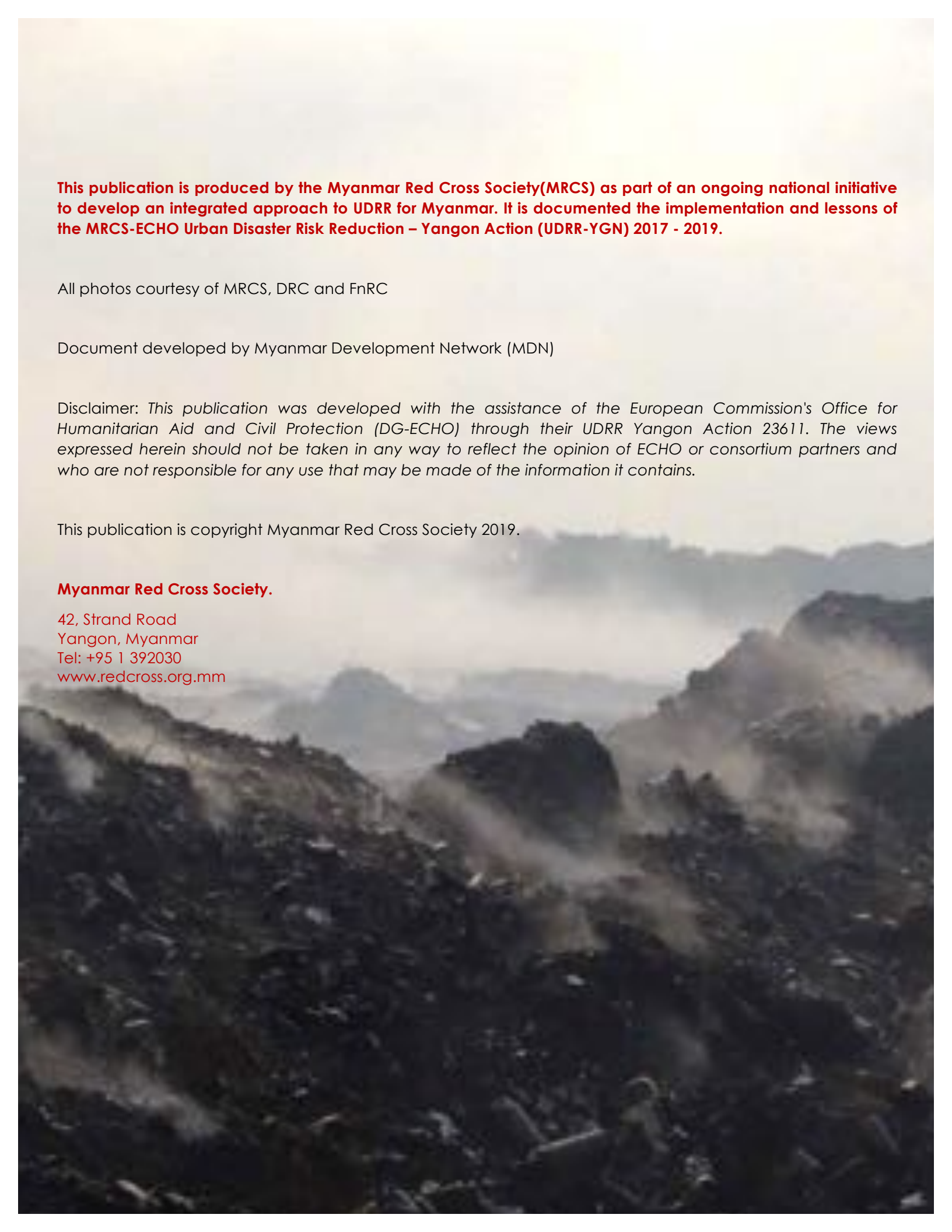


Urban Disaster Risk Reduction



European Union
Humanitarian Aid





This publication is produced by the Myanmar Red Cross Society(MRCS) as part of an ongoing national initiative to develop an integrated approach to UDRR for Myanmar. It is documented the implementation and lessons of the MRCS-ECHO Urban Disaster Risk Reduction – Yangon Action (UDRR-YGN) 2017 - 2019.

All photos courtesy of MRCS, DRC and FnRC

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Fire fighters are trying to stop fire at Hlaingthayar disposal site



Figure 1 A snap shot of UDRR Model-Draft



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Figure 2 Key components of UDRR Model-Draft



Acronym

BFS	Basic First Aid
CBA	Community Based Adaptation
CBDRR	Community-based Disaster Risk Reduction
DOH	Department of Health
DDM	Department of Disaster Management
DMC	Disaster Management Committee
DMP	Disaster Management Plan
DoE	Department of Education
DRC	Danish Red Cross
DRRWG	Disaster Risk Reduction Working Group
EOC	Emergency Operations Centre
EU	European Union
EWEA	Early Warning Early Action
GoM	Government of Myanmar
MAPDRR	Myanmar Action Plan of Disaster Risk Reduction
MRCS	Myanmar Red Cross Society
PAPE	Public Awareness and Public Education
RCV	Red Cross Volunteer
SaR	Search and Rescue
SBDRR	School-based Disaster Risk Reduction
SFDRR	Sendai Framework of DRR
ToT	Training of Trainers
UDRR	Urban Disaster Risk Reduction
UNFCCC	United Nations Framework Convention on Climate Change
V/WDMC	Village/Ward Disaster Management Committee
WASH	Water, Sanitation and Hygiene
YCDC	Yangon City Development Committee



Key Words

Adaptation	The adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects
Capacity	The combination of all the strengths, attributes and resources available within a community, society or organisation that can be used to achieve agreed goals.
Contingency Planning	Analysing potential events and devising potential solutions to risk as appropriate
Disaster	A serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources.
Disaster Risk	The potential disaster losses, in lives, health status, livelihoods, assets and services, which could occur to a particular community or a society over some specified future time period.
Disaster Risk Management	The proper use of the resources available in order to minimize the risk of disaster.
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.
Mitigation	The lessening or limitation of the adverse impacts of hazards and related disasters.
Preparedness	The knowledge and capacities developed by governments, professional response and recovery organisations, communities and individuals to effectively anticipate, respond to, and recover from, the impacts of likely, imminent or current hazard events or conditions.
Resilience	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, including through the preservation and restoration of its essential basic structures and functions
UDRR	A project model of MRCS to test an integrated multi-sectors risk reduction approach for urban areas in Myanmar



UDRR-YANGON

Myanmar is exposed to natural and human made disasters including, cyclones, earthquakes, floods, fire, and armed conflict Myanmar is ranked 12th out of 191 countries in the Risk Management Index 2017 (1st country in ASEAN) and 3rd out of 187 countries in the global climate risk index. As a developing country, physical growth consumes a larger scale of inputs from natural resources that create positive and negative impacts on resources. One million of the population is affected and displaced annually due to disasters and climate shocks and stresses as emerging challenges for develop urban resilience in Spatial Integration. (UNOCHA Reports, 2019)

It is significant that Myanmar suffered the effects of prolonged armed conflicts for over 60 years after independence. It is still struggling to get agreement of peace between the actors. As given context, the GoM has been developing a good institutional system that saves and protects the people from any losses and damages by institutionalizing DRR and DRM in public services and development sectors. The disaster management system in Myanmar is constituted across all levels and multi-sectors, from union to community, from national to local.

"Urban Disaster Risk Reduction (UDRR) is a pilot model of MRCS to test an integrated multi-sectors risk reduction approach for urban context in Myanmar."

A sky view of downtown Yangon @ Internet



Institutional linkages in Draft UDRR Model

Global context: The global frameworks of the SFDRR, UNFCCC, SDG, and IUDF provided the overall guidance of the development of the Draft UDRR-Yangon Model as is the experience of the experience of the Resilient Cities Asia-Pacific (RCAP) with further exchange proposed for the ongoing 100 Resilient Cities initiative

Regional context. Consulted frameworks include: ASEAN vision 2025 on Disaster Management, ASEAN-UN joint Strategic Plan of Action on Disaster Management and ASEAN Disaster Management Emergency Response (ADMER) and ASEAN Risk and Vulnerability Assessment. The ADMER programme Priority 3, output 3.3 "Engagement of Local Government on urban initiatives" is in line with the overall MRCS approach to UDRR which promotes the GoM engagement in urban initiatives and strengthening linkages between GoM, civil society, and communities (ADMER 2016-2020)

National context. Consulted frameworks are Myanmar Sustainable Development Plan (MSDP) (2018-2030), Myanmar Action Plan on DRR (MAPDRR) (2017), National Disaster Management law (2012), Yangon City Development Committee Law (2018), Yangon City Development Plan (2018-40), National Climate Change Strategy and Action Plan (2018-2030) and Myanmar National Social Protection Strategic Plan (2014)

Regional. The Action and development of the Draft UDR Model consulted and supported the Yangon Regional Development Plan, Earthquake Preparedness and Response Plan, and initiatives undertaken by DRR actors in Yangon Region and nationally, including MRCS Yangon Regional and National Headquarters, and Yangon Region and National Emergency Operation Centre (EOC) in coordination with the GoM Department of Disaster Management. Three strategic components of UDRR implemented at the Regional level in line with strategic components of ADMER include: Risk Assessment and Awareness; Prevention and Mitigation; and Preparedness and Response. (ADMER 2016-2020)

Local: The Township General Administration Department, along with Ward and Village governance were engaged for for effective co-ordination and connection between communities and the Township and Yangon Region. In co-ordination with the MRCS Township Branch and elected Township Parliamentarians, GoM agencies engaged in direct co-implementation of the Action included the Fire Service Brigade (FSB), YCDC, Township Education Office, and Township Medical Office. The UDRR-Yangon Action further consulted and produced an integrated Township Disaster Management Plan (TDMP) inclusive of Ward and Village Participatory Disaster Contingency Plans, School and Public Health Facility Disaster Contingency Plans, and pilot Factory and Worker Hostel facility contingency plans ,

Community: The Action was developed on both quantitative and participatory risk assessment at the community level, and implemented through adaption of standard Red Cross thematic approaches to Community-based Disaster Risk Reduction (CBDRR), School-based DRR (SBDRR), Community- based Adaptation (CBA – small scale mitigation infrastructure)), and Community Engagement and Accountability (CEA)



BACKGROUND

The Urban Disaster Risk Reduction Model (UDRR) proposes an integrated multi-sector risk reduction approach for urban areas in Myanmar. The model has been based on the results and lessons of the MRCS UDRR-Yangon Action 2017-2019 which employed practical tools for disaster risk reduction regional context, Township context, and community context. The UDRR-Yangon aims for local people to be enabled to build resilience into their houses, villages, wards, schools, health facilities, factories and institutions and basic services. It is a systematic effort to analyze and manage the causes of disasters in an urban context. Reduced exposure to risks, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events. As an integrated disaster risk management model, the interventions are designed to link with each other

and contributed to by key stakeholders the Yangon Regional Government (YRG), Regional and Township General Administrative Departments (GAD), Yangon City Development Committee (YCDC), MRCS, Fire Service Department, Education Department, Health Department, Hlaingthayar Industrial Management Committee, Department of Disaster Management (DDM), CBOs and CSOs, Development Partners, Myanmar Engineering Society (MES), Myanmar Earthquake Committee (MEC), Myanmar Geo-science Society and Military Forces to build a resilient Yangon. Key sectors are planned to be integrated are Education, Energy, Health, Industry, Road and Transport, Water and Sanitation. The interventions of UDRR-Yangon have been cascaded into four levels; community, Township, regional and national.

*Myanmar signed SFDRR, UNHCCC and AADMER
The Standing Orders in 2009
NDPCC constituted in 2009 and reconstituted in 2013
National Disaster Management Law in 2013
Disaster Management Training Centre established in 2013
Emergency Operations Centre constituted in 2014
Trained over 1,000 of government staffs
Volunteer program started in 2014
MAPDRR (3rd) in 2009, 2012, 2017
National Monsoon Forums Annually
DRM integrated in Social Protection Strategy
DRR and Climate Change embedded
DRR integrated in Education Sector
Humanitarian Coordination is functioning
DRRWG, DPRE, EIE, etc. are functioning*

The smallest and the lowest constituted unit of administration is villages and wards. Village/Ward Disaster Management Committees (W/VDMCs) which have capacity to confront natural and man-made disasters. The community based approach applies not only to urban growth but also to the precautions necessary for early warning, search and rescue, first aid, awareness raising, security and evacuation. The people selected their representatives for disaster management and they were trained for disaster management and emergency response. Diverse groups of older people, youths, adults, women, adolescents, children and local authorities contributed to this lowest piece of the UDRR-Yangon model. They were trained and equipped with basic skills for emergency response, first aid, fire fighting, search and rescue, and early warning.

Hazards and associated risks in each community were identified. They also developed disaster risk reduction plans for preparation, practicing and performing disaster management activities. Community DRR plans may be seen as Contingency Plans based on particular disaster scenarios. The community disaster management committees can deliver other tasks such as community preparedness, family preparedness, establishing a local early warning system, evacuation, timely responses to any emergencies and recovery actions. All these efforts were documented.



URBAN DISASTER RISK REDUCTION IN MYANMAR

The concept of urban resilience is gaining increased urgency as cities face the diverse challenges of natural and human made disasters. The challenges are associated with vulnerable to climate change, growing urbanisation and migration, inadequate infrastructure, and social insecurities. Urban resilience promotes building the capacity of individuals, communities, institutions, industries within a city to survive, adapt, and grow. (Rockefeller

Foundation, 100 Resilient cities, 2019) Understanding the city as a system can help to better identify risks and potential solutions. The challenges are immense, and operational the UDRR-Yangon Action sought to identify practical and integrated approach that could identify lesson and recommendations for policy makers, practitioners and professionals specific to the rapidly developing urban context of Myanmar.

Table 1 Types of Urban Risks

Risks Common to Urban Context
Crime and communal violence
Disease outbreaks
Earthquakes
Fire
Floods
Food security and safety
Hard/soft infrastructure provision and management
Industrial accidents
Livelihoods and unemployment
Terrorist attacks
Water security and WASH



Myanmar

The concept of DRR was formally introduced to Myanmar in the aftermath of Cyclone Nargis in 2008, and both DRR and CCA has been evolving consistently since. DRR started with community based and rural

development approaches and then broadened into other areas, including most recently urban contexts.

Numbers of disaster and climate change **Consortiums are** established in the country and give specific examples of comprehensive and integrated approach. Myanmar Consortium for Community Resilience (MCCR) introduced coastal community resilience since 2009. UKAID funded Building Resilience and Adaptation to Climate Extremes and Disasters (BRACED) in 2012. Myanmar Climate Change Alliance (MCCA) introduced climate change adaptation in Myanmar in 2012. Myanmar joined as an operational country through 100 Resilient Cities implementation in Mandalay.¹ Today the numerous stakeholders include, amongst others: Plan International, Save the Children (SC) and UNICEF work on DRR in Education. UNDP works on Risk Governance. Prudence Foundation (PF) works on Road Safety. World Wildlife Federation (WWF) works on renewable energy. French Development Agency (FDA) works on Waste Management. The Netherlands Embassy works on urban and rural water programmes. Asia Foundation (AF) works on Public Financial Management (PFM) and Social Responsibility. JICA and RIME work on Early Warning Systems. Help Age works on Inclusive DRR. UNICEF works on Youth in DRR; Article 21 works on Hospital safety.

is an aggregated condition of urban development sectors in spatial integration, growth and governance.

Capacity building: The UDRR-Yangon promotes public concentration on risks and inspires community action to minimize the risks. Building disaster management capacity improve strengths, attributes and resources available within a community, organisation or society to manage and reduce disaster risks and strengthen resilience. Capacity building in the UDRR-Yangon equips the government officials, stakeholders and the community to perform their functions in a better manner during a crisis/disaster model. Emergency training with special regard to buildings is part of this.

Adaptation: Growing negative climate and environmental patterns have significant impacts on rural-urban communities and economic development High population density increases urban demand for water, leading to water stress, especially in the period of drought. The huge growth of Yangon may have amplified the effects of extreme weather and climate disasters. Adaptive capacity is the best solution. Adaptive capacity (AC) is the ability of systems, institutions, humans, and other organisms to adjust to potential damage, to take advantage of opportunities, or to respond to consequences. (IPCC 2014). Adaptive capacity

¹ <http://resilientcitiesasiapacific.iclei.org>



Yangon



A sky view of Yangon @ internet

Yangon is the biggest city of Myanmar. The population of Yangon Region is about 7,360,730 (Census 2014) and expected to grow. 70 % of the total population lives in an urban and 30 % in rural. Yangon Region is constituted with 630 wards, 54 village tracts, 45 Townships and 4 Districts. The city is expanding rapidly due to rural-urban migration encouraged by the increasing concentration of the country's economic drivers, with about 30% of national GDP is from Yangon Region. Population density in the city is 53,615/sq km.², with the population in 2030 expected to be 8.5 million.

Seventy-seven new big infrastructure and urban development projects are planning to be developed under the strategic urban development plan of Greater Yangon until 2040. These projects cover the sectors of urban transport, road network, railway, port and logistics, water supply, sewage and drainage, solid waste management, and telecommunication. In 2006, ASEAN ESC (Environmental Sustainable Cities) awarded Yangon city as ESC. (YCDC, 2016)

Five years prior to the census in 2014, 3.36 million people were having moved as internal migrants. 42.3 per cent of people currently living in Yangon have migrated from another state or region. (Open Development Myanmar, 2016). As a growing city, **hazards** are associated with domestic and industrial wastes, food safety, road safety, crime, human trafficking, fire, and floods. Violence, harassment sexual assaults and exploitation are reported as critical for young women, girls, boys and migrated populations.

Earthquakes happen frequently in Myanmar and Yangon itself lies proximal to the Sagging fault. Professional agencies such as MES, MEC and Yangon Regional Government are giving high priority to preparation for earthquakes, but they still present significant risk for the urban population due to building standards of both old and new construction. There is 100 parts per million (ppm) of dust measured in Yangon air. (WHO & DOH 2019). 599 deaths and 3,164 injuries from 2,684 accidents in Yangon region. 914 accidents in water festival. (Eleven News, 2017).

² UNDP, Annual Report, 2018.

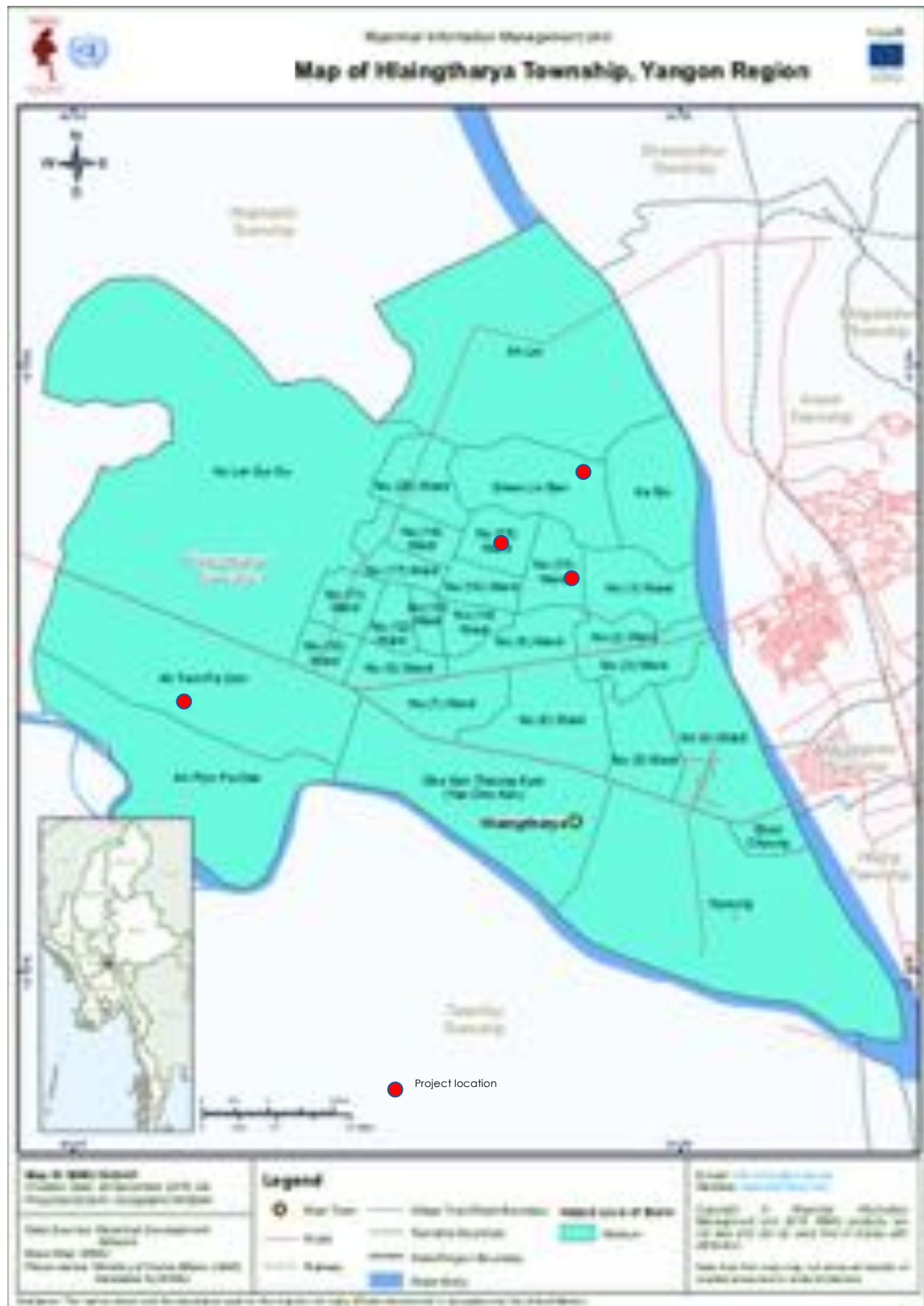


Hlaingthayar Market view

Focus: Hlaingthayar Township

The UDRR-YGN Action was implemented by MRCS in a total of 21 Townships across the Yangon Region. Hlaingthayar Township, was chosen as the primary focus of the Action based on initial disaster risk review, project implementation capacity, and for foundation for the development of an integrated model that may potentially be applied to other Townships dependent on context, Hlaingthayar is a rapidly developing industrial Township located on the flood plain of the Hlaing and Panhlaing Rivers bordering the west of the metropolitan Yangon. As of the 2014 Census, total population of Hlaingthayar Township is 401,087 which accounts for 0.8 % population of the Yangon Region which is about 5.2 million in 2014. The Township population is soon officially predicted to reach over 700,000, but this does not take into account the large numbers of rural-urban migrants and unregistered households spread across the 20 wards, 9 village tracts, and 18 villages. (GAD 2017)

The 2014 Census recorded that over 60% of Hlaingthayar Township houses were semi-wooden and bamboo based structures Hlaingthayar Township receives above 1,500 mm annual rainfall between June and October. In the wet season, intense monsoon rains, storms and strong winds cause extensive flooding, structural damage, disruption to public services, and increase the hygiene and disease risk. More than 200 cases of minor and major road accidents are reported annually, and fires during the dry season are a daily occurrence and the Township Fire Services Branches (FSB) has a standing staff of over 2,500 personnel. Hlaingthayar is recognized as a major centre of human trafficking together with Shwepyitha, Dagon, Insein, Thanlyin and North Okkala Townships. (Township GAD, 2017) There are 20 registered social and community organisations in the Township, with 40,000 members of the Myanmar Women's Affairs Federation (MWAF), over 14,000 in Myanmar Maternal and Child Welfares Association (MMCWA), and over 300 MRCS volunteers. (TDMP, 2018)





Development of an integrated approach to UDRR

The UDRR-YGN Action was developed on the foundations of MRCS prior pilot experience of UDRR in Hlaingtharyar and risk assessment, advocacy, and planning, conducted Regional, District, Township, Village, Ward and Community levels. The stakeholders in the action included the General Administrative Department (GAD) (Regional, District, Township and Ward /Village local), Education Department, Health Department, Yangon City Development Committee (YCDC), Industrial Zone Committee, Fire Service Brigade in addition to local Red Cross Branches across 21 Yangon Region Townships with a continued focus on Hlaingtharyar. The Action was designed, integrated, and implemented through are Four Levels and Six Sectors. Levels: Community; Government (Health Education, Administration; Institutional (MRCS); and Advocacy (Township, Yangon Region, and National). Sectors: Risk Assessment, Awareness, Preparedness, Emergency Response Capacity, Mitigation and Cross-cutting themes.

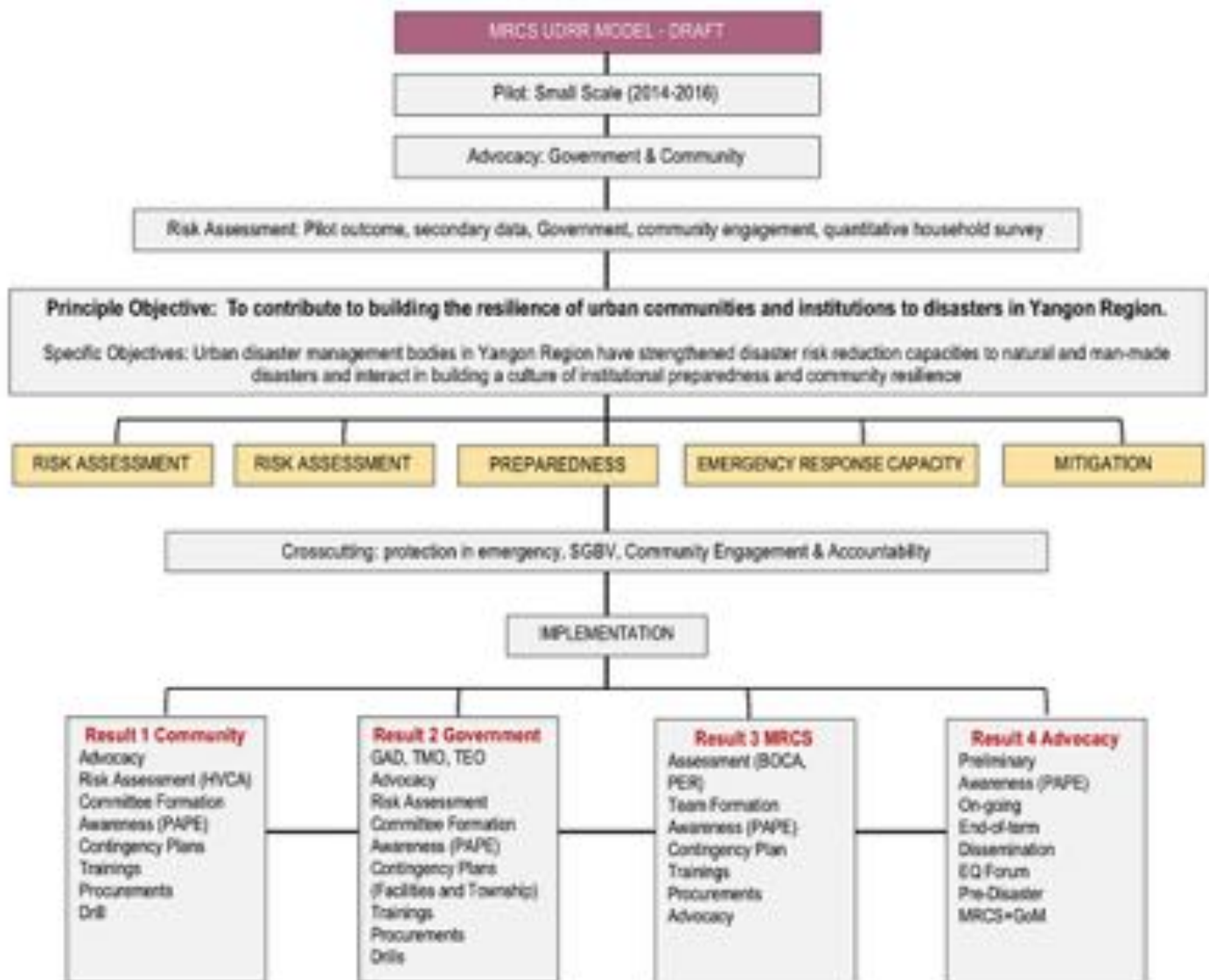
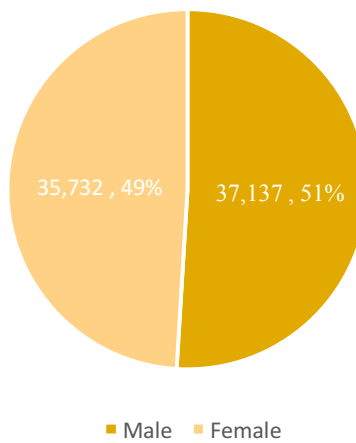


Figure 3 MRCS UDRR MODEL - Draft

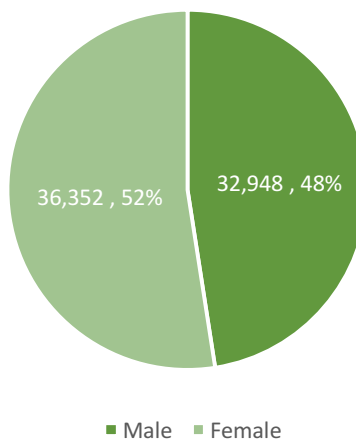


Numbers of people engaged in UNDRR Model-Draft

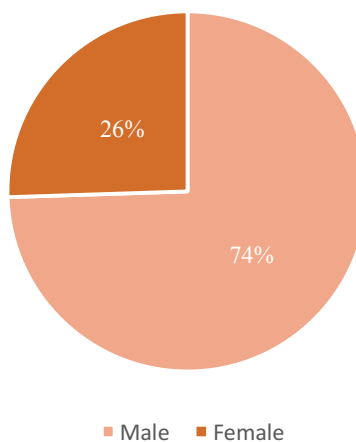
Awareness



Preparedness

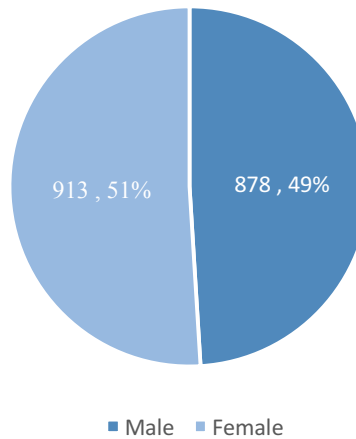


Mitigation

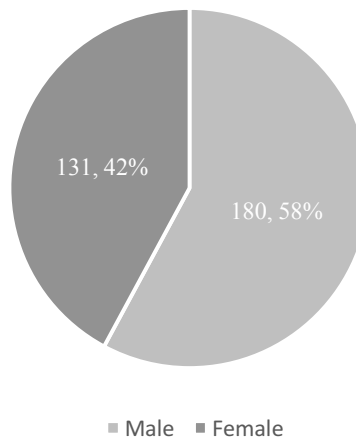




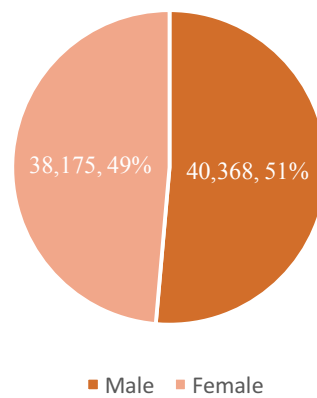
Risk assessment



Cross-cutting



Number of people engaged in the project





UDRR

1. RISK ASSESSMENT
2. AWARENESS
3. PREPAREDNESS
4. EMERGENCY RESPONSE CAPACITY
5. RISK MITIGATION
6. CROSS-CUTTING THEMES



1

RISK ASSESSMENT

Disaster Risk Assessment is a participatory process of assessing and identifying hazards, vulnerability and capacity. Disaster risk is based on features of a particular hazard that include their potential catastrophic effect, intensity, location, frequency, probability and impacts. This is conducted across physical, social, economic and environmental dimensions of where vulnerability and exposure. MRCS facilitated several Risk Assessment exercises through a participatory process together with key stakeholders from public, private and professional institutions. Different tools and methodologies were applied:

- Regional – Urban Risk Assessment
- Township Disaster Risk Assessment
- Earthquake Risk Assessment and Rapid Visual Assessment
- Participatory Hazard Vulnerability Capacity Assessment (HVCA)
 - Communities
 - Schools
 - Public Health Facilities
 - Factories and hostels



Students from Hlaingthayar are practicing early warning



Regional overview - urban risk in Myanmar

Risks	Frequency
Air pollution and Greenhouse gas emission	100 parts per million (ppm) of dust measured in Yangon air (WHO & DOH). YCDC installed 3 air pollution monitor devices (air quality control machines) (Myanmar Times, 23 Feb 2015)
Communicable and non-communicable diseases	18,000 deaths annually out of 200,000 HIV affected. TB prevalence is 489 per 100,000. 1,000 died of Malaria every year. (CSIS, June 16, 2015). DHF and H1N1 cases are reported annually by DOH.
Crime and Corruption	Crime index of Yangon is 42 and safety index is 58. Corruption and bribery rate as 80%. Safety walking alone during daylight is 77% and night is 47%. ³ Murder rate of Myanmar is 15.2 per 100,000 population and over 7,000 people are murdered annually. Myanmar is listed in top 20-30 countries in corruption perception index 2018.
Violence and Human Right violations	Violence and human right violation is seen into forced labour, human trafficking, child labour, sexual abuse, sex slaves, limited press freedom and violation of human rights by security forces in urban context. About 600,000 children are working in hazardous working areas. 82% of workers work 6 days a week. 1 in 10 children before age 18 will be victim (1 in 7 girls and 1 in 25 boys). Over 500 cases of rape and sexual assault against women and girls are reported in Yangon in 2018. ⁴
Drug abuse	are estimated to pass through the borders of Myanmar every year. Above US\$100 million worth drugs were seized in Yangon in 2016. More than 20 million Methamphetamine pills. ⁵
Electric shocks	3 electric shock cases out of many other cases (1 boy, 1 medical student and 1 YCDC staff) alerted Yangon population to be aware of electric shocks.
Earthquake	Over 53 times of small and medium earthquakes happened in 2018-19 and 3 times happened in Yangon. ⁶
Fire	Over 740 times of fire outbreaks happened in Myanmar in 2019. It killed 79 people and injured 226. Over 100 times of fire outbreaks reported in Yangon Region in 2019. Fire outbreak at Hlaingthayar refuse site called collective actions of volunteers, military forces and fire fighters. Fire at Kandawgyi palace hotel is a popular case. ⁷
Floods	Flood risk assessment conducted for new Yangon city. ⁸ 15 Townships in Yangon region affected by monsoon flesh floods.
High density of population	The population of Yangon is expected to increase to an official figure of 8.6 million in 2030 .The current official population density is 53,615 people per sq km
Industrial incidents	Above 10 times of fire outbreaks happened in industrial zones in Yangon

³ <https://www.numbeo.com/crime/in/Yangon>

⁴ The Irrawaddy, November 2018. See in <https://www.irrawaddy.com/news/burma/600000-children-hazardous-work-myanmar-ilo.html>

⁵ Myanmar Business Today, May 2016.

⁶ <https://earthquaketrack.com/p/myanmar/recent>

⁷ http://www.china.org.cn/world/Off_the_Wire/2020-01/10/content_75600254.htm

⁸ <https://www.nydc.com.mm/wp-content/uploads/2019/07/Flood-Risk-Assessment-Executive-Summary-ENG.pdf>



	(DFS 2018)
Road Accidents	Second highest road accident dead country in SEA. 5,184 traffic related death and 26,741 injuries in Myanmar. 48 traffic accidents every day, killing 14 people and injuring 73 every. 599 deaths and 3,164 injuries from 2,684 accidents in Yangon region. 914 accidents in water festival. (Eleven News, 23 JANUARY 2019). 671 people killed by traffic accidents in 2019 in Yangon. ⁹
Social riots and conflicts	Above 20 times of religious tensions and extreme nationalist movement happened in 2018.
Terrorist attack	Three cases of security and bomb threats reported in 2018
Unsafe food	Myanmar is listed as 71th county in global food security index. (2017). 93.5% of red bean cake used formalin. 27% of barbeque fish in Yangon contained Vibrio bacteria. 75% of sample vegetable from villages and markets had pesticide residue. ¹⁰
Water pollution, Sewage and solid waste	Total waste collection of Yangon is about 3,000 tons/day. 140-150 tons shared recycling. About 300 vehicles used. 75% is organic waste and 10% plastic waste.

Township Risk Assessment

Township Risk Assessment was a participatory process of identifying risks across the focal Township of Hlaingthayay by Township Disaster Management Committee (TDMC) members, MRCS Branch RCVs and community. Key guiding documents included the original Township Disaster Management Planning (TDMP) guideline, Village Development Planning Guidelines, Myanmar NGO Contingency Plan, and National Framework of Building Community Resilience. The Township risk assessment was based on a view of both the technical features of the multiple hazards experienced by the community, the analysis of the physical, social, economic and environment dimensions of vulnerability and exposure, contrasted against overall capacity and particular coping capabilities relevant to the risk scenarios.

Based on the collection and analyzing of information and observational data for meteorological, hydrological, geological, or technological features, along with their past and expected frequency and magnitude pertaining to location, topography, climate, settlement plan, and disaster history of the Township, it TDMC members and community identified the major hazards of Hlaingthayay as: cyclones, flood, storm, fire, earthquake, erosion, and disease, of which flood was ranked as primary due to its five to six month duration across area of the Township and as a co-factor in disease, sanitation, waste management, erosion, damage to infrastructure, and disruption to public services.

⁹ <https://www.globalnewlightofmyanmar.com/671-killed-in-traffic-accidents-in-yangon-region-in-2019/>

¹⁰ The Global News Light of Myanmar, July 2018.



"At the end, they develop the preparedness actions and risk mitigation measures in participatory ways for early warning, trainings, drills, health facilities, school facilities, children, elder people, women, road safety, and community preparedness."

(A participant's feedback in HVCA exercise.)

The Red Cross Hazard Vulnerability and Capacity Assessment (HVCA)

tool is used to assess overall disaster risks in for a community. It is a participatory process involving women, children, elders, youth, and men. Communities assess hazards by history, frequency, intensity, speed, duration and observed patterns. To assess vulnerabilities and capacities, they look at human, social, natural, physical, and economic factors. Also they identify their strengths and resources which enable families to prepare for, cope with, mitigate against or recover from disasters. At the end, they develop contingency plans, preparedness actions, and risk mitigation measures with all sections of the community.



Community members are doing HVCA during the UDRR-YGN Action



UDRR

1. RISK ASSESSMENT
2. AWARENESS
3. PREPAREDNESS
4. EMERGENCY RESPONSE CAPACITY
5. RISK MITIGATION
6. CROSS-CUTTING THEMES

2



AWARENESS

Awareness, knowledge, and understanding of disasters and how to reduce risks are essential to increasing community resilience. Communities aware and better informed. MRCS works with communities and the GoM so that they may be better able to identify and analyse the risk of disaster, and disseminate disaster risk information through local awareness-raising campaigns and contingency planning

Enhancing awareness, knowledge and understanding of disaster risk was can be done through a range of activities and initiatives. At the local level, this can be achieved through initiatives such as, training and workshops, public information sessions, simulation exercises, evacuation drills, and community notice boards, posters, leaflets and other education and communication materials.

||

It is great that the children are also trained so we can work together to share our knowledge to communities and their families"

Female teacher, BEMS 17.

"After practicing drills, I became to know personal safety facts about earthquake, fire and building collapse"

Young female student, BEHS 14.



Students from Hlaingthayar participating in emergency evacuation drills

Simulation exercises and evacuation drills

Simulation and drills are practical exercises that bring together different stakeholders including community members, government and public health officials, civil society, MRCS staff and volunteers, the FSB, schools, , development partners and Stakeholders. These activities focused practical and participatory experience participants have an action and real-life experience. The simulation and drill exercises conducted in the UDRR-Action included children, women, elderly people, the disabled, TMO staff, RCVs, and W/VDMC members for a total of 35,137 people (17,282 females and 17,855 males).

PAPE (Community-based DRR)

Participatory Awareness and Participatory Education is a tool for promoting people's

knowledge and practices for disaster risk. Within the Action, these were conducted in public facilities such as hospitals, clinics and schools and community centres. The total 506 people with 251 females and 255 males from communities, schools and health clinics learned how to identify hazards, overall risk, contingency plans, and longer term mitigation measures. Topics covered included; personal safety; road accidents; Industrial incidents; electric shocks; and natural disasters. An additional 54 signboards about accident awareness and warning were installed on the road sides in Hlaingtharyar Township.

PAPE (Public health)

While cities offer opportunities, jobs, education, and services, urban dwellers in the rapidly developing Townships of Myanmar frequently live in overcrowded informal settlements which lack proper sanitation and a healthy environment. Every year, communities are exposed to such illnesses as diarrhea, dengue fever, malaria and seasonal flu outbreaks. To raise community knowledge on health risks, MRCS provided health awareness sessions together with the GoM Yangon Region Health Department and TMO in Wards, Villages and schools for 506 children and adults (251 females and 255 males). A measles campaign in action by regional and Township authorities to protect children from that diseases by providing immunization that reached above 2,000 children in Hlaingthayar, and 40,000 children across Yangon region.

PAPE (Fire and electrical hazards)

Electrical hazards and electric shocks are common factors in Myanmar and 2 death cases have been reported in recent weeks. Yangon should be aware of electric shocks in all seasons. Electric shocks left various impacts to human health; some affects eyes, some may be left with cataracts, pain, tingling, numbness, and muscle weakening due to internal injuries. PAPE on Electrical Hazards were given to 426 people with 217 females and 209 males.

484 fire outbreaks resulting in losses of K 540.2 million occurred between January to May 2019 as reported by the FSB. In the formal and informal settlements of Hlaingthayar, small scale fire outbreaks occur every day and the FSB is active in both response as well as providing sufficient warning especially during the hot season. To reduce the risk, MRCS in coordination with the FSB, provided PAPE on fire hazard to 249 people (84 females and 165 males). As well as equipment to W/VDMCs, schools, and public health facilities, topics covered included sharing emergency preparedness, protocols and procedures to community members.

PAPE (Environmental sanitation)

Yangon city dwellers dispose of 3,000 tons of domestic waste every day. A fire at one of the large Hlaingthayar disposal site for the Yangon Region resulted in widespread air pollution across the city and a renewed concern over toxic waste management in Hlaingthayar again in 2018. MRCS assisted the FSB, TMO and the GAD in emergency response during to the fire, and continued collaboration throughout the Action on plastic recycling campaigns, celebrating world environment days, and engaging with the YCDC to control and manage waste. MRCS additionally undertook promote community outreach days to clean areas priority areas of Hlaingthayara with a total of 503 community members.





"This training gives me a lot of knowledge. Now I can protect myself and am for practical exercises and trainings to be able to protect others."

(Ma Ah Kyin Nar Cho – One of the students from Hlaingthayar Township)

"After attending this drill exercise and training, I know how to prepare, protect and evacuate when the disaster come. I do not want to die because of the disaster, and my friends and family I want them to have a chance as I got. I wish every school in Yangon get this training."

(One of the students from B.E.H.S Hlaingthayar Township)

"I feel like it is beneficial as they gave us training and not only lecture but also practical exercises how to prepare, how to handle do during and what to do after the disaster. Now I know how and what to do when there comes a disaster. For example, I know I have to collect and prepare food, torch and boots before the flood."

(Teacher form B.E.M.S (17) Hlaingthayar)



A girl who is a member of School Disaster Management Committee



National Earthquake Forum

Myanmar is located on three active earthquake faults, and has experienced three significant earthquakes over the last decade alone. The Tarley/Tarchilate (2012) Thabeikkyin (2014), and Chauk (2017) earthquakes. Earthquakes continue to have the potential to cause casualty events in urban contexts, and Yangon Region itself is proximal to the highly active Sagging fault. In Yangon Region, Preparedness for earthquake events has largely focused on the in the Yangon metropolitan area where population density is high and many old buildings located. Peri-urban areas such as Hlaingthayar however, also face significant risks posed by building construction quality, fire outbreaks, disruption to critical services, and accident and pollution arising from damage to many nearby factories and industrial facilities.

As part of UDRR-YANGON, MRCS worked with other stakeholders to support the 2nd National Earthquake Forum in Yangon, July 2018, for approximately 1,000 people, representing seismologists, emergency service volunteers and professionals, technicians, communities, and regional government and

departments. with. With leadership of the Ministry of Social Welfare, Relief and Resettlement and Yangon Regional Government, this brought together: GoM + ministries and agencies (Health and Sport, Education, Home Affairs, Myanmar Fire Service Brigades, the Yangon City Development Committee, professionals bodies, Myanmar Earthquake Committee, Myanmar Engineering Society, Myanmar Geoscientist Association, non-government (DRRWG, Myanmar Red Cross Society, UNs, I/LNGOs) and other interested stakeholders. The outcomes underlay the urgency of urged the development of Regional Earthquake Contingency Plans and an active preparedness mechanism among stakeholders. MRCS contributed technical and financial support to the forum and has proceeded with its own development of an institutional mass casualty (earthquake) contingency planning process and pre-disaster agreements as part of the UDRR-YANGON and other initiatives.





"I could save lives in the community"

Dedicated school children help peers prepare for disasters in Myanmar

The large courtyard is hot and dusty. More than 500 girls and boys in school uniforms sit in a dozen of classes listening to their teachers. In a separate building, an excited group of pupils with red caps and Red Cross logos are getting ready. It's time for an evacuation drill.

These 30 pupils and five teachers form the disaster management committee at one of the public schools in the Township of Hlaingthayar on the outskirts of Yangon.

They have been trained by the Myanmar Red Cross in disaster risk reduction, first aid and good hygiene. Now they proudly share what they've learnt with their classmates to make sure that others can protect themselves from disasters that may occur.

"I don't want people to lose their lives. I don't want to die, and I don't think no one wants to die," 11-year-old Su Pore Chit explains when asked why she volunteers.

"We believe that students can bring their knowledge to the adults at home. If I share the knowledge to the students, I could save lives in the whole community and even the whole world. That's my reason."



UDRR

1. RISK ASSESSMENT
2. AWARENESS
- 3. PREPAREDNESS**
4. EMERGENCY RESPONSE CAPACITY
5. RISK MITIGATION
6. CROSS-CUTTING THEMES



3

PREPAREDNESS

Preparedness the first step towards disaster resilience. Preparedness enhances community preparation for and to reduce the impacts of disasters. MRCS has been implementing preparedness Regional, Township and Village/Ward levels.

National and Regional Preparedness

National and Regional level preparedness was assisted through the Earthquake Forum (II), 2019 MRCS-GoM DDM monsoon co-ordination workshop, stakeholder with the Yangon Regional DMC and 2-19 Earthquake simulation exercise, a review and drafting of a National MRCS Emergency Communications Guideline, and an associated review and equipment provision to the National (NDMC), and Regional and Yangon MRCS Headquarter, Emergency Operations Centres (EOCs) and Hlaingtharyar Branch. Targeted to population across 21 Yangon Townships were through Regional DMC training, in the metropolitan area. Township level preparedness is also vital to foster effective coordination and connection between communities at sub national level. Most Government departments are represented locally in the Township. Four parliamentarians are constituted in each Township as per constituency where they can support effective risk governance. UDRR-Yangon consolidated the TDMP, TDMC, and Township development plans and institutions.

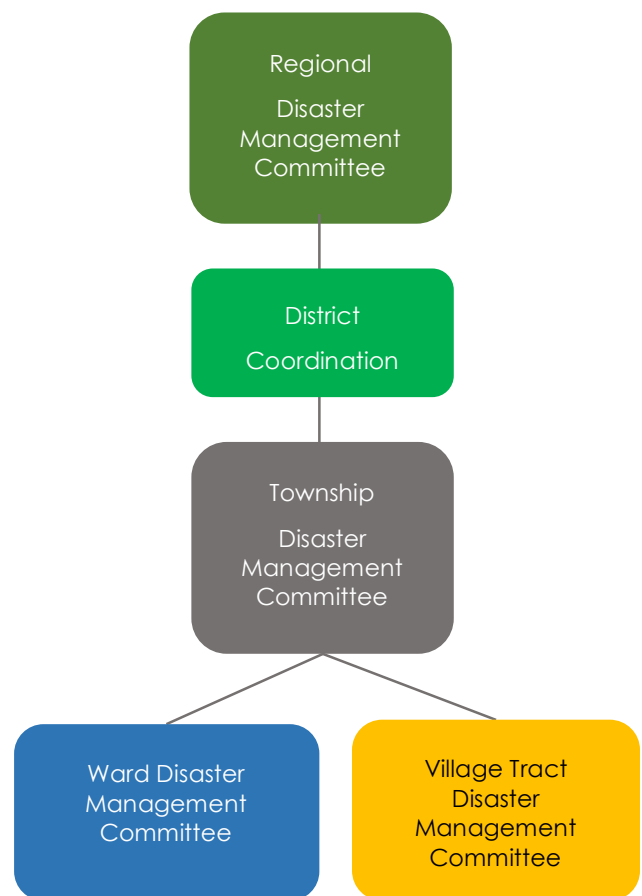


Figure 4 Local Disaster Management System



The second earthquake forum brought seismologists, professionals, technicians, experts and regional government officials to develop the Yangon regional earthquake preparedness plan. MRCS shared their practical experience and contributed technical and financial support in the forum to assist Yangon Regional Government develop a regional earthquake preparedness plan. This experience and ongoing coordination is now contributing to the development of an MRCS's own earthquake contingency plan. Within the project period, MRCS has additionally engaged in the Road Safety Forum by YCDC (2016); COP 21 Climate Forum; Safe City Campaigns by the Gender Empowerment Network; and Regional IDDR days, National Youth DRR initiatives with UNICEF. MRCS contributed further to the Mass Casualty Management Plan for Yangon General Hospital, and continues to work with the Myanmar Engineering Society (MES) and YCDC to seek more opportunities to address UDRR and the safety of informal settlements.

Township Preparedness

There is an institutional system for disaster management in the Myanmar at all administrative levels from national to the local. The Township is the key in Myanmar administrative system as it provides a crucial link between communities and national and sub national level institutions. Four parliamentarians are constituted in each Township as per constituency. Township level preparedness in the UDRR-Yangon included coordination and strengthening of Hlaingtharya TDMC, Township level DMC is the leading disaster preparedness partner with responsibility for risk reduction, response and recovery functions and to support ward and village tract level DMC structures. TDMC of Hlaingthayar Township has a Township level management committee with 34 members from different departments and institutions, development of an integrated TDMP using draft national TDMP guidelines and inclusive of local-level contingency plans for Wards and Villages and facility-based contingency plans for schools, public health facilities, and factories and worker hostels., Further capacity building of key institutions of the TMO, TEO, MRCS Branch, and GAD included practicing Township, community, and facility level drills and simulations, provision of emergency kits and equipment, and establishment of Township level Early Warning Early Action systems.

As part of this integration, UDRR-YGN Action provided basic emergency equipment such as emergency communication devices, generators for emergency electricity supply, fire pumps, fumigators, chainsaws, and EWEA, Emergency Response, and First Aid kits to W/VDMCs and GoM institutions in Hlaingthayar.

List of Township Disaster Management Committees

- Assessment Committee
- Distribution Committee
- Emergency Communication Committee
- Evacuation, Search and Rescue Committee
- Health Committee
- Public Education Committee
- Rehabilitation and Reconstruction Committee
- Relief and Response Committee
- Transportation Committee
- Safety and Security Committee
- Environmental Protection Committee



Community Readiness

Ward and Village Disaster Management Committees (W/VDMC) is a part of community readiness. The formation of W/VDMC consisted of **6 taskforces of (1) early warning, (2) search and rescue, (3) first aid, (4) awareness raising, (5) security and (6) evacuation**. The members of W/VDMC were selected in a democratic way together with community members, elders, youths, women, and local authority. The formation of W/VDMCs strictly followed the guideline of Township Disaster Management Planning provided by GoM. Women are recommended to be participants in W/VDMCs. The members of W/VDMCs received skill and capacity building training by basic disaster management course, basic first aid, basic search and rescue, evacuation, and emergency management.

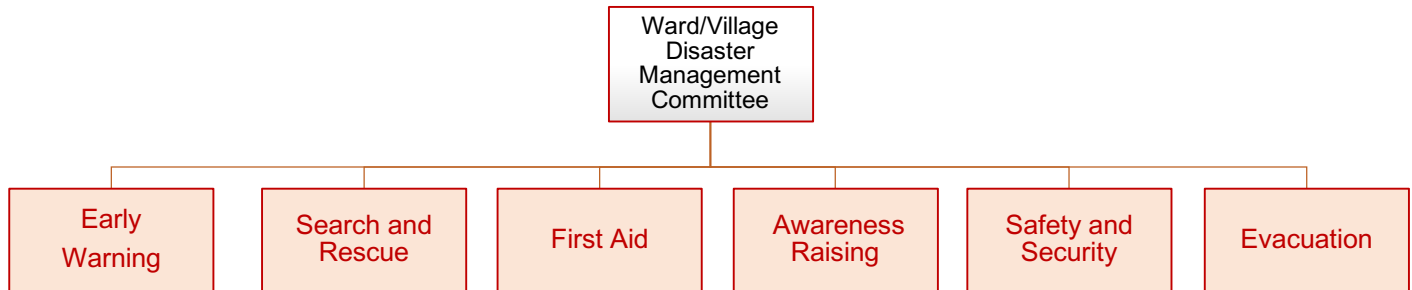


Figure 5 Community Disaster Management System

Roles and Responsibilities of Village/Ward Disaster Management Committee

- Forming disaster management committee and assigning tasks
- Identify the risk of the community
- Develop emergency contingency plans
- Listing the numbers of staff, buildings and materials
- Listing the emergency contacts and security
- Training the committee members and building capacity
- Working with Township GoM for EWEA and emergency response
- Provide assistance and evacuation of vulnerable and injured people to places of safety
- Implementing the community risk reduction and mitigation actions
- Provide the first aid and household first aid kits
- Practice drills

Early warning and Early Action team

- Mobilize team members and provide EWEA training
- Maintain warning kits and supplies
- Receive from GoM, prepare and provide early warning information to communities
- Monitor developing hazards and emergency situation
- Provide disaster risk awareness and education to communities through pamphlets and installing and maintaining billboards

Light Search and Rescue Teams

- Mobilize team members and give the training
- Maintain search and rescue equipment
- Provide search and rescue services in working with local organisations and volunteers

First Aid team

- Mobilize team members and give the training
- Mobilize the first aid kits and emergency supplies
- Practice of first aid kits systematically
- Provide first aid services to disaster affected people
- Follow the triage procedures



- Making the list of injured, damages and losses of lives
- Working together with the Health department

Awareness Raising team

- Mobilize the team members and provide training
- Lead community awareness raising programmes
- Assist in awareness of first aid
- Assist information for safe evacuation
- Promote family preparedness

Safety and Security

- Mobilize the team members and provide training
- Assist family members' reunification process
- Assist in ensuring evacuation site is safe and secured
- Assist qualified practitioners in promoting SGBV awareness to community members
- Identify and ensure evacuation site is accessible to vulnerable people
- Support in practice of evacuation drills



Students from Hlaingthayar are practicing earthquake drill



MRCS Volunteers carrying first aid boxes for simulation

Emergency kits

Emergency Response kits are an essential tool for any emergency situation. The MRCS emergency kits and equipment assist are integrated with Emergency Response Team (ERT) training and assist members. Emergency kits include medical supplies, personal hygiene items, information material, and tools such as flags, high visibility clothing, life jackets, ropes, hoes, spades, etc. ERT kits of different components were provided along with safe storage facilities and structures to W/VDMCs, schools, public health facilities, the TMO, and GAD in Hlaingthayar Township.

Emergency Equipment

Emergency equipment are the tools which require immediately to prevent loss of life, personal injury, severe personal hardship or loss or damage to property. Emergency equipment are used to save your life only in emergency situations. 16 different types of Health emergency equipment were distributed to four hospitals and clinics that are the part of the UDRR program.



Early Warning Early Actions (EWEA)

Early Warning Early Actions is a tool of MRCS to reduce the impact of disaster events in the community by through community-based early warning system. Acting early before disaster can save lives and protect the livelihoods of communities from immediate shocks and during recovery. It focuses on strengthening available forecasting information and planning to make sure a warning is issued and reaches community households. The UDRR-YGN Action undertook EWEA (multiplier) training for 123 RCVS volunteers and W/VDMC members (59 females and 64 males) from across the Yangon Region, including Hlaingtharyar. A further 35 were selected as trainers who received additional ToT and delivered the multiplier trainings across the Region during 2018-2019. EWEA training provided knowledge and practices on risks and warning, weather forecasting and preparation, responding effectively during the emergency, methods for the trainers, and planning. After the EWEA training, associated EWEA kits were distributed to Branch, villages, GAD and W/VDMCs.

"After attending the EWEA training for trainers, I know what behavior that a trainer should have and which teaching methods should be used effectively as a trainer of EWEA. And I felt that I gain a higher level of knowledge than I used to know"

Ma Pan Myat Mon

Chief of Thar Kay Ta Branch



Urban planning of Yangon @ YCDC

Safer roads and Access

Over 1.3 millions of people are killed by accidents round the globe every year. In 2018, WHO estimated that 20 in every 100,000 died in Myanmar. That was the second highest number in the South East Asia. The road and transportation in Hlaingtharyar Township was identified by the community and GoM as a significant risk to personal safety and in the event of emergency evacuation. Additionally, public health centers and schools frequently had limited access during flood events. Safe access is crucial to UDRR. To access safe and clean water at public health facilities and schools. MRCS provided overhead water tanks to health. To improve access during flood events, better MRCS worked with GoM to provide filling sand and rock. For personal safety and mitigating traffic incidents, MRCS engaged in the Regional awareness programmes on road safety conducted by Actionaid and Disaster Management Department.



Integrated Disaster Management Plans

Yangon Regional Disaster Management Plan

The Yangon Region Government is developing Regional Earthquake Preparedness and Response Plan after Earthquake Forum 2018. MRCS is working together for its development with DDM, DRRWG, MES, MEC, MGS, UNDP and other professional institutions with the support of the EU

Township Disaster Management Plan (TDMP)

TDMP is constructed with other Township and community level actions which have been generated by Myanmar Red Cross Society (MRCS) and at community, schools, health facilities and factories. The overall approach to be followed is to review the existing Hlaingthayar Township Disaster Management Plans and it is underlined by inclusive participation of TDMC members. The aim of the approach is to ensure sustainability of the intervention and ownership of the Township Disaster Management Plan (TDMP) by the TDMC and all other concerned stakeholders in the Township. Not only the quality output but also quality processes are emphasized in reviewing and revising of the existing TDMP and TDMC.



A village authority from Hlaingthayar Township



Conducting TDMC meeting in Hlaingthayar Township

Hence, every consultation meeting on reviewing and revising of TDMP are held together with capacity building sessions on DRR with members of TDMC and all other concerned stakeholders. The TDMP process took 6 key steps of Township Coordination Meeting; Formation of TDMP development group; TDMP development workshop; Developing TDMP; and Launching TDMP by conducting table top drill with TDMC members. (TDMP, 2018). A township disaster management committee plan meeting was held with

Village/Ward Disaster Management Plan

The W/VDMC has a primary role to develop the village and ward disaster management plan or contingency plan. The plan includes small scale risk mitigation actions through

participatory vulnerability and capacity assessment. Each community/ward/village has a contingency Plan for scenarios of earthquake, flood, fire and domestic violence. The contingency plan consists basic information of community profile, disaster risks, preparedness actions, emergency protocols, Evacuation procedures, and emergency contact of Township disaster management committee members. These contingency plans are linked with health facility contingency plans and school facility contingency plans. The W/VDMCs members have practiced in case of fire fighting and early warning. The contingency plans were distributed to W/VDMCs members to be able to maintain their roles in any emergency situation.



Contingency plan of a Health Facilities



Contingency plans of health facilities or clinics is a written procedure to provide emergency health care services in the time of emergency. It is an essential part of community resilience through having a readiness position for mass casualty management. It can save lives through having a safe health facility, system, and appropriate human capacity. It is linked with ward/village contingency plans, school contingency plans and Township disaster management plans. The plan was developed together with community members, health staff, and project staff. Community profile, health records, medical supplies, warning, evacuation preparedness and emergency contact are included. The set of emergency protocols for fire, earthquake, damaged building, mass casualty, handling GBV case, and evacuation.

Contingency Plans of Schools

School safety means that students and teachers in each school are learning and teaching peacefully and the procedures are focused on guiding how to respond according to the safety code of the buildings. In other words, having a security system in each school. Education Minister of Myanmar has determined that up to 50 to 60 % of schools have high status risk. Students spend more than 60% of their time at school. School safety and a secure environment is

important for the students and teachers. Safety equipment is also very important for the safety of the school. School is one of the most important and effective institutions which is not only the centre of education but play a multi-purpose role. Schools and educational institutions are the safe place for taking shelter during any disaster, especially during flood and cyclone. Teachers play a significant role to social-cultural construction of the community and community people receive a lot of information through their schoolchildren.

But there are more things that can be done to increase the safety of schools: introduce practical issues of disaster preparedness in the curriculum, skill training on disaster response and preparedness in the teachers' training system, resource mobilization for schools' preparedness or participation of the community and civil society in the school safety programme. Schools must have; (1) a safe learning facility (2) Resilient Education (3) School Disaster Management. The school contingency plan is connected with community and health facility contingency plan. It has 8 chapters for emergency evacuation. Students, teachers, and community members included in SBDRR, SDMC and school contingency development planning process. (ASEAN School Safety Framework, 2015)

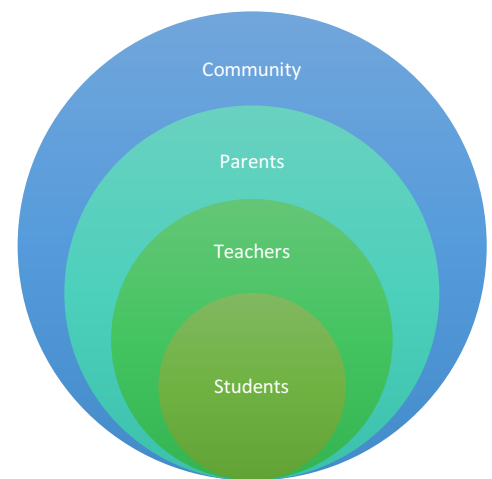


Figure 6 Scope of school disaster management



Contingency plan of a Factory and a hostel

Supporting safer industry is an important part of the UDRR-model. Enhancing the protection and safety policies of the factories and hostels promotes a safe working environment and protecting workers from hazards that could cause injuries. As part of industrial safety, the UDRR-Yangon developed a safety and contingency plan. The contingency plan of Sweet Home factory and hostel was developed in coordination with YCDC, Industrial Management Committee and TDMC members. Series and sets of protocols have been put in the safety plan which cover fire outbreak, earthquake, building collapse, mass casualty, violence and bad weather conditions.



Figure 8 A sample map of evacuation route

Family Preparedness Checklist

- ☐ Hazard and weather information
- ☐ Important Family documents
- ☐ Evacuation plan
- ☐ Emergency and required medicines
- ☐ Food and water
- ☐ Clothes and blankets
- ☐ Batteries and torches
- ☐ Make the house stronger
- ☐ Move livestock
- ☐ Family reunification plan

Evacuation procedures

- Prepare to evacuate
- Tell the evacuation route
- Tell the assembly point
- Evacuate as per route
- Warn to follow safe evacuation by pairs
- Protect the head from harm
- Assist vulnerable people
- Assembly at point and count heads
- Esnure safety of assembly site
- Make the list of damage, losses and injuries
- Assist family reunification



Emergency communication and information system built at Yangon Western District Level

Communication is vital in an emergency. It conveys critical information about developing hazards, hazard impacts, affected populations and regions, and assists in co-ordination of response and recovery efforts. But emergency communication systems, especially hardware can also be affected by hazard impacts and may not be able to function or resume immediately, undermining the capacity of local authorities to communicate with Regional and Union level institutions. Due to the need for integrated and coordination emergency communications, within the UDRR-YGN Action, MRCS assessed available and supported emergency communication and information systems at local Township, MRCS Yangon Region Headquarters, and both the Yangon Region and National Nay Pyi Taw Emergency Operation Centres (EOC) in co-ordination with the Department of Disaster Management and international technicians. The results included the installation of HF-SSB long-range to VHF short-range communication stations, batteries and solar panels, and Township level communication equipment in line with EWEA capacity building. The Draft MRCS National Emergency Communication Guideline produced as in conjunction with this process. This process has identified a number of outstanding further recommendations from the National to Township level.



UDRR


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5. MITIGATION
6. CROSS-CUTTING THEMES



4

EMERGENCY RESPONSE CAPACITY

Long response times can result in higher levels of damage and loss. Developing effective emergency response capacity was a core component of the wider UDRR Action across 21 MRCS Yangon Region Township Branches and Headquarters. MRCS enhances emergency response training through building knowledge, skills and practices. The training and associated equipment and safe storage provision provided by MRCS included amongst others, Emergency Response Team, Basic First Aid – Community and Instructor Training (BFA) Community-DRR, Light Search and Rescue, and Epidemic Control. These were at the Regional and Township level in co-ordination with local RCVs, Military Force, Community Volunteers, Police Force, Fire Service Brigades, and Health and Education Staff



MRCS volunteers are cleaning the rubbish



First Aid Training

Basic first aid methods save people's lives in any incidents as the first two hours is critically important to provide lifesaving treatment. The MRCS First Aid Department in coordination with Township Medical Office provided four different types of first aid trainings, from Basic to Instructor (ToT) level, to 800 school children, community members and volunteers. The training includes how to do diagnosis, stabilize, and assist with bone fractures, unconsciousness, burns, poisoning, shock, open wounds, blood loss, 7 steps of cardiopulmonary resuscitation (CPR), animal bites, handling transport of patients, and maintenance of first aid kits.

Emergency Response Team

Emergency Response Team (ERT) are a core group of RCVs who are trained and equipped with the necessary skills to prepare for and respond to emergency incidents. Specialized skills for ERT include evacuating, firefighting technique, first aid, search and rescue, early warning and early action within the action of ERT training was provided by MRCS and FSB Master Trainers a total of 59 RCVs across Yangon Region with a focus on Hlaingtharyar.

Search and Rescue Training

In Myanmar, search and rescue is performed by well-trained FSB and military specialists. Without such training, it is inappropriate and frequently dangerous to attempt rescue operations unless circumstances make it unavoidable. Recognising this, MRCS has an established Light Search and Rescue training and equipment approach that impossible to attempt saving life. Light search and rescue training was given to 2 females and 28 males in Hlaingthayar Township. fire, police department and civilian volunteers.

Early Warning Early Action Training

Four Early Warning Early Action Multiplier Trainings took place with the purpose of equipping the participants to increase awareness and warning, and and respond effectively to risks in the communities MRCS provided training and equipment to 123 participants across the Yangon Region, gained knowledge of disasters, familiarisation and application of weather forecasting and geological hazards , the development and dissemination of warning messages to communities, simulation exercises and practical drills to enact early warning and early action.

Epidemic Control Trainings

Four Epidemic Control trainings were undertaken across the Yangon Region by MRCS Health Department and Township Medical during the Action, for a total 120 participants (54M, 66FM). The purpose of the training is to increase knowledge and assist management of disease outbreaks through participatory RCV and community action. The participants gained knowledge of water borne diseases, dengue, Diarrhea, Seasonal Flus, Yellow Fever, TB, Polio, Measles, Typhoid and risks of worms. The participants were selected trainers, those who have capacity to extend, Red Cross volunteers, and project staff in Hlaingthayar. The training was extended to community level and their households. The knowledge was applied in co-ordination with the provision of fumigators and safe storage to the Hlaingtharyar TMO, for the extended 2018 and 2019 dengue fever season that incorporated community actions such as home and school sanitation, safe water storage and filtering, and continued advocacy with the GAD and YCDC for improved community water storage and distribution facilities.



A Training Beyond Theory...

Sein Sein Moe is one of the trainees of First Aid Training from one of the project school in Hlaingthayar. She delighted about what could she learn from the training and testified that "I have never experienced with such kind of life saving activity. The training meant to me was not only the concept but also lifted my confidence on doing CPR and other basic lifesaving practices of how to provide effective first aid to such cases like drawn, broken, burnt and injured."

"The training meant to me was not only the concept but also lifted my confidence on doing CPR and other basic lifesaving practices..."

"I am ready for the epidemic case..."

Ei Ei Htet Han is a female volunteer who received the epidemic control training as TOT level. She is studying as a final student in Biological-chemistry Major in Hlaingthayar University. She has a passion to do social work when she is free from school and university. She is doing a volunteer job in a remote clinic where she lived. She is finished first aid training TOT from MRCS and she enjoy MRCS volunteer life.

"this training was full of interesting topics and really useful to volunteers and I loved all.

*I learnt type of diseases, systematic controlled measures,
diseases symptoms, prevention methods, curative methods,
and case management procedures.*

Now I am ready for the epidemic case to fight against it".



Students are practicing first aid lessons



UDRR

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5

MITIGATION



Environmental sanitation

Sandbags are a common but temporary measure used to protect buildings, homes, and makeshift shelters during the floods that plague the Hlaingtharyar Township often several times a year during the rainy season from July to October. Local volunteers trained by the Myanmar Red Cross have supported exposed and vulnerable households in trying to protect their possessions. Importantly, during the Action, MRCS RCVs promoted environmental hygiene awareness and sanitation to the community through physical demonstration and mass cleaning works. Red Cross volunteer team were dispatched weekly to clean up littered and overgrown drainage canals to improve water flow. At the same time, they help to hinder the spread of diseases caused by stagnant water and poor hygiene. An important part of the project is also to spread information and train residents in good waste management and hygiene practices. Ultimately, the aim is to provide a safer and cleaner environment for everyone to live in and MRCS continues to advocate and work with the YCDC and other GoM Agencies.



Street lighting

Hlaingthayar Township is known as a major area for urban crime and human trafficking. Communities state that women and children are mostly unsafe at night time on street and public areas. Domestic and factory workers in particular are mostly young women who go back home late every day. With no functional street lighting, there are risks for families, vulnerable groups, and in the case of medical emergency. To address this situation but in recognition that to be sustainable such infrastructure is the responsibility of such GoM agencies such as the YCDC and EPC, MRCS supported one community street lighting project as an example of a simple and approach that could assist in the improving general neighborhood safety.





Small-scale infrastructure

Resilient infrastructure is the responsibility of the GoM. In responding to direct community risk assessment and requests, one component of UDRR approaches to reduce immediate physical risks is the construction of small-scale infrastructure and provision and safe storage of appropriate emergency and DRR equipment with local development funds and constituency budgets. Here, communities receive a small allocation of the funds and various projects were prioritized as joint-community contributions. In consultation with 4 communities, 21 schools and 4 health centres, MRCS identified and implemented renovation of 7 community facilities; 18 small box culverts; safe access; renovating roads for safer access to health facilities, schools, and evacuation routes; provision of five emergency generators; provision of 700 of cleaning kits; constructing three community water tanks and eight garbage tanks; constructing drainages; repairing two water gates; distribution of 46 garbage trolleys installing 5 projects of wiring for street lights.



Access to safe water: Village and Ward contingency plans identified that access to water as priority issues to put water containers and storages in public facilities of clinics and schools. MRCS provided 3 water tanks in 3 health centres and 3 water tanks for schools to access clean and safe water supply.



UDRR

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6

CROSS-CUTTING THEMES

Inclusiveness

MRCs believe that people have power to make change in DRR. Different people contribute different experiences, talents and skills. Inclusiveness and participatory approaches lead them into collective analysis, contribution, and sustainability. MRCs sought to implement the UDRR-YGN Action project through an inclusive approach to risk assessment, Activity planning and implementation, and a first formal Community Engagement and Accountability (CEA) initiative, that prioritized, women, the elderly, people with Disabilities, and the young.

Valuing Older People's contributions

If the proportion of older people in the community is high compared to other groups, it means a greater proportion of the total population is threatened by a natural disaster. Because elderly people generally have a lack of physical strength, and as pensioners or unemployed persons are likely to lack of money to recover from disaster if their houses and assets are damaged. Apart from lack of strength and financial resources among the elderly, it also means that fewer young people are available in the village to assist the whole community (and especially the elderly) to cope with the negative impact of a disaster, i.e preparation just before disaster strikes, immediate recovery, and longer-term recovery.

Inclusion of Gender Responsive

The role of women and girls is active promoted within the HVCA risk assessment, CEA, and Awareness raising programmes. The Awareness sessions during the Action included how women's strengths and capacities can be utilized to benefit the whole community, as well as capacity building training to build skills and confidence to lead the



disaster preparedness process. It is still acknowledged by MRCS that the voices and needs of women and girls are limited in society due to differences of socio-cultural norms. MRCS additionally undertook gender included DRR workshops, specific SGBV workshops with † TDMC, application of gender data analysis, and coordination with GoM and non-government agencies active on gender and protection at the Township level.

Inclusion of Children

Conventional DRR recognizes that children as more vulnerable to disasters than other ages, but MRCS believes that children are agents of change for DRR. MRCS promotes direct engagement of children and young people in schools and communities as well as by working with adults - including school teachers, Parent Teacher Associations and community leaders to recognize the value of children that can bring to DRR efforts and wider community development. Children could explore their abilities and capacities by engaging in awareness programmes, School Based Disaster Risk Reduction Training, School Disaster Management Committee and Contingency Planning process. Within many communities within Myanmar, and especially in areas of rural-urban migration and uncertain employment, children can assist in communicating risk knowledge to their households who are otherwise too busy to attend formal activities.



Social Protection

MRCS made reference of Myanmar National Social Protection Strategic Plan (2014) that covered all ages to provide social security and well beings in the time of crises. MRCS conducted Gender in DRR workshop to ensure that Township Disaster Management Planning and stakeholder coordination to include gender response services to GBV survivors as Hlaingthayar is top hotspot of urban violence and trafficking issues.

Evidence-based risk assessment

Effective and sustainable Urban Disaster Risk Reduction Planning needs to consult, collect, and incorporate information from communities, governments, and reliable secondary sources data for hazards, demographic, economic and legal. With the community, MRCS as described, gathered data and opinions through initial risk assessment, ongoing planning ad coordination meetings with W/VDMCs and School and Township DMCS, the CEA process, and final evaluation. The primary and secondary data from Township, Regional and National GoM Departments was collected and used to analyse background, context, and potential future planning objectives. MRCS further commissioned agencies such as MES, MDN, YCDC to get proper technical data and to contribute to more effective activities and service provision



Advocacy and Networking

Advocacy in UDRR-Yangon is about encouraging people to make changes, whether in policy, practice, systems or structures. For UDRR-Yangon this improves conditions for vulnerable people to speak for others, working with others and supporting others to speak for themselves, and the engagement and accountability of GoM agencies. Prior to the Action proposal for UDRR-Yangon, MRCS conducted different advocacy meetings with at levels that included Yangon Regional Government, Industrial Zone Committee, Education Department, Health Department and sub-national institutions.¹¹ . Addressing overall disaster risk cannot be done by one agency. Information sharing, collaboration and cooperation amongst and between key governmental stakeholders was by necessity and design a key component of the Action. This recognized that there are multiple of institutions who are collectively formally and informally responsible at the local level for such areas as public awareness, environmental and waste campaigns, protection of children, disabled, women, elderly and youth. These included youth groups, constituted V/WDMC, SDMC, and TDMCs, YCDC, GAD, FSB, TMO, TEO, Regional Health Department, trained staff and volunteers and women and elderly people groups.

At a wider level, coordination with the National and Yangon Regional Government, Myanmar Engineering Society, Myanmar Earthquake Committee, and Myanmar Geo-Scientist Association remained a priority, alongside developing further relations with Disaster Risk Reduction Working Group (DRRWG), Disaster Preparedness and Response in Education (DPRE), Humanitarian Coordination Team (HCT) As enabled by the ECHO Action, MRCS has created and coordinated with a number of city campaigns on IDDR day, World Environment Day, Children Day, Road Safety Forum, Post COP 21 forum prospects and challenges, Safe City Campaigns with Gender Networks, celebration of IDDR days with DDM and DRRWG, helped with the Mass Casualty Management system for Yangon General Hospital (YGH), and sponsored the 2nd National Earthquake Forum. Community field day is a Township level event that encourages people to mobilize their resources to clean their environment.

Community Engagement and Accountability (CEA)

MRCS in coordination with the IFRC and consultant undertook the first formal Community Engagement and Accountability (CEA) project for the MRCS DM Department as part of the UDRR-YGN. This included initial consultation and assessment, sharing workshops on community learning and participatory monitoring, and formal reporting. This was aimed to increase the community contributions and feedback to UDRR related initiatives or mitigation projects including financial, materials, technical and human resources, to foster two-way accountability and increase community ownership and sustainability. MRCS introduced and adhered to the four Community Engagement Approaches which are:

- Commitment 1: We will involve communities in our activities, incorporating their views into project decisions.
- Commitment 2: We will share information with communities on who we are and what we are doing, in a way they will understand.
- Commitment 3: We will ensure communities can complain and provide comments and that we act and respond to their concerns.
- Commitment 4: We will ask community members about their opinions and we will use this information to measure progress and inform projects.

¹¹ https://www.ifrc.org/Global/Publications/disasters/reducing_risks/DRR-advocacy-guide.pdf



Challenges

Changes to political and economic context

Changing municipal council members and the mayoral election was a critical time for the project. Economic growth slowed down getting slow yet the industrial zones around Hlaingtharyar continued to grow and exert influence. The prior reported fire on the Townships otherwise committed MRCS, FSB, GAD and other Action stakeholders during and resulted in longer-term changes to Township Authorities with whom significant time had been devoted to relationship building. Yangon regional government, Regional DDM, Regional Health Department, Regional Education Department and DRR stakeholders are interested to collaborate and coordinate regarding the development of regional earthquake preparedness plans after earthquake forum one and two. MRCS continues to worked closely with YCDC and Regional Government to promote public awareness and the development of an integrated UDRR mode

On-going hazards

Dry season caused ongoing water shortage problems for domestic use across Hlaingtharyar as other Townships. Fire outbreaks were an additional hazard on most of the days of the dry season, with unusual 2-3 incidents. During the Action period, a total of five larger outbreaks occurred in Hlaingtharyar. Local MRCS Branch provided emergency services timely. Pre monsoon weather brought higher precipitation, storms, and strong winds, including localized across Townships, and twisters. The monsoons caused heavy rain, several depressions in the Bay of Bengal, lighting strikes, electric shock incidents, increased road incidents, widespread flooding – including the local MRCS Branch for several months during 2018.

As an ancient and crowded city close to an active seismic fault, earthquake risk is very high for old Yangon buildings (downtown) and in the east part of Yangon where the ground is formed of sand and mud, including Hlaingtharyar. Along with crime, trafficking, and diseases such as high incidence of dengue and a measles outbreak in 2018, addressing and allowing for these ongoing hazards were an inevitable part of both Action planning and implementation. This included delays as MRCS and GoM were called for response duties and necessary priorities, but also incorporation the TDMP, W/DCMPS, and facility-based Contingency Plans, training and equipment provision, and small-scale mitigation measures covering emergency response and early warning and early action kits, fire pumps, water storage, waste collection, public awareness and WASH activities.

Personal security

In urban areas, the safety and security of participants and and project staff should be a priority. As well as the prior reported level of crime, during the Actions, as the highest: 2-3 cases of theft and/or physical abuse were ported daily during the Action, and MRCS project staff were also subject to the loss of personal belongings bags and mobile phones. To address this issues, MRCS provided insurance, arranged for RCVS and staff to travel in pairs, designated the use of assigned taxis, and decided the tasks as per given gender suitability.



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