



**Palang
Merah
Indonesia**



Urban Desk Study Report

Palang Merah Indonesia

2014



didukung oleh:
Australian Red Cross



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2014

By Dave Hodgkin

with the support of Humanitarian
Benchmark Consulting for the
Indonesian Red Cross with the support
of Australian Red Cross

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The volunteers from PMI Aceh was evacuated victims after tsunami tragedy happen on 2009

Photo: Ardy Sofinar

Executive Summary

Introduction

Perched on the ring of fire at the collision point of four tectonic plates, Indonesia's urban communities face a dazzling array of potential hazards; earthquakes, floods, volcanic eruptions and tsunamis all pose significant threats. Dense urban communities are, by their very nature complex, including multiple stakeholders with significantly differing desires, capacities and needs. Space is often limited, access is easily blocked, the potential for secondary hazards such as spread of disease and social conflict are high, vulnerability and coping capacity vary greatly while risk analysis and through it disaster preparedness remains patchy. With this backdrop the importance of building capacity to respond to dense urban disasters in Indonesia is clear.

Indonesia's newly emergent National Disaster Management Agency (BNPB) and its emerging provincial/district counterparts (BPBD), face an upwards battle, as rising population growth, increasing urbanisation and global warming combine with a raft of pre-existing potential hazards to produce increasing likelihood, scale and complexity of dense urban disasters.

As the threat of disaster facing Indonesia's dense urban areas has grown, so too has community expectation that the Red Cross will be there to assist. In response to these expectations and needs the Indonesian Red Cross with the support of the global Red Cross movement has evolved considerably over the last few years from ten years ago when they were primarily focusing on relief phase distributions, to now engaging at all stages of the disaster management cycle from preparedness and risk reduction, through relief, then recovery and into reconstruction.

This Urban Desk Study has been commissioned to provide guidance to PMI on best practice in dense urban response. More specifically where possible the study aims to provide guidance to PMI's broadening role into the recovery phase of disaster response.

General findings

A review of existing literature reveals that risk assessments and disaster preparedness, along with communication and coordination are the two most critical factors to achieving effective response in dense urban areas.

The sheer complexity and intensity of dense urban disasters and the multiplicity of actors in responding to them will always be challenging. Forethought, planning and good coordination, can however, greatly reduce this complexity.

To improve effectiveness during recovery phase operations, most research points to the need for dedicated, trained recovery staff deployed early in the response with the sole focus of planning, preparing for and then managing recovery operations.

As Indonesia's largest and most trusted humanitarian response agency with a presence in all of Indonesia's dense urban areas, PMI is in a strong position to take a more active role in disaster preparedness, risk reduction and contingency planning. To ensure the effectiveness of its work in dense urban response, PMI also needs to increase organisational capacity to coordinate and communicate with a much broader set of actors than it is traditionally used to.

To improve overall recovery phase response capacity, PMI is currently developing a national Recovery curriculum, this curriculum should ideally include issues specific to response in dense urban environments and ideally should result in dedicated Recovery staff within the PMI organisational structure.

Unlike rural communities who may have direct access to natural resources, urban communities remain dependent on the transportation of goods and sources of income to buy those goods, hence rapid restoration of access and livelihoods emerge as key features of urban recovery.

PMI may wish to consider developing and strengthening agreements with companies that can provide transport and rubble clearance equipment during times of disaster response as well as including Rubble Clearance and ebris Management training into disaster curriculum. Expanding the operational sectors of PMI to include livelihoods programming should be considered in dense urban areas including specific livelihoods training and the development of dedicated Livelihoods staff.

Sector specific findings

Sector specific findings also commonly prioritised the needs stated above for preparedness and coordination. Sheltering displaced communities rapidly and effectively in the limited space of an urban context is far more effective when suitable land and/or communal facilities have been pre-identified and prepared for a rapid influx, this is true across sectors. Multiple actors responding with an array of solutions in a limited

geographical area enhances the potential for social conflict brought on by gaps, overlapping or quality differences in assistance, thus increasing the importance of good communication and coordination amongst actors in all sectors.

PMI is a strong national actor in a range of sectors including, WASH, Shelter, Health, Psycho Social, Restoring Family Links and Public Kitchens. As mentioned above areas where PMI may wish to consider expanding and improving their capacity include Livelihoods and Rubble clearance and Debris Management.

WASH: In dense urban environments, post disaster water supply, sanitation and hygiene promotion are clearly identified as priority activities. As shown in the 2010 Mt Merapi



Flooding at Kota Makassar

Photo:Doc Arifin

response, PMI has a strong demonstrated capacity in water supply and hygiene promotion however to be more effective in urban response they need to improve their capacity to provide suitable post disaster sanitation facilities. Improving capacity to assist in repairing and supplementing centralised water infrastructure is also an area in which PMI could build their capacity.

Shelter: To be an effective shelter provider in dense urban response, PMI needs to enhance and diversify both the range of interventions it may have the capacity to undertake and the range of modalities by which these interventions may be delivered. The “PokMas” based temporary housing model that PMI used to great success in the mainly rural disasters of West Sumatra, West Java and Yogyakarta proved much less successful in the high density affected areas such as southern Yogyakarta city and Padang city. Sheltering options should include solutions for affected families living with Host Families, in Collective Centres, Relocating permanently, or Renovating and Repairing their home. Potential implementation modalities should explore, Cash programming, Direct Implementation, Subcontracting along with Community based reconstruction. **Health** activities by PMI including Blood Donor and First Aid programs are seen by both the community and government as important contributions to disaster response. The increased risk of collapsed health facilities and raised probability for spread of disease in dense urban disasters make these activities all the more important. The possibility of epidemic or disease outbreak as a secondary hazard should be included in contingency plans.

Comments on other current PMI focal activities such as Restoring Family Links and Public Kitchens are contained within the body of the report.

As well as strengthening capacity in existing sectors it is also important for PMI to consider broadening its areas of operation to better match the needs of dense urban areas.. Potential new areas of operation may include Livelihoods, Rubble Clearance and Debris Management and Early Recovery.

As preparedness and coordination emerge as the most important keys to effective dense urban response, PMI should seriously consider enhancing their existing capacity in both these areas. Enhancing skills and organisational systems to support effective participation in both official and unofficial coordination mechanisms could greatly improve performance in urban response. Increasing involvement in comprehensive contingency planning processes will not only assist in improving PMI’s emergency response programming, it is also an effective tool for coordination.

Conclusion:

The potential for major disasters to occur in Indonesia's dense urban areas is growing. Population growth, urbanisation and extreme weather events caused by climate change are compounding the already broad range of both natural and manmade hazards that threaten Indonesia.

Dense urban environments are, by nature, complex. Levels of vulnerability, coping capacity and risk vary widely across the urban landscape. Density enhances the potential for a range of secondary hazards such as social conflict, disease proliferation and access issues. The vast array of potential actors increases the potential for overlapping, gaps or difference in quality and timeliness of aid delivery. Disaster preparedness and coordination become vitally important in these complex environments.

As the largest non-government humanitarian agency in Indonesia, PMI will be increasingly called upon to assist and respond to dense urban disasters. To do this effectively PMI needs to strengthen and broaden its existing sectorial capacities, particularly in the areas of WASH, and Shelter, and look to building new capacities in such areas as Livelihoods, Rubble Clearance & Debris Management, and Early Recovery programming.

Developing and improving the organisation's capacity to assist communities with disaster preparedness and contingency planning, and improving the organisation's ability to communicate and coordinate effectively with a much broader range of actors is also essential.



The kitchen for supply logistic to flood victims at West Jakarta

Photo: Doc PMI

Improving overall capacity to deal with dense urban disasters is likely to be both challenging and rewarding for PMI. More importantly it is likely to be of great benefit to the millions of families living in Indonesia's numerous dense urban environments.



The volunteers from PMI Aceh at the Tsunami area

Photo: Ardi Sofinar

1 Introduction

1.1. Background

Every day Indonesia faces the very real risk of a major disaster occurring in one of its many dense urban communities. Increasing urbanisation and the negative effects of climate change combine to bring an increase in the hazards that urban communities face, whilst factors such as poverty, climate change and poor enforcement of building and planning regulations increase the vulnerability of communities exposed to such hazards.

As the largest non-governmental humanitarian response agency in Indonesia, the Indonesian Red Cross (PMI) plays a critical role in the country's disaster preparedness and response capacity. More and more this role involves the PMI in the provision of assistance,

not only in the immediate response to disasters, but also onwards into the often more complex and drawn out recovery and reconstruction phase.

This Urban Desk Study was commissioned by PMI as part of the National Recovery Roadmap and has been undertaken by Dave Hodgkin and the team at Humanitarian Benchmark Consulting with support from the Australian Red Cross (ARC). The focus of this study was to:

The following report supplies a summary of the findings of the Desk Study. A list of all key documents and a summary of key points from those documents is supplied as a separated annex to this report.

“Assess and analyse the risk (hazard and vulnerability) that could affect urban communities in Indonesia and the existing capacity to cope” and from that “recommend the most tangible action areas for PMI to include as part of a recovery program for disaster-affected urban communities”, with the express aim that such findings can be “used as a reference in the development of a recovery training curriculum.”

1.2. Methodology

As defined within the contract, the urban desk study undertook the following steps:

Identification and collation of key information sources

- The study commenced with a web based search for key documents regarding analysis of best practice in Dense Urban Responses
- Collect best practices in Indonesia from a range of organisations: Mercy Corps, CRS, Oxfam, Save the Children, Care, etc.
- Collect documents on evaluations of urban response from IFRC/PNS
- Collect documents on PMI internal evaluations/recommendations
- Identify key informants from IFRC/PNS

Interviews

- Conduct a series of interviews to cross check the relevancy of document findings and garner more specific thoughts on dense urban response in Indonesia
- Identify and interview 1-3 emergency response managers from major NGOs in Indonesia
- Interview 1-3 key people in PMI or PNS as identified by PMI and ARC

Report writing

- Collate and compare findings
- Write report on best practices, including key recommendations
- Report to include comparison to IFRC global study and WV study if relevant
- Supply draft report, take on board comments, then finalise

Translation

- ARC to organise translation of the study into Bahasa Indonesia including reformatting and distribution as an open source/public access format.

NOTE: An additional round of interviews was added to the desk study to cross check findings and garner input from key informants on PMI's response to the 2013 Jakarta Floods. The findings from these additional interviews are scattered across this report.

1.3. Limitations

Research still in Progress: This report was written at the end of 2012. During 2012 a high level of global interest emerged following the disasters in Haiti and Japan. Much research was in progress when this study was finalised and therefore has not been included in this study. Well developed, clear guidance and proven tested strategies are yet to emerge from this research. Global consensus on the best practice in urban disaster recovery is an emerging field.

Insufficient Local Research Material: During the study it quickly became apparent that insufficient information exists for a desk study to provide detailed analysis of risk to each individual dense urban area in Indonesia. Although research and risk assessments are underway in some dense urban centres in Indonesia, many have yet to undertake such research and it is beyond the scope of this study to do so.

Lack of reference training material: Although there appears to be a growing awareness of the importance of improving the response capacity of the humanitarian community in dense urban response, as yet very little training material exists, of which even less focuses on the recovery phase of operations let alone in Indonesia. Although the TOR requested input for future trainings, it is beyond the scope of this study to develop new material.

1.4. Definitions

To commence any such analysis it is important to agree on some common terms, particularly Risk, Hazard, Vulnerability and Urban Communities.

Risk

“The combination of the probability of an event and its negative consequences”
UNISDR

Hazard

- “A dangerous phenomenon, substance, human activity or condition that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage” UNISDR
- at may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation. Hazards can include latent conditions that may represent future threats and can have different origins: natural (geological, hydrometeorological and biological) or induced by human processes (environmental degradation and technological hazards)” UNISDR. Geneva 2004.

Vulnerability

“Vulnerability in this context can be defined as the diminished capacity of an individual or group to anticipate, cope with, resist and recover from the impact of a natural or man-made hazard. The concept is relative and dynamic. Vulnerability is most often associated with poverty, but it can also arise when people are isolated, insecure and defenceless in the face of risk, shock or stress. IFRC:” <http://www.ifrc.org/en/what-we-do/disaster-management/about-disasters/what-is-a-disaster/what-is-vulnerability/>

Resilience

Resilience is the ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner

Urban

- The primary accepted definer for Urban context is that of density
“An urban area is a built-up or densely populated area containing the city proper and continuously settled peri-urban areas”

UN-HABITAT. State of the World’s Cities 2006/7:

The Millennium Development Goals and Urban Sustainability: 30 Years of Shaping the Habitat Agenda,

UN-HABITAT (2006) United Nations: Principles and Recommendations for Population and Housing Censuses and World Urbanization Prospects

2

Desk Study Findings

2.1. The Dense Urban Context

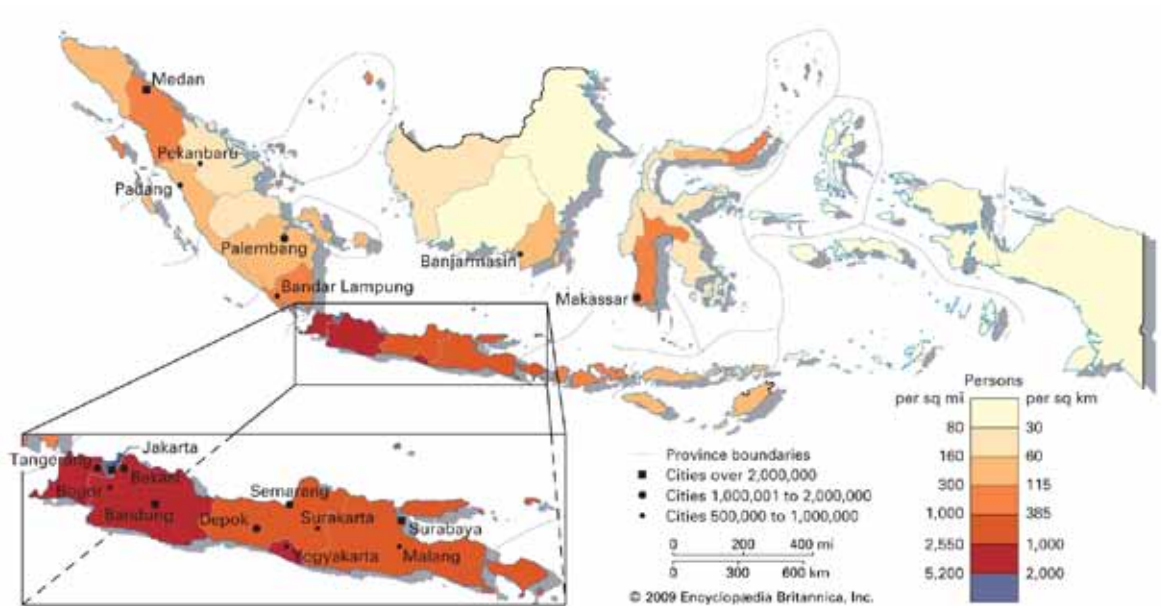
Prior to forming any opinion of best practice in dense urban response, it is important to first understand what exactly is meant by a dense urban environment and the unique context and considerations that such environments bring.

Indonesia challenges common understandings of what is urban and what is rural. As the most highly populated island on earth, vast areas of Java, though perhaps theoretically rural, have population densities greater than many cities and face the same range of issues faced by dense urban cities.

As the UNSTATS Demographic Yearbook illustrates so well with its more than 50 definitions of 'urban', the concept itself is less than precise, varying greatly from country to country. Most definitions though, refer to a defined minimum group of people living in close

proximity, in a defined area, who predominantly rely on sources other than agriculture for their livelihoods. Other definitions note a populated area dominated significantly more by the built environment rather than the natural environment. This desk study tries to focus on dense urban environments, an even less well defined term. For the purposes of this study, dense urban environment refers to areas that are dominated by more than single story construction, where population density is also high and few people rely on agriculture for their livelihoods.

Population Density in Indonesia



Dense Urban Context	Implications on Recovery Efforts
<p>Heterogeneity:</p> <ul style="list-style-type: none"> ● Dense, yet dispersed settlements ● Undocumented migrants, uncertainty with land-ownership 	<ul style="list-style-type: none"> ● Challenges for targeting ● Difficulty finding appropriate land for temporary living centres and long-term resettlement; land-grabbing ● Safe return vs. relocation. The relatively high level of services provided to camps result in swelling camp numbers, running a real risk of becoming future slums
<p>Complexity of stakeholders:</p> <ul style="list-style-type: none"> ● High number and diversity of national and municipal authorities, international, national and community organisations, the private sector, municipal service delivery bodies 	<ul style="list-style-type: none"> ● Unique coordination challenges and opportunities ● Approaches to targeting have to be contextualised
<p>Policy and Governance Gaps:</p> <ul style="list-style-type: none"> ● Unequal service delivery across urban centres, urban poor ● Lack of adequate national policies/ standards for guiding recovery 	<ul style="list-style-type: none"> ● Humanitarian recovery should fill gaps without creating parallel systems ● Existing laws/ policies can expedite recovery, but recovery is an opportunity to advocate for better urban development policies
<p>Increased protection risks:</p> <ul style="list-style-type: none"> ● Exacerbated inequality due to pressure on services and livelihoods in urban-based emergencies - incidence of violence and exploitation 	<ul style="list-style-type: none"> ● Many people moved into Bam from rural areas during the earthquake, looting of supplies from relief trucks during the first three days showed that effective response and recovery was highly dependent on existing law and order (IFRC/Iranian RCS 2004).
<p>Urban opportunity:</p> <ul style="list-style-type: none"> ● ‘Engines of growth’; urban settlements represent the creation of wealth of all countries ● Fast-moving sources of information (telecom, word of mouth, internet) ● Higher access to goods and services 	<ul style="list-style-type: none"> ● Building back better

2.2. Disaster Risk in Indonesia

Disaster risk reduction through preparedness and mitigation is dependent on detailed analysis of potential hazards, vulnerabilities and coping capacities. Individual desegregated assessment and analysis of the potential hazards, vulnerabilities and coping capacity of Indonesia's major urban centres is a major undertaking as yet incomplete.

$$\text{RISK} = \frac{\text{HAZARD} \times \text{VULNERABILITY}}{\text{COPING CAPACITY}}$$

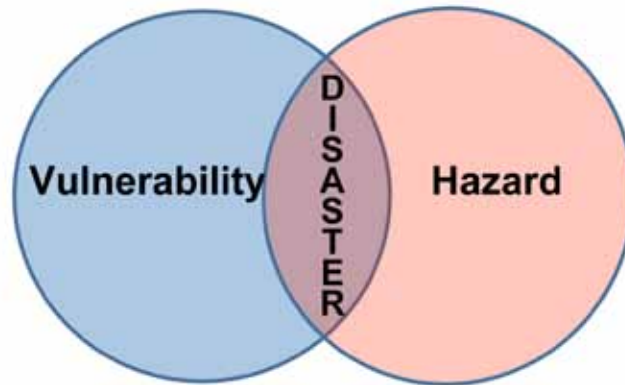
BNPB and BPBDs with the support of agencies such as AIFDR are beginning to make some headway into the task of risk and vulnerability analysis, with a number of high risk cities such as Jakarta and Padang increasingly well documented. Overall though, risk and vulnerability analysis remains patchy with many dense urban areas yet to be documented to the detail required for effective disaster preparedness. Additionally and of critical importance, very little analysis or documentation of community coping capacity has been undertaken, much less mapped against vulnerability and potential hazards.

With insufficient base analysis the subsequent task of drawing up realistic contingency plans from which to base disaster risk reduction and preparedness measures for Indonesia's dense urban environments, remains as yet, far from complete.

PMI is well placed to work with dense urban communities and local governments to assist them in analysis and documentation of the risks they face, as well as assisting them to put in place measures to mitigate those risks and to develop plans and strategies to better cope with disasters when they do occur.

Even without a comprehensive city by city assessment, recent disaster records combined with available geographical data on fault zones and volcanic activity, along with climatic data for potential floods, indicate that large sections of Indonesia's urban population remain at significant risk. Overlaying this with poverty maps and disaster preparedness measures provides a picture of high potential vulnerability to those risks.

Dreggs Disaster Model



2.3. Hazards faced by Indonesia's urban centres

Globally, Asia-Pacific is the worst affected region in terms of economic impact and size of population involved. Indonesia is one of the most vulnerable countries to natural disasters in the world⁴. Renowned as a “disaster supermarket” the country faces such natural hazards as earthquakes, tsunamis, floods, volcanoes, droughts, landslides, typhoons (storms), forest (wild) fires, and epidemics on a daily basis.

Disasters have long had their largest impact in rural areas in terms of casualties and economic losses, but this may no longer be the case, as urban population growth results in new vulnerabilities and implications for both development and disaster risk reduction. Recent years have seen a growing and alarming trend of major disasters in dense urban environments.⁵ This trend is primarily due to poor planning and construction in rapidly expanding dense urban cities as part of the global trend towards to urbanisation.

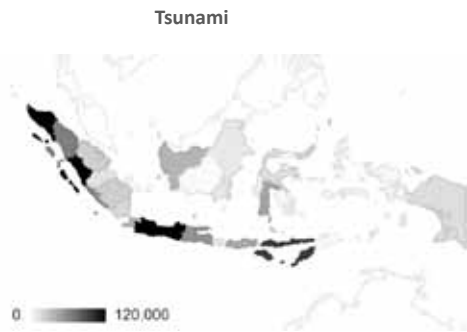
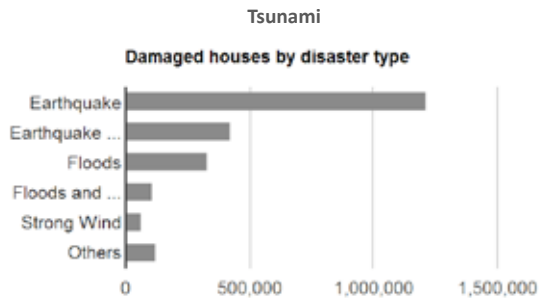
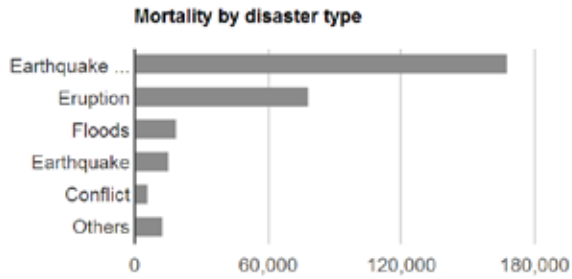
Natural Disasters from 1980 - 2010

No of events:	321
No of people killed:	192,474
Average killed per year:	6,209
No of people affected:	21,663,204
Average affected per year:	698,813
Economic Damage (US\$ X 1,000):	23,601,677
Economic Damage per year (US\$ X 1,000):	761,344

⁴ Annual Disaster Statistical Review 2011 - Centre for Research on the Epidemiology of Disasters (CRED)

⁵ World Disaster Report 2010, IFRC

BNPB Preliminary Loss Data for Indonesia 1815-2013



Hazards that threaten Indonesia's urban centres

Hazard	Frequency	Predictability	Locations at risk
Earthquakes:	<ul style="list-style-type: none"> ● Frequent 	<ul style="list-style-type: none"> ● Impossible to predict 	<ul style="list-style-type: none"> ● Significant threat across most of Indonesia aside from Kalimantan
Tsunamis:	<ul style="list-style-type: none"> ● Low incidence 	<ul style="list-style-type: none"> ● Impossible to predict 	<ul style="list-style-type: none"> ● Significant threat to low lying urban areas notably Padang, Bali, Jambi, Banda Aceh
Floods:	<ul style="list-style-type: none"> ● Frequent 	<ul style="list-style-type: none"> ● Reasonably predictable 	<ul style="list-style-type: none"> ● Significant and growing threat to most of Indonesia's low lying coastal cities
Volcanic Eruption:	<ul style="list-style-type: none"> ● Medium Incidence 	<ul style="list-style-type: none"> ● Commonly some warning 	<ul style="list-style-type: none"> ● Significant threat, limited number of cities, notably Yogyakarta
Disease outbreak:	<ul style="list-style-type: none"> ● Low incidence 	<ul style="list-style-type: none"> ● Medium level of predictability. 	<ul style="list-style-type: none"> ● All areas, heightened risk in dense urban areas in the aftermath of disasters
Tropical Storms and wind:	<ul style="list-style-type: none"> ● Increasing incidence due to climate change 	<ul style="list-style-type: none"> ● Low predictability 	<ul style="list-style-type: none"> ● All areas
Social Conflict:	<ul style="list-style-type: none"> ● Low incidence, 	<ul style="list-style-type: none"> ● Medium level predictability. 	<ul style="list-style-type: none"> ● All areas, heightened risk in dense urban areas in the aftermath of disasters
Food and water security	<ul style="list-style-type: none"> ● Increasing incidence due to climate change 	<ul style="list-style-type: none"> ● Medium level predictability. 	<ul style="list-style-type: none"> ● Of particular risk to non-volcanic areas of Indonesia such as much of NTT

Tsunamis though relatively rare, are responsible for the greatest loss of life from natural disasters in Indonesia and as such are a significant threat to coastal urban centres. Of particular concern are the major urban centres that face onto the line of collision of the Australian Indonesian tectonic plates, such as Padang, Jambi and Bali. Although rarer than other hazards, tsunamis are unpredictable and result in significant loss of life and damage to infrastructure.

Earthquakes cause the highest levels of damage to houses and infrastructure in Indonesia, potentially affecting most of the nation, aside from central Kalimantan. Increasing urbanisation and poor enforcement of planning and building codes has resulted in a large amount of low quality building stock, hence relatively mild earthquakes such as the R6 that occurred in Yogyakarta cause disproportionately high levels of damage.

Floods, although generally cause less immediate loss of life, impact on more Indonesians than all other disasters put together. Floods regularly strike Indonesia's major urban centres causing significant impact to people's livelihoods and the local economy, often resulting in mass temporary displacement, particularly in coastal urban centres such as Jakarta. Climate change through global warming along with poor catchment management and urban expansion into low-lying areas is increasing this threat.

Volcanic Eruptions are a significant threat in Indonesia, with over 128 active volcanoes and a number of which are close to dense urban centres, such as Yogyakarta, Bandung and Lombok.

Other natural hazards that threaten Indonesia include fire, tropical storms and winds, and potential disease outbreak.

Man-made hazards; disasters such as the 2006 Sidoarjo Hot Mud Volcano, highlight the potential for man-made hazards to affect dense urban population groups.

Social conflict has caused significant loss of life and destruction in the history of Indonesia. Although Indonesia's current state of relative political stability gives little reason for immediate concern, contingency plans should cover this realistic potential threat.

Multiple Hazards; it is important to note that depending on location, a given dense population area may face one, two or all of the above potential hazards. Hazards may strike simultaneously in one location as with the volcanic eruption in the Philippines that struck along with Cyclone Durian in 2010, or in differing locations at the same time, as with Merapi & Mentawai – West Java & West Sumatra or Yogyakarta & Sidoarjo. Finally

one disaster may lead into another, i.e. a volcanic eruption, following on into a cold lava event. Such combinations can be expected in Indonesia and will greatly reduce the coping capacity of the national humanitarian response community, including that of the Red Cross.

Climate change adds an additional layer of uncertainty. In the foreseeable future, population and asset growth in hazard prone areas are likely to be increasingly impacted by extreme weather events. Forecast rising sea levels and increasing extreme rainfall will place low lying cities in countries such as Indonesia at an increased risk of flooding. Rising temperatures and increasing unpredictability of seasons are resulting in increasing rates of crop failures, whilst increasing humidity and temperature is increasing rates of mutation and spread of disease. The urban poor, with little ability or space to produce their own crops will be left vulnerable to increasing risk of food insecurity and illness.

Number of Climate-related Disasters Around the World (1980-2011)

3455 FLOODS

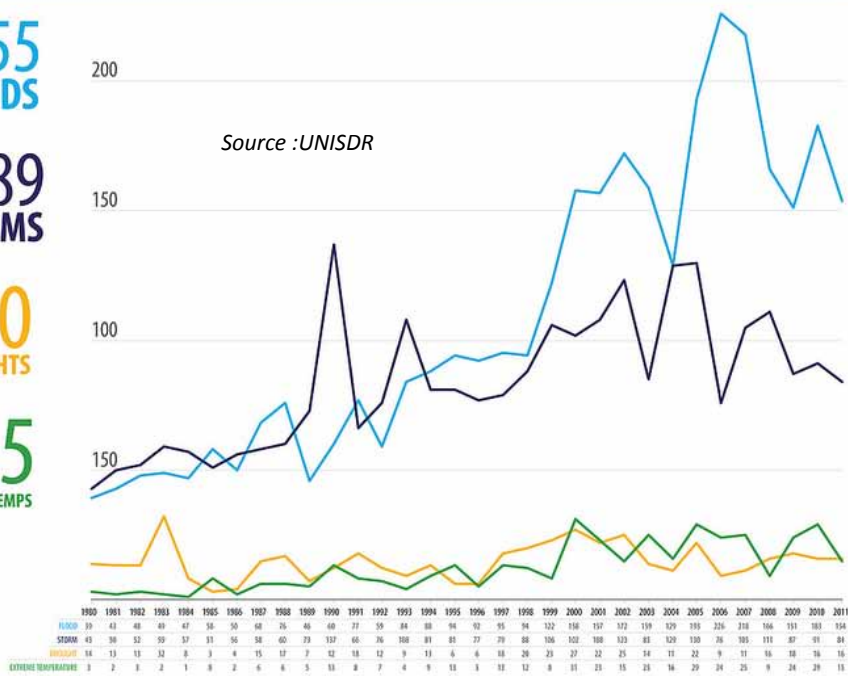
2689 STORMS

470 DROUGHTS

395 EXTREME TEMPS



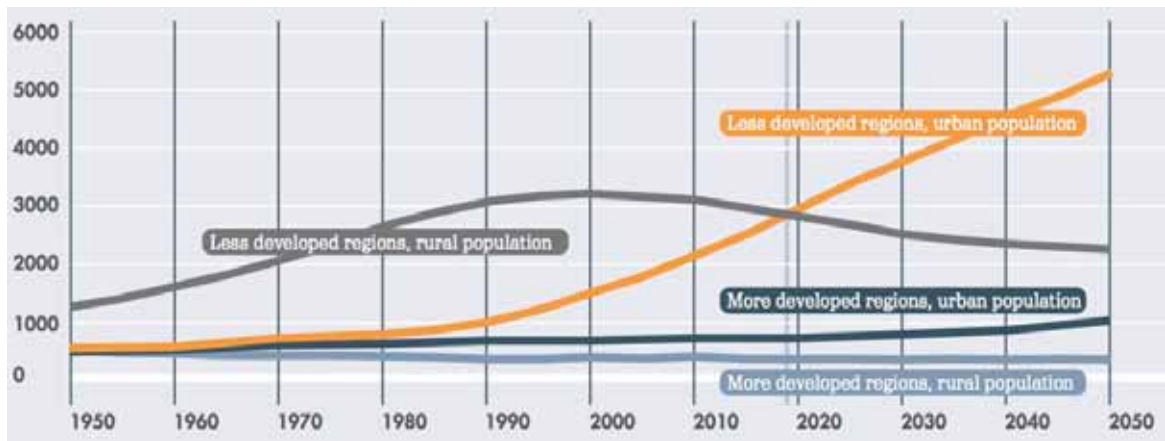
UNISDR
The United Nations Office for Disaster Risk Reduction
Created on 13 June 2012
DATA SOURCE:
EM-DAT - <http://www.emdat.be/> - The OFDA/CRED International
Disaster Database Data version: 13 June 2012 - v1237
Humanitarian Symbol Set (2009)
<http://www.un.org/en/hcr/logo/index.php>



2.4. Vulnerability in Indonesia’s Urban Environments

The focus on urban risk is relatively new, globally, regionally and at country level. Aside from a few key cities the bulk of work to date is work in progress and remains general, focusing on overall assessments and hazard mapping, with most analysis of vulnerability based on simple indicators such as infrastructure mapping.

Table Global population growth Urban Vs Rural (ALNAP)



Rapid urbanisation

The world, and particularly Asia, is urbanising rapidly and today more than half of humanity lives in urban areas. Indonesia is one of the countries to have experienced tremendous urban growth in recent years. Jakarta is Indonesia’s largest city, with an official population of nearly ten million and one of the top mega-cities of the world. Jakarta is the centre of a megalopolis with a population of more than 27 million people.

Six other Indonesian cities also have a population of more than one million; 23 Indonesian cities have a population between 500,000 to one million.

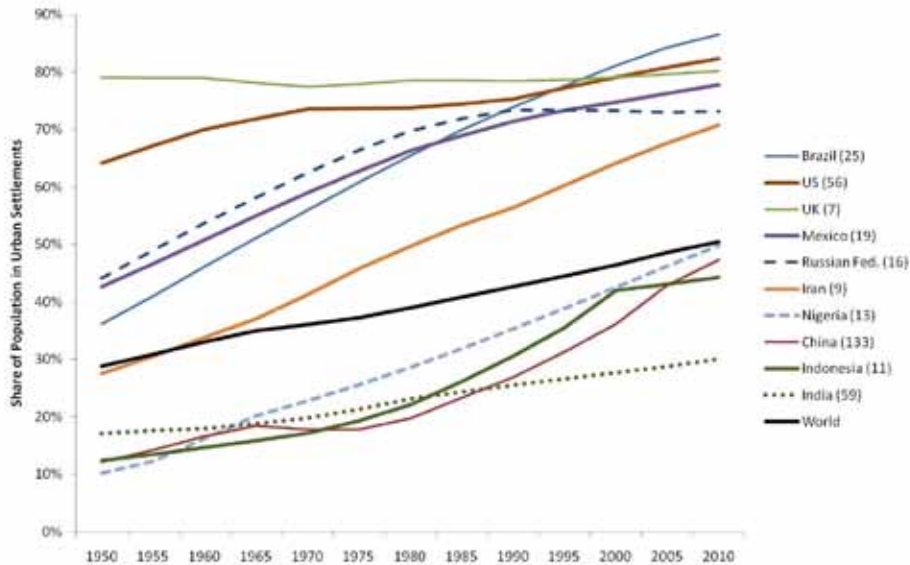
Urbanisation in Indonesian

- Indonesia’s urban growth rate is one of the fastest growth rates in the world.
- Indonesian Population Growth Rate: 2.6% per year
- Total Population in 2010: 237 million
- Total Urban Population in 2010: 118 million
- 80.5 million of urban population, or 68%, live in Java, and 37.8 million live on other islands.
- Percentage of Urban Population in Indonesia in 2000 was 41.9% by 2010 it had reached 49.7% by 2030 this will be 53.7%

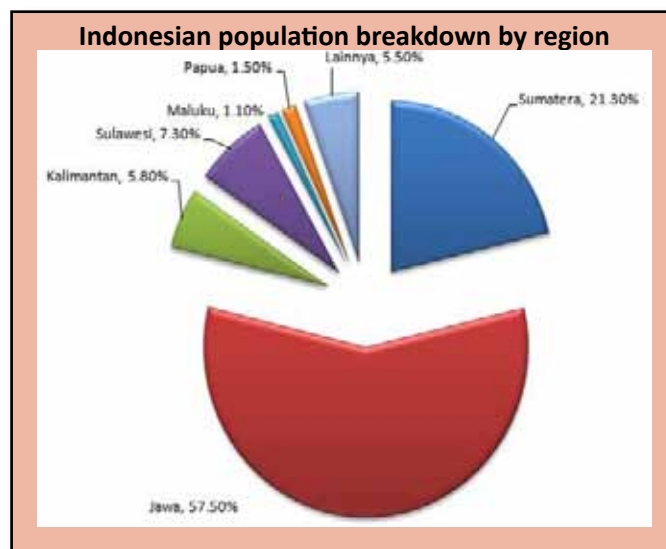
About half of Indonesia's population is urban.

The 2010 census shows that Indonesia's total population increased from 203.5 million to 237.6 million in the last 10 years, and the urban population grew from 85.2 million to 118.3 million during the same period. The proportion of the urban population, reflecting the level of urbanisation, increased significantly from 41.9 % to 49.7 % over the period.

Table Urban population



The challenge of understanding vulnerability is complicated by several factors characteristic of urban settings including demographic mobility, flow of large groups of people often without formal registration, geographic segmentation of poverty and food security. Hazards in urban areas vary considerably compared with rural areas. They are not only represented by one-off events like earthquake or cyclones



but also get exaggerated due to hindrances in accessing basic services or public health services. Additionally urban centres have characteristics such as population densities and commercial or industrial activities that can magnify the impact of disasters:

Table. Indonesia's densest cities and their likely hazards

City	Province	Population density (pop/km ²)	Likely Hazards
Jakarta Barat	Jakarta	18,338	Floods, earthquake, fire, technology failure
Jakarta Pusat	Jakarta	17,239	Floods, earthquake, fire, technology failure
Jakarta Timur	Jakarta	14,745	Floods, earthquake, fire, technology failure
Bandung	West Java	14,283	Floods, earthquake, technology failure
Jakarta Selatan	Jakarta	13,363	Floods, earthquake, fire, technology failure
Yogyakarta	Yogyakarta	11,957	Earthquake, volcano, forest fire, technology failure
Tangerang	Banten	11,685	Earthquake, flood, fire, technology failure
Surakarta	Central Java	11,393	Earthquake, fire, technology failure,
Bekasi	West Java	11,301	Floods, earthquake, fire, technology failure
Depok	West Java	8,680	Floods, earthquake, forest fire, technology failure
Tangerang Selatan	Banten	8,766	Earthquake, flood, fire, technology failure
Surabaya	East Java	8,310	Earthquake, fire, technology failure
Bogor	West Java	8,020	Floods, earthquake, forest fire, fire, technology failure
Denpasar	Bali	6,171	Earthquake, tsunami
Cirebon	West Java	7,933	Floods, earthquake
Medan	North Sumatra	7,916	Earthquake, flood, epidemic, Forest fire,
Tegal	Central Java	6,981	Earthquake, Flood (erotion)

Source: PBS

2.5 Components of Urban Vulnerability⁸

Infrastructure

Urban infrastructure refers to key systems and services, which are critically important for emergency response and the recovery of the community and its economy. Indonesian cities are generally characterised by poor urban planning, including insufficient or poorly maintained road networks and utilities (including electricity, water and sanitation, telecommunication), and uncontrolled urban expansion. The complexity of urban infrastructure increases exponentially as urban areas expand in population and density. As an urban area increases in density, this space becomes cluttered with various supply lines, which in case of disaster can be affected with a cascading effect and disrupting essential services (electricity, water, telephone).

Existing poor construction

As with most countries the bulk of the housing stock in Indonesia is owned privately, with much of it built well below structural standards required to resist the hazards they may well face. The rate of demolition and renewal of this housing stock is relatively slow, leaving large sections at significant risk when hazards strike.

As the West Sumatra earthquake so poignantly proved, the above concern about poor quality construction applies to commercial as well as government infrastructure as much as they do housing. In dense urban environments where much infrastructure is multistorey, risks are even higher.

Institutional

Government capacity

Over the past few years much work has been done and continues to be done by a range of actors on disaster risk reduction. As per disaster management law 24/2007 this work is coordinated under the umbrella of the newly formed National Disaster Management Agency, BNPB and the emerging provincial agencies, BPBDs.

While the Indonesian government's commitment of resources to disaster management is increasing, the recently formed BNPB and still forming BPBDs are yet to have the required capacity to fully cope with all possibilities in Indonesia's complex disaster environment. To date BPBDs have been established in all 33 provinces and most recently in 361 out of 497 districts and municipalities. Simply to ensure basic levels of understanding and

⁸ In Jakarta for instance, urban poor pay as much as 100 times more for a 1m³ of water than people connected to the municipal PDAM network.

some capacity to respond, over 8,000 persons will need to undergo capacity building on key DRR and disaster management concepts, policies and practices. The focus on urban disaster will require even further investment, which may not always be prioritised outside Jakarta and other key cities.

PMI response and coping capacity

Although rising at a rapid rate, the response and coping capacity of PMI to deal with disasters varies across Indonesia. National headquarters along with a number of branches and chapters have gained significant experience in disaster response, but many others have yet to enhance their capacity in this area particularly in the recovery phase of operations.

In some cases PMI's own physical infrastructure may be of poor structural quality and hence may pose a risk to the coping and response capacity of the organisation. In Haitian Red Cross headquarters was completely demolished in the earthquake substantially reducing their ability to deal with the immediate aftermath of the disaster. PMI may benefit from undertaking detailed structural and risk analysis of their own facilities, particularly in dense urban areas.

Economic

Cities and urban areas as key economic centres host diverse numbers of businesses and employment. In Indonesia the participation of businesses in DRR discussions at national or local level has been limited and patchy. The possible impact of a disaster in urban area possibly affecting a key economic asset such as a power plant facility in a similar scenario to the earthquake and tsunami and nuclear crisis in Japan may not have been assessed or been part of contingency planning. Economic impacts of disasters may have cascading effects and further have a differential impact at local, district or national level.



Photo: PMI

Social

Urban areas are complex and dynamic social environments, sense of community and social links are often not as strong and geographically defined as in rural areas. Overall understanding vulnerability in urban areas is more complex than in rural area and experiences of community disaster preparedness have proved more socially challenging in urban environments than in rural areas.

Women and children comprise on average 75% of those impacted by disasters yet until recently women went relatively unnoticed in disaster research and it was assumed that their behaviours, responses and needs were similar to that of men.

Urban poverty

In urban areas measuring poverty is more complex than simply using the traditional US\$1 a day benchmark. People living in poverty in urban areas are likely to have a higher income, as they are often earning daily wages, and basic services and infrastructure are usually in place. However, it is the higher cost of accessing these basic services that differentiates urban poverty from rural poverty³. The level of exposure of very poor communities to both climate and natural hazards is extremely high. This is due in part to the fact that many of the poorest communities have settled in areas close to sources of water—along major drainage and water management areas and/or coastal areas. While poverty represents a key factor of vulnerability, it is not systematically included in government led vulnerability assessment.

Table. Urban poverty, daily hazards and disaster risks

Aspect of urban poverty	Implications for everyday risk	Implications for disaster risk
Inadequate and often unstable income: deprivation of basic necessities; indebtedness.	Very limited capacity to pay for housing; living in slums with very high environmental health risk.	Location on hazard-prone sites; lack of infrastructure and services increases disaster risks.
Inadequate and limited safety net: property, skills, savings, social networks to ensure basic survival, access to housing and healthcare during periods of no income	Very limited capacity to cope with financial and health stresses or shocks in everyday life	Very limited capacity to recover from disaster events: food and water, homes and livelihoods; lack of documentation can exclude from post-disaster support; no insurance.
Poor housing quality: made with temporary materials, often insecure, overcrowded housing located on dangerous sites	High risk levels from physical accidents, fires, extreme weather and infectious diseases.	At risk from storms/ high winds, earthquakes, landslides, floods, fires and disease transmission which may cause epidemics.
Inadequate infrastructure: water supply, sanitation, drainage, roads, footpaths, etc.	High levels of risk from contaminated water, flooding from lack of drainage.	Lack of protection from flooding; lack of roads, footpaths and drains inhibit evacuation
Inadequate basic services: schools, vocational training, health-care, emergency services, public transport, communications and police	Unnecessarily high health burden from diseases and injuries because of lack of healthcare and emergency response.	Lack of healthcare and emergency services that provide rapid response to disaster
Limited negotiation in public projects	Inappropriate development investments	Little support for low-income groups to rebuild better.

Source: Building Urban Resilience, World Bank AusAID - Adapted from IFRC 2010.

Growth of informal settlements

In Inareas is 23%⁴.The poorest communities in urban areas live in self constructed settlements, usually on land without formal legal title, and work in informal jobs. These informal settlements increasingly make up large sections of many cities. As cities develop, these settlements are likely to move towards the outskirts. Dwellers have limited access to the most basic human requirements: water, sanitation, shelter, health, and education. At the same time, dwellers collectively make a substantial contribution to urban and national economies, and many towns and cities would cease to function effectively without the people who live in informal settlements or slums.⁵.



Specific vulnerable groups

It is critical that focus is given to these groups during relief and recovery responses: lessons from previous disaster in urban areas emphasise the need to include and target the chronically ill, the elderly and people with disabilities, street children, recent migrants, IDPs



Key points

- Climate change forecasts due to global warming predict increasingly extreme climatic events will impact heavily on dense urban communities.
- Indonesia's urban growth rate is one of the fastest in the world.
- About 50% of Indonesia's population is urban and growing.
- Urban areas are complex and dynamic social and economic environments
- Sub-standard construction is common and increases vulnerability to disasters.
- The complexity of urban infrastructure increases exponentially as urban areas expand in population and density.
- Communities and social links are not generally as strong and geographically defined as in rural areas.
- Potential cascading effects of disasters in urban areas need to be factored into plans.
- 23% of people live in informal settlement and slum areas .

⁴ UN Habitat, State of the World's Cities 2012/2013 - Computed from country household data using the four components of slum (improved water, improved sanitation, durable housing and sufficient living area. Source: United Nations Human Settlements Programme (UN-Habitat), Global Urban Indicators Database 2012.

⁵ Approaches to urban slums, World Bank 2008

2.6. Findings on Best Practice

Best Practice in the recovery phase of dense urban response remains elusive, not just in Indonesia but across the globe. Although the growing need to improve disaster response in dense urban environments is self-evident and many agencies are moving in this direction an extensive literature review shows up little in the way of best practice during the recovery phase of operations.

Recent major disasters such as Hurricane Katrina in 2005, Padang earthquake in 2010, and Haiti Earthquake in 2010, have done much to highlight the difficulties of responding effectively to disasters in dense urban environments. There is a growing awareness that the humanitarian community needs to rethink response strategies that have commonly been designed for rural or low density situations, such as those used in peri-urban and rural responses such as Yogyakarta Earthquake (2006), West Java Earthquake and Tsunami (2009), West Sumatra Earthquake (2009), Mentawai Tsunami (2010), and Yogyakarta Merapi Eruption (2010).

Most of the literature available on dense urban disaster response focuses on the analysis of lessons learned from prior disasters and why they have not succeeded as well as what they perhaps should have done differently.

The bulk of the literature identifies that preparedness is **the key** to improving disaster response and that this is particularly true in dense urban environments, where the risks relating to the spread of disease and social unrest are much higher, and available resources such as land to build

Best Practice example 1:

Construction bazaars in Bam, Iran

In the response to the Bam earthquake in 2003, local authorities and aid agencies collaborated to establish a 'construction bazaar' in the centre of Bam. This served as a source of local building materials for reconstruction efforts and also provided some employment opportunities. The program sought to involve local capacities more substantially in the rebuilding process.

Best Practice example 2:

Working with the private sector in Bhuj, India

In India, the Gujarat Urban Development Company (GUDC) is a special development authority established by the government before the 2001 Bhuj earthquake to conceptualise and implement urban development projects. After the earthquake, the Gujarat state government designated the GUDC as the implementing agency for overseeing recovery plans. The state government also outsourced

shelters on, or alternate food and water supplies may be much lower. As such the following section of this study is divided into three subsections:

- a) Disaster Preparedness
- b) Recovery Actions During Relief Operations
- c) Recovery Phase

2.7. Findings for Disaster preparedness

While preparedness is a central part of all humanitarian action, it holds particular importance in the urban context. The complexity of urban environments makes rapidly finding solutions in the chaos of post disaster response ever more chaotic and fraught with difficulties.

Through nearly all the literature reviewed, the vast majority of recommendations and findings focused on preparedness. The following points emerge as significant: Work with local governments to ensure that:

- DRR is incorporated into all future city planning from the outset
- DRR and Response plans are in place prior to disasters
- A culture of DRR is incorporated into the daily practice of all schools and government offices
 - Build local alliances. Develop ways of working with the existing institutional framework of municipal and civil society organisations
 - Maintain up-to-date data on hazards and vulnerabilities, prepare risk assessments and use these as the basis for urban development plans and decisions.
 - Develop/ adapt urban context-specific tools (vulnerability mapping, assessments, use of cash etc.)
 - Map stakeholders and their capacities, and strengthen pre-disaster coordination
 - Identifying relocation and temporary settlement sites prior to disasters
 - Train local communities and students for disaster response
 - Identifying and working with all key stakeholders for disaster preparedness and future engagement in response
 - Build capacities for the special skill-sets required in dense urban contexts (Violence Prevention, Humanitarian Diplomacy, Beneficiary Communications, Urban community development)
 - Create specific emergency plans: identify multiple and combined hazard scenarios as part of the contingency planning exercise, and plan for the most

- extreme cases
- Engage in scenario-based recovery planning
- Test and improve plans through simulation exercises

2.8. Recovery actions during Relief Operations

Much of the literature on designing and managing effective recovery operations points to the need for focus on recovery from early on in the response. The global commitment by UNDP to form and lead the global Early Recovery cluster, is indicative of the global agreement on the need for recovery focused activities to be undertaken at all stages of the disaster management cycle.

For any agency to perform effectively during the recovery phase of operations, sufficient human resources should be dedicated to recovery efforts from as early as possible in the response.

During the relief phase of operations, dedicated recovery staff should stand aside from relief efforts, focusing instead on analysing emerging needs and the remaining gaps in assistance and designing programs to address those needs.

Whilst the rest of the organisation focuses on relief activities, recovery teams should focus their efforts on the building blocks of effective recovery programming, i.e. assessments of community coping capacity, identification of vulnerable groups within society, market and supply chain analysis, skills capacity analysis, social capital studies, sectorial needs assessments and sectorial program designs.

The distribution of relief supplies should be used as an opportunity for recovery teams to sit with communities and discuss their outstanding needs, to meet with government and other actors and assess their plans, to meet and negotiate with donors and prepare a comprehensive picture of the path forward.

Effective work by recovery staff during the relief phase of operations will ensure continuity of activity, with volunteers and field staff moving more effectively from relief into recovery activities.

The timeliness of recovery activities is critical; supplying a family with a transitional shelter after they have completed their permanent house makes little sense and yet occurs far too often.

In dense urban environments the need for actor mapping, market analysis and social studies to understand needs and capacities for recovery programming is ever more pressing.

2.9. Findings regarding the Recovery Phase

- In dense urban environments, recovery operations must remain highly flexible as needs may change much more rapidly in these complex environments.
 - Effective monitoring and evaluation is critical, but must be tied to a culture of change and adaptation within organisations
- Recovery programs should be designed with multiple divisions to cater to the varying needs of the quite different groups that may exist in urban communities
- At the planning stage of the response, identify clear objectives for their interventions, indicators of progress, and predetermined exit strategies.
- Sustainable recovery in urban settings may require integrated, area-based approaches rather than focus on individuals or households
 - Area based coordination may often become the norm rather than sector based
- As per rural environments, focus should be placed upon the use of locally procured materials and skills
 - This must be informed by market and supply chain analysis and skills assessments
- Safe and rapid return is always preferable to relocation, where possible. Though in multistorey collapse, return may not be possible in the foreseeable future



The PMI's helicopter delivered terpoulin, family kit and other logistic for people who had impact earthquake and tsunami at Mentawai

Photo: PMI



The volunteer was helping children for psychosocial recovery

Photo: PMI

3

Tangible Actions for PMI

Over the last 50 years the PMI has displayed growing expertise in emergency response, playing an important and significant role in national disasters across Indonesia. Over time though this role has shifted, initially focused only on the provision of immediate relief over the first few weeks, or months at most, the PMI's role is expanding.

From disaster preparedness, where PMI now works closely in some regions with the BPBD, through to recovery, where PMI has been the largest actor in most recent responses, now even through to reconstruction, PMI is called upon to assist affected communities across more and more stages of the disaster management cycle.

Dense urban environments include almost by definition, a broad range of occupancy types. Commonly this includes home owners and renters, apartment owners and renters, and owners or renters of multi-use buildings (such as rukos), illegal tenants, or legal tenants with no ownership or rental status. Disasters when they strike may result in a range of types of displacement; displacement on site, in schools, in camps, in other areas and displacement may be anything from very temporary to permanent.

In dense urban response the variety of occupancy type and differing displacement types,

result in greatly varied needs across the affected community. This is much more the case than in rural environments, where both occupancy types and displacement types are much more limited. These greatly differing needs require a broader range of potential responses and implementation methodologies than PMI has practiced to date.

As PMI chooses to become a major actor in the recovery phase of disaster response across Indonesia, they will be called upon to assist across a range of sectors for which they may have only limited experience to date. Depending on the nature of the disaster and the effect it has had, response in new sectors may be unavoidable as it becomes the sole priority for the affected community. An example of this would be a serious drought in Flores, requiring PMI to respond strongly in the Agricultural sector where they have only limited experience.

As PMI participates in recovery operations in dense urban environments, the sectors they are most likely to be called to assist with include; Shelter, WASH, Psycho Social, Health, Camp management and Settlement planning, education, protection and livelihoods. Whilst not denying the possibility to assist in other sectors as required, it is perhaps important for PMI to choose key sectors and focus its internal capacity building efforts in these sectors. Shelter, WATSAN and Livelihoods are likely to be the areas of highest need in dense urban response.

A desk review of existing literature on dense urban response highlights a number of tangible actions that PMI could consider including as part of a recovery program for disaster-affected urban communities.

As per the above collation and analysis of recommendations from the literature review, recommended activities include action, both prior and during response, and hence have been categorised across the disaster cycle, including overarching general actions.

3.1. Across the board actions

Coordination

The Red Cross movement is renowned as an agency with some inherent reluctance to coordinate. Some within the movement express concerns that coordination and sharing of information may impact on the organisations neutrality or confidentiality. As the global lead for the coordination of the shelter sector, the IFRC has taken the lead in showing that the Red Cross can not only coordinate effectively without compromising its principles, in fact its contribution can have a radical impact on the overall effectiveness

of disaster responses. The importance of good coordination to the effectiveness of dense urban responses is highlighted again and again in the literature.



Coordination

- Hire staff in dedicated coordination roles, to work, prior, post and during disasters. Coordination involves a distinct set of skills and abilities that are not automatic and should not be taken for granted. Capable individuals with experience and abilities should be hired and then trained for this role. These staff should then:
 - Work more closely with BNPB and BPBD, taking an active role on disaster forums and coordination meetings.
 - Ensure both internal and external communication of Red Cross activities
 - Meet regularly with relevant global cluster leads, UNICEF for Education, WASH and Protection, IFRC for Shelter and UNDP for Early Recovery and setup coordination systems and agreements with them.
 - Improve coordination capacity with the PNSs.

PMI regularly expresses frustration with the roles of the IFRC and the PNSs during a disaster response. Internal dedicated PMI coordination staff, dedicated to coordination of the Red Cross movement in Indonesia could overcome this problem.

Contingency Planning

Contingency planning is key to an effective response, particularly in the complexity of a dense urban context. To be effective, contingency plans must accurately identify potential hazards and vulnerabilities, and then overlay these against community capacity and through this, highlight areas of greatest risk. Contingency plans need to include detailed actor mapping, showing capacities and limitations, and include realistic models of disasters, from minor to severe. To be useful Contingency plans, must be detailed enough to provide meaningful analysis and be regularly updated.

Although drawing up contingency plans is stated as a responsibility of BNPB and BPBDs, the task is vast and is far from complete. PMI's close



relationships with local communities put them in an ideal position to work with BPBDs to undertake detailed contingency plans across Indonesia's dense urban environments.

3.2. Recommendations for existing PMI focus Sectors

WASH

Recent evaluations of PMI activities have noted the need to improve capacity in the delivery of sanitation services. This is of particular urgency in dense urban disasters, where spread of disease poses a significant risk. Sanitation activities should include:

- Identification of appropriate sanitation solutions for urban floods;
- Identification and preparation of locations for sanitation facilities at predetermined evacuation and temporary settlement sites

To be more effective Dense Urban response will require a range of diverse approaches to water and sanitation supply. Workshops that include a range of simulations of dense urban disasters may greatly assist staff and volunteers in imagining and developing response options for dense urban environments.

To date PMI has limited experience in deploying water supply solutions in urban environments, yet through its international partners and existing international Red Cross agreements such as those with Norwegian Aid, PMI has access to large scale water purification systems that could be deployed as required.

- In conjunction with PNSs and other partners, PMI should develop contingency plans for the deployment of large-scale water treatment programs, for damaged town water supply situations.
- Contingency plans should include;
 - Real time simulations in conjunction with BNPB/BPBD;
 - Identification of global resources that can be drawn upon and agreement on the processes to enact such actions;
 - Training in the use of large scale water treatment and distribution equipment.

Recent evaluations highlight that water trucking can be an effective though relatively expensive method of water distribution. They also highlight the importance of moving to more cost effective solutions as rapidly as possible. Limited access to water supplies, dense rubble and sheer urban density may prove to be major barriers in truck based water distributions.

WASH contingency planning exercises should include solutions for areas inaccessible by trucks and plans for the rapid deployment of water trucks followed by as rapid as

possible hand over to more economically viable solutions where feasible.



WASH

- Include a range of simulations of dense urban disasters in workshops
- Contingency plans should include; real time simulations with BNPB/BPBD, Identification of global resources that can be drawn down upon training in the use of large scale water treatment equipment.
- **WASH contingency planning exercises should include solutions for areas inaccessible by trucks** and plans for the rapid deployment of water trucks followed by as rapid as possible hand over to more economically viable solutions where feasible.
- **Develop contingency plans for the deployment of large-scale water treatment programs**, for damaged town water supply situations.
- Sanitation activities should include:
 - Identification of appropriate sanitation solutions for urban floods;
 - Identification and preparation of locations for sanitation facilities at predetermined evacuation and temporary settlement sites

Health

PMI is seen by both community and government as technical experts in the provision of first aid and blood services. The increased likelihood of spread of disease in dense urban areas, both as a post disaster secondary hazard or from an epidemic in its own right pose significant threats that PMI may well be called upon to assist with.



Health

- PMI should continue to build and improve their capacity as a provider and trainer in first aid.
- PMI should work with the health department and health cluster to assess likely health risk to both staff and volunteers as well as the affected community and include this in contingency planning for disaster responses in dense urban centres
- Dedicated health and disease management sections should be included in recovery trainings
- Tracking of key health indicators such as respiratory illness and diarrhoea should be incorporated into the monitoring procedures of all recovery operations.

Psycho Social

PMI has a strong record in the provision of Psycho Social programs, however a lack of clear indicators for measuring the success or failure of psychosocial programming in recovery response hampers the ability to evaluate the effectiveness of such responses. The diversity of urban populations and the way they experience and react to the impact of hazards, changes the need for and from Psycho social assistance programs. Low lying communities in Jakarta that flood annually have well entrenched coping mechanisms and in some cases see floods as a normal part of life, making it hard at times to instigate mitigation and risk reduction programs, whilst families only a few blocks away may have little or no experience of flooding and be greatly traumatised when impacted.



Psycho Social

- **Work with the Health Cluster and department of Health** to develop clear measurable indicators for measuring Psycho Social trauma and strategies to assist communities with it.
- **Deploy psychosocial assistance programs in response to indicators rather as a mass reaction** that may otherwise simply waste funds to no set gain.
- **Emphasise psychosocial aspects of general recovery programs within program plans and activities** to directly target psycho social recovery outcomes should be mainstreamed across programs.

Shelter

The Red Cross in Indonesia has spent more money on Shelter during recovery operations than all other sectors combined, yet to date lacks dedicated, trained, professional shelter experts on staff. This lack of expertise has created difficulty for the organisation to engage in meaningful discourse around commonly accepted shelter issues aside from those they have directly experienced. PMI is now developing dedicated shelter curriculums and trainings to address this gap.

With limited dedicated shelter expertise, PMI faces serious challenges in analysing and responding flexibly to the complex shelter needs of dense urban environments. As a national shelter team emerges within the organisation, there will be a need to explore a broader range of sheltering options to better address the needs of urban communities. This should include:

- **Host Family** assistance programs both for those hosting and being hosted
- **Rental and relocation** assistance programs
- **Retrofit and reengineering** advisory programs
- **Communal Centre and Camp Management** assistance programs

Dense urban disasters such as the 2011 Jakarta Floods commonly result in temporary or permanent displacement. PMI, to date has only limited experience in assisting displaced communities. Dealing with displaced communities commonly requires strong conflict resolution and negotiation skills, an area in which PMI may need to increase its capacity. Camp management and settlement planning skills are also areas to consider upgrading skills.

It is important to recognise that owner driven reconstruction modalities such as the PokMas system used in the 2006 Yogyakarta earthquake may not be suitable for all affected families in dense urban environments. Though well suited to sparse urban disasters where collocated, similarly affected families can support each other to self-reconstruct, this implementation modality is unlikely to suit the needs of the occupants of multistorey or multiple occupancy buildings. In dense urban environments neighbours may have no relationship to each other and may not possess the necessary construction skills. To address the needs of dense urban disasters, alternative modalities should be explored, including:

- **Cash programming**, voucher systems and material fairs for disasters; appropriate where existing supply chains are functioning well and assistance may be required to kick start economies.
- **Direct implementation**, through volunteer led construction; appropriate where families, whether due to disaster impact or pre-existing conditions, do not have the skills or abilities to self-reconstruct.
- **Contractor based implementation**; suitable for reconstruction of multiple occupancy buildings, or when communities lack construction skills.

There is much existing global guidance on best practice in Shelter recovery programming, both within the Red Cross movement and from the broader shelter community. Much of this documentation could be translated into Indonesian for immediate use by PMI both in training and as future resource materials.



Shelter

- Shelter trainings should include discussion and brain storming sessions on emergency, transitional and permanent shelter solutions for the range of housing typologies found in urban disasters, including apartment tenants and permanently displaced urban poor.
- Build relationships with universities in urban centres to explore possible retrofit solutions and develop pre-existing agreements for the use of engineering students;
- Train dedicated regional recovery staff on dealing with IDPs, these skills including conflict resolution, negotiation and settlement planning
- Explore and prepare for a range of potential shelter interventions and implementation methodologies including: Host family, Rental & relocation and Retrofit and reengineering programs
- Explore a range of alternative implementation modalities, Including; Cash programming, Direct implementation and Contractor based assistance.
- Translate global shelter guidelines into Indonesian for immediate use by PMI

3.3. Potential New Sectors for dense urban response

Early recovery as a sector

The global Early Recovery Cluster was created in recognition that early recovery, was not just a transitional phase from emergency relief to recovery programming, but rather a philosophy or mind-set that should guide disaster preparedness response and recovery activities at all phases of the disaster management cycle. The Early Recovery framework aims to ensure that wherever possible, preparedness and response activities enhance and build on local self-recovery capacities, kick starting economies, rebuilding social capital and ensuring a rapid return to work.

The concept of Early Recovery can be incorporated into all aspects of disaster response. Where options exist, local procurement should be prioritised and interventions should be designed to support rapid rebuilding of livelihoods and a return to work. Examples may include:

- Phasing out public kitchen programs as quickly as possible in preference to programs that encourage and support families to cook for themselves or

- support local food outlets to supply the affected community's needs.
- Water supply repair programs can be instigated rapidly to reduce dependency on tankered water.
- Temporary shelter programs should, where possible, use local materials and local labour and be designed to be flexible, adaptable, resalable or reusable.



Early Recovery

- **Dedicated staff trained in Early Recovery and recovery programming should be deployed at all stages of disaster programming**, these staff should be immune from secondment to the needs of immediate relief, rather focusing on ensuring programs encourage and support early recovery.
- **PMI Recovery staff should develop strong links with UNDP** and BNPB as the Early Recovery Cluster co-leads including participation in Early Recovery contingency planning and preparedness activities.

Livelihoods

Ensuring a rapid return to livelihoods enables affected communities to assist themselves to recover rapidly from the impact of disasters. The need for livelihood support programs is ever more important in dense urban disasters, where affected communities are dependent on purchasing the bulk of their daily needs rather than growing or bartering for them as may occur in rural settings.

Although PMI has to date limited experience in livelihood programming the organisation's relatively flexible funding sources combined with its close ties with local community and government, place PMI in a prime position to design and support appropriate livelihood interventions.

To design and implement effective Livelihoods support programs, PMI will need to explore best practices that are suitable in the Indonesian context and train recovery staff in how to design and implement suitable interventions. Concerns about the potential for misappropriation or poor targeting of funds may emerge as a concern within the organisation, though in reality PMI's experience in cash dispersal through PokMas based shelter programs may provide a good model for livelihoods support programs.



Livelihoods

- **Research best practice and then Train staff** and build internal capacity around Livelihood programming options;
- **Run workshops for senior management** to discuss and decide upon the potential role of PMI in livelihood programs;
- **Reach agreement with PNSs and IFRC** on how they might support future livelihood activities.

Demolition, Rubble clearance and Debris Management

- In dense urban disasters such as the recent earthquakes in Haiti and Turkey, the danger of remnant structures and blockage of access to many areas by building rubble became major impediments to effective and rapid response.
- Although ensuring and enabling access to the affected area may be commonly perceived as the responsibility of government, in dense urban disasters the ability to provide assistance can be so seriously affected that it becomes necessary for all actors to become involved.



Demolition, Rubble clearance and Debris Management

- PMI could prepare itself to assist with rubble clearance, by developing **formal agreements with the owners of heavy equipment** to assist with demolition and rubble clearance when disasters strike. An examples of the effectiveness of such agreements was that of Oxfam and Caterpillar in Aceh

3.4. Tangible actions by disaster phase:

Disaster preparedness

As the world's largest non-government humanitarian response agency, the Red Cross is a well-known and respected actor in disaster response. Although the organisation also has an extensive global record of disaster preparedness mitigation and risk reduction activities, it remains less well known for this and is in many ways more challenged by this role. These statements remain as true for PMI as for the Red Cross elsewhere. In reality

however the Red Cross sits in a unique position, with its direct influence to government, neutrality and respect from civil society, from which to assist disaster prone communities to better prepare for risks that may impact upon them.

Given the overwhelming need for disaster preparedness across the disaster prone archipelago of Indonesia it is essential for PMI to focus disaster preparedness assistance to communities that are most at risk from hazards and most vulnerable to them. To date much of PMI's disaster preparedness activities have focused on less complex rural communities. To be effective at minimising risk, more attention needs to be paid to dense, complex urban environments.

Much of the contingency planning undertaken to date in Indonesia is of too low a scale and of insufficient complexity to adequately represent what may occur in dense urban disaster centres such as Medan and Surabaya.



Recommendations for Disaster Preparedness programming

- **Identify and prioritise most vulnerable communities in dense urban** areas through PMI chapters and branches,
- **Undertake risk mapping and contingency planning** for the above identified vulnerable communities in conjunction with BPBDs and local stakeholders,
 - Contingency plans should include, **risk and vulnerability assessments** along with **actor identification and capacity mapping**
 - Should culminate in **scenario based exercises**
 - Include **plans of an adequate scale to deal with the millions** that may be displaced in urban centres such as Medan and Surabaya
- Work with communities and government **to identify areas for potential use as temporary relocation sites** at times of disaster response,
 - Take steps **to ensure such sites are prepared** for the sudden influx of displaced people that they will receive. I.e. upgrading toilet and water facilities at identified schools, or stadiums. (a lack of adequate WASH facilities posed a significant threat to populations housed in stadiums during the Merapi evacuation)
- **Develop stronger relationships with the business communities** in dense urban environments as the private sector is both a key responder and likely victim of dense urban disasters.

Emergency relief phase

BNPB and BPBD appreciate PMI as a Technical Support agency. As many of the BPBDs in Indonesia are either newly formed or still forming, PMI plays a crucial role as a technical support agency during emergency relief, particularly in outer districts. Discussions with BPBDs as part of the PMI AIFDR Disaster Preparedness Program for Eastern Indonesia, show that BPBDs value PMI for its support in the key technical areas of;

- **Assessments:** PMI has teams of volunteers across Indonesia, trained in assessing disaster impact and needs. Often this provides rapid and reliable information for both regional government and PMI on which to base their response plans.
- **Standards:** In many areas, BPBDs turn to PMI for their experience in disaster relief and advice on the contents of assistance packages such as family or hygiene kits.
- **First Aid and Blood:** Across Indonesia PMI is perceived as a primary provider of First Aid training and assistance, along with Blood Donor and Blood Bank programs.
- **Distributions:** PMI has extensive experience in the distribution of emergency relief assistance, including public kitchens, food and emergency shelter distribution

Coordination: Much research indicates the importance of coordination of activities in disaster response to minimise overlapping, avoid gaps and ensure equity. This is particularly important in the early relief phase and even more important in the complexity of actors and responses that occur in a dense urban disaster. The Red Cross is often perceived as standing off from the rest of the humanitarian community to maintain its neutrality and independence and often appears reluctant to coordinate.

Preparedness for Recovery during emergency relief: One of the most critical gaps in current PMI recovery responses is the lack of dedicated trained recovery staff. Such staff should be deployed immediately on day one of each disaster response.



Recommendations for Relief Phase

- **PMI should enhance its capacity to participate in coordination** not as the coordinating agency, but rather as an effective communicator and facilitator in support of government.
- **PMI should enhance its core relief response capacity** particularly in the areas identified above and work closely with BPBDs in dense urban environments to support the national disaster response capacity.
- **Dedicated recovery staff should undertake early recovery needs assessments, analysis and planning**
 - **Recovery staff should NOT be distracted by relief activities**, rather stay wholly focused on upcoming recovery needs and the preparations required to address them
 - **Within the first two weeks of the response dedicated recovery staff should develop a draft early recovery plan**, including response plans for each key sector. PMI should recognise that existing practices well suited to the rural context may need to be reshaped and adjusted for an urban setting. Plans should be discussed with the government, other agencies, coordinating bodies, donors and the affected community and modified accordingly, ready for implementation as relief activities wind down.

Recovery Phase

Recovery phase analysis forms the basis for this desk review and as such is scattered throughout the report and hence will not be repeated here.

Reconstruction Phase

At the time when the bulk of the community and government may have declared the recovery phase over and moved onto permanent reconstruction, many of the more vulnerable members of society may still remain in need of emergency relief or recovery assistance. Analysis of needs based on humanitarian principles may require ongoing relief or recovery assistance programming specifically targeted at these more vulnerable members of society.

As communities move from the recovery phase into permanent reconstruction, it is

important that the PMI remains involved to ensure DRR measures are incorporated into reconstruction efforts, thereby reducing the communities' dependence on PMI when further hazards strike. Such measures should include:

- Promoting and training communities in disaster resistant housing reconstruction
- Ensuring adequate contingency planning is put in place for future disasters and that ongoing town and settlement planning includes hazard mapping and preparedness measures (such as evacuation routes)
- Ensuring and assisting with ongoing disaster preparedness training in schools



Recommendations for Reconstruction Phase

- Undertake assessment of outstanding recovery and relief needs, focusing particularly on the needs of the most vulnerable.
- Recovery plans should include 'mop-up' funds to address outstanding gaps during the reconstruction phase of the response
- Promote disaster resistant housing reconstruction
- Ensure adequate contingency planning in town and settlement planning.
- Ensure ongoing disaster preparedness training in schools



PMI gives health service at refugees camp

Photo: PMI

4 Recommendations for recovery curriculum

The increasing risks faced by dense urban communities in Indonesia and PMI's increasing role in assisting those communities to prepare for, mitigate, deal with, and recover from those risks has brought an increasing need for PMI to diversify the range of initiatives that it has the expertise to implement. This has brought forth a need to expand current staff and volunteer skills either by engaging specialists or through training. This is particularly the case in the recovery stage of operations in dense urban environments.

In investigating potential recommendations for the inclusion of dense urban relevant advice for recovery training as part of this report, we reviewed a wide range of existing training material from Red R, IFRC, UNHCR, HfH and other sources. Although many refer to the complexity of dense urban response and the need for flexible programming and increased risks, there appears to be little actual training material for these specific circumstances.

Recovery curriculum training should include;

- **Much larger more complex scenarios** should be used in dense urban recovery training.
- Trainings should ask participants to **consider the range of both occupancy and displacement types** that they will need to deal with
- Consider having participants go to a dense urban location and conduct a VCA (Vulnerability and Capacities Assessment, IFRC) this would give both the participants and the community a chance to review how prepared they are in the event of a disaster.
- Participants should be asked to explore a much **broader range of potential implementation methodologies**, such as host family programs, rental assistance, cash livelihoods grants,
- Recovery training must include a strong component on important cross-cutting issues such as Gender and the needs of the most vulnerable.
- The importance of good **coordination** should be emphasised and reiterated throughout the training
- Introductory training on **Livelihoods programs** should be included (based on a senior management decision to engage in livelihoods activities)
- Participants should be given an insight into the importance of cross sectorial and sectorially specific **recovery needs assessments and analysis**
- As in line with the bulk of the literature, trainings should include a focus on the need for **disaster preparedness** as the most important issue for dense urban environments
- Trainings should include sessions on dense urban specific issues such as Dptial planning, **Debris Management and rubble clearance**, when there is no space
- Due to the specific risk to both the affected community and PMI volunteers from ongoing high usage of **asbestos** in urban construction in Indonesia, trainings should include asbestos risk information.

Recovery Trainings could also include a specific unit on Dense Urban Environments, Such a unit should include the following Key Learning Points;

1. Indonesia's Dense Urban Environments face a plethora of risks, that are overlaid over numerous vulnerabilities. **Detailed city by city risk analysis** is essential to effective response
2. Increasing extreme weather events due to global warming mixed with increasing urbanisation mean **a likely increase in dense urban disasters** over coming years
3. The **complexity** of dense urban environments and variations in the needs of those

affected means that assistance packages must be **flexible**

4. **Preparedness** is the key to successful dense urban response
5. The dense nature of urban response and the vast array of actors involved in it, mean that **Coordination and communication** are essential to avoid overlapping and social conflict.



PMI used haglund for find victims at Merapi volcano eruption

Photo: PMI/Oka

5 Annex 1: List of Key Interviews

As part of the Urban Desk Study, the following key individuals were interviewed.

Actor	Title	Organisation
Ritola	Board Member	Indonesian Red Cross
Rapiudin Hamarung	National Manager	Indonesian Red Cross
Triyanto	Organisational Development	Indonesian Red Cross
Godril Yuwono and Teuku Khairil	Project Officers in charge of Urban Desk Study	Australian Red Cross
Jeong Park	Humanitarian Advisor	AusAID
Erynn Carter	Humanitarian Country Manager	Mercy Corpse
Sebastian Fesnaux	Former Disaster Response Manager	Oxfam GB Indonesia
Okta Riyadi	Kepala Divisi Pelayanan	PMI DKI Jakarta
H. Sabri Saiman DR. Andi Usman Gumanti Hery Chairul Udin Zaenudin Dwi Haryanto Yusri Untung Dewi Sri Sumanah Heri Asmedi	Pengurus: Wakil Ketua II, Bid. SDM & Humas Wakil Ketua III, Bid. Penanganan Bencana, Anggota Pengurus: Staff Staff PSK Staff Staff Staff	PMI Kota Jakarta Utara
Edy Junaedi Harahap Danang Susanto	Head of Control and Information Division: Kepala Bidang Kesiapsiagaan dan Pencegahan:	BPBD DKI Jakarta
Kusnoto Endang Komalasari Budhi Pranoto Suhanda	Ketua PMI Kepala Markas Wakil Ketua III Kepala Seski Penanggulangan Bencana	PMI Jakarta Timur

6. Annex 2: List of reference documents

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