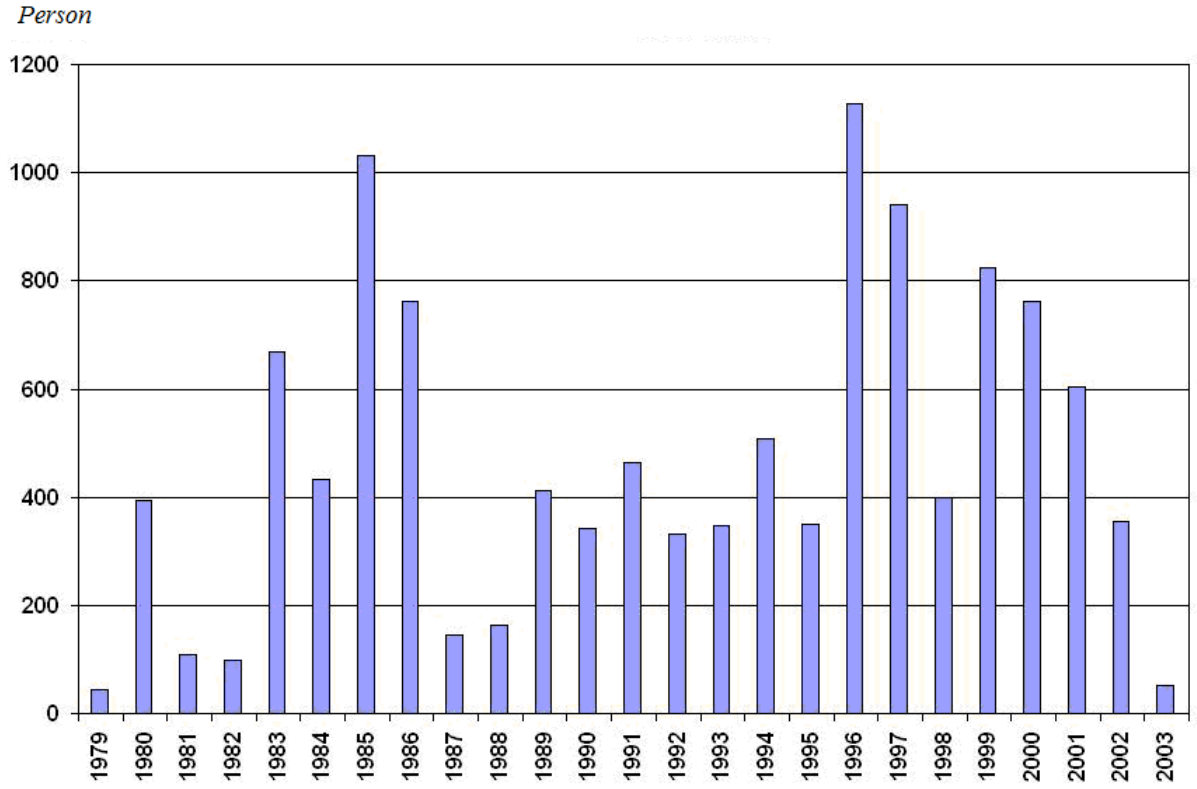
Vietnam is in Asia Pacific, the area highly affected by severe climate over the last decades. Particularly, Vietnam territory is fully located in tropical monsoon area, so impacted by hot and humid climate and undergoing 6 to 12 typhoons annually in average. Heavy rains in long hours or severe typhoons, extraordinary low pressure is causes of different types of disasters like flood, inundation, landslide, river bank collapse and soil erosion.

In addition, three quarters of Vietnam territory is occupied by mountainous and midland provinces. Mountainous areas, especially the ones with segmented terrain, steep slopes,

complicated geological structure and condensed river system, always run risk of earthquake, landslide and flash flood.

It is reported that there were 159 disaster occurring across country from 1980 to 2010, causing 16,099 deaths (519 each year in average), impacting 73,582 people (2,373 people per year in average), damaging 7,955 million US dollars (256,637 thousand dollar each year) *[UNISDR]*. Disaster is particularly complicated in mountainous areas. Landslide, flash flood, drought and extreme cold occuring in large scale with unpredictable intensity makes difficulties for disaster risk preparedness and reduction.

Figure 3.4. Number of deaths caused by disasters in Vietnam, 1979-2003



[Source: Ministry of Agriculture and Rural Development]

Most of Vietnam population is living in lowland areas like delta and coastal areas and it is estimated that above 70% is suffering disaster risks.

Table 3.1. Frequency of disaster in Vietnam

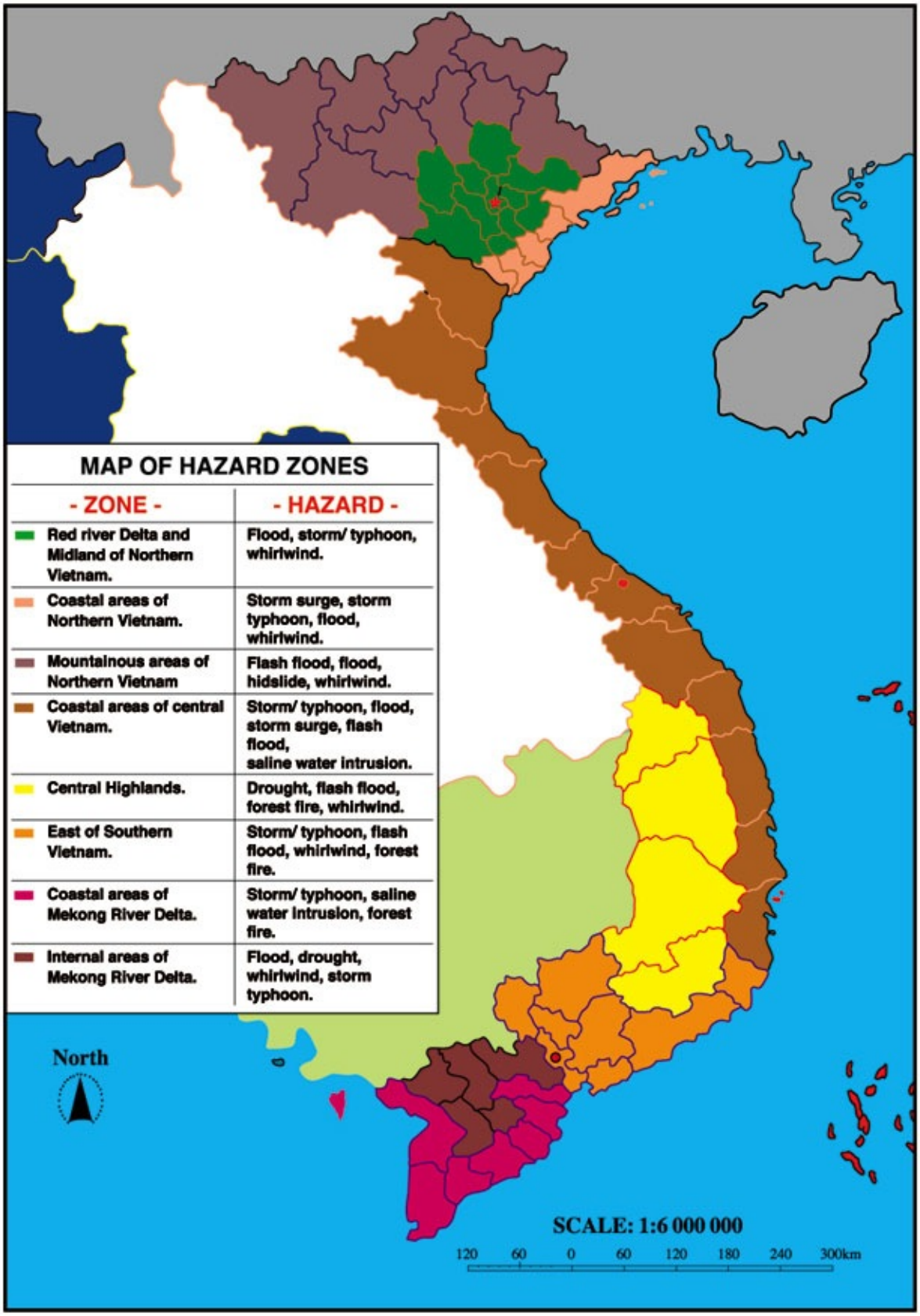
High	Medium	Low
- Flood, Inundation	- Hail rain	- Earthquake
- Typhoon, tropical depression	- Landslide	- Tsunami
- Flash flood	- Fire forest	- Frost
- Tornado	- Salt water instrusion	
- Drought		

Table 3.2. Assessment of Disaster Severity in Different Geographic Areas and in the Coastal Economic Zone of Vietnam

Disaster	Geographic Areas and Economic Zones							
	North east and north west	**Red River Delta**	**North central coast**	**South central coast**	**Central highlands**	**North east south**	**Mekong River Delta**	**Coastal Economic Zone**
Storm	+++	++++	++++	++++	++	+++	+++	++++
Flood	-	++++	++++	+++	+++	+++	+++++	++++
Flashflood	+++	-	+++	+++	+++	+++	+	+++
Whirlwind	++	++	++	++	+	++	++	++
Drought	+++	+	++	+++	++	+++	+	+++
Desertification	-	-	+	++	++	++	+	++
Saline intrusion	-	+	++	++	+	++	+++	++
Inundation	-	+++	++	++	-	++	+++	+++
Landslide	++	++	++	++	+	++	+++	++
Storm surge	-	++	++	++	++	++	+++	++
Fire	++	+	++	+++	-	+++	+++	+++
Industrial and environmental hazard	-	++	++	++	+++	+++	++	+++

The Table shows the assessment of disaster severity in each zone:
Very severe (++++)
Severe (+++)
Medium (++)
Light (+)
None (-)

Figure 3.5. Disaster areas in Vietnam



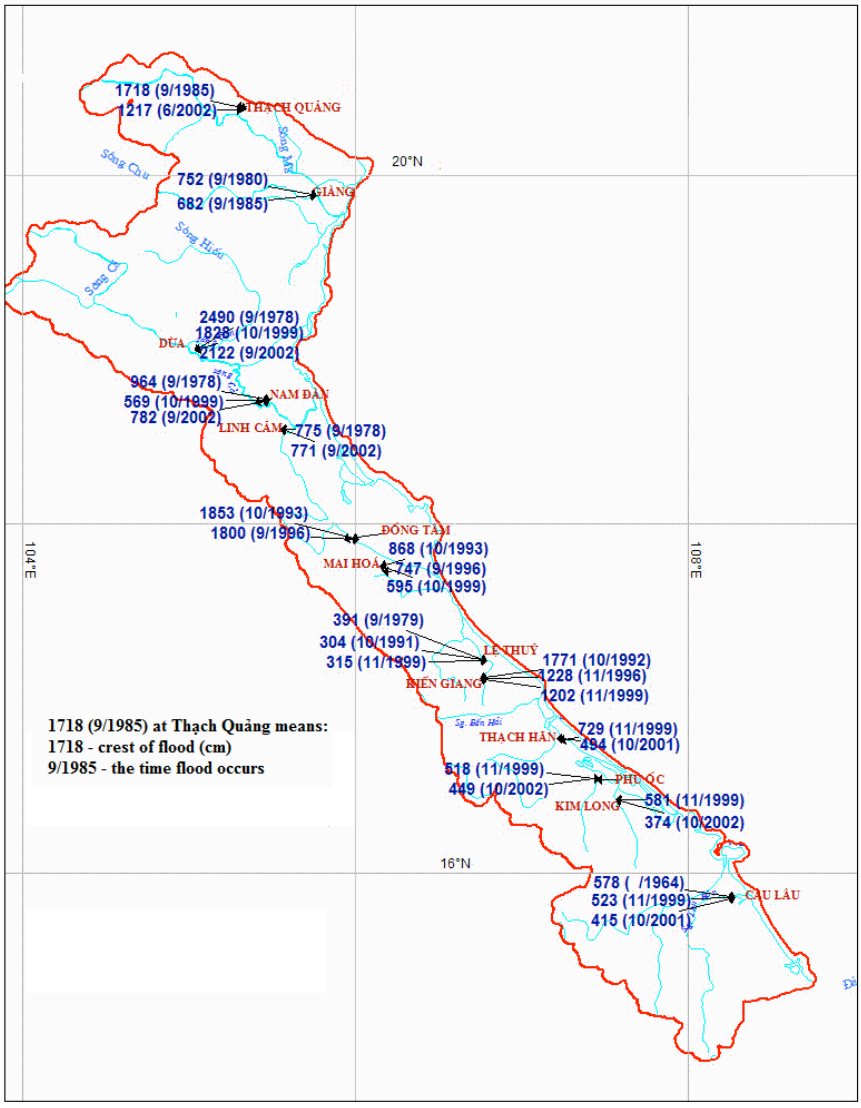
[Source: National report on disaster reduction in Vietnam, For the World Conference on Disaster Reduction, Kobe-Hyogo, Japan, 18-22 January 2005]

*** Flood:**

Vietnam has roughly 2,360 rivers, most of which is short and steep. Therefore, when it rains heavily in valley, it is likely to cause flood. Flood hits most regions across country; Central Highland, and Southern Central Coastal region particularly affected by that heavy rain leading to flood.

Flash flood often strikes mountainous areas with steep mountain and hill slope in conditions of heavy rain and disadvantages of drainage. Flash flood can result from break of small water reservoirs or that landslide makes upstream flow stuck. Flash flood has ever hit 33 provinces having mountains and hills in Vietnam. Flash floods causing most severe damage recorded stroke Son La in 1991, Muong Lay, Lai Chau in 1994, Ha Tinh in 2002 and Yen Bai in 2005. Water strongly poured from slopes washing out many construction along river bank. Water brought mud, rock and tree downstream, filling up caves, swept away 36 people, 102 houses, 3 bridges and buried 50,000 ha of field, causing a damage of 30 billion Vietnam dong.

Figure 3.6. Big floods in Northern Central and Midle Central region, 1945-2004

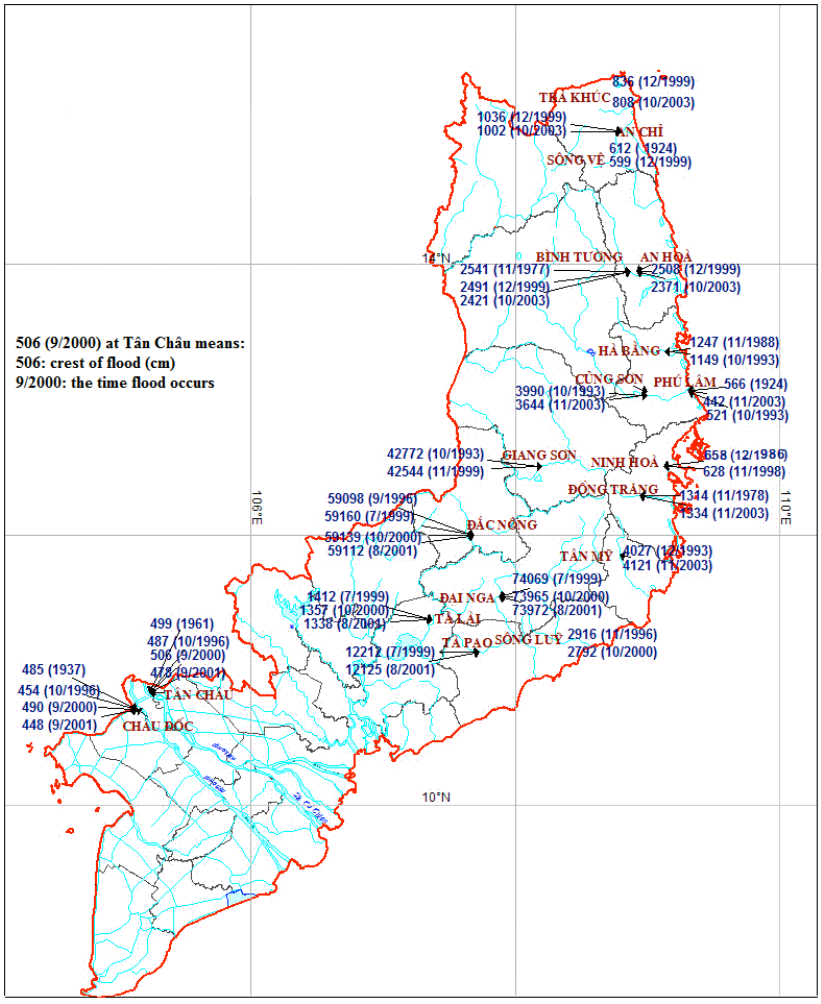


[Source: Ministry of Agriculture and Rural Development]

According to landslide and flash flood risk map in Northern mountainous region created by Ministry of Science and Technology as well as other relevant ministries and agencies, risk of landslide, flash flood in this region is categorized in 5 phases: from extremely low (hardly happen) to extremely high. The areas running high risk of flash flood, landslide, rockslide or mudslide include communes in valley of Nam Lay, Nam Po river (Da River right bank) in Muong Cha and Muong Lay district (Dien Bien province), communes in valley of Nam Lua, Nam Rom, Nam Nua river in Dien Bien district, communes on the source of Ma River, Cau River, in the valley of Ngan river, on right bank of Red river, Da river in Sa Pa, Bat Xat district (Lao Cai province), communes in Van Yen districts (Yen Bai province), Ham Yen district (Tuyen Quang province), Xin Man, Hoang Su Phi, Yen Minh, Bac Quang district (Ha Giang province),…

In fact, most of above disasters are related to human activities like mountain split for building house, traffic contructions; deforestation for wood exploitation, cultivation land; rock, sand exploitation for building materials or mineral exploitation without environmental concern, as well as activities make flow stuck that accelerate flash flood.

Figure 3.7. Big floods in Northern Central and Midle Central region, 1945-2004



[Source: Ministry of Agriculture and Rural Development]

It is estimated that nearly a quarter of Nothern mountainous region run high risk of 3 geological disasters including landslide and flash flood especially in Lai Chau, Son La, Lao Cai, Yen Bai, Ha Giang and a part of Tuyen Quang, Quang Ninh province. According to PhD. Tran Trong Tue (2004), besides segmented sloping terrain, vegetational cover destruction caused by human also make a great contribution to increasing occurance of disaster. It means that strong geological disasters often occur in area with vegetational cover degree less 20%, such as Lai Chau, Dien Bien, Ha Giang, Lang Son. These areas are uncovered land, bush land, or grain-growing land.

Table 3.3. Time of flood in different regions in Vietnam

Region	Starting time	Ending time
North	May-June	September - October
Northern Central	June-July	October - November
Midle and Southern Central	October	December
Central Highland	June	December
South	July	December

[Source: Meteorological and Hydrological Data Center, http://www.hymetdata.gov.vn/]

*** Storm:**

Vietnam is frequently affected by storm and low pressure from northeast Pacific with different extent of impact in different years. Storm and low pressure more frequently and early hit the north and central coastal region than the south.

In Vietnam, storm is classified based on intensity as following:

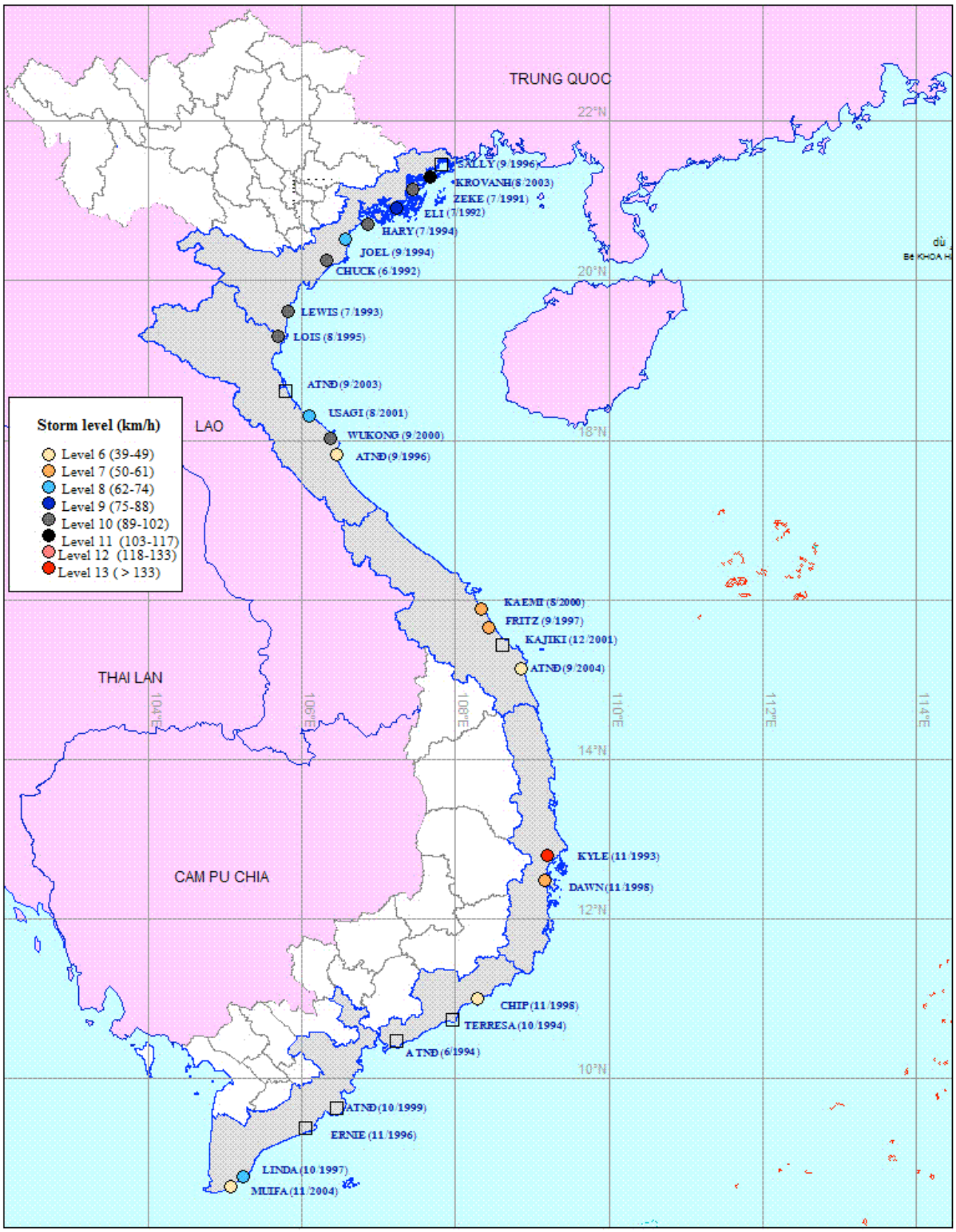
- Low pressure: maximum sustained wind near the centre reaches level 6-7 (equivalent to 39 - 61km/h), probably with gust;
- Tropical storm: maximum sustained wind near the centre reaches level 8-9 (equivalent to 62-88km/h), with gust;
- Severe tropical storm: maximum sustained wind near the centre reaches level 10-11 (equivalent to 89-117 km/h), with gust;
- Typhoon: maximum sustained wind near the centre reaches level 12 and more (equivalent to 118 km/h and over), with gust.

Sustained wind area of typhoon often has a diameter of hundreds of kilometers. The further off typhoon centre it is, the smaller wind speed is. According to instant weather conditions of the area, typhoon can become stronger, weaker or probably disappear, and typhoon can move fast or slowly, in a straight or curving path.

Storm season in Vietnam commences June till November with high concentration from July to October. Typhoon can appear in other months but with low probability. The statistics has shown that there were 100 typhoons making landfall in Vietnam from 1961 to 2012, …

The storm causing the greatest damage ever recorded is Linda in 1997, making more than 3,000 people losing lives and missing in coastal provinces in the south.

Figure 3.8. Typhoons making landfall in Vietnam's coast, 1991-2004



In mountainous region of Vietnam, typhoon often causes following damaging effect:

- Typhoon is an extremely dangerous phenomenon, the stronger typhoon is, the stronger wind is, so a great deal of boats sinks due to typhoon. Strong wind makes trees fallen, destroys houses, property, crop, warehoses and public construction (schools, hospitals, electricity-water-information station, traffic construction…), disrupts production, pollutes environment and disorder people's lives.
- Typhoon season coincides with rain season, therefore, typhoon also cause inundation, flash flood and landslide, water reservoir broken, flooding in lowlands.
- Strong wind is likely to lead to death. Children are vulnerable and suffer the loss of support, accommodation, food, and interrupted access to school and lack of timely medical treatment that results in their normal daily lives.
- Post-typhoon polluted environment possibly makes the children to catch skin-infectious diseases

*** Drought:**

Drought is an extended period of rainfall deficiency, reducing humidity in the atmosphere and ground water, lowering water level in lakes and underground reservoirs, which, in turn, badly affects plant growth, deteriorates environment, causes poverty and diseases.

Drought is caused by 2 main reasons:

Objective reason: Climate pattern aren't stable, resulting in regular or temporary rainfall deficiency.

Subjective reason: Due to forest overexploitation making underground water dry out, … and constraint in water using plan.

Drought can be classified into 4 categories:

- Meteorological drought: Water deficiency in balance of rainfall especially when there is no rain over an extended period. Due to the fact that water evaporation is covariant to radiation intensity, temperature, wind speed and contra-variant to humidity, drought worsens in case of hight temperature, high wind speed, dry weather condition;
- Agricultural drought: shortfall in rain leads to the gap between actual water content underground and need of water for plants. In addition, agricultural drought is related to topography (terrain, land…) and social condition (watering, farming method,…);
- Hydrological drought: Water flow in streams, rivers is obviously below the average and underground water level lowers. Moreover, hygrological drought is influenced by many other factors: surface flow, groundwater,etc.
- Socio-economic drought: There is no adequate water supply for socio-economic activities.

Drought often occurs in Vietnam from December to April next year. However, in recent years, it has started ealier and ended later than usual.

Drought-related damages are merely ranked after those caused by typhoon and flood, especially damages to livelihoods and economy. Over the last 40 years, there have been a lot of severe droughts. The years undergoing severe drought in the north include 1959,1961, 1970, 1984, 1986, 1989, 1993, 1998 in winter-spring season and 1960, 1961, 1963, 1964 in summer-autumn season. The central region and the South suffered drought in the years 1983, 1987, 1988, 1990, 1992, 1993, 2003, 2004, and especially in 1993 and 1998. In 2010, the most devasting drought ever before highly affected many big provinces across country, resulting in pressure for agricultural production and electricity supply.

3.3. Risk and disaster risk

Disaster risk is the potential disaster losses in lives, asset, environment and socio-economic activities, which could occur to a particular community or a society over some specified future time period.

Disaster risk refers to the probability of disaster rather than describing actual disaster. The definition of disaster risk reflects the concept of disasters as the outcome of continuously present conditions of risk. Disaster risk comprises different types of potential losses which are often difficult to quantify. Nevertheless, with knowledge of the prevailing hazards and the patterns of population and socio-economic development, disaster risks can be assessed and mapped, in broad terms at least.

It is important to understand that disaster risk doesn't merely relate to physical dangers caused by hazards. A hazard can turn into a disaster if an individual or a social system is vulnerable to hazard's impact. Therefore, both hazard and vulnerability must be considered in disaster risk assessment.

4. DISASTER RISK MANAGEMENT OVERVIEW

4.1 Government DRM Management

In Vietnam, the Government has supervised the overall management of disaster risk on a national scale. The Ministry of Agriculture and Rural Development has responsibility for the management of disaster risk on behalf of the government with issues as bellows:

- To issue under its jurdification or to submit to relevantly authorized agencies for issuing and to coordinate the implementation of the national strategies, plans, policies and legal regulations on disaster risk management;
- To map out a national safety standard set for disaster prevention works.
- To manage the investment in construction, consolidation and protection of disaster prevention works including dykes, dams, reservoirs, anit-waterlogged, anti-drought and anchorage systems;
- To collect statistics, process information and organize database for the state management of disaster prevention;
- To conduct research and to apply scientific and technological advances into disaster prevention. To provide professional trainings for people working in the field of disaster prevention;
- To organize information and education events in order to improve the public awareness of disaster prevention;
- To act as the focal point in international cooperations on disaster prevention; To propose the joining and signing international treaties of disaster prevention.

Provincial, district and communal authorities have responsibility of disaster risk management persepctively as per regulations of the Disaster Prevention Law.

Relevant ministries and agencies have partical responsibility of disaster risk management as per their functions.

The Ministry of Education and Training have a major responsibility of implementing the plans to provide safe schools as detailed as bellows:

- To issue under its jurdification or submit to relevantly authorized agencies and to supervise the implementation of legalized documents on intergrating the lessons of disaster risk management into school cirrculums at all levels;
- To direct the planning on the construction of schools combining with disaster prevention works suitable with local disaster characters to ensure both human and material safety.

4.2. Supervision and Instruction of Disaster Prevention

In Vietnam, the Central Committee for Storm and Flood Control was established by the Prime Minister. The Central Committee for Storm and Flood Control is functioned as an inter-sectors coordinator to support the Government and the Prime Minister to supervise and instruct the disaster prevention on a national scale; Members of the Central Committee for Storm and Flood Control comprise of regular employees from relevant ministries and state agencies who work for the committee on assignment by their formal employer.

The Ministry of Agriculture and Rural Development is the permanent agency of the Central Committee for Storm and Flood Control. It has a specialized body responsible for providing consultation and support for the Central Committee for Storm and Flood Control.

Ministers and other officials holding the ministerial level position make decision on the establishment of disaster prevention body at their ministry and their relevant organization in order to support their disaster prevention tasks under their jurdification.

Chairmans of provincial, district and communal People's Committee make decision on the establishment of disaster prevention body perspectively to support the disaster prevention, search and rescue in their respectively location.

The Government has issued regulations on structure and functions of the central committee for storm and flood control, the ministry's committees for disaster control and the committees for disaster control and rescue at all administration levels as well as coordination mechanism between the the central committee for storm and flood control and the national committee for search and rescue

4.3. The State Policies for Disaster Risk Management

- The State has issued a comprehensive policy for investment, human resource mobilsation and solutions on the implementation of disaster rish management; investment in key disaster prevention works and support localities to build disaster prevention projects as per various levels by the Government.
- To provide trainings and organize information and education events to improve the public awareness of law biding principal and contributing to the disaster risk management.
- To invest in disaster-prone region infrastructure; to relocation people from dangerous areas to safe places; to give material and livelihoods support to people affected by disaster consequences, priorities to be given to vulnerable people and to regularly hit localities.

- To encourage local households and individuals to proactively engage in disaster prevention activities; to encourage organizations and individuals to invest in construction, research and application of scientific and techonological advances to the disaster management. The State has protected the rights and legal interests of organizations and individuals contributing to the disaster management activities.
- To give preference and encourage insurance companies to provide disaster risk insurance; support business and enterprises operating in disaster-prone areas as per the invesmsenet law, enterprise law and disaster risk management law; to apply tax exemption and income tax reduction policies for amount contributing to disaster risk managment.

Financial resources for disaster risk management include:

- The State budget;
- Disaster control fund;
- Voluntering contribution by organsitions and individuals.

The State budget for disaster rik management:

- The State budget for disaster risk management includes the annual budget estimate and provident budget.
- The estimate of annual budget is used for planning of disaster prevention, for the investment in contruction, consolidation and upgrades of disaster prevention works, for the activities of disaster prevention and for the regular operation of state management agencies of disaster risk management.

The estimate, allocation, management and the use of state budget for disaster risk management are conducted in accordance with the regulations of the State Budget Law.

Provident State budget for disaster risk management is used as per regulations as bellows:

+ Support the response and overcome the consequences of disasters;
+ Based on the size of responses, the level of damages, the needs and policies, the provincial, district and communal People's Committees made decisions respectively to respond to emergency issues and to overcome the consequences;
+ In case the provident State budget is not sufficient to meet the emergency requirement, the Chairman of provincial level People's Committee should proposes to the Prime Minister for further support. The Central Committee for Storm and Flood Control collects data and information of damages and access the need to propose to the Prime Minister for approval.

4.4. Donors and International Organisation Support to Disaster Risk Management in Vietnam

International Organisations based both locally and abroad operating in the area of disaster risk management have the rights as bellows:

+ To have tax and fees exemption to import and export equipments and products for activities of emergency responses, research, rescue and disaster management support;
+ To be given priorities for migration and immigration checks and import-export procedures for equipments and products in emergency responses, research, rescue and disaster management support;

+ To be given the priority for residential procedure;
+ To register operation with Vietnam relevant authorities;
+ To operate on the purposes registered with Vietnam' relevant authorities and to follow all Vietnam laws.

4.5. Social and Cultural Aspects in Disaster Risk Managment

Vietnam has had a united and supportive tradition when disaster happens. The country has mobilized individuals, social forces and organizations to make contribution to the response and overcome of disaster consequences.

Human resources for disaster risk management include:

- Political organizations , social and political organizations, households, individuals are the on-the-spot forces for activities of disaster prevention.
- Militiamen are also an on site force to be responsible for the disaster prevention as per local plans and per assignment of local authorities.
- Military and police forces have responsibility of realocating people, materials, researching and rescuing to ensure security and social stability as per assignment by the relevant authorized personnel
- Volunterring organsiations and individuals participating in activities of disaster prevention follow the authorized personnel.

4.6. Warning, information and education communication system on Disaster Risk Managment

Activities of information and education communciations for disaster risk management are implemented in various forms as bellows:

- Via websites of ministries, ministry-level organizations, government offices, people's committees, mas media and internet;
- To produce special communications materials, magazines, leaflets including ethnic minority language materials;
- To organize exhibitions, workshops, trainings and drills;
- To intergrate disaster risk management knowledge into school curricular at all levels.;
- To organize forums on disaster risk management in order to receive feedbacks on policies, laws and experiences of disaster risk management

Breaking-down of information and education communications reponsibility is detailed as bellows:

- Ministries, ministry-level agencies, Government's offices, people's committees at all levels under their jurdification have responsibility of planning, managing and operating the broadcasting, communicatings and information transmitting systems to receive and dispatch the warning about disaster risks by organizations, individuals and communities; to organize information and education communications on disaster risk managment;
- The Ministry of Information and Communications directs and instructs mass communications organizations to manage information about disaster risk management;
- The Ministry of Education and Training directs and instructs the integration of disaster risk management into school curricular at all levels;

- The Ministry of Agriculture and Rural Development directs and instructs the implementation of the plan to improve the public awareness of disaster risks and community-based disaster management;
- Organisations, families and individuals have responsibility to engage in activities of information and education communications on disaster risk management; to equip disaster warning devices.

5. DRR IN EDUCATION OVERVIEW

5.1. Action Plan for National Strategy on Disaster Reduction, Preparedness and Response of the Education sector for period from 2011-2020

In implementation of Prime Minister Decision 172/2007/QĐ-TTg dated 16 November 2007 on the approval of the National Strategy for Prevention, Control and Mitigation of Natural Disasters till 2020, in 2011, the Ministry of Education and Training (MOET) has issued the National Action Plan on Disaster Reduction, Preparedness and Response of the Education Sector for the period from 2011-2020 (Issued by the Decision No 4068/QĐ-BGDĐT dated 8 September 2011 by MOET Minister). The overall objective of this National Action Plan is to implement DRR awareness raising, to equip DRR knowledge and skills to students, teachers, and educational staff; to mobilize and utilize effectively of resources for disaster reduction, preparedness and response for Education sector in order to minimize the interruption of teaching and learning activities caused by disaster; and to contribute to the development of education, social development, to make sure it's contribution to the national defense and security; to implement policy, strategy and education development planning is in accordance with the National Action Plan on Disaster Reduction, Preparedness and Response of the Education Sector for the period from 2011-2020.

- **Specific objectives (05 specific objectives):**
  + By the year 2015, the DRR awareness raising will reach 100% for educational managerial staff and the process of awareness raising will fulfill to reach most students, teachers, parents and communities in disaster prone areas in all provinces throughout the country to have knowledge to disaster preparedness and response;
  + By the year of 2020, knowledge and skill trainings on Disaster Reduction, Preparedness and Response provide to 100% of educational managerial staff and staff in charge of DRR and response for education sector; By 2015, 100% of educational agencies to be able to develop their own Action Plan on Disaster Reduction, Preparedness and Response; The Disaster Risk Management Board at all levels is trained on knowledge and skill for DRM and with appropriate information management and effectively;
  + By the year 2015 develop DRR curriculum to integrate to training and learning activities into existing subjects and/or to DRR external activities creations in schools. From 2016 onward, to scale-up to nation-wide as stimulated in annual plan for education sector;
  + To set up training code for disaster risk management for university training by 2015 in order to have human resources for DRM;
  + Study and design models for disasters resilience schools/class rooms with in particularly vulnerable areas by the year 2012; to pilot constructing of disasters resilience

schools/class rooms in specific prone areas; to scale-up the models for respective areas by on the specific plan of MOET in the period 2016-2020;

- Tasks and Measures (10 groups of tasks and measures):
  + Review and finalize legal normative documents, mechanisms and policies related to natural disaster prevention, control and mitigation for education sector;
  + Organize information and advocacy in schools and community for education sector;
  + Human Resources training on Natural Disaster prevention, control and mitigation to teachers and educational staff;
  + Bring knowledge on natural disaster prevention, control and mitigation in schools at all levels
  + Set up training code for universities and colleges for trainings on disaster risk management;
  + Study and design models for disasters resilience of schools/class rooms with in particularly vulnerable areas
  + International cooperation on disaster prevention, digitization and response;
  + Survey and assessment on disaster prevention, mitigation, preparedness and response within the education sector;
  + Establish of coordination mechanism on disaster prevention, mitigation, preparedness and response within the education sector;
  + Set up emergency fund to use in case of emergency and used for DRM activities for education sector;
- Major important projects (05 major projects):
  + To bring knowledge on disaster risk management in to schools. Curriculum development, training and capacity building on DRM to teachers, managerial staff, educational staff and communities which is approved by MOET minister in 2013;
  + Project on advocacy and awareness raising on disaster prevention, mitigation and response have been approved by the Minister in 2013;
  + Project DRM information management and advocacy have been approved by the Minister in 2013
  + Project "Study and design models for disasters resilience schools/class rooms with in prone areas"; to develop and submitted to Minister for approval by 2014;
  + Human Resource Development for DRM project to meet requirements to submit to the Minister for approval by 2014.
- Mechanism to lead and implement Action Plan for National Strategy on Disaster Prevention, Control and Mitigation of Natural Disasters for Education Sector period 2011-2020:
  + Establish Steering Committee on Flood and Storm Control and implement Action Plan for National Strategy on Disaster Prevention, Control and Mitigation of Natural Disasters for Education Sector period 2011-2020;;
  + Provincial Departments of Education and Trainings, and Educational Agencies to set up their own Action Plan for disaster risk management and set up DRM Management

Board and/or combination with the DRR/CCA Management Boards.

+ For university, colleges and vocational schools: set up their action plan for disaster risk management and/or combine with DRR/CCA management .

- The standing member of National Steering Committee for Disaster Prevention, Mitigation and Response is the Department of School Infrastructure, School Equipment and Child Toys Department

5.2. The cooperation and showing of interest from international NGOs, national NGOS to the National Action Plan on Disaster Reduction, Preparedness and Response of the Education Sector for the period from 2011-2020:

Since when the National Action Plan on Disaster Reduction, Preparedness and Response of the Education Sector for the period from 2011-2020 were established, Ministry of Education and Training (MOET) have started to receive supports and cooperation from different international organization and INGOs and national NGOs in different activities as follows:

Program/Projects	International Organization, INGOs and NGOs is working on or interested in	Expectation from MOET
To bring knowledge on disaster risk management in to schools. Curriculum development, training and capacity building on DRM to teachers, managerial staff, educational staff and communities	- JICA - Unicef - Save the Children - Unesco - Plan international - Care Internationals - Live &Learn	Request for the support in term of both in depth and widely
To advocate and awareness raising on disaster prevention, mitigation and response	- Unicef	Request for the support in term of both in depth and widely
To set up DRM information management system for education sector;	- Unicef - Save the Children - Unesco - Plan international - Care International - Live &Learn	Request for the support in term of both in depth and widely
Study and design models for disasters resilience schools/class rooms with in prone areas	- Plan International	Needs more support and interest of cooperation from international organization and INGOs
Human Resource Development for DRM project to meet requirements	- No	Needs more support and interest of cooperation from international organization and INGOs

6. PILLAR 1: SCHOOL FACILITIES: POLICIES, PRACTICES & PROGRAMS

Currently there are 3 National Safe School Standards for schoold's design stimulated by Ministry of Construction and Ministry of Science and Technology consists of:

+ Vietnam Standard No. 3907: 2011 for Pre-school Design Standards applying for new construction and upgrading of all existing pre-schools, kindergartens and nurseries. The Vietnam Standards No. 3907: 2011 regulates the standards for site's selection, school designs to ensure school safety and pre-school's resilience to disasters. The specific provision for site's selection, infrastructure, classrooms and function rooms are compliant with standardized design for disasters resilience and recovery as stimulated for pre-school's standards.
+ Vietnam Standard No. 8793: 2011-Primary School (replaced Vietnam Standard No. 3987: 1984) regulates the standards for site's selection, school's design to ensure primary school's safety and school's resilience to diasters. The specific provision for site's selection, infrastructure, classrooms and function rooms are compliant with standardized design for disasters resilience and recovery as stimulated for primary school's standards.
+ Vietnam Standard No. 8794: 2011- Seconday and High Schools (replaced Vietnam Standard No. 3978: 1984) regulates the standards for site's selection, school's design to ensure secondary and high school's safety and school's resilience to diasters. The specific provision for site's selection, infrastructure, classrooms and function rooms are compliant with standardized design for disasters resilience and recovery as stimulated for secondary and hight school's standards.

In Vietnam, there are 2 kinds of school systems: public school system (central and provincial levels) which is responsible for construction of public schools which includes budget, construction work and construction supervision. Private school system is private owner and individual responsibilities, they are fully managed in term of budget and construction works with the principle of ensuring school's safety.

The ndividuals and organizations are volunteer encouraged to contribute either by cash or by labour work days to build schools.

In Vietnam, there are 129,737 classrooms for pre-schools, of which 65% is concreted construction, 27% semi-concrete construction and 8% is temporary classrooms); the total classrooms of 436,204 are for primary, secondary and high schools, of which, there are 74% classrooms are concrete construciton, 22% are semi-concrete classrooms and 4% are temporary classrooms.

Every year, the Central Committee for Flood and Storm Control (CCFSC) and Provincial CFSC and MOET iusse the instruction paper to all schools to reinforce schools to be resilience to disasters, the guidance for preparedness and recovery measures with the aim to protect schools' equipement and assets in appropriate ways based on the local conditions.

The Schools need to plan for shool's reinforcement and upgrading plan which is allocated from the governement's budget for public schools and for private schools will cover by the owners.

The ndividuals and organizations are volunteer encouraged to contribute either by cash or by labour work days to reinforce and upgrade based on the actual requirements at locations.

The schools are often mobilized to be temporary shelter for the local population as dicided by the chairman of the commune when the schools located. In fact, in Vietnam, many schools

are being the temporay shelter during emergency for local people because of its designed as concreted construction and safety for evacuated population during emergencies.

7 PILLAR 2: SCHOOL DISASTER MANAGEMENT (SDM) AND EDUCATIONAL CONTINUITY: POLICIES, PRACTICES AND PROGRAMS

Each school will establish the Disaster Risk Management Board which is responsible for all activities related to disaster preparedness and contingency planning for their school. The Board is headed by the Principal with participating members from teachers representing for each grade, for aministration and parents association. The DRM Board is to be the first contact of the school during emergency and assigned the taskforce for inforamtion and reporting to relevant levels. The Schools's Principal also be a member of the Commune DRM Board headed by chairmand of Commune People Committee. The Commune DRM Board will be the first coordination body to support to local population, schools at community and be the first contact for all recovery activities. The DRM administrative system is set up from community to higher levels and have closed reporting system. They are closed coordinated before, during and after emergency.

The early warning system is set up from school level to higher levels wihtin the education administrative system in close cooperation with government administrative system from grassroot level upto central level. The most appropriated early warning system is from mass media such as TV and radio. The recently SMS of early warning is also applied as pilot in some areas.

All schools are managed with four mottoes: leadership-on-the-spot, manpower-on-the-spot, means of transporation-on-the-spot and logistics-on-the-spot. As the matter of fact, the shools will be temporary shelter for evacuated populaiton in case of emergency through out the whold country because schools are built concredtely with multi-storeys so as the most safe place for temporary shelter.

All schools will participate to local community disaster preparedness planning and updating annually which is coordinating all communitieses associations and organizations to participate to the planning process and to conduct/attend refreshment DRM training to communities both knowledge refreshment and simulation participation in different levels as appropriated.

At present, Ministry of Education and Trainig is establishing the inforamtion data for disaster risk management for education sector, this is a good tools for schools to prepare disaster preparedness and contingency plans.

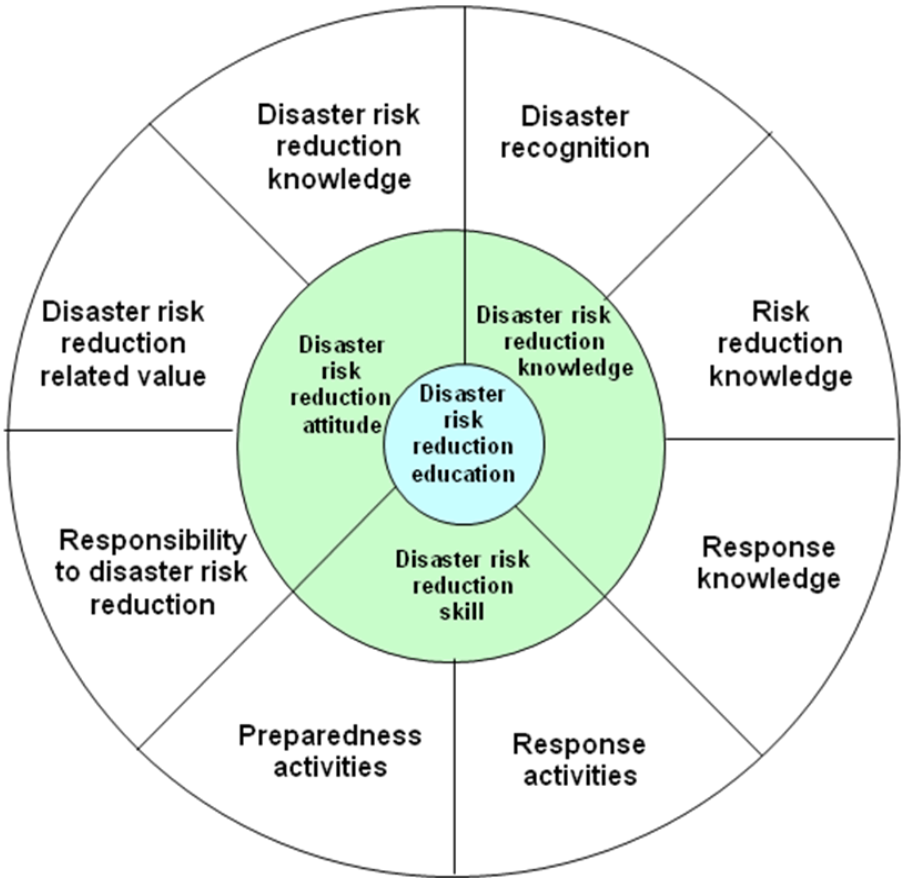
8. PILLAR 3: CLIMATE CHANGES ADAPTATION AND DISASTER RISK REDUCATION ECUATION

The National Action Plan on Disaster Reduction, Preparedness and Response of the Education Sector for the period from 2011-2020 (Issued by the Decision No 4068/QĐ-BGDĐT dated 8 September 2011 by MOET Minister) has objective to develop DRR curriculum to integrate to training and learning activities into existing subjects and/or to DRR external activities creations in schools by the year 2015; from 2016 onward, to scale-up to nation-wide as stimulated in annual plan for education sector.

In 2013, Ministry of Education and Training (MOET) has approved the Project to bring disaster risk reduction (DRR) knowledge to school. This includes curriculum development,

capacity building for educational staff, educational managerial staff, teachers and community. At this stage, MOET is building the Frame work for disaster managmenet for all educational levesl from pre-school to university levels in order to bring DRR lesson into school in 1016. The final outline of the framework "Knowledge Matrix for education on natural disasters preparedness and response at school" is now finalized with consultations from pedagogic and DRR experts. (Appendix 2 attached).

Figure 8.1. Flood risk reduction education for effectiveness assessement



An education program about disaster risk reduction at schools in Vietnam is developing. Main topics in the program are:

+ Recognizing Flood
+ Causes of flood
+ Effects of floods to lives, property and man-made structure
+ Survival skills when flood occurs

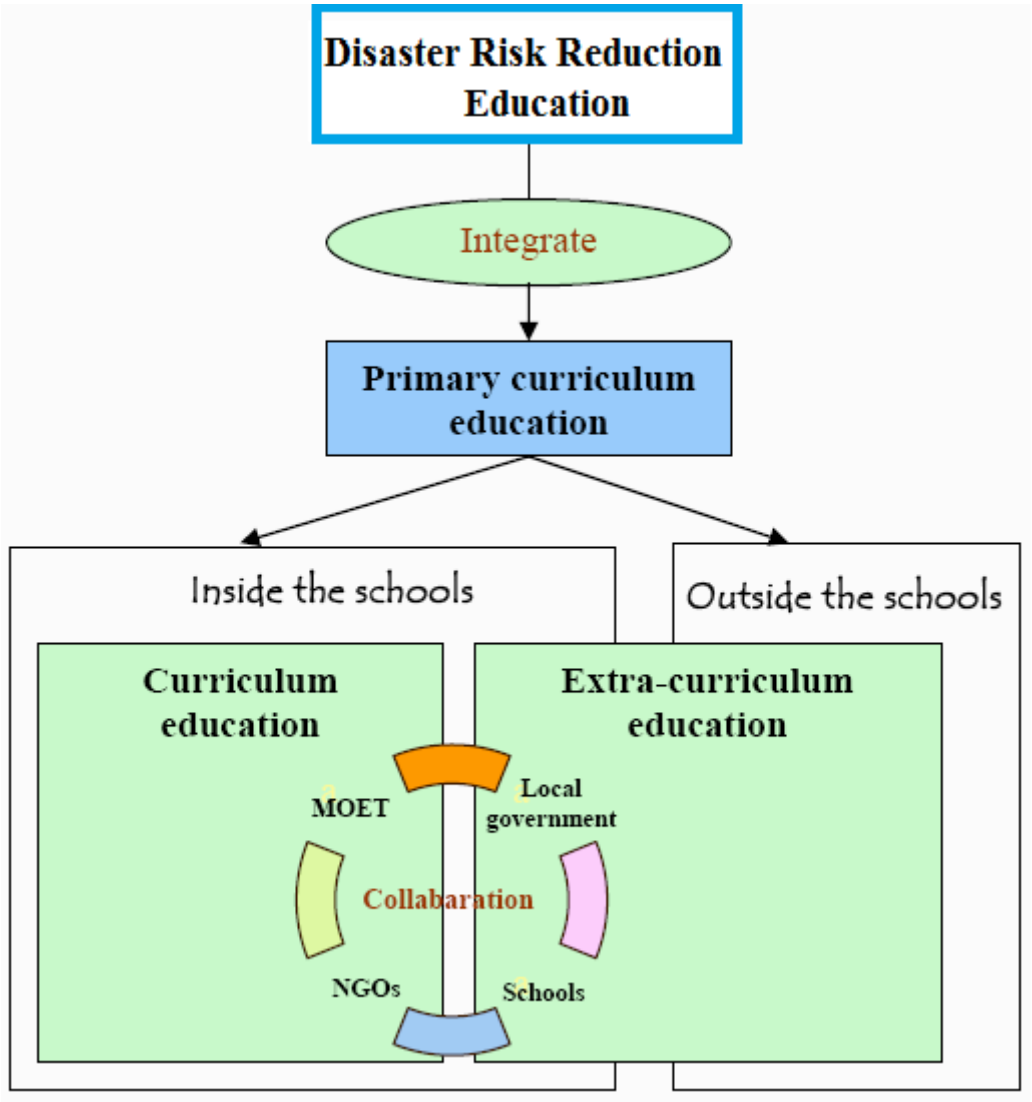
The linkage between disaster risk reduction education and the current curriculum:

+ Integrating disaster risk reduction education program in the current curriculum
+ Some subjects in school can be integrated: nature and society science, history and geography etc. (in primary school); biology, geography, physics, chemistry etc. (in secondary school).

Three cases of disaster risk reduction education in school:

- Innovative concept and programs of disaster risk reduction education in school.
- Integration of disaster risk reduction education and the current curriculum.
- Integration of flood risk reduction education between inside and outside the schools.

Figure 8.2. Concept of flood risk reduction education in school



Appendix 1: Cluster, Working Group, or Task Force Members Roster

Based on the recommendation and support from Unicef and Save the Children, Ministry of Education and Training has set up the Education Cluster for DRR/CCA management to gather DRM/CCA agencies involve organizations working in this field to coordinate effectively and comprehensively the preparedness, response during natural disasters and recovery following the disasters and emergencies. The group is convened and led by the Department of School Infrastructure and Equipment, Children's Toys of the Ministry of Education and Training (MOET), standing body of the Steering Committee for the implementation of the Action Plan on prevention and mitigation of natural disasters in the education sector. Unicef and Save the Children are the 2 core members of the cluster.

The overall objective of the Education Coordination Group:

The Coordination Groups ensures an effective coordination mechanism between the Ministry of Education and Training and partners in order to effectively operationalize the Action Plan on implementation of the National Strategy on prevention, control and mitigation of natural disasters in the education sector 2011-2020, and the Action Plan for Coping with Climate Change in the Education Sector in the period 2011-2015, including provision of timely support to education facilities affected by disasters.

Specific Objectives:

- Coordinate efficiently efforts in DRM and climate change in education sector, including disaster risk reduction, preparedness, response and recovery within the framework of the sector's action plans;
- Mobilize resources for DRM and climate change, ensuring effective coordination with networks engaged in this field;
- Facilitate timely information sharing and synergy between various organizations to maximize efficiency of support for the education sector in this field;
- Provide advisory support to MOET in leadership and direction for synthesis and evaluation of field interventions, contribute to stock taking of lessons learnt and scale up of effective models;
- Strengthen evidence-based planning for disaster risk management and climate change in education, including disaster risk reduction, preparedness, contingency and response plans, based on systematic data and evaluation results;
- Strengthen awareness raising and policy advocacy related to disaster risk management and climate change.
- Provide timely support to education facilities and human resources affected by disasters, targeted at women and the most vulnerable and remote areas

Operation principles the Coordination Group:

- Partners participate in the Coordination Group on a voluntary basis. In case of not participating, it is necessary to inform the chair person of the Coordination Group in writing;

- Partners involved in or interested in education for disaster risk reduction and climate change;
- Partners are committed to attend all meetings and common activities of the coordination Group, proactively sharing experiences and reporting periodically to the chairing institution;
- Gender mainstreaming and focus on vulnerable groups.

Roles and Responsibilities of the Coordination Group:

Ministry of Education and Training (MOET):

- Call for and coordinate resources for DRM and climate change in the education sector, assuring alignment with the strategic directions of the sector, and adherence to national and international standards including INEE minimum standards;
- Support in terms of strategic guidance and legal assistance for organizations when participating in the field of DRM and climate change in the education sector;
- Develop criteria for internal monitoring and evaluation, and lead M&E initiatives in DRM and climate change in education, including development of reporting forms to document field experiences; collecting and disseminating these experiences to feed into the sector's or multi-sect oral situation reports; and promoting initiatives of organizations participated in this field;
- Provide guidance to sub-national levels, schools and education facilities in developing risk reduction and preparedness plans, contingency and response plans, and lead capacity development initiatives for education managers and teachers;
- In the event of emergencies, lead and coordinate education needs assessments, analyze gender disaggregated information and data, coordinate resources and services in disaster-affected areas. Ensure participatory process of needs assessment, involving all relevant stakeholders and affected populations, and the integration of cross cutting issues such as gender, disability and child protection in interventions related to education in emergencies. Guide the response of the Coordination Group to complement MOET priorities and interventions in response to disasters;
- Chair the meetings of the Coordination Group (expect every 2 months) and ad hoc meetings as per need, and finalize the meeting minutes.

Core members (UNICEF and Save the Children):

- Assist and mobilize sources for DRM and climate change in the education sector;
- Support MOET in preparation and facilitation of the meetings of the Coordination Group and finalization of the minutes (including assistance in contact with members, invitations to meetings and events, etc.);
- Being focal points to assist MOET in compiling initiatives, good practices in DRM and climate change in the education sector to support documentation, monitoring and expansion;
- Maintain collecting and updating information frequently on activities of all partners, including: WHO, WHAT, WHERE, and HOW to consolidate and provide information for team members and related partners;

- In the event of emergencies, assist MOET in chairing the meetings of the Coordination Group to support education needs assessments, synthesizing and analyzing information as well as identifying challenges, coordinating resources and services in disaster affected areas;
- In the event of emergencies, ensure coordination and information sharing with other coordination groups or 'clusters' in other sectors such as the Nutrition Partnership and Working Group, Water, Sanitation& Hygiene (WASH) cluster, Health cluster, Food Security Cluster, Early Recovery Network and others.

Member organizations:

- Participate in meetings and activities of the Coordination Group;
- Support and mobilize resources for the DRM and climate change in education, as well as ensure adherence to regulations of Government of Viet Nam and alignment with MOET priorities;
- Advocate for adherence to international DRM standards like INEE, HAP, etc.;
- Promote gender mainstreaming in all activities of the Coordination Group;
- Participate in sharing experiences to support coordination effort (including sharing the organization's plans of support at central and local levels, facilitating visits and monitoring by the Coordination Group to field models, synthesizing experiences and good practices, and introducing international experiences, etc.), and send periodic reports in a timely manner;
- Introduce innovative models and approaches on DRM and climate change in the educations sector;
- Take turn in writing minutes for meetings of the Coordination Group;
- In the event of emergencies, participate in education needs assessment; provide resources and services to disaster affected areas (depending on scope and scale of intervention of each organization).

MINISTRY OF EDUCATION AND TRAINING

KNOWLEDGE MATRIX FOR EDUCATION ON NATURAL DISASTERS PREPAREDNESS AND RESPONSE AT SCHOOL

1. Introduction

The Chairperson of the National Assembly of Viet Nam signed the Law No. 33/2013/QH13 providing the Law on Natural Disaster Preparedness and Response on 19th June, 2013. This Law will enter into force as of May 1st, 2014. Among other duties set by the Law on Natural Disaster Preparedness and Response, Ministry of Education and Training exercises its mandate to promulgate or submit for promulgation and guide the implementation of legal and normative documents on integration of natural disaster preparedness and response knowledge into the curriculum at different levels; guide the construction planning of schools, educational establishments to prepare and response to natural disasters depending on the local context to ensure the safety for both users and the work itself.

To realize this duty, Minister of Education and Training has issued Decision No. 2734/QD-BGDDT approving the Project on "Integration of Knowledge and Skills for Natural Disaster Preparedness and Response into school for the period of 2012-2020" on July 29th, 2013.

The Project aims to strengthen the awareness on and provide the knowledge and skills for natural disaster preparedness and response to school staff, teachers and students in education sector for the period of 2012-2020.

The Project is expected to:

- Review the current education on natural disaster preparedness and response at school.

- Develop the materials for education on knowledge and skills for natural disaster preparedness and response to suit different regional context, physical and psychological characteristics of each education level which can be introduced in curricular lessons, extra-curricular activities, print and distribute to all educational establishments.

- Raise the awareness and provide technical training and professional development on natural disaster preparedness and response to educational leaders, managers, teachers and students at all educational establishments within the system.

- Promulgate a Circular on the list of teaching aids for the education of natural disaster preparedness and response.

As the development of learning and teaching materials for education of natural disaster preparedness and response is one of the important objectives of the Project, it is essential to develop the knowledge, skill and attitude matrix for the education of natural disaster preparedness and response to ensure the logicality and cohesion among education levels. The

matrix will help material developers and teachers measure the amount of knowledge, skill and attitude to be acquired for each level and avoid overlap between levels.

2. Students' emotional and physical developmental issues

For a human, from physical and emotional developmental education perspective, schooling time is the most important time where most major changes happen. Considering different stages of human development plays a significant role in deciding the education content for sustainable development in general and for natural disaster preparedness and response in particular.

Given the varying psychology and perception at different stages, at each education level, children are exposed to different risks. Adults are expected to teach children how to identify and avoid the risks for a safe living and learning.

2.1. Kindergarten children

2.1.1. Physical and psychological characteristics

Physical and psychological characteristics: Kindergarten children have gone over their infancy, are able to walk on their own and have their communication ability underway. At this age, children are working on their imagination and gradually interact with outside world. In terms of safety, this is the time when children are most perceptive to their own physical and emotional safety (physical pain and emotional fear).

The perception of children at kindergarten age is concentrative and fixed on a certain thing and event. Therefore, to handle the perception on a new thing will be difficult. At the same time, children may not be aware of the danger from something that they cannot feel directly.

Comparing to other stages, children at kindergarten age have higher sense of curiosity. Therefore, they may want to reach for even dangerous things that adults cannot think of.

2.1.2. Safety education for kindergarten children

Knowing physical and psychological characteristics of kindergarten children, teachers and children need to expose children to basic safety behavior (including playing with toys, escape from danger and calling for help), experience the dangers so they know why some certain things are dangerous, know and remember how to handle in specific cases and stay alert to dangers. It is important to identify specific educational topics (with slides and posters) and real-life experience to show children what is considered a danger and why it is dangerous in the environment, in their behavior and other people's behaviors and what kind of situation can lead to danger.

2.2. Primary students

2.2.1. Physical and psychological characteristics

Some characteristics of kindergarten stage still linger when children move to early grades of primary school. At this stage, children start to move from concentration mind to being aware of causal relationship between things. Therefore, this is the most suitable stage to educate on safety, including natural disaster preparedness and response. At the early grades of primary school, children's perception over the surrounding is quite developed. However, the danger-identifying skill remains limited. Primary students have been able to relate acquired knowledge to actions.

2.2.2. Safety education for primary students

Considering physical and psychological characteristics of primary students, education on safety and natural disaster preparedness and response in this stage has a significant impact on both their knowledge and action. The suggested approach for this stage is to form essential skills and expose to real-life experience bit by bit. It is important to point out specific topics with real-life experience so children know what is considered a danger and why it is dangerous in the environment, in their behavior and other people's behaviors and what kind of situation can lead to danger. By teaching students to develop "a safety map", specific knowledge on their safety (location, time, road section with high risk of traffic accident, flood etc.) raises students' awareness on dangers and adopt preventive actions. So that students should not lose their acquired safety behavior, activities that form the value and attitude by emphasizing the importance of safety is of critical importance.

2.3. Lower secondary students

2.3.1. Physical and psychological characteristics

Children hit their puberty at lower secondary age. Some students react against being treated like a kid and try to act as an adult and may act against the acquired ethical habits and social norms. At this stage, as students develop their reasoning capacity, practical education would give an impact.

2.3.2. Safety education for lower secondary students

Considering their physical and psychological characteristics, teachers should focus on basic knowledge and skills on the safety and natural disaster preparedness and response. To this end, important thing to do first is to decide on the education content and topics to help students relate to themselves and propose appropriate approach based on their own opinion and acquired skills on social life such as motivation, emotion, communication, responsibility and value.

2.4. Upper secondary students

2.4.2. Physical and psychological characteristics

At this stage, students adapt their life style to the living conditions, including hobbies, interests, capacity and personality.

2.4.3. Education for upper secondary students

Given the physical and psychological characteristics of upper secondary students, teachers are expected to provide students with holistic view on way of life so students perceive themselves as a member of the society or dedicate to the society when teaching on natural disaster preparedness and response. Teachers should focus on basic knowledge and skills on safety and natural disaster preparedness and response. To this end, important thing to do first is to decide on the education content and topics to help students relate to themselves and propose appropriate approach based on their own opinion and acquired skills on social life such as motivation, emotion, communication, responsibility and value.

2.5. Students with disabilities

2.5.1. Physical and psychological characteristics

Students with disabilities have varied and complex disabilities (including visual impairment, hearing impairment, intellectual impairment, physical impairment, diseases, speech impairment, autism and retardation).

2.5.2. Education for students with disabilities

To ensure safety for students with disabilities, it is necessary to teach them with knowledge, techniques, skills and attitude for safety in social life and at school. Teachers are also expected to propose the issue of children with disabilities for research on the content and method of safety education to fit different types of disabilities (as the degree of disability severity varies).

3. Education on natural disasters preparedness and response at school

Objectives of education on natural disasters preparedness and response
Stage 1: Develop a generic knowledge, skill and attitude matrix for all education levels and concrete matrix for each level
Stage 2: Develop teaching and learning materials and aids
Stage 3: Implement the education
Stage 4: Conduct extra-curricular activities and expose to real-life experience

4. Objectives of natural disasters preparedness and response at school (from kindergarten to upper secondary level)

Education on natural disaster preparedness and response is to raise the awareness of and equip students with knowledge and skills for natural disaster preparedness and response

at school, give students a better understanding of natural disasters and form necessary skills to ensure safety in daily life and pave the way for a life-time safety, develop the capacity and nurture the quality of a good students in participating in social activities for the society's sustainable development.

- *In terms of knowledge:*

Have basic knowledge of common natural disasters, current situation, causes, consequences and measures for preparedness and response.

- *In terms of skills:*

For students:

+ Be able to recognize the disaster is imminent

+ Know what to do and how to do to prepare and response to the natural disaster

+ Understand and be able to apply acquired basic skills for response to natural disasters such as flood, drought and storm etc.

- *In terms of attitude:*

+ Protect their own life and respect other people's life and the habitat;

+ Be aware of the importance and the safety of the community, participate in, cooperate and dedicate to the preparedness and response to natural disasters at home, at school and in the community.

5. Knowledge, skill and attitude matrix

<table>
<tr><td>Seq.</td><td colspan="2">I. Knowledge matrix</td></tr>
<tr><td>1</td><td>Generic matrix for all education levels on education of natural disaster preparedness and response</td><td>I. Matrix for each level on education of natural disaster preparedness and response</td></tr>
<tr><td rowspan="4"></td><td rowspan="4">1.1. Understanding themselves and others
- Students are aware of their own needs, desire, interests and fear when natural disasters occur.
- Students are aware of and understand dangers, safety and the threat of natural disasters where they are living; learn and know how to ensure safety for themselves.
- Students understand their role, responsibility and ability for action when a natural disaster</td><td>1.1 Understanding themselves and others</td></tr>
<tr><td>Kindergarten:
- Children are afraid and can express their needs when natural disasters occur.
- Children understand that they have to listen to adults and follow adults’ instruction.</td></tr>
<tr><td>Primary:
- Students are afraid when natural disasters occur, know what is needed and what to do when natural disasters occur where they live or learn.
- Students are able to identify dangers, safety and aware of the threat of natural disasters at school, at home and know how to keep themselves safe.</td></tr>
<tr><td>Lower secondary:
- Students understand their role and responsibility when natural disasters occur.
- Students know what to do and their ability in taking action when natural disasters occur.
- Students know how to show their concern and wish to contribute to the cause of natural disaster preparedness and response.</td></tr>
</table>

	takes place. - Students understand the importance of people's contribution to the community before, during and after the natural disaster, especially the role of women from civil society organizations.	**Upper secondary:** - Students know their responsibility when natural disasters occur. - Students know their ability to take action when natural disasters occur. - Students have anticipation and give timely support to others. - Students understand the importance of others' contribution to the community before, during and after a natural disaster, especially the role of women from civil society organizations.
	1.2 Knowledge on natural disasters - Students know the cause and consequences of different natural disasters, including drought and flood. - Students know different types of natural disasters, location and time that natural disasters often occur in the region. - Students know who are the vulnerable to natural disasters. - Students can identify the pattern of different natural disasters in the region, nation and the world. - Students know and understand signs and signboards on flood and other natural disasters.	**1.2 Knowledge on natural disasters**
		Kindergarten: Children know some common natural disasters, their consequences, threat and their safety when natural disasters occur.
		Primary: - Students know some basic concepts, including what is a natural disaster and what are risks. - Students know some common natural disasters in their locality and some consequences. - Students know and understand signs and signboard on flood and natural disasters.
		Lower secondary: - Students know and understand some simple concepts, including what is a natural disaster and what are risks. - Students understand the cause and consequences of some common natural disasters in the locality such as riverbank landslide, drought, rainstorm and flood. - Students are aware that natural disasters did and can occur in the locality. - Students know when the natural disasters are most likely. - Students know who are the vulnerable when natural disasters occur. - Students know and understand signs and signboard on flood and natural disasters. - Students have basic idea on natural disasters' pattern in the region, nation and in the world.

	- Students understand basic knowledge on natural disaster preparedness and response, including natural disasters, hazard, emergency, risk, risk mitigation, vulnerability and resilience. - Students are aware of factors that increase natural disasters risks, vulnerability and know that those factors can be mitigated by the community resilience. - Students understand the causes and varying impact of natural disasters on the community.	**Upper secondary:** - Students know and understand the cycle (time) and location that natural disasters tend to occur. - Students can identify the pattern of natural disasters in the region, nation and in the world. - Students have understanding of factors that increase the risk and vulnerability and can anticipate these risks so that they can be mitigated by the community's resilience. - Students understand the cause and varying impacts of natural disasters on the community.
	1.3. Knowledge on basic safety measures - Students know what safety measures to be taken before, during and after a natural disaster. - Students are aware of the early warning system to warn people of natural disaster. - Students know the sequence of	**1.3. Knowledge on basic safety measures** **Kindergarten:** Children can take some certain actions to ensure safety, including calling for help, following adults' instruction and remembering emergency phone number. **Primary:** - Students know of some certain actions to ensure safety before, during and after natural disasters. - Students are aware of early warning system for the preparedness and response against natural disasters. - Students know how to seek support from others. - Students have a simple idea of the role and responsibility of local authority before, during and after natural disasters.

	first aid. - Students have good understanding of natural disaster preparedness and response measures, including mapping of dangers and threats, early warning system, evacuation and forecast. - Students are familiar with the infrastructure and local regulations on how to deal with natural disasters. - Students are aware of local authority's role and responsibility before, during and after natural disasters. - Students are familiar with local common practice in natural disaster preparedness and response.	- Students are aware of simple common practices of local people in natural disaster preparedness and response.
		Lower secondary: - Students are aware of safety measures to be taken before, during and after natural disasters. - Students are aware of early warning system to warn others of natural disasters. - Students know how to give first aid and seek support from others. - Students are familiar with the infrastructure and local regulations on how to deal with natural disasters. - Students are aware of the roles and responsibilities of local authorities, ministries and sectors before, during and after natural disasters. - Students are familiar with and learn from local common practices in natural disaster preparedness and response.
		Upper secondary: - Students know measures for safety and natural disaster preparedness and response, and self-protection before, during and after natural disasters. - Students are aware of early warning system to warn others of the natural disasters. - Students know how to give first aid, support and seek support from the community. - Students are familiar with the infrastructure and local regulations on how to deal with natural disasters. - Students are aware of the roles and responsibilities of local authorities, ministries and sectors before, during and after natural disasters. - Students are familiar with and learn from local people's basic common practices in natural disaster preparedness and response.

	II. Skills	
2	**Generic skills for all levels**	**Specific skills required for each education level**
	2.1. Information collection and processing - Students are able to collect process and describe information on natural disaster preparedness and response. - Students can classify, organize and arrange acquired information on natural disaster preparedness and response. - Students are able to judge the quality, accuracy and relevance of information on natural disaster preparedness and response. - Students are able to explore and map out the threats and danger and assess the vulnerability when natural disasters are imminent.	**2.1. Information collection and processing** **Kindergarten:** Children are able to give a simple description of information on natural disasters where they live. **Primary:** - Students are able to collect information on natural disaster preparedness and response. **Lower secondary:** - Students are able to collect and process information on natural disaster preparedness and response, and assort the acquired information. - Students are able to judge the quality of acquired information. - Students are able to explore the map on threats and dangers and assess the vulnerability when natural disasters occur. **Upper secondary:** - Students are able to collect, process and describe the information on natural disaster preparedness and response. - Students are able to assort, organize and arrange acquired information in a systematic way. - Students are able to judge the quality, accuracy and relevance of acquired information. - Students are able to explore and map out dangers and threats and assess the vulnerability when natural disasters occur.
	2.2. Thinking and prediction - Students are able to predict that natural disasters are imminent.	**2.2. Thinking and prediction** **Kindergarten** Children are able to recognize some natural disasters and their danger where they live.

	- Students are able to evaluate the magnitude of the imminent natural disasters. - Students are able to think creatively to respond quickly to the change in environment and climate. - Students are able to process information and anticipate dangers and threats in order to prevent and reduce their impact.	**Primary** - Students are able to recognize and tell the magnitude of natural disasters imminent in the neighborhood. - Students are able to respond to the change in environment and climate.
		Lower secondary: - Students are able to recognize and tell the magnitude of natural disasters imminent in the neighborhood. - Students are able to respond to the change in environment and climate. - Students are able to perform actions in order to reduce the impact of natural disasters imminent in the region or nation where they live.
		Upper secondary: - Students are able to recognize and tell and assess the magnitude of natural disasters imminent in the region, nation and in the world. - Students are able to think creatively to respond quickly to the change in environment and climate and cope with natural disasters which are occurring. - Students are able to process information to predict, prevent and reduce the impact from threats and dangers caused by natural disasters.
	2.3. Coping and self-protection - Students are able to apply safety measures and protect themselves before, during and after natural disasters. - Students are able to coordinate to map out dangers and threats and develop exercises to assess the vulnerability. - Students have first aid and health recovery skills.	**2.3. Coping and self-protection**
		Kindergarten: Children are able to perform simple action to avoid dangers that can threaten them in case of natural disasters, including following adults' instruction.
		Primary: - Students develop initial skills in applying safety measure to protect themselves during and after natural disasters. - Students have skills for support-seeking during and after natural disasters and basic first aid skills.

	- Students are able to make decision based on their observation, discussion and available data in order to cope with natural disasters. - Students are able to work individually and with others and employ different means of communication to contribute to natural disaster preparedness and response work. - Students acquire necessary skills to participate in early warning and evacuation practice. - Students acquire necessary skills to cope with natural disasters, including looking for a flash light, swimming, and evacuation and building makeshift accommodation.	- Students have initial skills in evacuation and supporting others in case of natural disasters.
		Lower secondary: - Students have skills in quite proficiently applying safety measures and self-protection before, during and after natural disasters. - Students have skills for support-seeking during and after natural disasters and basic first aid and health recovery skills. - Students acquire necessary skills to participate in evacuation and emergency response when natural disasters occur, including searching for flash lights and swimming.
		Upper secondary: - Students have basic skills in applying safety measures and self-protection before, during and after natural disasters. - Students have coordinative skills to develop threat and danger map, early warning system and exercises to assess vulnerability. - Students have proficient skills in first aid and health recovery. - Students acquire necessary skills to participate in early warning, evacuation and emergency response when natural disasters occur, including searching for flash lights, swimming and building makeshift accommodation. - Students are able to make decisions for action based on available data, observation, and discussion. - Students are able to take part in natural disaster risk reduction, have proficient basic skills in giving first aid and support injured people in a timely manner when natural disasters are taking place.

	2.4. Communications, coordination and sharing - Students are able to give clear and effective warning of the imminent natural disasters. - Students are able to communicate information and knowledge on natural disasters and natural disaster preparedness and response measures to families and community. - Students are able to discuss with friends, teachers and family and community members on natural disasters and express their own opinion in a constructive manner and respecting others' opinions. - Students are able to develop and maintain trust with families and community on their ability to take part in natural disaster preparedness and response. - Students are able to coordinate with	**2.4. Communications and coordination** **Kindergarten:** Children are able to give a simple description of natural disasters that have ever occurred where they live. **Primary:** - Students initially are able to communicate and perceive information and knowledge on natural disasters. - Students initially can take part in discussion on natural disasters. - Students initially can pass information on measures to reduce the impact of natural disasters at a simple level. **Lower secondary:** - Students are able to pass information and warning on imminent natural disasters. - Students are able to communicate acquired information and knowledge and receive information on natural disasters and environmental protection measures. - Students are able to proactively take part in discussions on natural disasters. - Students are able to effectively communicate information on measures for impact reduction, risk reduction using different ways. - Students are able to develop and maintain trust with families and community in their ability to take part in natural disaster preparedness and response work. - Students are able to coordinate with others toward the goal of natural disaster preparedness and response.

	others toward the goal of natural disaster preparedness and response. - Students are able to communicate measures for risk reduction and use different forms of communication, including using leaflets, art performance and musical performance. - Students can listen to and empathize with those who are hit by natural disasters.	**Upper secondary:** - Students are able to clearly communicate the information and warning of imminent natural disasters. - Students are able to communicate and receive knowledge on natural disasters. - Students are able to actively take part in discussions on natural disasters, response measures and risk reduction. - Students are able to effectively communicate on measures for impact reduction, risk reduction using different ways. - Students are able to develop and maintain trust with families and community in their ability to take part in natural disaster preparedness and response work. - Students are able to coordinate with others toward the goal of natural disaster preparedness and response.

	III. Attitude/Behavior	
3	**For all levels**	**For each level**
	3.1. Altruism/appreciation - Students are able to see the value of nature and want to protect the nature. - Students realize and appreciate the values of human life, community and the surrounding environment and wish to support and protect people, community	**3.1. Altruism/appreciation**
		Kindergarten: Children recognize and love safe living environment around them and love themselves.
		Primary: - Students realize the values of nature and wish to protect the nature.
		Lower secondary: - Students realize the values of nature and have an awareness of environmental protection.

	and the surrounding environment. - Students show the wish to take part in voluntary activities in the community. - Students are aware of global community's values.	- Students realize the values of human life and community and wish to support and protect people. - Students realize the values of and want to protect the neighborhood where they live from natural disasters.
		Upper secondary: - Students realize and appreciate the values of nature and take concrete action to protect the nature. - Students understand the values of human life and community and want to give help and protection for people, community and the surrounding environment. - Students express their wish to join voluntary activities in the community. - Students understand the values of and want to protect their neighborhood from natural disasters and are aware of the global community's value.
	3.2. Respect - Students respect the opinion, contribution and viewpoint on natural disaster preparedness and response from people living in the community. - Students appreciate the special contribution of everyone in the community to natural disaster preparedness and response. - Students respect others' rights in	**3.2. Respect**
		Kindergarten: Children listen to and obey adults when natural disasters occur.
		Primary: - Students respect different opinions on natural disaster preparedness and response from people living in where they live and learn. - Students appreciate the contribution of people to natural disaster preparedness and response.
		Lower secondary: Students respect different opinions and viewpoints on natural disaster preparedness and response in the community.

	natural disaster preparedness and response activities.	**Upper secondary:** - Students respect and selectively take opinions and viewpoints on natural disaster preparedness and response in the community. - Students appreciate the community's special contribution to natural disaster preparedness and response. - Students respect others' rights in natural disaster preparedness and response.
	3.3. Care and empathy - Children care and empathize with those who are hit and threatened by natural disasters. - Children are interested in and concerned of natural disaster risk reduction. - Students undertake to support those who are hit by natural disasters.	**3.3. Care and empathy**
		Kindergarten: Children are able to express their care towards friends and people who are threatened and hit by natural disasters.
		Primary: Students initially empathize and care about people who are threatened and hit by natural disasters.
		Lower secondary: - Students understand and empathize with those who are threatened and hit by natural disasters. - Students take opportune action and give timely support to those who are hit by natural disasters.
		Upper secondary: - Students show heartfelt care and empathy towards those threatened and hit by natural disasters. - Students take practical action and undertake to support when natural disasters occur. - Students are interested in natural disaster risk reduction.
	3.4. Compliance and trust - Students respect regulations and order to ensure safety when natural disasters are taking place. - Students apply natural disaster prevention when making decision on	**3.4. Compliance and trust**
		Kindergarten: Children trust and follow the instruction of adults when natural disasters occur.
		Primary: - Students comply with regulations for safety when natural disasters occur.

	their behavior. - Students are encouraged to take part in natural disaster preparedness and response and confident when taking part in these activities.	- Students are able to apply principles for natural disaster prevention.
		Lower secondary: - Students implement regulations for safety when natural disasters occur. - Students apply principles for natural disaster prevention in their own behavior quite proficiently. - Students are confident and resilient enough to cope with natural disasters.
		Upper secondary: - Students respect regulations and order to ensure safety when natural disasters occur. - Students flexibly apply risk prevention principles when making decision on their own behavior. - Students are self-confident, empowered and resilient against natural disasters.
	3.5. Sense of responsibility - Students are aware of their responsibility to protect themselves, protect their friends, families and the community when natural disasters occur. - Students are aware of their responsibility toward people living in the areas where natural disasters frequently occur. - Students are aware of their responsibility to treat people with equity, solidarity and mutual support when natural disasters occur.	**3.5. Sense of responsibility**
		Kindergarten: - Children have a sense of self-protection and assist adults to response to natural disasters.
		Primary: - Students have a sense of self-protection and protecting their friends when natural disasters occur. - Students show solidarity and mutual support to friends when natural disasters occur.
		Lower secondary: - Students have a sense of self-protection and protecting friends, families and community when natural disasters occur. - Students treat others with equity, solidarity and mutual support when natural disasters occur.
		Upper secondary: - Students have a sense of self-protection, protecting friends, families, and community when natural disasters occur. - Students have a sense of responsibility toward people living in natural disaster prone areas - Students treat others with equity, solidarity and mutual support towards friends, families and community when natural disasters occur.

	3.6. Harmony with the environment Students are concerned about and friendly toward individuals living in an environment and respect the rules of nature. Students see and appreciate the beauty of nature and feel the vulnerability of nature, and develop the awareness of environmental protection.	**3.6. Harmony with the environment**
		Kindergarten: - Children are friendly toward animals, trees and the surrounding environment.
		Primary: - Students can feel the beauty and vulnerability of nature. - Students are concerned about and friendly toward individuals living in the environment.
		Lower secondary: - Students are concerned about and respect individuals living in the environment and respect the rules of nature. - Students can feel the vulnerability of the nature and develop their awareness of environmental protection.
		Upper secondary: - Students are concerned of, friendly toward, respect and protect individuals living in the environment. - Students admit the nature's beauty as well as its vulnerability and look toward protecting and conserving the nature.