Palang Merah Indonesia

BASELINE ASSESSMENT

2009

Table of Content
Acronyms

ACRONYMS

ADPC	Asian Disaster Preparedness Centre
Bakorsurtanal	*Badan Koordinasi Survei dan Pemetaan Nasional* /national coordinating agency for survey and mapping
Bakornas	*Badan Koordinasi Nasional* / national coordinating agency
Bappenas	*Badan Perencanaan Pembangunan Nasional* / national development planning agency
BMKG	*Badan Meteorologi Klimatologi dan Geofisika* / agency of meteorology, climatology and geophysics
BNPB	*Badan Nasional Penanggulangan Bencana* / national disaster management agency
BPBA	*Badan Penanggulangan Bencana Aceh* / Aceh disaster management agency
BPBD	*Badan Penanggulangan Bencana Daerah* / provincial disaster management agency
BPS	*Badan Pusat Statistik* / central agency for statistics
CBAIC	Community Based Avian Influenza Control
CBAT	Community based action team
CBDP	Community Based Disaster Preparedness
CBEWS	Community Based Early Warning System
CBHFA	Community Based Health and First Aid
CBRR	Community based disaster risk reduction
CRED	Centre for Research on the Epidemiology of Disasters
CSIRO	Commonwealth Scientific and Industrial Research Organisation
Depkes	*Departemen Kesehatan* / ministry of health
DiBa	*Data Informasi Bencana Aceh* / Aceh disaster information data
DMIS	Disaster Management Information System
DNPI	*Dewan Nasional Perubahan Iklim* / national council for climate change
DVI	Disaster Victim Investigation
EEPSEA	Economy and Environment Program for Southeast Asia
ENSO	El Nino Southern Oscillation
FA	First aid
H2P	Humanitarian Pandemic Preparedness
HDI	Human Development Index
HFA	Hyogo Frameworks for Action
ICBRR	Integrated Community Based Risk Reduction
ICRC	International Committee of Red Cross
IDRC	International Development Research Centre
IDU	Injecting Drug User
IESR	Institute for Essential Services Reform
IFRC	International Federation of Red Cross and Red Crescent Societies
IPCC	Intergovernmental Panel for Climate Change
IEC	Information, education and communication
Komnas FBPI	*Komite Nasional Pengendalian Flu Burung dan Kesiapsiagaan menghadapi Pandemi Influenza* / national committee for avian flu response and influenza pandemic preparedness
KTSP	*Kurikulum Tingkat Satuan Pendidikan* / education unit level curriculum
KPB	*Konsorsium Pendidikan Bencana* / disaster education consortium
KPAP/KPAD	*Komisi Penanggulangan AIDS Provinsi/Daerah* / provincial AIDS management commission
KSR	*Korps Suka Relawan* / volunteer corps
MAT	Medical Action Team
Musrenbang	*Musyawarah Perencanaan dan Pembangunan* / planning and development conference
NFI	Non Food Items
NGO	Non-government organization
OD	Organizational Development
ORARI	*Organisasi Radio Amatir* / amateur radio organization
PHAST	Participatory Hygiene and Sanitation Transformation
PHBS	*Perilaku Hidup Bersih Sehat* / clean and healthy behaviour
PLWHA	People living with HIV/AIDS
PMI	Palang Merah Indonesia / Indonesian Red Cross
PMR	Palang Merah Remaja / Youth Red Cross
Posko	*Pos Komando* / command post
PSP	Psychological Support Program

Planas PRB	*Platform Nasional Pengurangan Risiko Bencana* / national platform for disaster risk reduction
PNS	Partner National Societies
PMB-ITB	*Pusat Mitigasi Bencana Institut Teknologi Bandung* / disaster mitigation centre of the Bandung Technology Institute
Podes	*Potensi Desa* / village potential
PSB-IPB	*Pusat Studi Bencana Institut Pertanian Bogor* / Bogor Agricultural Institute disaster study centre
PUSKRIS UI	*Pusat Krisis Universitas Indonesia* / University of Indonesia crisis centre
RAD	*Rencana Aksi Daerah* / provincial action plan
RAPI	*Radio Antar Penduduk Indonesia* / Indonesian intra community radio
RAN PRB	*Rencana Aksi Nasional Pengurangan Risiko Bencana* / disaster risk reduction national action plan
RAN PI	*Rencana Aksi Nasional Perubahan Iklim* / climate change national action plan
RFL	Restoring Family Links
RKD	*Relawan Kesehatan Desa* / village health volunteers
RPJM	*Rencana Program Jangka Menengah* /medium term programme plan
RKD	*Relawan Kesehatan Desa* / village health volunteers
RDMC	Regional Disaster Management Committee
RDRT	Regional Disaster Response Team
Satgana	*Satuan Penanganan Bencana* / disaster response unit
SC-DRR	Safer Communities through Disaster Risk Reduction
SKPD	*Satuan Kerja Perangkat Daerah* / provincial work unit
SNP3RB	*Strategi Nasional Pengarusutamaan Pengurangan Risiko Bencana kedalam Sistem Pendidikan* / national strategy for disaster risk reduction mainstreaming in education system
SOP	Standard Operating Procedure
SSB	*Sekolah Siaga Bencana* / disaster prepared school
SRC	*Satuan Reaksi Cepat* / rapid reaction unit
TSR	*Tenaga Sukarela* / professional volunteers
UNDP	United Nation Development Program
VCA	Vulnerability and Capacity Assessment
WASH	Water and Sanitation, Hygiene
WWF	World Wildlife Fund

1. Disaster Risk Context

Indonesia is the largest archipelago in the world. It stretches 3,977 miles between the Indian Ocean and the Pacific Ocean. The land area is 1,922,570 square kilometres and its waters 3,257,483 square kilometres. Indonesia comprises of five major islands, namely Java with an area of 132,107 square kilometres, Sumatra with an area of 473,606 square kilometres, Kalimantan with an area of 539,460 square kilometres, Sulawesi with an area of 189,216 square kilometres, and Papua with an area of 421,981 square kilometres.

Over the last decades, the number of disaster in Indonesia, whether natural or not, have increased every year. Based on the data collected from the Centre for Research on the Epidemiology of Disasters (CERD), between 1980 and 2009, more than 19,929,305 people of Indonesia have been impacted by 309 different disasters, or about 64,496 people per disaster occurrence. The natural disasters which struck Indonesia within the period of 1980 to 2008 have caused economic loss of approximately USD 21,454,183. This means, per year, Indonesia has suffered economic loss of USD 69 million per disaster occurrence. Although the disaster data of this period indicates that most of the deaths were caused by earthquakes and tsunami, the largest percentage of population affected by this disaster were affected by climate related disasters (see table 1 below).

Table 1: Summary of Natural Disaster in Indonesia (1980-2009)

		# of Events	Killed	Total Affected	Damage (000 US$)
Drought	Drought	6	1,266	1,083,000	89,000
	Average per event		211	180,500	14,833.3
Earthquake (seismic activity)	Earthquake (ground shaking)	71	12,230	6,342,406	4,689,126
	Average per event		172.3	89,329.7	66,044
	Tsunami	2	166,510	568,441	4,506,600
	Average per event		83,255	284,220.5	2,253,300
Epidemic	Unspecified	4	819	9,984	-
	Average per event		204.8	2,496	-
	Bacterial Infectious Diseases	9	454	7,924	-
	Average per event		50.4	880.4	-
	Parasitic Infectious Diseases	3	225	504,000	-
	Average per event		75	168,000	-
	Viral Infectious Diseases	13	2,178	137,015	-
	Average per event		167.5	10,539.6	-
Flood	Unspecified	35	1,187	1,601,650	80,113
	Average per event		33.9	45,761.4	2,288.9
	Flash flood	23	1,529	1,193,223	169,500
	Average per event		66.5	51,879.3	7,369.6
	General flood	55	2,186	4,424,507	2,124,909
	Average per event		39.7	80,445.6	38,634.7
	Storm surge/coastal flood	1	11	2,000	-
	Average per event		11	2,000	-
Mass movement dry	Landslide	1	131	701	1,000
	Average per event		131	701	1,000
Mass movement wet	Landslide	38	1,677	392,945	120,745
	Average per event		44.1	10,340.7	3,177.5

Storm	Unspecified	1	-	10,000	-
	Average per event		-	10,000	-
	Local storm	1	4	2,400	-
	Average per event		4	2,400	-
	Tropical cyclone	3	2	2,238	-
	Average per event		0.7	746	-
Volcano	Volcanic eruption	34	364	612,393	344,190
	Average per event		10.7	18,011.6	10,123.2
Wildfire	Forest fire	9	300	303,4478	9,329,000
	Average per event		33.3	337,164.2	1,036,555.6

Source: "EM-DAT: The OFDA/CRED International Disaster Database, www.em-dat.net - Université Catholique de Louvain - Brussels - Belgium"

This was supported by the Global Assessment Report of 2009 on the mortality risk of various disaster occurrences, which identified that one of the main disaster risks in Indonesia is earthquake, followed by flooding and landslides.

Table 2: Mortality Risk from Various Hazards (0 = Very Low Risk; 10= Very High Risk)

	Multiple Mortality Risk			Cyclone Mortality Risk			Earthquakes Mortality Risk			Floods Mortality Risk			Landslides Mortality Risk		
	Class	Class (Absolute)	Class (Relative)	Class	Class (Absolute)	Class (Relative)	Class	Class (Absolute)	Class (Relative)	Class	Class (Absolute)	Class (Relative)	Class	Class (Absolute)	Class (Relative)
Indonesia	9	10	7	0	0	0	9	10	7	5	6	3	5	6	3

Source: Global Assessment Report Disaster Risk Reduction, United Nations, 2009.

1.1. Hazard Profile

The following sub-chapter will elaborate on the thematic map of each hazard type in Indonesia, namely earthquakes, tsunami, landslides, volcano eruption, flood, drought, and climate change. Furthermore, PMI-ITB, PSP-IPB and the World Bank (2009) have developed a disaster risk index based on the calculation of combined factors, among others: hazard, exposure (including population exposure, physical exposure, and economic/livelihood exposure), vulnerability (including population and income per capita, infrastructure vulnerability and land use), and emergency response capacity (planning, resources, and mobilization capacity).

1.1.1. Earthquake

Indonesia has three active tectonic plates, causing tectonic earthquakes in the areas where the plates meet. The movement of the Eurasian plate which meets the Indo-Australian plates causes a 77mm shifts per year. The active plates of Eurasia stretch from the west coast of Sumatra to the south coast of Java, the Flores Sea and Arafura Sea. The Pacific plate stretches from the north of Papua to the Halmahera islands and Sulawesi. This tectonic condition of Indonesia is the cause of Indonesia's high earthquake potential. (See figure 1)

Earthquake occurrences in Indonesia has been recorded in several areas such as Flores (1992 and 1996), Kerinci (Sumatra Island, 1995), Banyuwangi (Java Island, 1994), Liwa (1994), Halmahera (1995), Biak and Irian Jaya (1996), Bengkulu (2000). All of these earthquakes caused damages and losses of lives. The largest earthquake in the past four years has been the Aceh earthquake in December (9.3 on the moment magnitude/Mw scale) which was followed by a tsunami, the Nias earthquake in March 2005 (Mw=8.7), the Yogyakarta earthquake in May 2006 (Mw=6.3), Pangandaran earthquake in July 2006 (Mw=7.2) followed by a tsunami, Bengkulu earthquake in September 2007 (Mw=8.4), Manokwari earthquake in January 2009 (Mw=7.3-7.6), West Java earthquake in September 2009 (Mw=7.3), and lastly the West Sumatra earthquake in September 2009 (Mw=7.6). These

earthquake occurrences caused many losses of lives as well as damages to buildings, houses and infrastructures.

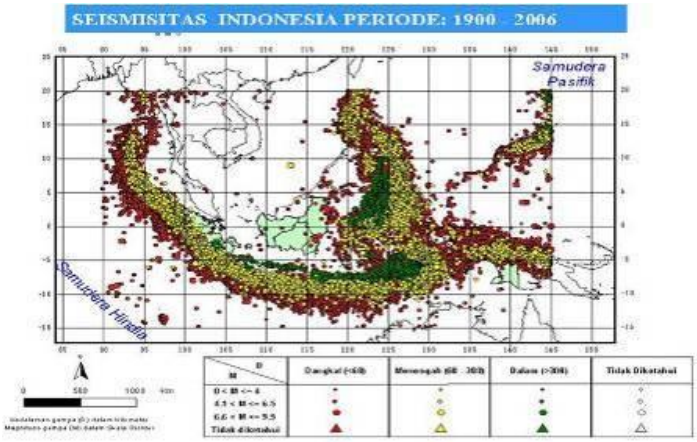

Figure 1. Indonesian Seismic Map of 1900 – 2006
Source: BMKG, 2009

The Indonesian earthquake hazard zoning map developed by the Bandung Technology Institute disaster mitigation centre (*Pusat Mitigasi Bencana-Institut Teknologi Bandung*/PMB-ITB) shows that almost all of Indonesia is prone to earthquake in the future, with intensity varying from very low to very high. High intensity earthquakes are estimated to potentially occur in the west coast of Sumatra and the south coast of Java, all of Nusa Tenggara, centre to north of Irian, Maluku Islands, and centre to north of Sulawesi. Medium intensity earthquakes are estimated to potentially occur in the centre to east of Sumatra, centre to north of Java, centre to south of Irian, and centre to south of Sulawesi. Low intensity earthquakes potentially occur in Riau Islands, Central Java, northern part of East Java, southern part of Irian and Kalimantan (see figure 2). Based on the disaster risks index, the areas with high and highest risk of earthquake are located in the west part of Sumatra, south of Java, Bali, West Nusa Tenggara, East Nusa Tenggara, central and northern part of Sulawesi and part of Papua.

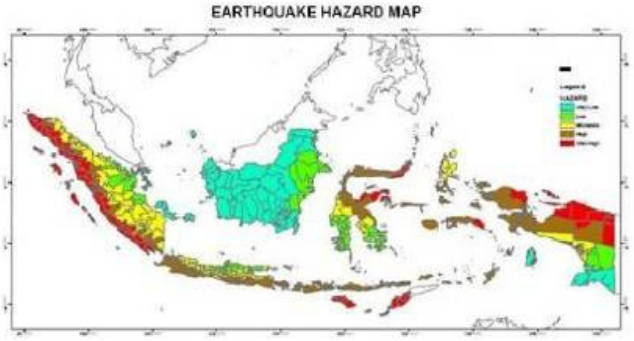

Figure 2. Earthquake Hazard Zoning Map in Indonesia
Source: PMB-ITB, 2009

1.1.2. Tsunami

Tsunami also often occurs in Indonesia. From the period of 1629 to 2000 a number of 108 tsunami occurrences has been recorded, of which 98 (90.7 percent) have been triggered by an earthquake, while 9 (8.3 percent) has been triggered by volcanic eruptions, and one (1 percent) caused by a

landslide. The high intensity of tsunami occurrences in Indonesia is closely linked to the tectonic plates on which the Indonesian archipelago is situated. Indonesia, particularly the eastern part, is the meeting point of three main plates: the Eurasian plates, the Indian-Australian plates moving to the north, and the Carolina (Pacific) plates moving to the west. The plate's border with high seismic activity is located in the offshore of Sumatra, Java, Nusa Tenggara, Banda, Sulawesi and Papua (figure 3). This condition causes the probability of earthquakes which would trigger high wave tsunami particularly in the eastern part of Indonesia.

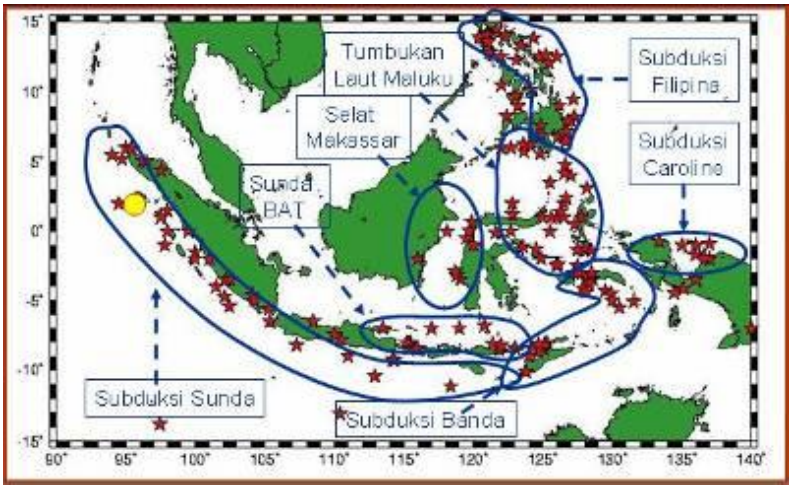

Figure 3. Tsunami and tectonic zone in Indonesia
Source: Puspito, Seminar Asahi, Bandung, 15 Des. 2004

The most devastating tsunami, causing the most massive and widespread destruction in the history of the world, occurred in the Indian Ocean, triggered by an 8.9 Richter scale earthquake which struck in the area of Simeulue Island in Aceh province on 26 December 2004. This tsunami razed Banda Aceh, the west coast of NAD province and Nias Island. The impact and devastation was also felt in other countries around the Indian Ocean, such as Thailand, Malaysia, Andaman and Nicobar Islands, Sri Lanka, even all the way to the East African coast. The number of casualties in NAD province and Nias Island (North Sumatra) reached 165,862 people (including 37,066 people missing). The total loss caused by this disaster is estimated at 41 trillion rupiahs, not including indirect losses such as disruption in the production process and community's economy.

The tsunami in Indonesia possesses a unique characteristic, being a local tsunami which delay between the earthquake and actual tsunami was 20 to 30 minutes. This is due to the close proximity of tectonic plates with underwater earthquake potential, triggering a tsunami at the coastal line. Based on the tsunami occurrence history, tsunami prone areas were identified as being coastal areas directly facing the meeting of tectonic plates, among others the west coast of Sumatra, south of Java, Nusa Tenggara, north of Papua, Sulawesi and Maluku, as well as east of Kalimantan (figure 4).

Based on the disaster risk index, the areas with very high risk of tsunami are the cities and municipalities on the west coast of West Sumatra province, while areas with high risk of tsunami are most areas in the south part of Java, north of Aceh and Lampung.

Figure 4. Map of tsunami prone areas in Indonesia
Source: BMKG, 2009

1.1.3. Landslides

Landslides are often equated with ground movement by laymen as it is movement of the ground as a result of disruption in land stability at the foot of the hills. Landslides in Indonesia often occur in hills with large degree of steepness, and occur during times with high degree of rainfall. Based on disaster records, areas prone to ground movement are located along the mountains of Bukit Barisan in Sumatra and the mountainous areas of Java, Sulawesi and Nusa Tenggara. Ground movement also occurs yearly, particularly in areas with unstable land such as in West and Central Java. In addition to being triggered by high degree of rainfall, such land movement could also be caused by earthquake tremors. Several earthquakes in Indonesia which triggered landslides are among others the Palolo earthquake (2005), Bantul earthquake (2006), Solok earthquake (2007), Muko-Muko earthquake (2007), Painan earthquake (2007), and others.

Most of the land in the tropical countries is easily eroded due to the high weathering level of rocks in this area, and the physical land composition is dominated by free moving materials and layers as well as landslide potentials. The stability of land is very much influenced by the destruction of the forest buffer in Indonesia. Due to excessive logging, the number of areas prone to disaster in Indonesia has increased. For example, in 1990, West Java had a forest area of 791,519 hectares (approximately 22 percent of the province area), but in 2002 the forest only made up an area of 323,802 hectares (approximately 9 percent of the West Java area), which caused landslide occurrences in this province.

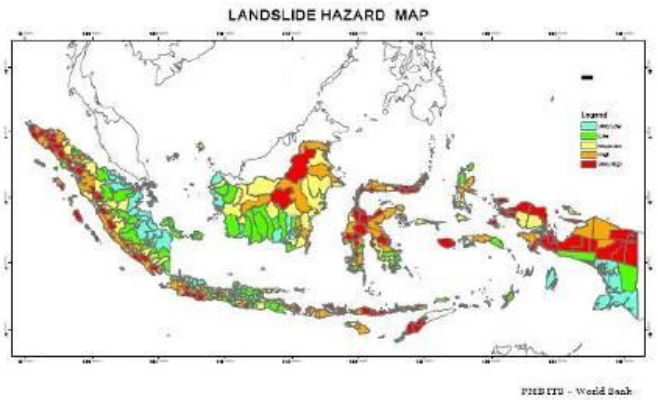

Figure 5. Land movement hazard in Indonesia
Source: PMB-ITB, 2009

Based on the land movement risk evaluation, areas spread across Sumatra Island, Java, Kalimantan, Sulawesi, Bali, Nusa Tenggara, Maluku Island and Papua has been identified as areas with high and medium risk of land movement (figure 5). Furthermore, based on the disaster risk index, most cities or districts with very high risk of landslides are spread in the west part of Sumatra Island, south part of West Java, most of Papua and West Papua, centre and north part of Sulawesi, east part of Kalimantan, west part of West Nusa Tenggara, centre and south-east part of Sulawesi, as well as some part of Maluku province.

1.1.4. Volcanic eruption

Indonesia is encircled by a series of active volcanoes, spreading from Aceh to the Aru Sea in the west and south part of Indonesia, and from Sulu Sea to Tomini Strait as well as stretching along the west coast of Halmahera Islands (figure 6). Known as the 'ring of fire', Indonesia's volcanoes form a 7,000 kilometres long row. There are 129 active volcanoes spread in Sumatra Island, Java, Bali, Nusa Tenggara, North Sulawesi and Maluku Islands, in addition to 500 volcanoes which are inactive but the country still needs to be wary of. The number of active volcanoes in Indonesia makes up 13 percent of all active volcanoes in the world. Currently, more than 10 percent of Indonesian population reside in areas of active volcanoes. For the last 100 years, more than 175,000 lives have been lost due to volcano eruptions.

Located in the tropics, Indonesia has the rainy season and the dry season. Other than the volcanic eruption hazard in forms of material spew or toxic gas, during the rainy season, the volcanoes also pose an indirect threat such as lava or other hazardous volcanic material mudflow. Based on the disaster risk index, most of districts/cities with very high risk and high risk of volcanic eruption are mostly located in Java Island. However, there are many districts with high risk and very high risk located in Sumatra Island, most of West and East Nusa Tenggara, as well as north part of Sulawesi.

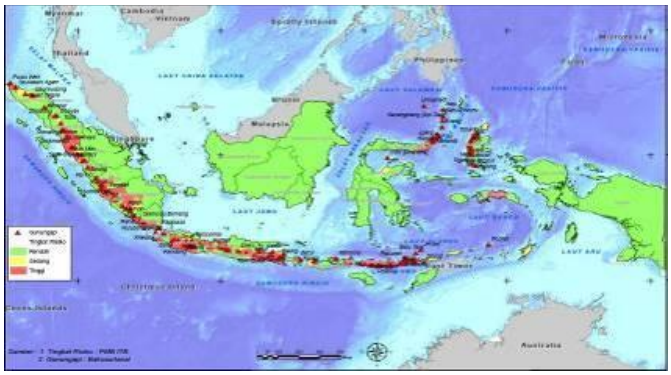

Figure 6. Map of volcano spread across Indonesia
Source: BNPB, 2009

1.1.5. Floods

Throughout Indonesia, there are 5,590 main rivers, 600 of them potentially cause floods. The flood prone areas around these main rivers reach 1.4 million hectares. Floods in Indonesia are mostly caused by poor micro and macro drainage system due to several reasons (lack of drainage channels dimension or slant due to garbage accumulation or sedimentation, etc.) combined with the river overflowing the bank due to high intensity of rain and river shallowness due to sedimentation, garbage and other reasons (such as high tide). Floods commonly occur in the west part of Indonesia which receives higher rainfall compared to the east part. The increasingly dense population of Indonesia automatically requires sufficient living space to allow increased livelihood activities, which indirectly also triggers floods. Uncontrolled loggings increases water flow from higher grounds in an uncontrolled manner, causing environmental damage in the confluence area.

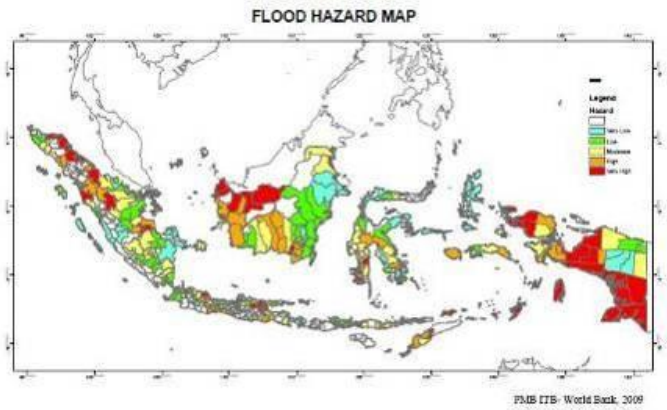

Figure 7. Map of flood prone areas in Indonesia
Source: PMB-ITB, 2009

Taking into account the indicators related to rainfall and the topography of land, it has been identified that most of Indonesia has a medium to high risk level of floods; areas with only low risk of floods are located in a small area in Sumatra, the south part of Java, Sulawesi and Nusa Tenggara (figure 7). Based on the disaster risk index, the districts/cities with very high risk of floods is spread in the five major islands of Indonesia. North Jakarta and West Jakarta are the districts in DKI Jakarta with very high risk of floods, as well as Indramayu which is known as a flood prone area in the West Java province. There are 18 districts/cities in East Java with very high risk of floods, such as Sidoarjo and Bojonegoro. Other high risk districts/cities are spread out, among others in Aceh, North Sumatra, Kalimantan, Sulawesi, East Nusa Tenggara and Papua.

1.1.6. Drought

The Indonesian archipelago located at the equator between two continents and two oceans has a unique climate and is prone to regional and global climate changes. In the last 15 years, a strong El Nino occurred in 1997, resulting in almost all areas of Indonesia having less than normal rainfall, increasing the risk of drought, further impacting agriculture, forestry, fishery and other livelihood sector.

From 43 droughts in Indonesia, only six were not related to the El-Nino. However, the impact of the El-Nino to the rainfalls variability in Indonesia differs between locations. The El-Nino had a strong impact to areas affected by strong monsoon system; in areas affected by weak equatorial system its impact was very low, while the impact to areas with strong local influence is not clear.

Based on the drought risk map developed by PMB-ITB (2009) it is known that the drought hazard exists in all areas of Indonesia. High risk of drought is quite dominant on the islands of Sumatra, Kalimantan and Java. Other areas have mostly medium risk of drought. In this case, it should be noted that the drought is different from those with aridity climate. The drought risk is usually higher in areas with high rainfall but not in areas with aridity climate. On the contrary, areas with semi-arid climate such as areas in Nusa Tenggara, the risk of drought is relatively low, as the deviation from the aridity climate normally experienced is not large.

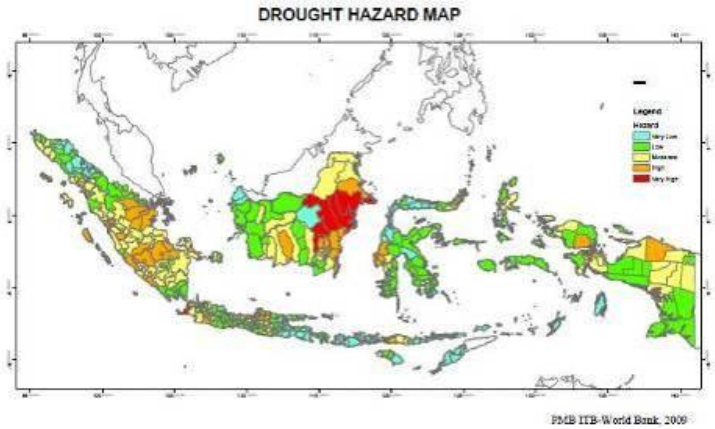

Figure 8. Drought hazard map of Indonesia
Sumber : PMB-ITB, 2009

Referring to the drought hazard map, the disaster risk index shows that most districts/cities with very high risk of drought are located in Java and Sumatra. In Java, the number of districts/cities with very high risk of drought are located in Central Java province (25 districts/cities), followed by West Java province (15 districts/cities), and East Java province (14 districts/cities). In Sumatra, the areas with high risk of drought are located in South Sumatra, Lampung and Riau Islands.

1.1.7. Climate change

The impact of global warming has affected Indonesia. In Indonesia, there has been an increase of 0.3 degrees Celsius since 1990. In 1998, the temperature has reached its highest point, approximately 1 degree Celsius above average temperature during the period of 1961-1990 (M. Hulme, 1999). Several scenarios projecting the increase of temperature in Indonesia (CSIRO, 1992 and 1993) shows that the CO2 concentration will increase twice as much, followed by increase of temperature by an average of 3 to 4.2 degrees Celsius. The yearly rainfall has also decreased by 2 to 3 percent, and the seasons have also changed.

Floods, drought, tropical storm, landslides and forest fire are climate related hazards which often befalls Indonesia. One of the main climate impacts in Indonesia is the ENSO (El-Nino Southern Oscillation) which occurs once every 2 to 13 years, causing extreme weather conditions. The El Nino in 1997-1998 caused an increase of the sea temperature, triggering the widest spread coral bleaching, particularly in the west part of Indonesia. The complete opposite is the decrease of sea temperature, called La Nina. These climate changes also increased risks of the spreading of mosquitoes in non-endemic areas. For example, during the El Nino in 1997, Anopheles mosquitoes could migrate to the highlands in Papua, whereas throughout history, Anopheles mosquitoes would not normally survive in highlands due to the low temperature. Furthermore, increased temperature also shortens the development cycle from larvae to adult mosquito, and potentially cause mutation of the dengue virus, leading to a more complicated disease (McMichael, 2007; IPCC, 2007). Dengue fever in Indonesia was also increasingly found during the La Nina years (figure 9).

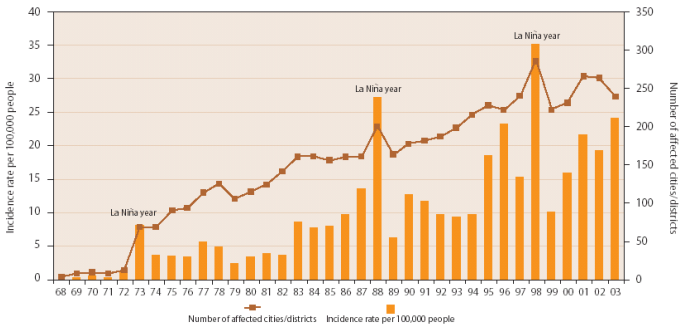

Figure 9. Incidence of dengue and the number of affected cities and districts, 1968-2003
Source: Ministry of Health on www.tempointeraktif.com

Climate-related hazards in Indonesia are also caused by the location and movement of tropical cyclones in the south-east of the Indian Ocean (from January to April) and the east of Pacific Ocean (from May to December). The impact of these tropical cyclones in Indonesia is in the form of strong wind, and heavy rain over a period of hours, sometimes days. Strong winds also occur during the transition period from the northeast monsoon into the southwest monsoon and vice versa.

The combination of the population density, the high level of biodiversity and 80,000 kilometres of coastal line (which makes up 14 percent of the world's coastal lines) and 17,500 islands has made Indonesia vulnerable towards climate change impacts. The rainfall pattern will change and the dry season will last longer. Many islands are at risk of being submerged due to the rising of sea level, and many other impacts will emerge. According to the ministry of marine affairs and fisheries, within only two years (2005-2007), Indonesia has lost 24 small islands in Aceh, North Sumatra, Papua, Riau Islands, West Sumatera, South Sulawesi and Thousand Islands area. In these cases, the people most vulnerable against the rising of the sea level and tropical cyclone are the farmers and fishermen.

In 2009, the Economy and Environment Program for Southeast Asia (EEPSEA), International Development Research Center (IDRC) developed a 'climate change vulnerability, adaptive capacity and exposure map' for South East Asia. A hazard map for five disaster risks related to climate change, namely floods, landslide, drought, tropical cyclones and rising of sea level has also been created. The 'population density' variable was used to represent the people's sensitivity towards climate hazard exposure, while the 'protected area' variable is considered to represent ecological sensitivity of the region.

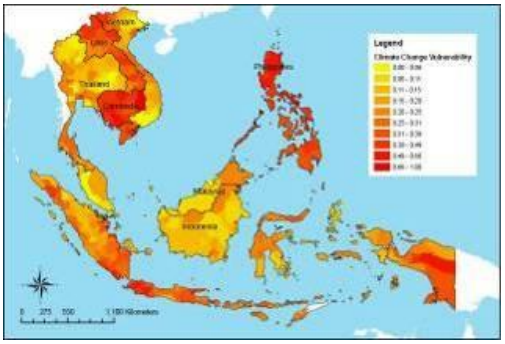

Figure 10: Climate change vulnerability map for Indonesia
Source: EEPSEA and IDRC, 2009

An index of adaptation capacity has also been established, consisting of social economic, technology and infrastructure factors function. The social economic variable consists of the Human Development Index / HDI (income, education and life expectancy), poverty and inequality. In

analyzing the climate hazards, exposure and adaptation capacity in Indonesia, the high risk level is determined by high risk of climate hazard, high exposure level and low level of adaptation capacity (according to HDI).

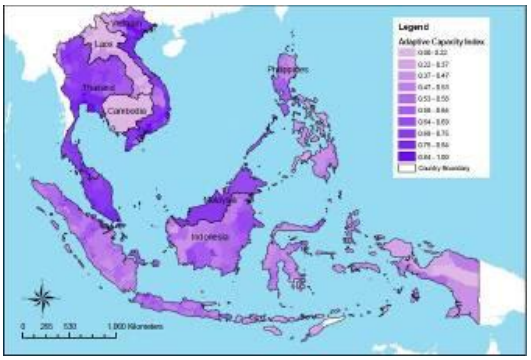

Figure 11: Adaptive capacity map of Indonesia
Source: EEPSEA and IDRC, 2009

According to the above EEPSEA and IDRC research results, areas with high risk are located in highlands in the centre and south of Papua, DKI Jakarta and West Java, West and South Sumatra. Areas with medium risk are North and Central Sulawesi, other parts of Sumatra, East Java and East Nusa Tenggara. The lowest adaptation capacity is recorded in Papua and East Nusa Tenggara. In almost 100 percent of the Indonesian islands, the population are mostly concentrated in the coastal areas with low elevation (less than 10 metres) which is exposed to high risk of the sea level rising.

To illustrate the rising sea level hazard, the Institute for Essential Services Reform (IESR) conducted a research to project the impact of the rising sea level to Java Island, an island where more than half of the Indonesian population reside. The research shows that in 2010, 2025, 205 and 2100, the areas which would be submerged by the sea will be 40 square kilometres, 66.6 square kilometres, 111 square kilometres and 138.8 square kilometres respectively. From this projection, it can be concluded that the vulnerability against climate change, particularly the rising of sea level will also increase every year (IESER, 2009).

1.2. Risk Analysis

In general, Indonesia has the following vulnerabilities.

Physical vulnerabilities:
Located in the area of three plates, namely the Indo-Australian, Euro-Asian and Pacific plates, the meetings of these three plates create an earthquake path and a series of active volcano across Sumatra Island, Java, Bali and Nusa Tenggara. Indonesia has more than 500 volcanoes, of which 128 are active. This line of volcanoes is part of the Pacific ring of fire. Additionally, as Indonesia is located in a tropical climate area, Indonesia has the potential of natural disaster risks such as flooding, landslides, forest fire and drought. Furthermore, Indonesia faces many natural disasters related to global climate change, such as tidal wave, coastal abrasion, drought, floods and landslides.

Social economic vulnerabilities:
According to Podes data of 2008, Indonesia's population reached 231,640,960 people, with a population growth rate of 1.3 percent during the period of 2000-2005. The main issue faced by Indonesia is the uneven distribution of population, with 58.3 percent of the population concentrated in Java and Madura in 2008. From social economic perspective, Indonesia still has a relatively high poverty number of 37,168,300 (statistic centre agency/*Badan Pusat Statistik* or BPS data of 2008) and between 1990 and 2004, some 27.1 percent of the Indonesian population live below the poverty line with an expenditure of under one US dollars per day (Human Development Report-UNDP 2007/2008). BPS data of 2007 illustrates that from education point of view, the adult literacy rate in Indonesia reached 91.87 percent, while the average length of school education in Indonesia is

7.47 percent. From the health perspective, Indonesia's life expectancy is 68.7 percent. The infant mortality rate in 2005 is 32 deaths per 1,000 births. Meanwhile, the gross domestic product per capita is IDR 15,628,050 and the real population expenditure per capita of 2007 is IDR 627,270.

Comment [HLD1]: I suspect PMI meant 7.47 years, not percent.

Institutional/organizational vulnerabilities:
The national disaster management institution is the authority of the national disaster management agency (*Badan Nasional Penanggulangan Bencana*/BNPB) which replaces the role of *Bakornas PBP* (*Badan Koordinasi Nasional Penanggulangan Bencana dan Pengungsi* or the national coordinating agency for disaster and displacement management) according to the mandate assigned by Law number 24 of 2007 on disaster management. The provincial disaster management agency (*Badan Penanggulangan Bencana Daerah*/BPBD) at the provincial and the district level were also endorsed by the head of BNPB regulation number 3 of 2008. In 2009, only a few provinces have endorsed the establishment of BPBD while other provinces are still using the previous structure of *Satkorlak* (*satuan koordinasi pelaksana penanggulangan bencana* or disaster management implementation coordination unit) at the provincial level and *Satlak* (*satuan pelaksana penanggulangan bencana* or disaster management implementation unit) at the district level.

Additionally, a number of universities have disaster study centres or similar, among others the Institute of Technology in Bandung (ITB), University of Gajah Mada (UGM), Institute of Technology Surabaya (ITS), university of national development (Universitas Pembangunan Nasional/UPN), Institute of Agriculture Bogor (Institut Pertanian Bogor/IPB), and Syah Kuala University. There are also many organizations, whether local, national and international, who are concerned with disaster management. The increased number of organizations responding to disasters is an advantage; however, on the other hand, these also undeniably pose additional challenges in the implementation. Coordination has always required special attention in terms of implementation in the field.

1.3. Rationalization of Disaster Risk Reduction and Climate Change Adaptation

In the global risk analysis prepared by the World Bank, Indonesia was identified as one of 35 countries with a high risk of deaths due to multiple hazards, with 40 percent of population living in high risk areas. With a population more than 230 million people, this means more than 90 million people are vulnerable to disaster and climate change threats.

Disaster slows down development. Repeated large scales disasters destroy buildings and infrastructures, which directly and indirectly hampers the development agenda. Destruction caused by these disasters also hinders economic growth. Economic pressure could decrease the quality of environment, particularly logging, causing further severe drought, as well as floods.

The impoverished are almost always the most affected when a disaster strikes, as they tend to reside in hazardous areas such as flood prone areas, river banks, steep hills and reclaimed land. The lack of resources results in difficulties for the impoverished people to maintain their livelihood and homes in times of disasters. Climate change, unplanned urban settlements, and other problems such as poverty and population growth contribute in the increased individual and community vulnerability, particularly the economically disadvantaged, and create additional risk-causing factors which would require specific humanitarian action.

In 2005, 168 countries attended the World Conference on Disaster Risk Reduction in Kobe, Japan, and adopted the Hyogo Framework for Action 2005-2015 as a global agenda to reduce disaster risks. In support to this global commitment, the Government of Indonesia has formulated a national action plan for disaster risk reduction (*Rencana Aksi Nasional Pengurangan Risiko Bencana*/RAN PRB) for 2006-2009 as a follow up to the commitment towards the Hyogo Framework for Action 2005-2015 (HFA), by elaborating on five priorities of the HFA, namely (1) Ensure that disaster risk reduction is a national and local priority with a strong institutional basis for implementation; (2) Identify, assess and monitor disaster risks and enhance early warning; (3) Use knowledge, innovation and education to build a culture of safety and resilience at all levels; (4) Reduce the underlying risk factors; (5) Strengthen disaster preparedness for effective response at all levels. Since 2007-2008, the Government of Indonesia has included disaster risk reduction programme in their regular development programme. Currently, the RAN PRB 2006-2009 is in its last year of implementation and will be soon evaluated, and a new plan RAN PRB 2010-2012 will be formulated with the involvement of government institutions, NGO, donors, etc.

Indonesia has ratified the United Nations Framework Convention on Climate Change through Law number 6 of 1994. Ten years on, Indonesia ratified the Kyoto protocol through Law number 17 of 2004. These commitments require comprehensive efforts and action in adaptation and mitigation. In 2007, under the coordination of the ministry of environmental affairs, a national action plan in facing climate change (*Rencana Aksi Nasional dalam Menghadapi Perubahan Iklim*/RAN PI) was formulated as a guideline in carrying out coordinated and integrated efforts in mitigation and adaptation of climate change, in line with the national development objectives. The development of climate change adaptation capacity in the future should be based on experience and the capacity built to overcome disaster risks related to the current climate. Therefore, the formulation climate change adaptation agenda must be linked to the national action plan for disaster risk reduction.

In addition to that, the Law number 27 of 2007 on coastal and small islands management mandated that in facing climate change in the coast and small islands, disaster risk reduction needs to be integrated in the coastal and small islands management and utilization plan, involving responsibilities from the central government, provincial government and/or the community.

Disaster risk reduction and climate change adaptation has the same concern and objective, namely to increase the resilience and reduce vulnerability to threats and impacts caused by disasters and climate factors. Therefore, in its implementation, both need close cooperation between sectors and an integrated development planning system. On the contrary, the aim/objectives of the mid term and long term development formulated in the provincial/national development plan will risk not being achieved if the threats and impact of climate change is not responded through holistic and appropriate policies and strategies.

The enactment of Law number 24 which was endorsed by the people's representative council (*Dewan Perwakilan Rakyat*/DPR) on 29 March 2007 contains the spirit of change in the Government of Indonesia paradigm in terms of disaster management: ***first***, a change from disaster response to disaster management which encourages change from action limited to emergency situation to holistic disaster management before, during and after disaster occurrence; ***second***, a change of mindset that safety and protection is the people's basic rights, not a gift from the government; ***third***, disaster management is no longer the government's affair alone, but is a common concern and involves the wide community's participation. Soon after the disaster response law number 24 of 2007 was endorse, the Government of Indonesia formed the national disaster management agency (*Badan Nasional Penanggulangan Bencana*/BNPB) through the presidential regulation number 8 of 2008. The BNPB is accountable directly to the President of the Republic of Indonesia, and is responsible to formulate and issue policies on disaster management and coordinate disaster management activities in a planned, integrated and comprehensive manner.

The importance of disaster risk reduction has also been reflected in the Agenda for Humanitarian Action, adopted in the 28th International Conference of the Red Cross and Red Crescent in December 2003. In this conference, the Red Cross and Red Crescent Movement and countries parties to the Geneva Convention committed to take action in the aim of reducing vulnerabilities to risks and impacts of disasters. This commitment was further proclaimed in the International Federation of Red Cross and Red Crescent Societies Global Agenda Goal of 2006-2010 which explicitly calls for a collective action with the vulnerable community to reduce disaster risks. In building this global commitment, IFRC has formulated a framework to build a more resilient and safe community.

Some 11 national societies in Southeast Asia also realize the importance of disaster risk reduction. In a leadership meeting held in August 2009, a regional commitment was made to (1) position themselves as government partners in achieving the national commitment in meeting the Hyogo Framework for Action and advocate to the government at all levels in ensuring a community safe and resilient against disaster, reflected in policies, strategies and national programmes; (2) recommend disaster risk reduction as a holistic approach to the national society as a mainstreaming agenda and cross cutting theme for health, organizational development and disaster management.

In PMI's disaster management strategic plan of 2004-2009, PMI has strengthened the effort of disaster preparedness and mitigation to support its disaster response services. In line with the global commitment and the PMI strategic plan of 2010-2014, PMI has taken further steps by mainstreaming disaster risk reduction and climate change adaptation into community based programmes and Red Cross activities (disaster management, health, social and restoring family links).

2. PMI's Auxiliary Function in Disaster Risk Reduction and Climate Change Adaptation

PMI's mandate in disaster risk reduction is ***to assist and cooperate with the government***, particularly in the humanitarian assistance aspect to vulnerable people. Additional to the main task of providing emergency assistance in times of disaster, as much as possible PMI also carries out Red Cross tasks before and after disaster occurs.

In carrying out its mandate, PMI has two main advantages: *first*, PMI has been acknowledged by the Government of Indonesia and other policy makers to have the duty and responsibility of assisting, advising and advocating on disaster management, as an implementation of its auxiliary role to the government. PMI was established by the government and is recognized as the only Red Cross organization in Indonesia, based on the Presidential Decree number 25 of 1950 and Presidential Decree number 246 of 1963. By upholding the Red Cross principle of independence, PMI provides support to the government in forming a national platform involving representation of national and local level in supporting disaster risk reduction and decentralize responsibilities and resources. *Second,* PMI has a network of grassroots volunteers originating from the community and living with the community. The mobilization of volunteer power supports an important contribution to gather community's input in the decision making process which would affect the disaster risk reduction programmes in the community.

In the Disaster Management Law number 24 of 2007, PMI's position in disaster management is not explicitly stated. In practice, this does not change PMI's participation in carrying out disaster management activities in coordination with the government and other institutions. Taking into account this condition, a memorandum of understanding was signed on 23 March 2009 between PMI and BNPB which stipulates both parties' agreement to establish a partnership in carrying out disaster management activities before, during and after disaster occurrences, in accordance with each party's roles. Through this MOU, PMI also committed to assist BNPB in the implementation and achievements of national, regional and international policy objectives on disaster risk reduction.

Under the coordination of the national development planning agency (*Badan Perencanaan Pembangunan Nasional*/Bappenas), PMI has been actively involved in a working group to formulate the national action plan of disaster risk reduction (*Rencana Aksi Nasional Pengurangan Risiko Bencana*/RAN PRB) for 2004-2009 and 2010-2012 in achieving 5 HFA 2005 – 2015 priorities. To effectively achieve the HFA objectives, PMI has developed a close partnership with government ministries and institutions such as the ministry of health, ministry of national education, ministry of environmental affairs, BNPB, etc.

In 2008, the Government of Indonesia under the lead of Bappenas, ministry of internal affairs, BNPB and funding support from the United Nations Development Program (UNDP) carried out a Safer Community through Disaster Risk Reduction (SC-DRR) programme, aiming at increasing community's resilience through disaster risk reduction. One of the important components in the SC-DRR programme is increasing the community's understanding on disaster risk reduction through education and public awareness programmes. In 2009, the SC-DRR has formulated a zero draft of the national strategy of mainstreaming disaster risk reduction in education system (*Strategi Nasional Pengarusutamaan Pengurangan Risiko Bencana kedalam Sistem Pendidikan*/SNP3RB). Under the coordination of the disaster education consortium (*Konsorsium Pendidikan Bencana*/KPB), PMI has been involved in the SNP3RB advocacy and campaign efforts to all stakeholders.

Awareness on Indonesia's vulnerability to natural disasters and climate change has currently become Indonesia's main concern. In the 2009-2014 programme of the 'Indonesia Unite II' cabinet (*Kabinet Indonesia Bersatu*), commandeered by the President of Indonesia, Susilo Bambang Yudhoyono, disaster risk reduction programme is one of the main programmes. To maximize disaster emergency response efforts at early stage, the Government of Indonesia has formed a rapid reaction unit (*Satuan Reaksi Cepat*/SRC) consisting of medical personnel and equipments, PMI, electricity and energy technicians, the national defence force (*Tentara Nasional Indonesia*/TNI) and the Indonesian national police (Polri), which under the coordination of the head of BNPB will carry out rapid assessment of disaster and its impact and provide assistance in disaster emergency response.

PMI has the role to support the Government of Indonesia in health services by providing first aid and other health services and conduct first aid training to the community as required, as stated in the minister of health regulation number 23/Birhub/1972. In terms of handling and managing bird flu

virus (Avian Influenza) in Indonesia, referring to the Presidential Instruction number 1 of 2007, PMI, under the coordination of the ministry of health and ministry of agriculture, has the role in increasing community based awareness and community based surveillance.

At the provincial level, PMI's auxiliary function towards the provincial government in disaster management is also implemented through PMI's role as the partner of the provincial disaster management agency (*Badan Penanggulangan Bencana Daerah*/BPBD). PMI is also involved in the formulation of the provincial action plan (*Rencana Aksi Daerah*/RAD) in which disaster risk reduction is included as one of the provincial government's programmes. Aside to that, PMI has also become a member and active contributor in the disaster risk reduction formulation team, as well as the provincial AIDS management commission (*Komisi Penanggulangan AIDS Provinsi/Daerah* or KPAP/KPAD) under the coordination of the governor/bupati (head of sub-district). In Aceh, PMI is a member of the Aceh formative platform (*Formatur Platform Propinsi Aceh*), supporting the establishment of Aceh disaster information data (*Data Informasi Bencana Aceh*/DIBA) which is also supported by UNDP, the provincial development planning agency (*Badan Perencanaan Pembangunan Daerah*/Bappeda) and the national unity and community protection agency (*Kesatuan Bangsa Perlindungan Masyarakat*/Kesbanglinmas).

3. PMI's History in Disaster Risk Reduction and Climate Change Adaptation Programming

Disaster occurrence is a phenomenon which can never be predicted by anyone. Any loss inflicted by it will always cause a prolonged impact to the people's quality of life, particularly the most vulnerable. PMI is aware that disaster preparedness is important, but it is not always sufficient. Any actions and activities carried out by PMI in the disaster risk reduction and climate change adaptation is linked to the five priorities of HFA. However, as part of the larger Red Cross Red Crescent Movement, PMI strives to implement consensus in building a safe community resilient towards disasters by empowering community's capacity as the first responder in times of disaster or in the integrated recovery efforts through disaster risk reduction and climate change adaptation efforts.

3.1. Policy, Strategy and Planning in Support of Disaster Risk Reduction and Climate Change Adaptation

In PMI's strategic plan 2009-2014, PMI's vision is described as 'responsive and professional in carrying out Red Cross services'. This means, PMI will always put forward disaster risk reduction and climate change adaptation in the community professionally. To achieve this vision, PMI has elaborated four missions relevant to disaster risk reduction as follows:

1. Strengthen and develop organization
2. Increase and develop human resources quality
3. Increase quality of Red Cross services in line with the standard service for community needs
4. Develop community based Red Cross activities

In carrying out its mission to strengthen and develop organization, PMI strives to implement strategic activities such as (1) increase coordination capacity, facilities, assistance, and monitoring and evaluation from the central board to the chapters and from chapter board to the branches; (2) increase the central board's capacity in mobilizing national and international resources, and increased the capacity of the chapter and branch board in mobilizing local resources; (3) undertake organizational mechanism in a good and proper manner; (4) increase professionalism of PMI organizational management.

To increase and develop human resources quality, strategic activities are directed to: (1) carry out systematic and sustainable recruitment; (2) carry out planned and sustainable education and training with an integrated approach; (3) carry out mentoring for proportional and integrative human resources potential; (4) Orientation and applicative training for PMI board, staff and volunteers to increase appreciation of roles and responsibilities, supported by appreciation of humanitarian values, prior to deployment to the field.

PMI has also strived to mainstream disaster risk reduction and climate change adaptation in the national agenda and integrate it into various PMI Red Cross services: (1) in ***disaster management services***, activities are carried out in a planned, holistic and integrated manner, applying community based approach; (2) in ***health services***, activities are focused to support and benefit

people affected by disasters, including ambulance facilities, first aid, water and sanitation, medical action team (MAT) and psycho-social support programme; (3) in ***social services***, activities are focused on vulnerable people, such as in clean water projects, dissemination and advocacy for various transmittable diseases including HIV/AIDS and Avian Flu; and (4) in ***Restoring family links*** programme services.

To achieve a safer community resilient to disasters, PMI has a mission to develop community based Red Cross activities, hence, PMI's activities are directed towards (1) increasing the capacity of local community to the grassroots level to face various natural disasters as well as diseases with pandemic potential and environmental health which could be man-made, so that the community has the capacity and resilience in facing disasters; and (2) increase and empower local community leaders, both formal and informal, in management of disaster and pandemic potential diseases, and increase health status of the community in a community based manner and focused towards risk reduction.

3.2. PMI's Services in Disaster Emergency Response

The disaster response over the last few years has been a valuable learning process for PMI. The disaster occurrences have triggered the establishment of many new organizations providing disaster emergency services during disasters, 'competing' to provide its best services. This condition has motivated PMI to provide its best services in a timely, appropriate and coordinated manner when disaster strikes.

Very often in disaster conditions, the first people to arrive in the disaster areas are the local community members who do not have any specific disaster response skills, while other more professional actors are delayed due to the difficulties to reach the isolated disaster areas. PMI's challenge in this sense is to prepare skilled local actors in disaster risk reduction. The disaster response capacity building for PMI sub-branch and community based action teams (CBAT) as first responder in the community level during disaster is currently an effort developed through the community based disaster preparedness (CBDP) and integrated community based risk reduction (ICBRR).

Referring to the disaster emergency response standard operational procedures, PMI ensures that PMI's disaster emergency response is suitable to the beneficiaries' needs, including the assessments, first aid and rescue, evacuation and emergency shelters, MAT, ambulance, field kitchen, relief and distribution, water and sanitation, psycho-social support, restoring family links, etc. Policies and planning of emergency response are also determined by PMI's capacity in formulating operational plans as the basis for services and relief operation target achievements. However, reporting, monitoring and evaluation, capacity and organizational development, as well as transparency are still a challenge for PMI in realizing established operational plans.

At the PMI branch level, a disaster response team (*Satuan Penanganan Bencana*/Satgana) is established, consisting of people recruited from the local community and come from various backgrounds, including students, community leaders, and medical doctors who become PMI's spearhead in carrying out disaster response operations. However, the fact is not all PMI branch have the competence and skills according to the scope of disaster response services. The low skills and competence of the Satgana team will affect the determination of assistance priorities given to the affected people, which should be based on the level of needs. Aside to that, the availability of Satgana personnel equipment, relief items stock, emergency fund, and other tools and infrastructures vary in each chapter and branches, which also affects PMI's emergency response service quality.

In the effort of expediting distribution in times of disasters, conflicts, other extraordinary events and epidemic, PMI has set up a logistics system by establishing a central warehouse, regional warehouses and disaster preparedness (DP) containers. However, some challenges in its operation have been encountered due to the uneven capacity in available space, management and relief items stock as well as resources readiness of each chapter. Based on experience, PMI's relief items specification, particularly non-food items, has been set to meet the minimum Sphere standard, however, the type of disaster, local needs and gender sensitivity also need to be considered. The basic needs of disaster affected community in forms of food items and non food items are provided

based on the needs assessment. Every PMI relief distribution is made in reference to PMI relief assistance principles: on time, right place, on target, right amount, and right quality.

In every disaster occurrence, the disaster emergency response command post (*Pos Komando/Posko*) functions as the field operation control centre. Communication tool becomes a supporting tool of emergency response operations, particularly in disseminating disaster information. The disaster information system function using the Disaster Management Information System, one of the IFRC tools has been running well in expediting response of the decision makers by providing up to date information, facilitate international support to take proper action and at the same time ensures accountability to donors and community affected by the disaster. However, the disaster management information system of PMI (*Sistem Informasi Penanggulangan Bencana*/SIPB) is not yet operational nationally.

The lack of coordination and internal sectoral egoism within PMI in disaster emergency response operation causes overlapping and squander of resources, affecting effectiveness in determining policies and support to expedite community recovery from disaster impact. There is therefore a need for advocacy in the disaster response paradigm by not only focussing on emergency relief activities during disaster emergency response operation but also pay attention on the recovery aspect while the disaster operation is ongoing. Introduction and socialization of relief to recovery paradigm has been included in PMI disaster management training.

3.3. PMI Services in Disaster Recovery

The tsunami experience in Aceh in 2004 and the Bantul earthquake in 2006 has provided PMI with lessons learned that disaster recovery efforts must be carried out immediately without waiting for the disaster emergency response has completed. The emergency response should also consider long term needs of the beneficiaries and identify efforts to increase the community's capacity in the disaster prone areas. The assistance given during emergency response should provide a strong foundation to recover the community's lives. Therefore, disaster recovery planning and programming should be carried out in synergy with emergency response and development planning with the involvement of the people affected by the disaster.

Based on experience, disaster recovery programme should start by focussing on the main needs of the people affected by disasters, such as temporary shelters integrated with water and sanitation as well as health promotion. Other than providing a reasonable basic housing, temporary shelters also provide community with safety to rebuild and continue their livelihood and economic activities. In responding to this need, PMI has trained its volunteers to facilitate the community in carrying out self-assessment on shelter needs, financial management as well as tools and material procurement required by the shelter design, Sphere minimum standard and gender sensitivity.

Livelihood programme development in Aceh after the tsunami in 2004 – such as cash for work - has been carried out as a transition from emergency response into long term recovery – such as training, agriculture, microfinance, etc. These are the activity components in which PMI has limited management experience and skills. Therefore, increasing PMI staff's understanding and capacity in the livelihood concept and strategy is a key requirement in formulating livelihood strategy in disaster recovery. Establishing partnership with local and international non-government organization which support livelihood development programmes has become an important innovation for PMI in deriving benefits from the expertise of non-Red Cross actors.

In 2006, in cooperation with the ministry of health, PMI Bogor hospital has recruited and trained a number of doctors, nurses and specialists from general and private hospitals as medical action teams (MAT) to ensure access to health services, specifically for vulnerable community groups such as children, expectant mothers, senior citizens, etc. who live in emergency or temporary shelters. In practice, health services should also consider reproductive health such as antenatal and postnatal care, nutrition needs for expectant and nursing mothers, as well as sexual abuse risks. PMI should also activate potentials in the community such as midwives, local women associations, etc. to promote healthy and hygienic behaviour in maintaining environmental sanitation and prevent breeding of disease vectors.

Drastic and sudden environmental changes could cause decrease in the community's social function. After the tsunami in Aceh in 2004, PMI has developed a psychosocial support programme (PSP) for

disaster affected population facing psychological trauma. Before carrying out its task, PMI volunteers have been trained to identify social needs with the involvement of the beneficiaries, both children and adults. Based on the needs assessment results, the volunteers conducted regular visits to the selected villages and schools and conducted various activities which were considered effective and suitable to the psychosocial needs and local conditions, such as drawing, sports, traditional dancing shows, etc. To increase the effectiveness of its services, PMI also considered the psychological health of its volunteers involved in disaster response operations, by holding a debriefing session at the end of their mission. Currently, PMI has established a partnership with the crisis centre of the University of Indonesia (*Pusat Krisis Universitas Indonesia*/PUSKRIS UI) to refer people who need professional psychological help to mental health service providers.

Restoring family links (RFL) service activities has a positive impact to livelihood by facilitating the return of the breadwinners to their families and helping to reduce emotional distress due to loss of family members. Through capacity building for RFL supported by ICRC since 2006, PMI has placed RFL as one of its main activities in disaster response. Using "I'm looking for" and "I'm alive" forms, the search for information of family members' whereabouts is conducted by PMI volunteers in health facilities and shelters with the support of satellite phones which are used when normal communication means are not functional after a disaster. To increase the quality of family restoration services, PMI utilized the opportunities of cooperation with relevant institutions. For example, PMI has established cooperation with disaster victim investigation (DVI) to match bodies of disaster casualties (through physical features, clothes, etc.) to information on missing people or people presumed to be dead.

3.4. PMI Services in Disaster Preparedness

With more than 200 million people affected by disasters every year, disaster preparedness is known to be an essential component in disaster management; however, this has not been considered sufficient. To anticipate this, PMI must always be prepared to provide its best services to the most vulnerable communities. Aside to that, the community's capacity in emergency response preparedness, disaster impact mitigation and climate change adaptation must be increased.

To provide the best services during emergency response phase, in 2007, PMI has formulated a standard operating procedure (*Prosedur Tetap*/*Protap*) for disaster emergency response which defines the tasks and responsibilities at all levels. The general guidelines contained in this *Protap* are elaborated more specifically in other policies such as implementation directives (*petunjuk pelaksanaan*/*Juklak*) for PMI Satgana, *Juklak* for PMI disaster response post (*Juklak Posko PB PMI*), and technical directives (*petunjuk teknis*/*Juknis*) for relief distribution which aims at strengthening supporting elements of a disaster emergency response operation. All policies have been distributed and socialized to all PMI levels. However, the policies seem to not have been implemented maximally, whether by PMI headquarters, chapters or branches, particularly by the leadership. Internally, there is still a need for independent strengthening to widen the practice of the policies.

To enable the community as ***first responders*** during disasters, PMI needs to facilitate the community in establishing resource mobilization scenarios relevant to the type of hazard in their environment. Until 2009, 25 PMI chapters have formulated draft contingency plans in relation to the local disasters. Vulnerability and capacity assessment analysis which is the basis in formulating this contingency plan has not yet been utilized maximally to support the ability and capacity of the community and PMI in responding to disasters.

The success of disaster management activities very much depends on the ability to implement disaster management knowledge and supported by effective and structural operational control tools. Through the Posko PB structure at all PMI levels, it is hoped that disaster management activities can be planned, coordinated and monitored. Currently 25 Posko PB of PMI is functional to manage the database and mapping regularly, describing the hazards, vulnerability and capacity in PMI disaster management and build a disaster management information system.

To support the services of Posko PB, 10 chapters have established a VHF/HF radio communication system and carried out radio operator training which enables PMI to collect information and disseminate warning of possible disasters, increase efficiency in disaster response, maintain information and communication line between PMI headquarters, chapters and branches. Aside to the efforts of upgrading the equipments and capacity of radio communication human resources in

other chapters, another challenge faced by PMI includes how to provide understanding to the local government on PMI's role in disseminating early warning and maintain sustainability of radio communication operation and Posko PB for 24/7. In April 2009, PMI and the Indonesian amateur radio organization (*Organisasi Amatir Radio Indonesia*/ORARI) has signed a memorandum of understanding marking the commitment of both parties to develop a partnership in radio communication for the sake of disaster management activities, whether before, during or after disaster.

When receiving early warning information from the meteorology, climatology and geophysics agency (*Badan Meteorologi Klimatologi dan Geofisika*/BMKG), the ministry of mineral resources and energy, office of public works, etc., PMI has a strategic function in forwarding and transferring such early warning information to the community using various communication channels. However, PMI still has limitation in using long term forecasts for cyclone seasons, El Nino and La Nina, and seasonal precipitation to support disaster emergency response preparedness efforts related to climate change. Supported by the Asian Disaster Preparedness Centre (ADPC), PMI will formulate a training manual for community based early warning system for its staff and volunteers who support the implementation of the early warning system SOP at PMI which has been compiled earlier. Through this training, upon receiving early warning information, the community is enabled to identify its options for safe behaviour, availability of evacuation route, and the best way to avoid damage and loss of property.

Capacity building of PMI human resources in the provision of services is carried out through trainings, simulations, workshops, as well as internship at the national, regional and international level. National level trainings to fulfil the need for competent human resources are held using standardized training curriculum. Additionally, the provision of Satgana personnel equipment supplies, stocking of relief items, emergency funds, DP containers, central warehouse, regional warehouse and emergency response warehouse has been acquired by PMI to strengthen emergency response preparedness.

3.5. Sector Based Programming

PMI has sectoral services programmes, such as disaster management, health, organizational development, resource development, etc. These sectors are important elements in disaster risk reduction, which needs good coordination in providing effective services relevant to the targeted group.

3.5.1. Organizational Development and Capacity Building

Realizing that organizational development is a crucial matter before, during and after a disaster occurs, in 2007 PMI initiated a holistic survey in all 33 chapters and 404 chapters. Through this organizational development and capacity building survey, PMI chapters and branches could identify its capacity and organizational performance and formulate a long term organizational development objective.

PMI can only carry out its disaster emergency response in a timely, proper and coordinated matter if all PMI branches, chapters and headquarters have the sufficient and well functioning organizational capacity. The evaluations of several medium and large scale disaster emergency response operations during the period of 2004-2009 have identified coordination, roles and responsibilities of all PMI level, operation management, volunteer mobilization, relations with the Movement components and other stakeholders, resource development, publication, and reporting as areas that needs to be improved to support an effective emergency response.

PMI realizes that the quality of emergency response operation is also determined by the competence and skills of the volunteers. Therefore, in supporting the mobilization during emergency response, several efforts have been made, such as the development of training curriculum and standard manual for volunteers; training and simulation/response rehearsal of disaster emergency; and the provision of equipment, tools and operational support. PMI also acknowledges the importance to keep a database on volunteers and their skills updated on a regular basis for the purpose of emergency response mobilization. Additionally, a policy on reward and recognition for volunteers and community is also needed.

In a disaster response operation, PMI has been supported by many private enterprises. In this regard, PMI needs to cultivate a good relationship with the donors through (1) provision of information, including access to information on the organization, PMI's services programme, mechanism and the development of emergency operations; (2) provision of information/report on the utilization of donation; (3) acknowledgement of donors in the form of appreciation and reward, even in the form of exposing the supported donation if allowed/required by the donor. Additionally, PMI's positive image through various communication media (printed, electronic, traditional and convergent) plays a strategic role in each disaster response operation. This positive imaging will in turn increase PMI's competitiveness and marketability for humanitarian purposes.

In the CBDP/ICBRR programme, the capacity building of board members, staff and volunteers is one of the key strategies. In monitoring the capacity building of the CBDP programme in 2008, the PMI board's lack of understanding on the PMI organization, including its role and function has been identified to hamper the programme implementation and sustainability. Additionally, in the final evaluation of the CBDP programme in 2008, it was recommended that "one of the keys of success for the sustainability of CBDP programme is to ensure the increased capacity of PMI at all levels (central, chapter, branch and community) by mobilizing resources and fundraising".

3.5.2. Health and Social Services

The health problems in Indonesia has developed to be more complex in line with the increase of natural disaster occurrences in various areas, where many affected people must be immediately ad properly assisted. The global climate change causes deterioration in environmental health, increases vector and disease carrying viruses such as the malaria and *aedes aegypti* and in the end increases the number of sick or decreases health. Additionally, the spreading of various transmittable diseases such as HIV/AIDS and pandemic potential diseases such as the Influenza Pandemic, the community's healthy and hygienic behaviour and proactive role in pandemic preparedness and response need to be increased.

So far, first aid for daily emergencies and disaster or conflict emergencies has been a service which is of PMI's specialty. Based on its disaster response experiences, PMI realizes the need to increase health services in emergency response and recovery through the improvement of trained health personnel in first aid, medical action team, water and sanitation emergency team, ambulance team and PSP teams. So far some achievements in health services to support emergency response operation up to 2009 have been recorded as follows: (1) the formation and training of MAT in 16 PMI chapters which has gradually increased its response quality; (2) the formation of water and sanitation emergency team with various equipments and tools and 167 volunteers trained with a central warehouse in Bandung, which has currently become the water and sanitation centre of excellence for the national societies of ASEAN member countries; (3) capacity building of ambulance crew has been gradually carried out in 12 PMI chapters; (4) training of first aid trainers which has expired in 2004 has been revitalized at the national level through the training of 152 people from 22 provinces; (5) PSP technical basic training has been carried out for 100 volunteers and PSP trainers training for 91 people from 33 provinces; (6) training on reproductive health during disaster has been done for 38 people.

In the promotional and preventive efforts, programmes such as community based health and first aid (CBHFA), malaria, HIV/AIDS, CBAIC, humanitarian pandemic preparedness (H2p), water and sanitation, etc. have all been directed to reduce community's vulnerabilities with the participation of the community in identifying their health needs and priorities as well as the solution.

Anti-malaria campaign programme has been launched by PMI to promote the use of bed nets distributed to the senior citizens or the childminder of children below five years. Furthermore, through health education, this anti-malaria campaign also strengthens the capacity of PMI volunteers in assisting the malaria programme of the ministry of health when needed. The distribution of bed nets and dissemination of information to prevent malaria is carried out by community volunteers in community meetings or activities and by door-to-door visits.

PMI has carried out HIV/AIDS programme since 1996 with a focus on involving youth as target for HIV/AIDS prevention through youth peer education, anti-stigma and discrimination campaign as well as care and support for people living with HIV/AIDS (PLWHA). Since PMI's involvement in the Global Alliance on HIV/AIDS in 2009, PMI has developed HIV/AIDS programme in 17 PMI chapters by

emphasizing on the teenage groups as programme target. To increase its contribution towards the decrease of HIV cases, PMI plans to expand its HIV/AIDS programme target by also reaching out to workers in the PLWHA's circle, high risk community groups, and intravenous drug users.

Response to influenza as one of the emerging and re-emerging infectious disease has become a programme implemented by PMI since 2006. PMI's membership in the national committee of avian flu control and influenza pandemic preparedness (*Komite Nasional Pengendalian Flu Burung dan Kesiapsiagan menghadapi Pandemi Influenza*/Komnas FBPI) has given PMI a strategic role in the community in addressing the ongoing pandemic. To support Komnas FPBI, PMI is the coordinator of NGOs in developing the country plan of pandemic influenza preparedness. Additionally, PMI has received the humanitarian pandemic preparedness (H2P) project, which involves all chapters and branches in the preparedness against the pandemic in which PMI acts as a leading sector for all NGO.

3.6. Core cross- cutting components of community safety and resilience

3.6.1. Risk Analysis

Effective disaster risk reduction and climate change adaptation requires community participation. Therefore, PMI applies the tools and process of VCA to increase the understanding of risk from the hazards faced by the community, as well as the social, economic and environmental factors which affects the community's vulnerability, and the capacity which can be mobilized to overcome them. In the ICBRR programme, risk analysis obtained through VCA is used to identify early warning in the community, predict medium and long term capacity particularly in the context of climate change, enable the community to mobilize its resources and carry out disaster emergency response efforts and formulate mid and long term programme to anticipate disaster risks and climate change.

Currently, the Government of Indonesia, other institutions as well as PMI are striving to develop a national risk analysis. Based on this analysis, PMI will need to focus its disaster risk reduction not only in areas which have a high disaster risk history, but also take into account the exposure of a wider disaster impact as well as the community's physical, social economic and health vulnerability, and its emergency response capacity. The fact is, up until now, the risk analysis which has been produced either by the government or PMI has not yet been utilized maximally to formulate a mid and long term development programme in various sectors.

PMI should also take multi-hazard approach into consideration to increase effectiveness of disaster risk reduction efforts. Normally, the community face risks from various hazards, whether brought about by nature, hydro-meteorology, geology, biology, technology, etc. The accumulation of disaster risks experienced by the community can not bee effectively handled if planning is only made for certain disasters. The multi-hazard approach requires knowledge on all forms of hazards in the disaster risk management and growing understanding on the importance of effectiveness and efficiency of disaster risk reduction activities.

3.6.2. Community Based Programmes

3.6.2.1. Community Based Health and First Aid (CBHFA)

The CBHFA programme has been implemented since 1999 and is currently ongoing in 11 chapters in Indonesia. No less than 57,000 families and 3,800 village health volunteers have received the benefit of the programme. The main activity component of CBHFA is training the community of the village to be able to conduct first aid in accidents or injuries and respond to other health problems. Since 2002, the CBHFA programme started to adopt the participatory hygiene and sanitation transformation (PHAST) approach to increase change in self hygiene behaviour and environmental health in a participatory manner. With the mentoring of village health volunteers, through this programme, the community has carried out various activities to support healthy lifestyle, such as health promotion, environment cleaning and waste management.

In 2007, PMI has obtained the trust from IFRC in Geneva to test out a new approach "CBHFA in action" which not only focuses on the health aspects of the community (preventive, promotional and curative) but also on the disaster management (disaster preparedness, emergency response and

risk reduction) to reduce community's vulnerability by increasing the capacity and action from its volunteers. Through CBHFA in action, PMI has formulated several guidelines such as the guidelines for CBFA implementation, facilitators' guidelines, volunteers' guideline and health promotion materials for households.

In line with the concept and strategy of ICBRR programme, the health context can be integrated through two approaches, namely: (1) communicable disease risk reduction which by integration is based on behaviour change and community commitment, including physical, mental and social health risks; (2) disaster risk reduction in health context, for example provision of basic health efforts through self hygiene and environment in the community as part of disaster impact mitigation.

3.6.2.2. Community Based Disaster Preparedness (CBDP) and Integrated Community Based Disaster Risk Reduction (ICBRR)

Since 2002, PMI has initiated CBDP or ICBRR programme which is currently ongoing in 15 provinces. This programme has two activity components: (1) increase disaster emergency response preparedness capacity and reduce disaster risks in the community level; (2) increase PMI capacity in carrying out disaster management. This programme is carried out not only in the rural areas, but also in the urban areas.

Through the ICBRR programme, PMI has recruited and trained volunteer corps (*Korps Sukarela*/KSR) and community based action teams (CBAT) who facilitate the community and applying vulnerability and capacity assessment (VCA). The analysis of hazards, risks, vulnerabilities and capacities as part of the VCA process has helped the community in identifying structural and non-structural mitigation efforts in reducing disaster risks. Aside to that, with the support from the Red Cross Red Crescent Climate Centre, PMI has integrated the climate change adaptation component into the ICBRR programme. Currently the dissemination on climate change has been done by integrating it into ICBRR trainings at all levels. However, in practice, PMI and the community have difficulties in identifying no regret solutions in the climate change adaptation efforts and in integrating it into their risk reduction plans.

In 2007, PMI with the support from Rabobank Foundation and PT Rekadesa has initiated micro financing in ICBRR programme in urban areas which aims at increasing family resilience in the risk transfer mechanism through trainings, forming of credit cooperatives and a set of activities supporting the increased income of households. The partnership between PMI and its partner organization with the expertise and experience in microfinance is an effort taken to increase the knowledge and skills needed by the community as a basis to build cooperatives management and leadership to ensure sustainability.

The centralization and hierarchy of management at the provincial government hampers the community based approach, considering that the disaster risk reduction and climate change adaptation has not yet become a main agenda of the provincial government in the provincial development plan and budget. This leads to disaster management funding in the provincial government being dedicated to disaster emergency funding only as opposed to disaster risk reduction. So far, the existence of development plan conference (*Musyawarah Rencana Pembangunan*/*Musrenbang*) as a mechanism for village development work plan was a vessel for integrating disaster risk reduction and no regret solution in climate change adaptation formulated by the community into the local provincial government plans. Through the ICBRR programme, there is a need to increase the capacity of community institution to support the intensive advocacy and socialization to the provincial government and stakeholders within its area for the sustainability of the programme.

3.6.3. Disaster Preparedness in Schools

PMI has started the campaign "begins with me" at the end of 2006 which aims at promoting the concept of disaster prepared schools. The development of this concept was done by utilizing extracurricular activities through Youth Red Cross using peer group approach. The Youth Red Cross, as PMI's youth members, has the responsibility and opportunity to influence its peer group, whether in school or outside school, to increase life skills in reducing environmental problems, health and

disaster risks. The children and teenagers will swap information, identify problems, design and agree on solutions through risk reduction behaviour and activities. Positive behaviour which is started early will impact future life quality and influence the positive behaviour of an adult.

Currently the disaster prepared school concept is integrated in the ICBRR programme. A series of trainings for facilitators or Youth Red Cross coach and Youth Red Cross members on disaster preparedness and mitigation have been carried out, in addition to formulating a manual, training module and media supporting the dissemination of this concept. PMI is currently striving to integrate disaster prepared school into the CBHFA programme, and the hope is that this concept can become a model for education on disaster and health and others with full participation of the schools (including the principal, teachers, students and school board).

In line with the effort to develop disaster prepared schools, university student volunteer corps (*Korps Sukarela*/KSR) was identified to have potential to support the disaster risk reduction and climate change adaptation issue in the community and schools. In the future, KSR need to be involved in facilitating and planning disaster risk reduction and climate change adaptation efforts together with the community and schools, according to the hazards, risks, vulnerabilities, and local capacities. Additionally, with the involvement of KSR in the disaster risk reduction and climate change adaptation, the skills and applicative research capacity on disaster and social economic risks is hoped to increase.

3.6.4. Advocacy and Promotion of Disaster Risk Reduction and Climate Change Adaptation

Disaster risk reduction and climate change adaptation is a long term process with low visibility compared to emergency response operation which has a high visibility. PMI feels the need to advocate and promote disaster risk reduction to the community, provincial government, national government, private sectors and other institution as well as within PMI such as the board, staff and volunteers to increase the visibility of disaster risk reduction and climate change adaptation and to make it an action and funding priority.

As auxiliary to the government, PMI's activities should be in line with the local government's policies and support national commitment in achieving the Hyogo Framework for Action. Considering that disaster risk factors and climate variables are closely related to development, PMI can play an important role in advocating the importance of integrating disaster risk reduction and climate change adaptation into the development plan and budget at the community, provincial and national level. Through various forums, PMI has held dialogues with local government and became partners in developing national disaster risk reduction and climate change adaptation policies. However, PMI must also ensure that the advocacy is in line with the Fundamental Principles of the Red Cross and Red Crescent.

With the perspective of disaster risk reduction, PMI needs to re-evaluate its service activities in the spectrum of disaster management and formulate a systematic plan to increase its activity scale. Internally, advocacy on disaster risk reduction and climate change adaptation needs to be carried out for board, staff and volunteers, considering the importance of support and involvement in carrying disaster risk reduction and climate change adaptation as the organization's main agenda.

In the ICBRR and CBHFA programme, disaster risk reduction and climate change adaptation promotion and health promotion is carried out as an integral part to support the achievement of programme aim, namely to increase the community capacity and reduce its vulnerability. Various activities such as dissemination through door to door visits to the houses of the community members or through community gatherings, making of disaster risk mapping, formulation of risk reduction action plan, training and disaster response simulation, establishment or improvement of mitigation means, community works, etc. are used to increase community's knowledge, attitude, skills and behaviour in carrying out disaster and health risk reduction.

3.6.5. Partnership and Networking

It's important to understand that the effort to build a safe community resilient towards disaster can not be carried out by PMI alone. So far, PMI has increased its cooperation with IFRC and the ICRC as well as other Red Cross and Red Crescent National Societies in disaster management.

With the limited resources (human, funding and time), PMI needs to cooperate to ensure efficient and effective disaster risk reduction and climate change adaptation. PMI sees the importance to increase partnership with other stakeholders such as the community, the local government, national government, NOG, private sectors as well as education sector. However, it needs to be emphasized that PMI's mission is to protect the vulnerable people from the impact and risk of disaster and climate change.

PMI has been actively involved in various disaster risk reduction and climate change adaptation forum at the national and local level such as DNPI, Planas PRB, KPB, etc. as member, resource person and participant. Additionally, PMI has several times been involved in joint activities with *Yayasan Pelangi* and the World Wildlife Fund (WWF) such as campaign, community awareness and climate change adaptation training. However, based on the evaluation of the ICBRR programme (2009), the network and cooperation has been identified to only be limited to PMI participation in various external activities held by government institutions or other organizations. This means that the network and cooperation built by PMI has not yet been built strategically to support the achievement of a safe community resilient to disasters.

The development of cooperation with educational institution has been initiated by PMI in various disaster risk reduction programmes. For example, during the recovery of Yogyakarta earthquake in 2006, PMI has developed cooperation with Universities in Yogyakarta to identify a design for temporary shelters and mobilized the community in the construction. Through the ICBRR programme, the PMI West Java Chapter has developed cooperation with the Institute of Technology in Bandung to identify structural mitigation appropriate to the local characteristics.

3.6.6. Gender Sensitivity and Vulnerable Community Group

Disasters give rise to different impacts to various community groups, whether children, men and women, people with disabilities and senior citizens. Aside to that, specific factors such as gender, age, health status, education status, etc. could also affect individual capacity to respond to disasters. Similarly, disaster response activities and humanitarian assistance given could also cause different impacts to different vulnerable communities. These vulnerable community groups will face increased risks due to their physical, cultural and social limitation which could hamper access to services. Therefore, PMI finds it necessary to understand the different needs, vulnerabilities, capacities and coping mechanism amongst different vulnerable community groups, including access and control to resources, decision making and opportunity to develop skills.

In disaster risk reduction and climate change adaptation, vulnerable community groups need to be involved in disaster response activities, disaster recovery, preparedness and mitigation. The participation of vulnerable community groups in the planning and decision making will help ensure effective programming, beneficial and appropriate to their needs and maximise their capacity.

In the effort to increase efficiency and effectiveness of Red Cross service activities, PMI has formulated a gender strategy which integrated gender sensitivity into disaster management, whether disaster preparedness activities, emergency response or recovery. The mainstreaming of gender sensitivity has been conducted in the VCA tools, information, education and communication (IEC) media, leaflets, photos and PMI training guidelines for staff, volunteers and community, balance of men and women participation percentage in Satgana teams, KSR teams and CBAT. In practice, some weaknesses in articulation, experience reflection records and gender mainstreaming practice has been found in disaster risk reduction. The weak articulation is due to the lack of monitoring system which causes confusion on the direction and efforts of the gender mainstreaming. Therefore, a gender framework in disaster risk reduction needs to be formulated in a systematic and sustainable manner to support PMI services.

4. Strengths, Weaknesses, Threats and Opportunities

4.1. Strengths

PMI is the only Red Cross organization in Indonesia based on the Presidential Decree number 25 of 1950 and Presidential Decree number 246 of 1963. Based on the seven Fundamental Principles of

the Red Cross and the Red Crescent, PMI has identified its clear and relevant vision and mission in providing services before, during and after disaster. PMI's long history of experience in disaster management in various national scale disasters such as the tsunami in Aceh in 2004, Yogyakarta earthquake in 2007, earthquake in Tasikmalaya in 2009, earthquake in West Sumatra in 2009, etc. and in the community based programme implementation, has attained national appreciation from the Indonesian government and people.

In supporting disaster emergency response preparedness, PMI has the volunteers and staff with skills and competence in various areas, such as disaster emergency response, community based programmes, restoring family links, logistics, water and sanitation, first aid, medicine, psycho-social support, etc. and board dedicated to correspond with and assist beneficiaries. Aside to that, at each level at headquarters, chapter and branches, with the support of the local government, donor or own ability has prepared emergency funding, logistics warehouse as well as tools and means which support the capacity to respond to disasters. Various manuals, implementation directives and training guidelines have also been formulated to increase the effectiveness of services in each area.

PMI has the dedicated network and volunteers down to the grassroots level enabling them to directly get communicate with and help beneficiaries. Through its volunteer network, PMI has the potential to increase community capacity in identifying hazard, risks, vulnerability and capacity in their environment which hamper efforts of disaster emergency response, impact mitigation and disaster risks independently. Aside to that, PMI also has a network of Youth Red Cross at the branch level which is an important resource in promoting disaster risk reduction education in their surroundings.

4.2. Weakness

The change of paradigm in disaster management by placing disaster risk reduction as a main framework has not yet been understood by PMI internally, whether by the board, staff or PMI volunteers in various levels. This is shown by the non optimal integration of sectoral programme services carried out by PMI, including community based programmes. PMI also has a weakness in providing database, mapping, and reporting which supports information and decision making on disasters.

The decreased motivation and number of volunteers who are the spearhead of PMI's services is a fact which is often experienced in PMI's services, requiring PMI to undertake volunteer retention intervention. The involvement of volunteers in volunteer management cycle is not merely limited to recruitment and training, but also includes assignment, mobilization, recognition and appreciation. The competence and skills of PMI volunteers insufficient to the standard affects their abilities to respond to disasters in a timely, quick and coordinated manner, and their abilities in assisting the community to reduce its vulnerability by using their capacity.

Other than that, until now, PMI does not yet have any sustainable funding resources which derive from its own sources. Therefore, PMI services implementation are very much dependant on external funding, which affects the provision of tools and means which may not fit the needs of the beneficiaries.

4.3. Opportunities

The enactment of Law number 25 of 1999 on provincial autonomy has given more authority to the provincial and district government. This also implicates to the chance to increase the capacity and performance of PMI chapter and branches in disaster risk reduction.

The disaster management law number 24 of 2007 has also given a mandate to the government in various levels to carry out disaster risk reduction efforts as an integral part of disaster management and to combine disaster risk reduction in development programmes. Until now, two government regulation has been identified as an implementing regulation of the law number 24 of 2007 which supports the implementation of disaster risk reduction and climate change adaptation, namely (1) government regulation number 21 of 2008 on the implementation of disaster risk reduction, which states that disaster management is carried out in a planned, integrated, coordinated and holistic

manner to provide protection to the community from hazards, risk and disaster impact by encouraging community participation in disaster risk reduction activities; (2) government regulation number 22 of 2008 on funding and disaster relief management which states that disaster management funding which are available at the provincial government or the provincial agency for disaster management (BPBD) can be used for risk reduction programme, provided that there are no disaster occurrences.

The integration of disaster risk reduction into disaster rehabilitation and reconstruction has been intensified by the Government of Indonesia. For example, the reconstruction of buildings destroyed or damaged by a disaster is oriented towards disaster risk reduction. In the effort of education, the community affected by disaster is also involved in the process of rehabilitation and reconstruction. Micro financing schemes are also integrated in disaster recovery activities, with women being the main beneficiaries. Taking into account PMI's experience in disaster response and preparedness, PMI has the opportunity to take on an important role in carrying out early recovery activities by involving participation and consultation of the beneficiary community.

In line with the national commitment in implementing the climate change adaptation agenda, PMI has the opportunity to conduct several approaches such as advocacy to the local government to integrate climate risk consideration into the provincial development planning; increase awareness and disseminate information on climate change and adaptation information to various levels of the community particularly the vulnerable as a preparedness action and increase awareness on climate disasters; facilitate community to identify no regrets solution which aims at reducing risks of climate change disaster hazards and at the same time derive benefit for provincial development; and be actively involved in national dialogues to expedite the implementation process of climate change adaptation agenda in Indonesia.

In the mid-term development plan (*Rencana Pembangunan Jangka Menengah*/RPJM) of 2010-2014, the Government of Indonesia has taken further steps by mainstreaming disaster risk reduction and climate change adaptation as one of the 11 priorities of the Indonesia United II national cabinet 2009-2014. In practice, the five priorities of HFA have been integrated in the disaster management programme through seven priority activities: (1) disaster risk reduction as a national and local priority and disaster management institutional capacity building; (2) identify, review and monitor disaster risks and early warning system implementation; (3) utilize knowledge, innovation and education to reduce disaster risks cause factors and build safe and resilient culture; (4) strengthen preparedness to face disaster at all community levels; (5) assist people affected by natural disasters and social riots; (6) rehabilitate and reconstruct areas affected by natural disasters and social riots, particularly in the areas of housing and settlements; (7) rehabilitate and reconstruct public infrastructure and basic services. Through the *Musrenbang*, disaster risk reduction and no regrets solution in climate change adaptation formulated by the community has an opportunity to be integrated in the local development plan.

Since 2008, the national education ministry has launched an education unit level curriculum (*Kurikulum Tingkat Satuan Pendidikan*/KTSP) which is based on school autonomy. Juridically, KTSP is mandated by Law number 20 of 2003 on national education system and government regulation number 19 of 2005 on education national standard. The KTSP enables education on disaster risk reduction and climate change adaptation to be integrated in the national education system, particularly the basic and middle level in accordance with the schools' needs.

PMI's participation in various multi stakeholders' forum and networks such as PLANAS PRB, disaster education consortium, national council for climate change, etc. presents and opportunity to carry out advocacy function to encourage mainstreaming of disaster risk reduction and climate change adaptation into policies, plans and development programmes and encourage consensus and consultation at the central and provincial level. In addition, the funding and technical support from IFRC, ICRC, PNS, private companies and other partners, provide opportunities of capacity building and resource mobilization in PMI services.

Currently, the provincial disaster management agency has been established in 23 provinces and 49 districts/municipalities, but the capacity and skills possessed are still focused on disaster emergency response. PMI's position as BNPB partner presents an opportunity to facilitate the efforts of increasing knowledge and understanding of BPBD at the provincial level on issues of disaster risk reduction through education and training, through formal education or staff training.

4.4. Challenge

The rapid and unplanned urbanization has propagated and worsened the marginalized community groups. The national incorrectness in handling the deteriorating quality of environment and the impact of climate change and global warming will increase the frequency of disasters which would cause negative impact to vulnerable people.

The Indonesian's archipelagic state presents a massive challenge for PMI's services particularly in providing rapid, appropriate and coordinated disaster response. The increasing number of humanitarian organization carrying the issues of disaster risk reduction and climate change adaptation also poses a challenge for PMI to increase the quality and quantity of its services. To avoid duplication and ensure effectiveness of its community services, PMI should increase coordination and cooperation with government institution as well as humanitarian organizations who are also concerned with disaster risk reduction and climate change adaptation.

Disaster risk reduction and climate change adaptation which are not well integrated or well structured or sometimes fragmented due to sectoral reasons, government administration or geographical locations. Every sector has its different rules and policies according to its function and interest, due to the uneven understanding of disaster risk reduction and climate change adaptation in the local government circle, particularly at the provincial and district level. This means that mainstreaming of disaster risk reduction and climate change adaptation into local government plan still presents a challenge in PMI's effort to achieve a safe community resilient to disaster.

5. PMI's Capacity in the Implementation of Disaster Risk Reduction and Climate Change Adaptation

Since 2007, PMI has developed a parameter for organizational capacity and performance evaluation in implementing Red Cross services. Based on the 2009 evaluation, 15 chapters were identified as having good capacity, 15 chapters are identified as having medium capacity while three chapters have low capacity in carrying out Red Cross services.

Figure 12. PMI capacity and performance map 2009

5.1. Human Resources

Human resource development within PMI, starting from mentoring of KSR and TSR, staff and board, is the starting effort in disaster risk reduction. In 2009 it has been recorded that 4,932 board members, ... staff, 55,074 KSR members, 1,641,121 PMR members and 45,586 TSR members have been trained with basic skills and equipped with specialized Red Cross services skills according to their individual capacity and potential.

In the areas of disaster management services, so far more than 25,000 people have been recorded as available for mobilization, depending on the scale and coverage of disaster occurrence and in accordance with the disaster response procedures of PMI. In addition, in the communities, PMI has recruited and trained 7,424 members of CBAT in disaster emergency response. The existence of CBAT is to provide early response during disaster emergencies to reduce the disaster impact,

particularly the loss of lives. PMI also has 227 volunteers specializing in assessment, trained and spread across the Indonesian territory, using standard forms and referring to assessment handbooks namely rapid assessments, detailed assessment and advanced assessment.

In health services, there are 310 units of ambulances, 93 first aid trainers, 149 medical action team members and 141 PSP volunteers, ready to be mobilized to assist the disaster affected community. In social services, there are 741 volunteers for malaria campaigns, 16,613 volunteers for avian influenza, and 4,365 CBHFA volunteers who support health risk reduction in the community. In restoring family links services, PMI has 33 chapter RFL coordinators in all 33 chapters, three master RFL trainers, three assistant trainers on RFL specialization and 205 volunteers with expertise in RFL.

Community based programmes such as CBHFA and ICBRR has been established and applied to enable community to reduce their vulnerability with their capacities. The CBHFA and ICBRR programme have different coverage where CBHFA is more focussed on health related risk while ICBRR is focused on risks in general (disaster, health, environment, etc.). Currently CBHFA programmes are implemented in 11 chapters and 22 branches, while ICBRR programmes are implemented in 15 chapters and have increased the capacity of the board members, staff, volunteers and community in carrying out disaster and health risk reduction.

5.2. Tools and Infrastructure

The supporting factors which enable PMI in carrying out disaster risk reduction and climate change adaptation is the existence of supportive system and procedures. Various procedures, implementation directives, and technical directives have been formulated and developed and applied by PMI to ensure effective response services, such as disaster response guidelines, standard procedures for disaster emergency response, implementation directives for *Satgana* (*Satuan Penanggulangan Bencana*/disaster management unit), implementation directives for disaster management posts, disaster information system, early warning system and disaster emergency information communication mechanism, disaster management information system, and logistics. Aside to that, various training manuals and guidelines have been formulated and applied for KSR to support emergency response services, which includes assessments, first aid, MAT, ambulance services, water and sanitation, PSP, RFL, disaster emergency response management, etc. In community based programmes, various training manual and guidelines have also been formulated, including community based disaster risk reduction, disaster prepared schools, and community based health and first aid, targeted for PMR, KSR, CBAT, RKD, etc.

To ensure supply and mobilization of relief items to disaster locations, there are two central warehouses (Sentul-Bogor and Surabaya), seven regional warehouses (Aceh, Padang, Yogyakarta, Denpasar, Makassar, Manado and Samarinda), 33 emergency stocks (at each PMI chapter), and 20 DP containers established in Palu, Ternate, Makassar, Kupang and Jayapura as well as branch warehouses which are also local emergency stocks.

Figure 13: Map of warehouse and logistics coverage for disaster relief distribution

PMI has a central water and sanitation warehouse in Bandung, with equipments such as seven units of water treatment units, 15 water filter units, and 16 water treatment units with the capacity of 3,000 to 9,000 litres per hour, as well as 60 water bladder, two water tank trucks with 8,000 litres capacity, and 6 water tank trucks with capacity of 5,000 litres. For sanitation purposes, PMI has a team of trained sanitarian, 15 units of disinfectant sprayers and three waste suction machines.

In addition, PMI has allocated emergency funding in its annual activity budget to support disaster emergency response services. Procurement of standard equipments to support emergency response preparedness has been undertaken with its own capacity, But with the support of local government and donors, such as ambulances, Satgana equipments, platoon tents, field kitchen equipments, rubber boats, field kitchen, trucks, etc.

5.3. Future Needs In Disaster Risk Reduction And Climate Change Adaptation

According to PMI's perspective, disaster risk reduction and climate change adaptation is a holistic approach in managing disasters, which includes all aspects of emergency response, recovery and preparedness, mitigation and development. Disaster risk reduction and climate change adaptation is conducted with the active participation of the community, particularly the most vulnerable, since the planning, implementation, monitoring and evaluation in accordance to their vulnerability level and needs.

Looking back at PMI's programmes and projects implemented during the last few years, there is no doubt that PMI has contributed significantly to reduce the risks of disasters. However, considering that disaster risk reduction activities continue to expand, it is important that PMI aligns its activities with the disaster risk reduction and climate change adaptation framework and policies at the national, regional and global level.

First, PMI needs to specify the significance of disaster risk reduction and climate change adaptation for the organization and integrate its principles into PMI strategy formulation and implementation. Disaster risk reduction and climate change adaptation needs to be institutionalized in the organizational agenda by ensuring that all activities, projects and emergency response programmes, recovery and disaster preparedness consider disaster risk potential and efforts to safeguard against disasters which in the end will contribute towards the development objectives and reduce disaster risk potentials. This will provide a clear direction for PMI to achieve the framework of a safe community resilient to disaster at the national, regional and global level. With a strong internal strategy, PMI will be able to clarify its tasks in the current and future national action plan.

Second, Disaster risk reduction needs to be directed towards partnership development and networking with the community, non-government organization, government institution, education institution, media, etc. which provides cooperation opportunities in reducing disaster risks and mobilizing resources effectively. Through wider participation from the beneficiaries, community, government institution and other relevant stakeholders, PMI can also widen its community based programmes which enables them to better identify and handle disaster risks.

Third, provision of tools and means which supports the quality of disaster management services will reduce risks and community vulnerabilities to disasters. Other than that, PMI also needs to develop sustainable funding resources to support PMI's services implementation.

Fourth, PMI needs to strengthen its capacity to position itself better in order to provide professional services to the communities vulnerable to disasters. The increased frequency of overall disasters and climate change has triggered PMI's awareness to make adjustments to a larger scale programme. PMI needs to invest more in the efforts of disaster management in a comprehensive manner with the perspective of disaster risk reduction.

6. External Relations and Coordination

6.3. At Regional Level

Together with 10 other National Societies in Southeast Asia, PMI has become a member of the regional disaster management committee (RDMC). This committee plays an important role in

consolidating programmes and supporting disaster management as well as link regional efforts with global strategies. In the spirit of supporting a global disaster risk reduction framework, in 2009, RDMC has formulated a regional framework for disaster risk reduction, aiming at assisting 11 National Societies in Southeast Asia in increasing the scale of disaster risk reduction activities, project and programme.

The regional disaster response team (RDRT) of Southeast Asia is an IFRC tool which aims at utilizing the capacity of National Societies to provide cross border disaster emergency response. This team possesses the technical skills in all sectors, such as water and sanitation, health care, assessment, IT, logistics, etc. Currently, PMI has 22 staff and volunteers trained as members of RDRT, and have deployed RDRT members for international scale disasters in seven instances (Philippines, China, Pakistan, Bangladesh and Myanmar).

6.4. At National Level

On 28 April 2009, disaster risk reduction stakeholders in Indonesia, which consists of civil societies, academics, media, private sectors, government and international community, established a national platform for disaster risk reduction (*Platform Nasional Pengurangan Risiko Bencana*/PLANAS PRB). PLANAS PRB functions as a national mechanism for multi stakeholders acting as advisor on disaster risk reduction in various levels by providing coordination, analysis and suggestions on priority areas in need of integrated action in the spirit of mainstreaming disaster risk reduction in policies, plans and development plans, in line with the Hyogo Framework for Action 2005-2015. PMI contributes actively as partnership coordinator, member of education and information and technology, and as steering committee of the PLANAS PRB.

The Government of Indonesia has formed a national council for climate change (*Dewan Nasional Perubahan Iklim*/DNPI) under the coordination of the ministry of environmental affairs, ministry of forestry and ministry of marine affairs and fisheries, which has been endorsed by presidential regulation number 46 of …. In carrying out its mandate, DNPI has established six working groups (adaptation, mitigation, technology sift, funding, post Kyoto 2012, forestry and land use shifting) which members are relevant government institution and some experts in climate change. Taking notice of PMI's advantage with its experience in integrating climate change into disaster risk reduction and having a strategic position in bridging communication between the government and the community, PMI participates actively in the adaptation working group.

In October 2006, a consortium on disaster education (*Konsorsium Pendidikan Bencana*/KPB) has been established, in which PMI is actively involved as steering committee to bridge between actors or institutions with concern for disaster education. As a forum, the KPB has played an important role in the facilitation of stakeholders experience and lessons learned sharing, and in ensuring coordination when integrating disaster education into the education system in Indonesia.

In the early warning information management, data base and disaster risk reduction publication, PMI has established coordination and communication with BNPB, BMKG, volcanology and disaster mitigation (VSI Geologi), Bakorsurtanal, amateur radio organization (ORARI and RAPI), universities, mass media: electronic, print and statistic centre agency (Badan Pusat Statistik/BPS). To support emergency response services, PMI has established coordination and communication with BNPB, central government, local government, district government, ministry of education, ministry of social affairs, ministry of health, ministry of public works, non-department institution, ministry of transportation, TNI and Polri, search and rescue agency, private sectors, Red Cross and Red Crescent Movement (IFRC, ICRC and PNS) and other international organizations.

In emergency health services, PMI and some other humanitarian organizations have become members of the WASH cluster under the coordination of UN, aiming to reduce the mortality and illness caused by diseases related to WASH as an impact of disaster by providing access to water, sanitation and hygiene through collaboration and coordination between its members.

6.5. At Provincial Level

At the provincial level, PMI is also actively involved in disaster risk reduction coordination forum such as: in Bengkulu province, PMI is an active member of SC-DRR (Safer Community through

Disaster Risk Reduction) to identify efforts to integrate disaster risk reduction education in the national education system. In Bali, Central Java, Yogyakarta and West Sumatra provinces, PMI is actively involved in tsunami early warning system with GTZ. In Aceh province, PMI is part of the early warning and tsunami disaster response in cooperation with BPBA (Aceh disaster management agency) which functions as a rapid assessment team, evacuation leader, instructions disseminator, SAR, logistics and field kitchen.

7. Objectives of Disaster Risk Reduction and Programme Priorities

In the past, PMI is known and experienced in disaster emergency response. However, in the context of disaster risk reduction, every PMI chapter and branches have different vulnerability, capacity and experience. Therefore, PMI has formulated a foundation where all of its programmes, projects, activities and intervention in disaster risk reduction which contributes to development of safe community resilient to disasters as follows.

Expected results:
The expected final result in disaster risk reduction is a safe community resilient to disaster risk or climate change. This is shown through the decreased loss of lives, livelihood and assets after a disaster. The reduction of disaster risks will increase awareness and understanding on the hazards and risk and increase the capacity for disaster emergency response and capacity to rebuild lives after a disaster occurrence.

Strategy:
1. Policy development which supports disaster risk reduction and climate change adaptation comprehensively.
2. Increase network and partnership
3. Increase resources
4. Increase capacity and performance

Key Elements in Disaster Risk Reduction

1. **Strengthen preparedness and disaster mitigation at all levels for effective response and recovery**
   PMI will work according to the national disaster hazards profile and social economic, environmental and political vulnerability and capacity in urban and rural areas. PMI will also work according to its mandate to support the national or local government and the community in disaster preparedness, mitigation and adaptation which aims to reduce risk from disaster hazards.
   - Conduct VCA at all PMI levels
   - Establish database and mapping which is regularly updated and used effectively for the purpose of resource mobilization needs
   - Formulate contingency plan in coordination with provincial government, community and other stakeholders
   - Develop a community based early warning system
   - Form POSKO PB at central and provincial level
   - Increase disaster emergency response preparedness starting at the individual, family and community level
   - Increase awareness on disaster risk reduction and climate change adaptation
   - Empower capacity and facilitate community in carrying out small scale mitigation efforts to reduce disaster impact and climate change adaptation
   - Conduct training, simulation, workshops, internships, comparative study, etc. to ensure capability of staff, volunteers and board members in carrying out activities, projects and programme in the framework of disaster risk reduction and climate change adaptation

2. **Capacity and resource development for timely, appropriate and coordinated disaster emergency response**
   During disasters, emergency response is PMI's main activity. Timely provision of assistance is carried out to fulfil basic needs of the disaster affected community
   - Trained SATGANA (Satuan Penanganan Bencana/disaster management team) at all levels who can be mobilized
   - Trained CBAT (community based action team) at the disaster prone village

- Established PMI logistics system, and adjusted to PMI standard and prevailing Red Cross and Red Crescent regulations
- Availability of sufficient disaster emergency response tools and equipments.
- Availability of relief items ready to distribute and sufficient in quality and quantity
- Availability of sufficient emergency funds for effective response
- Availability of radio communication to support information and coordination channels
- Functioning disaster information system and DMIS
- Functioning disaster emergency response POSKO as field operational control centre

3. **Development of disaster recovery programme integrated into disaster emergency response component to support development programmes**
   Provision of assistance and needs immediately after the disaster as well as early recovery is conducted to help the community return to their normal lives as a tool to achieve disaster risk reduction and climate change adaptation which covers the following services:
   - Transitional shelters
   - Health services
   - Water and sanitation
   - Health promotion
   - Livelihood
   - Psychosocial support
   - Restoring family links

4. **Disaster management planning integrated with other sectors**
   Through integrated planning, PMI sectoral programmes become important elements to support PMI capacity building and community's capacity to reduce risks, including:
   - Organizational capacity building
   - Management of PMI and community volunteers
   - Diversification and development of resources to support sustainability of disaster risk reduction
   - PMI image building
   - Health services development in the communities

Cross-Cutting Issues:
To achieve a safe community resilient to disasters, PMI recognizes the following component as essential in disaster risk reduction programming

1. Risk analysis and VCA at various PMI levels as a basis to formulate mid-term and long-term programme in various sectors (health, social, organizational development, disaster management, etc.)
2. Increase the scale of community based programmes (ICBRR, CBHFA, disaster prepared schools, etc.)
3. Advocacy, education and promotion of disaster risk reduction carried out actively and continuously
4. Increase networking and partnership with international agencies, government institutions, non-government organizations, media and community based organizations in disaster risk reduction
5. Increase knowledge, attitude and practice of PMI board members, staff and volunteers on gender sensitivity and other vulnerable groups in disaster risk reduction

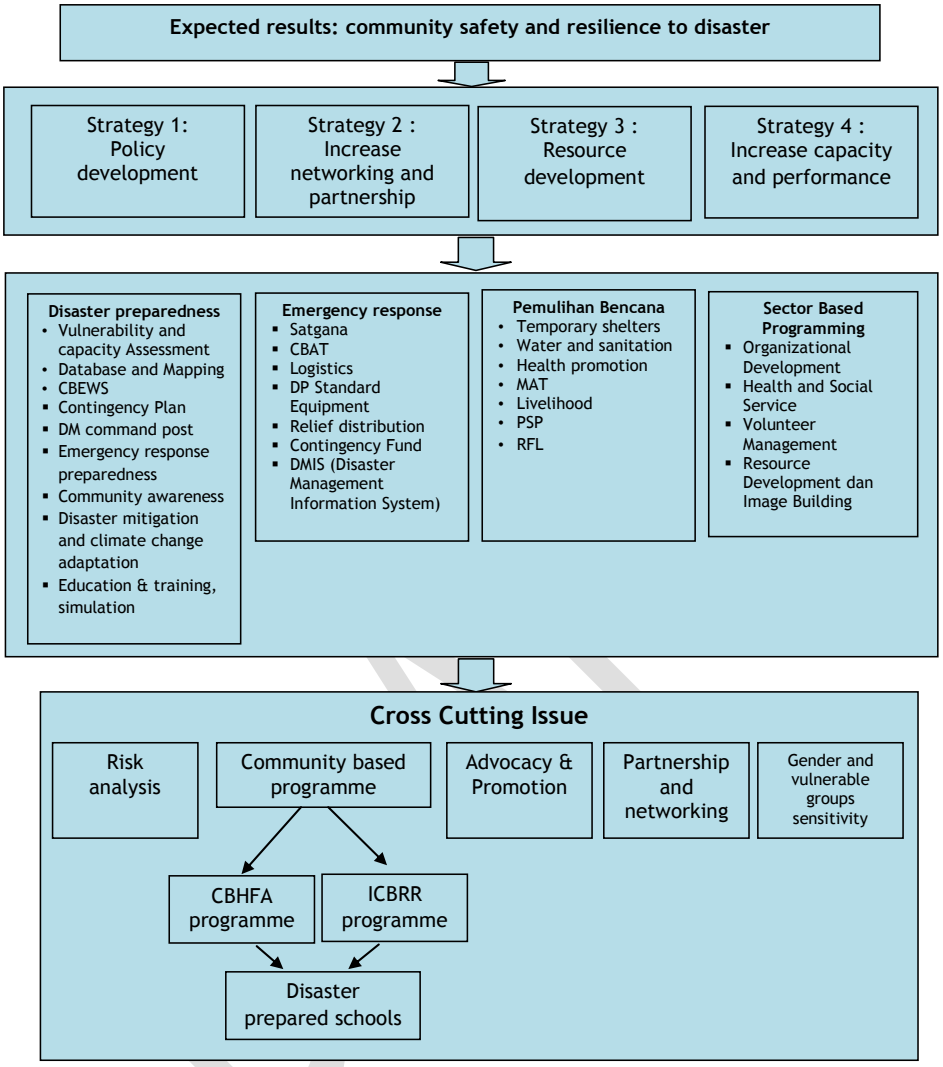

Figure 14: PMI disaster risk reduction framework

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Annex 1. SWOT Analysis

Strength	Weakness
▪ Is the only Red Cross humanitarian organization based on presidential decree on Red Cross services ▪ Power of Fundamental Principles of Red Cross and Red Crescent which provides basis for all PMI services ▪ Law number 25 of 1999 on provincial autonomy ▪ PMI clear and relevant vision and mission ▪ PMI structure from the central, chapter, branch, sub-branch to the community level ▪ Trained and professional volunteers, staff and board ▪ Tools, equipment, emergency funding and logistics warehouse supporting disaster emergency response ▪ PMI experience in disaster response, whether emergency response, recovery, preparedness, mitigation and climate change adaptation ▪ Has focal person responsible for disaster risk reduction at the central, chapter and branch level ▪ Availability of structured management in disaster management ▪ Sectors supporting disaster risk reduction such as disaster management, OD, communication, health, volunteer management, resource development, etc. ▪ PMI has disaster management guidelines, disaster response procedures, Satgana implementation directives, Posko PB implementation directives, disaster information system, early warning system, disaster emergency communication systems, disaster management information systems (DMIS), and logistics. ▪ Standardized training and curriculum ▪ PMI has training manuals and guidelines supporting emergency response, including assessments, first aid, MAT, ambulance services, water and sanitation, PSP, RFL, disaster emergency response management, etc. as well as disaster risk reduction, disaster prepared schools and CBHFA ▪ Availability of guidelines on volunteer management, resource development and communication which supports PMI services	▪ PMI vision and mission is not fully understood by all stakeholders ▪ Lack of understanding of the board's role in SOP and Tupoksi ▪ Volunteer management is not yet well functioning. ▪ Staff capacity does not match roles and responsibilities ▪ Understanding on risk reduction is limited to programme staff or volunteers who carry out the programme. ▪ Lack of coordination and integration between sectors, causing ineffective and inefficient resource mobilization ▪ Lack of comprehensive planning covering all activity sectors ▪ Lack of human resources skills in managing, utilizing and analyzing data and information ▪ Lack of leadership and organizational management ▪ Lack of policy implementation in volunteer mobilization particularly cross province ▪ Minimum specialization training conducted at chapter and branch levels ▪ In some areas, tools and equipments available to support PMI services are not yet optimum ▪ Lack of funding to support staff operations ▪ Minimum emergency fund and lack of relief item stock owned by the chapter and branches ▪ Weak review, monitoring, evaluation and reporting efforts ▪ Weak advocacy to the government, NGO and media ▪ Lack of dissemination on disaster risk reduction programmes carried out by stakeholders (lesson learnt and best practice) by PMI internally and externally ▪ Insufficient promotion and publication on PMI services
Opportunity	**Threats**
▪ Law number 25 of 1999 on provincial autonomy ▪ Law number 24 of 2007 on disaster management ▪ Government regulation number 21 of 2008 on disaster management implementation ▪ Government regulation number 22 of 2008 on disaster response management and	▪ Increased competition from other humanitarian organization ▪ Indonesia's geographical factor ▪ Community's social economic status

funding ▪ Existing education unit level curriculum (KTSP) based on school autonomy launched by the national education ministry ▪ Integrated disaster risk reduction in disaster rehabilitation and reconstruction process by the Government of Indonesia ▪ Existing climate change adaptation national agenda commandeered by the ministry of environmental affairs ▪ PMI has signed an MOU with BNPB and ORARI ▪ Cooperation with IFRC and PNS's in disaster management and health services ▪ Cooperation with academics (technical planning, mitigation, research) in disaster risk reduction ▪ Cooperation with private sector (CSR), banks, etc. ▪ PMI's involvement in disaster risk reduction and climate change adaptation coordination forum such as PLANAS PRB, DNPI, KPB, WASH Cluster, provincial and national platform. ▪ PMI is involved in provincial task force forum (Forum *Satuan Kerja Perangkat Daerah*/SKPD) which is a coordination forum between development actors to discuss programme priorities and development activities resulting from the Musrenbang ▪ Special membership of BPBD ▪ Trust and support of community and government	▪ Political condition ▪ Decreased environment quality and impact from climate change which increases the disaster frequency ▪ Provincial and schools autonomy puts risk reduction implementation dependant on the local government's concern ▪ Disaster risk reduction and climate change adaptation are not yet the main agenda in local government development ▪ Challenge of sustainability

Annex 2. Training Manual and Guidelines supporting Disaster Risk Reduction and Climate Change Adaptation

No.	Book	Target
1.	Disaster management guideline	Board members and Staff
2.	Disaster emergency response standard procedure	Board members, Staff and Volunteers
3.	Satgana implementation directive	Board members, Staff and Volunteers
4.	Disaster management command post implementation directive	Board members, Staff and Volunteers
5.	Technical directive for relief distribution	Board members, Staff and Volunteers
6.	Disaster emergency response contingency plan	Board members and Staff
7.	KSR (volunteer corps) manual	Board members, Staff and Volunteers
8.	Assessment guidelines	Board members, Staff and Volunteers
9.	RFL guidelines	Board members, Staff and Volunteers
10.	Logistics guidelines	Board members, Staff and Volunteers
11.	Community based disaster preparedness guidelines	Board members, Staff and Volunteers
12.	VCA and PRA guidelines	Board members, Staff and Volunteers
13.	'Ayo Siaga Bencana' (let's prepare for disaster) manual for PMR Mula (youth red cross, elementary school)	PMR coach, PMR
14.	'Ayo Siaga Bencana' manual for PMR Madya (youth red cross, junior high school)	PMR coach, PMR
15.	'Ayo Siaga Bencana' manual for PMR Wira (youth red cross, senior high school)	PMR coach, PMR
16.	Basic training guideliens for KSR	
17.	Disaster management training guidelines	Trainer, KSR, Staff
18.	Disaster response management training guidelines for Satgana at central level	Trainer, Satgana
19.	Disaster response management training guidelines for Satgana at chapter level	Trainer, Satgana
20.	Disaster response management training guidelines for Satgana at branch level	Trainer, Satgana
21.	Assessment training guidelines	Trainer, KSR, Staff
22.	RFL training guidelines	Trainer, KSR, Staff
23.	Logistics training guidelines	Trainer, KSR, Staff
24.	Sphere training guidelines	Trainer, KSR, Staff
25.	CBDP/ICBRR training guidelines for trainers	Trainer, Staff
26.	CBDP/ICBRR training guidelines for KSR	Trainer, KSR, Staff
27.	CBDP/ICBRR training guidelines for CBAT	Trainer, KSR, CBAT, Staff
28.	VCA and PRA training guidelines for trainers	Trainer, Staff
29.	VCA and PRA training guidelines for KSR	Trainer, KSR, Staff
30.	'Ayo Siaga Bencana' facilitators guide	PMR coach, PMR
31.	CBFHA guidelines	Board members, Staff and Volunteers
32.	PHAST guidelines	Board members, Staff and Volunteers
33.	PSP guidelines	Board members, Staff and Volunteers
34.	Avian influenza facilitators guideline	Trainer, KSR, Staff
35.	HIV peer education guidelines HIV	Trainer, KSR, Staff

36.	PSP training guidelines	Trainer, KSR, Staff
37.	HIV peer education trainers guideline HIV	Trainer, KSR, Staff
38.	Human resources development manual	Board members and Staff
39.	Basic KSR manual	Volunteers
40.	PMR coach manual	PMR coach

Annex 3. PMI resource availability

NO	Resources	PMI
1.	Human resources	- Volunteer corps (*Korps sukarela*/KSR) 55,074 people - professional volunteers (*Tenaga Suka Rela*/TSR) 45,586 people Specialization (based on data from training conducted from 1998 to 2009): - Disaster management team (*Satuan Penanganan Bencana*/Satgana) at all PMI branch, chapter and central level - Medical action team (MAT) 149 people - Psychosocial Support Programme (PSP) 141 people - Water and Sanitation (Watsan) 146 people - Disaster management 117 people - Restoring Family Links 205 people - Assessment 227 people - Sphere 39 people - Logistics 20 people - Disaster management command post (*Manajemen Posko Penanggulangan Bencana*/Posko PB) 33 people - CBAT (community based action team) 7,424 people - Village health volunteer 14,573 people - Field assessment coordination team (FACT) 3 people and Regional Disaster Response Team (RDRT) 22 people
2	Funding	- General natural disaster funds - International disaster funds (DREF/Disaster Relief Emergency Fund - IFRC) - Disaster Management Information System (DMIS)
3	Logistics	Warehouses: - PMI chapter warehouses - Two central warehouses (Surabaya, Jakarta) - Four regional warehouses (Aceh, Padang, Manado, East Kalimantan) - Disaster Preparedness Container in: Aceh, Nusa Tenggara Timur 6 DP containers, - Maluku Utara 4 DP containers, Sulawesi Tengah 4 DP containers, Sulawesi Utara 4 DP containers, Papua, and South Sulawesi Transportation: - 24 transport trucks - 30 disaster management mobile unit
4	Disaster management equipment	- 201 ambulance across the country - 1 set field health clinic equipment - 100 sets Satgana equipment in 24 PMI chapters - 94 platoon tents sets in 29 PMI chapters - Field kitchen 42 sets in 23 PMI chapters - Rubber boat 36 units - Communication radio at 13 PMI chapters - Water and sanitation hardware - 15 unit disinfectant sprayer
5	System	- Disaster management guidelines - Disaster emergency response standard procedures - Satgana implementation directive - Posko PB implementation directive - Disaster information system - Early warning system and disaster emergency communication and information system - Disaster Management Information System (DMIS)

Source: PMI, August 2009

Annex 4. DRR objectives and programming priorities

Long Term Objectives
Increase PMI services in a timely, appropriate and coordinated manner to achieve a safe community resilient to disaster or climate change risks.

Strategic Goal :
1. Development of policies supporting disaster risk reduction and climate change adaptation in a comprehensive manner
2. Increase network and partnership
3. Increase resources
4. Improve capacity and performance

Strategy 1: Development of policies supporting disaster risk reduction and climate change adaptation in a comprehensive manner
Objective: policies supporting disaster risk reduction and climate change adaptation are developed in a comprehensive manner

Activities:
1.1. Apply disaster management guidelines
1.2. Socialize and apply disaster risk reduction framework
1.3. Formulate and socialize data base and mapping implementation directives
1.4. Formulate and socialize community based early warning system training module
1.5. Apply emergency response standard procedure in a precise and effective manner
1.6. Apply Satgana implementation directives in an appropriate, integrated and coordinated manner
1.7. Implement Satgana training guidelines at the central, chapter and branch levels
1.8. Formulate and socialize first aid post guidelines
1.9. Socialize water and sanitation guidelines
1.10. Formulate and socialize MAT guidelines
1.11. Formulate and socialize MAT standard operational procedure
1.12. Formulate Psychosocial support guidelines
1.13. Formulate and socialize psycho-social support standard operational procedure
1.14. Formulate and socialize guidelines for RFL in emergency response and disaster recovery
1.15. Formulate and socialize post disaster early recovery guidelines
1.16. Formulate and socialize standard procedure for mobilization of volunteers in large scale disasters
1.17. Formulate and socialize disaster risk reduction promotion guidelines
1.18. Review integrated community based risk reduction in consideration to environmental and ecological aspects and microfinance in disaster risk reduction
1.19. Formulate and socialize disaster risk reduction and climate change adaptation practical guidelines for community
1.20. Develop health promotion strategy to support CBHFA programme
1.21. Formulate and socialize disaster prepared schools tiered guidelines (for elementary schools, junior high school, high school and university)
1.22. Develop framework for gender sensitivity in disaster risk reduction
1.23. Develop national reporting, monitoring and evaluation system

Strategy 2: Increase network and partnership to support disaster risk reduction and climate change adaptation
Objectives: Network and partnerships with stakeholders in the implementation of disaster risk reduction and climate change adaptation is increased

Activities:
2.1 Map organization and institution working in disaster risk reduction and climate change adaptation

2.2 Develop network and partnership with partners and donors to prevent duplication of activities
2.3 Increase frequency of advocacy to the government leading towards acknowledgement and more effective cooperation
2.4 Follow up on MOU signed with the national disaster management agency (*Badan Nasional Penanggulangan Bencana*/BNPB)
2.5 Develop MOU between PMI and ministry of internal affairs on the implementation of ICBRR programme
2.6 Develop MOU between PMI and ministry of national education and ministry of religious affairs in relations to disaster prepared schools
2.7 Develop MOU between PMI and BMKG in relations to community based early warning system implementation
2.8 Follow up on PMI and ORARI/RAPI MOU on communication support
2.9 Follow up on cooperation between PMI and Rabobank Foundation and PT Rekadesa in the development of microfinance in ICBRR programme
2.10 Develop MOU between communities and local government in relations to the implementation of ICBRR and disaster prepared school programmes
2.11 Cooperate with international agencies such as IFRC, PNS, UN and other actors of disaster risk reduction and climate change adaptation
2.12 Develop cooperation with the media to increase PMI's image and provide understanding to the community on disaster risk reduction and climate change adaptation
2.13 Develop cooperation with educational institutions to increase the quality of disaster risk reduction and climate change adaptation
2.14 Develop cooperation with private sector through CSR programmes to support disaster risk reduction and climate change adaptation

Strategy 3: Increase PMI's resources in disaster risk reduction and climate change adaptation
Objectives: Availability of resources to support disaster risk reduction and climate change adaptation

Activities:
3.1. Prepare sufficient emergency funds to respond effectively
3.2. Provide emergency relief items ready to be distributed and sufficient in quality and quantity
3.3. Provide sufficient disaster emergency response tools and equipments
3.4. Availability of Satgana equipments according to standard in disaster prone chapter areas
3.5. Provide tools and equipment for early warning systems
3.6. Provide PMI command post (POSKO) hardware and software
3.7. Prepare relief warehouses to support distribution at the regional level
3.8. Procurement of standard ambulance equipments
3.9. Procurement of first aid post tools and equipments
3.10. Procurement of basic medical equipments and basic field necessity equipments
3.11. Procurement of field clinics tools and equipment at the regional level
3.12. Procurement of water tank and bladder at the regional level
3.13. Procurement of standard RFL equipments
3.14. Conduct sustainable resource development efforts
3.15. Increase funding and technical support from the government and private sector

Strategy 4: Improve capacity and performance of PMI in disaster risk reduction

Objective 4.1.: Increase PMI capacity in disaster risk reduction

Activities:
4.1.1. Strengthen understanding and application of mechanism, operational system (including authority, tasks, role and function) at all PMI branches, chapters and headquarters in carrying out disaster risk reduction
4.1.2. Encourage PMI at all levels to form and mentor SATGANA teams
4.1.3. Encourage PMI sub-branch at disaster prone districts to form and mentor CBAT (community based action team)

4.1.4. Conduct technical trainings in the framework of disaster risk reduction (preparedness, emergency response and disaster recovery) periodically for PMI staff, KSR, RKD, CBAT, PMR
4.1.5. Conduct periodical simulation to support the capacity of the community, PMI, and local government institution in responding to disasters
4.1.6. Conduct comparative study to chapters who have implemented disaster risk reduction in a comprehensive manner
4.1.7. Strengthen reporting, monitoring and evaluation system of disaster risk reduction regularly
4.1.8. Strengthen administrative, financial and logistics management in a transparent and accountable manner
4.1.9. Integrate gender perspective in disaster risk reduction
4.1.10 Design relevant disaster risk reduction activities, projects and programme for the community
4.1.12. Integrate disaster risk reduction in ICBRR training, disaster management, disaster emergency response, etc. for trainers, KSR, CBAT, PMR, TSR

Objective 4.2.: Increase PMI's performance in carrying out disaster risk reduction and climate change adaptation

Activities:
4.2.1. Mobilize trained KSR and CBAT to support disaster preparedness and disaster impact mitigation
4.2.2. Conduct VCA (Vulnerability and Capacity Assessment) including climate change component in every chapter
4.2.3. Formulate database supporting disaster risk reduction and climate change adaptation in every chapter
4.2.4. Formulate hazards, risk, vulnerabilities and capacity mapping in every chapter
4.2.5. Formulate contingency plans at the headquarters, chapter and branches
4.2.6. Apply early warning system/community based early warning system
4.2.7. Apply disaster management information system and DMIS
4.2.8. Manage disaster management command posts at central, chapter, and branch level
4.2.9. Apply PMI logistics system
4.2.10. Empower community capacity in carrying out mitigation activities and climate change adaptation independently
4.2.11. Mobilize Satgana to support disaster emergency response in line with the geographical, socio economic and climate change condition
4.2.12. Mobilize trained CBAT to support disaster emergency response and climate change
4.2.13. Distribute relief (food and non food items) during disaster emergency response operation in a transparent and accountable manner
4.2.14. Apply radio communication as information and coordination channel
4.2.15. Develop transitional shelter construction services, water and sanitation, health promotion, MAT, livelihood, PSP and RFL during disaster recovery
4.2.16. Develop community based programmes (ICBRR, CBFA, etc.) in disaster and health prone areas
4.2.17. Develop disaster prepared schools in disaster and health prone areas
4.2.18. Implement disaster risk reduction promotion, climate change and health adaptation at all levels
4.2.19. Integrate disaster risk reduction plan into *musrenbang* or provincial development plan
4.2.20. Formulate best practice and case studies on disaster risk reduction and climate change adaptation.
4.2.21. Support BNPB in rapid reaction team (Tim SRC)
4.2.22. Conduct disaster risk reduction reporting, monitoring and evaluation regularly
4.2.23. Conduct external audit which supports financial report transparency