Public health emergencies workforce

CYCLONE NARGIS 2008 – HUMAN RESOURCING INSIGHTS FROM WITHIN THE MYANMAR RED CROSS

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CONTENTS

LIST OF TABLES

ACRONYMS

2IC	Second-in-Command
AI	avian influenza
CBDM	Community-based Disaster Management
CBDP	community-based disaster preparedness
CBFA	Community-based first aid
CBHFA	Community-based health and first aid
CC	Central Council
CEC	Central Executive Committee
DART	disaster assessment and response training/team
DP/DR	Disaster Preparedness and Response
ERU	Emergency Response Unit
FACT	Field Assessment and Coordination Team
HRH	human resources for health
ICRC	International Committee of the Red Cross
ID	institutional development
IFRC	International Federation of Red Cross and Red Crescent Societies
MRCS	Myanmar Red Cross Society
NGO	non-government organisation
NHQ	National Headquarters
PHE	public health emergency
PONJA	Post-Nargis Joint Assessment
PSP	psychosocial support program
RC	Red Cross
RCV	Red Cross volunteer
RDRT	Regional Disaster Response Team
TB	tuberculosis
UN	United Nations
UNDP	United Nations Development Program
UNICEF	United Nations Children's Fund
UNOCHA	UN Office for the Coordination of Humanitarian Affairs
USD	United States Dollar
WHO	World Health Organization
WHOSIS	World Health Organization Statistical Information System

A note about the use of acronyms in this publication

Acronyms are used in both the singular and the plural, e.g. NGO (singular) and NGOs (plural).

Acronyms are also used throughout the references and citations to shorten some organisations with long names.

ABSTRACT

In 2008 Myanmar (Burma) was struck by a deadly large-scale cyclone. One hundred and forty thousand people died or remained missing, and over 2.4 million people were affected by displacement and impacts on lives and livelihoods. The focus of humanitarian interventions is often on those resources brought in by external agencies – the United Nations (UN) and international non-government organisations (NGOs).

This case study demonstrates that the success or failure of humanitarian operations in a large-scale public health emergency is significantly dependent on the quality of in-country staff, prior training, timely deployment, availability of a standby-workforce, and the organisation's surge capacity.

Building on such experience focuses attention on the need for operational adaptations, including the strengthening of capacities of existing staff within local organisations and systems, as well as working with, and through, local and international partners and government where appropriate.

The learning gained from prior emergencies should contribute to contingency planning for the next crisis or public health emergency.

This case study demonstrates that the **success or failure of humanitarian operations in a large-scale public health emergency is significantly dependent on the quality of in-country staff, prior training, timely deployment, availability of a standby-workforce, and the organisation's surge capacity.**

INTRODUCTION

Myanmar (Burma) is currently undergoing significant political changes and challenges. Following the general election in Myanmar on 7 November 2010, a new central government, state and regional governments were officially put in place in March and April 2011.

The World Bank's Vice-President for East Asia and the Pacific Region, Pamela Cox, said during a press conference to open their office on August 1, 2012 in Yangon (Rangoon) that "*[Myanmar] is engaged in a triple transition. It is moving away from a military-style of government to something more open and democratic, it is establishing peace over conflict and an open market economy is replacing a closed one*". At the time of cyclone Nargis in 2008 the military government was still very much in control.

Cyclone Nargis was the most deadly natural disaster in the recorded history of Myanmar. The cyclone struck the country on 2nd and 3rd May 2008 with winds of up to 200 kilometres per hour (kph), sweeping through the Ayeyarwaddy delta region and the country's main city and former capital, Yangon, in which 25% of the nation live.

According to official figures, Cyclone Nargis left almost 140,000 people dead and missing in the delta. An estimated 2.4 million people lost, partially or completely, their homes, livelihoods and community structures [TCG 2008a, p. 1].

Cyclone Nargis had a severe impact on the health system and its capacity to deliver essential services, with the destruction of 75% of health facilities in the affected townships [TCG 2008b]. Almost all destroyed facilities were primary health facilities, including station hospitals, rural health centres and sub-centres. While the economic impact and physical damage to these facilities may not have been as large as that to some of the affected hospitals, it had an adverse impact on the access of the rural population to health services.

At the same time as the cyclone led to increased needs for health care, it also undermined the availability of services and decreased the ability of families to pay for treatment, in particular in the 11 most severely affected townships.

Among the most commonly reported illnesses were non-specific colds, fever and diarrhoea (39%, 37%, and 34% of attendances respectively). Injuries ranked surprisingly low at 8 percent of attendances.

Inadequate human resource capacity, combined with competing priorities for a limited pool of skilled workers was a major constraint for the humanitarian agencies seeking to respond promptly to the consequences of the disaster.

Some households, (23%) reported mental health problems related to the cyclone among household members; with large variations across townships ranging from 6% to 51% [TCG 2008b, p. 8].

Accessing drinking water was a serious problem in the affected region. The main source of water for rural communities in the delta is rainwater harvested by households in large earthen pots, or stored in village ponds and wells. There were more than 5,000 ponds in the affected villages, many of which were inundated during the storm surge and flooding, leaving them saline and unusable.

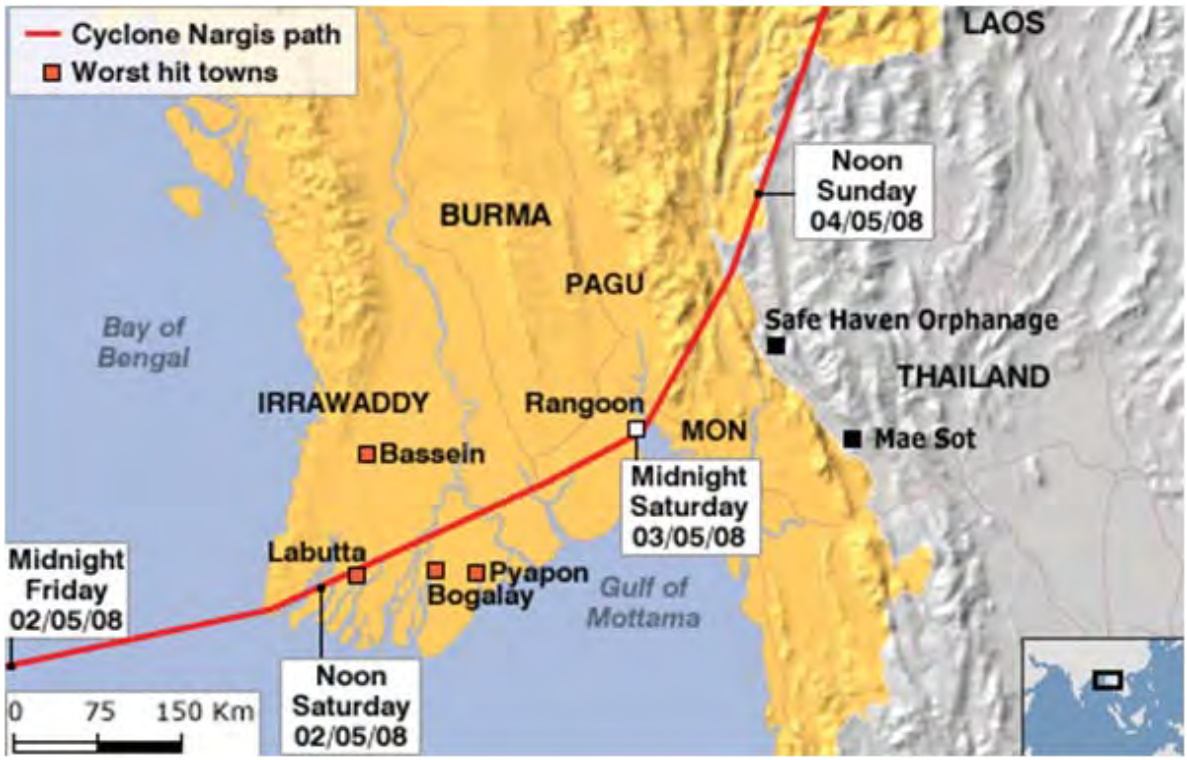
According to the Post-Nargis Joint Assessment (PONJA*) in June 2008, more than 2,000 ponds were damaged and much of the household-level rainwater harvesting capacity was destroyed together with their houses. Of the 790,000 houses in the affected areas, 57% were totally destroyed, 25% partially damaged, and 16% slightly damaged. Only 2% remained untouched by the cyclone [TCG 2008a, p. 43].

Inadequate human resource capacity, combined with competing priorities for a limited pool of skilled workers was a major constraint for the humanitarian agencies seeking to respond promptly to the consequences of the disaster.

The Myanmar Red Cross Society (MRCS) was somewhat less affected compared to other organisations because of its foundation as a nation-wide volunteer network with a pool of trained and experienced volunteers in disaster management. The

* PONJA: Post-Nargis Joint Assessment http://www.mm.undp.org/UNDP_Publication_PDF/PONJA%20full_report.pdf

MAP 1. CYCLONE NARGIS ROUTE



Source: www.earthoria.com/cyclone-nargis

Red Cross was also in a position to receive significant support from International Red Cross Movement partners with whom it shared the same philosophy.

Around 300 local Red Cross volunteers – most of whom were also affected by the Cyclone – initiated first aid and provided support to displaced communities shortly after the cyclone had passed. At the height of the operation, more than 2,000 Red Cross volunteers were involved in the delivery of assistance. This included approximately 300 additional volunteers from Kachin, Mon and Shan states who had been trained for and were experienced in disaster response.

Relief workers were rapidly deployed to the cyclone-affected areas within the first month of the operation, to work alongside local Red Cross volunteers who lived in the affected areas [IFRC 2009, p. 23].

The Red Cross volunteers, in particular, were recognised for the immediate response on the ground from day one, while international humanitarian workers waited several weeks for visas and permission to travel to the disaster-affected areas. Guiding principles on carrying out aid and assistance activities were issued for the international humanitarian community, by the Myanmar Government on 10 June 2008.

Surge capacity is the ability of agencies to scale up their programs in response to needs particularly in sudden onset high impact disasters. The Red Cross' timely response and surge capacity in the aftermath of Cyclone Nargis was well recognised and humanitarian actors in Myanmar were recommended to work with the Myanmar Red Cross volunteer network wherever possible, and without hindering its own response efforts [ALNAP 2008, p. 2].

The Red Cross volunteer networks include people in local communities with strong local knowledge and system contexts. A key insight from the case study is that it is crucial for agencies to build on, and add value to, existing local networks rather than to establish parallel, and at times, competing response systems.

COUNTRY CONTEXT

Myanmar, officially the Republic of Union of Myanmar, is a southeast Asian country which shares borders with India, Bangladesh, China, Laos, and Thailand. It is the second-largest country in the region after Indonesia.

Myanmar was ranked 132 among 179 countries in the UNDP's 2008 Human Development Index [UNDP 2008] . Table 1 (below) shows available demographic, socioeconomic and health indicators of the country approximately when the cyclone struck.

TABLE 1. DEMOGRAPHIC, SOCIOECONOMIC AND HEALTH INDICATORS OF MYANMAR, 2007-10

Population Indicators		**Year**
Total population (millions)	50	2009
% Population under 15 years	27	2009
% Population over 60 years	8	2009
Total fertility rate (per woman)	2.3	2009
% Population living in urban areas	33	2009
Socioeconomic Indicators		
Proportion of employed people living on <$1 (PPP int. $) a day (%)	31.1	2005
Literacy rate, adult total (% of people ages 15 and above)	91.9	2008
Health Outcome Indicators		
Life expectancy at birth (years)	64	2009
Maternal mortality ratio (per 100,000 live births) - Interagency estimates	240	2008
Neonatal mortality rate (per 1,000 live births)	32	2010
Infant mortality rate (per 1,000 live births)	50	2010
Under-5 mortality rate (per 1,000 live births)	66	2010
Health Financing Indicators		
Health expenditure, total (% of GDP)	2	2008
Expenditure on health as a % of total government expenditure	0.7	2008
Government expenditure on health as a % of total expenditure on health	8.8	2008
Private expenditure on health as a % of total expenditure on health	91.2	2008
Out-of-pocket expenditure as a percentage of private expenditure on health	95.5	2008
Human Resource for Health		
Physicians density (per 10,000 population)	4.57	2008
Dentistry personnel density (per 10,000 population)	0.49	2008
Nursing and midwifery personnel density (per 10,000 population)	8	2008
Community health workers density (per 10,000 population)	0.63	2008
Density of environment and public health workers (per 10,000 population)	0.39	2008
Health Service Indicators		
Measles (MCV) immunisation coverage among 1-year-olds (%)	82	2008
Hospital beds (per 10,000 population)	6	2006
Births attended by skilled health personnel (%)	36.9	2007
Antenatal care coverage - at least one visit (%)	80	2007

Source: WHO Statistical Information System (WHOSIS) http://www.who.int/whosis/en/

HISTORY OF DISASTERS AND THE ROLE OF THE MYANMAR RED CROSS

Disasters in Myanmar

The risk of natural disasters in Myanmar varies from moderate to high across the country. Historical data indicates that between 1996 and 2005, urban fires constituted about 70% of disaster events, followed by floods (11%), storms (10%) and others (9%) including earthquakes, tsunamis and landslides.

Between 1910 and 2000, there were at least 14 major windstorms, 6 earthquakes, and 12 major floods. More recent disasters included the Boxing Day Tsunami in 2004, landslides in the mountainous region in 2005, and Cyclone Mala in 2006 [TCG 2008b, p. 3].

However, Cyclone Nargis in 2008 was by far the most devastating natural disaster in the country's history, and brought to the fore the extreme vulnerability, in particular of the country's coastal regions, to such low-frequency but high-impact natural disasters.

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Role of Myanmar Red Cross Society

The Myanmar Red Cross Society (MRCS) recognises its role as auxiliary to the government in humanitarian services and is widely recognised as working close to the Ministry of Health in the areas of primary health care, health promotion and education. In respect of disaster management, the MRCS' mandate is recognised through Myanmar Government's natural disaster contingency plan. This was updated and issued in 2009, and widely known as Standing Order on Natural Disaster Management in Myanmar [GoM 2009].

The MRCS is a member of two national level committees on Disaster Management, and contributes to the Contingency Plan of the Humanitarian Country Team and the Myanmar Action Plan in Disaster Risk Reduction. The MRCS works closely with the Ministry of Social Welfare, Relief and Resettlement, and the Department of Meteorology and Hydrology in areas of disaster management and risk reduction [MRCS 2010, p. 8]. The MRCS is also a member of the Health Subcommittee of the National Disaster Management Committee.

The basic structure of the national health care system in Myanmar lies at the township level where 70% of the total population resides. The township health system in Myanmar is regarded as a means to promote an equitable, efficient and effective health system based on the principles of primary health care [MoH 2011]. In line with the national health system, the MRCS main operations occur at the township level.

At the present time, the MRCS runs its programs and projects in four key areas: disaster management, community health and care, organisational development, and dissemination of humanitarian values and principles [MRCS 2010, p. 10]. It receives financial and technical assistance from the International Federation of Red Cross and Red Crescent Societies (IFRC), the International Committee of the Red Cross (ICRC), and sister Red Cross and Red Crescent Societies.

Key training programs of the MRCS focus on disaster management, community health and care, community-based health and first aid (CBHFA), community-based disaster preparedness (CBDP) and disaster assessment and response training (DART).

MRCS structure, organisation and membership

The MRCS is one of a wide range of national Red Cross Societies recognised by the ICRC in 1939. It became a member of the IFRC in 1946. The legal basis for the National Society is the 1959 "Burma Red Cross Act" which was amended in 1971, 1988 and in 1998 to take account of administrative and political changes during the era of Burma Socialist Program Party (1962-1988), State Law and Order Restoration Council (1988-1997) and State Peace and Development Council (1997-2010). In 1988 the National Society was renamed "Myanmar Red Cross Society".

The General Assembly is the highest governing body of MRCS and meets every 4 years. The Central Council (CC) presides between sessions of the General Assembly and meets every 6 months. The CC appoints the MRCS President and ten Central Executive Committee (CEC) members to implement the MRCS statutory mandates [MRCS 2007]. The Executive Director is head of management and accountable to the President and CEC.

MRCS has supervisory committees at the state/regional and districts levels and executive committees at the townships level. The MRCS's main operational level is the Township, with 330 Township Branches [MRCS 2007]. (See Appendix 1 on page 23 for MRCS Structure.)

The MRCS' 330 township branches are headed by Township Red Cross Executive Committees and chaired by the Township Medical Officers. The Red Cross Volunteers (RCVs) are organised in Red Cross Brigades with a nominal strength of around 556 Red Cross volunteers, however this number varies in practice. The RCV in charge of the daily running of the branch is the Second in-Command (2 IC) – often a person with considerable Red Cross (RC) experience and dedication.

The Red Cross volunteer structure in Myanmar, in spite of weaknesses, is well structured, well managed by 2 ICs and well linked to communities. Under the leadership of the President and Central Executive, with supervision of state/regional and district supervisory committees, the Township Red Cross branches provide humanitarian services to vulnerable communities.

Representatives of government departments – Health, Social Welfare, General Administration, Education, Fire and Rescue Service, Police and Audit Departments – are directly involved in the governance of the National Society through MRCS Central Council at national level, Supervisory Committees at State/Regional level, and Executive Committees at Township level.

Since members of the Red Cross committees at different levels are government-appointed officials, their authority and roles are influential and supportive of MRCS humanitarian activities and underpin collaboration with government departments.

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MYANMAR RED CROSS SOCIETY RESPONSE TO CYCLONE NARGIS

This section of the paper highlights the impact of Cyclone Nargis on the Burmese population, and examines in detail, the role of the MRCS in responding. It starts by presenting some general comments and then follows this up with more detail regarding the human resources dimensions of the response.

Humanitarian responses to conflict and disasters due to natural hazards often operate in contexts of resource scarcity, including a lack of adequate numbers of health workers. In addition to the paucity of personnel, competition existed to attract those present into the organisations operating post-Nargis, at both the national level and in the affected townships. This competition for human resources among humanitarian agencies and local level services in Myanmar posed a major impediment to prompt action in the immediate aftermath of the disaster [UNICEF 2009].

Surge capacity for timely response

An evaluation of the post-tsunami response in Indonesia (2004-2005) demonstrated that staff surge capacity is often constrained by inadequate funding and inability to respond quickly, lack of stand-by capacity, contractual arrangements and rostering of personnel [TEC 2006].

In relation to Cyclone Nargis, the restricted access to the country and the affected areas in the early days of the emergency relief operations further limited the surge capacity of operational agencies. As a result, the humanitarian community's capacity to respond to heightened humanitarian needs was based on the ability to employ those already on the ground.

Given this situation, organisations with a nation-wide network of volunteers trained for humanitarian work like the MRCS were the first to provide timely response to victims and vulnerable communities.

Indeed the extensive networks of MRCS branches and volunteers were relied upon by other agencies and organisations at this early stage. With support for IFRC, the MRCS conducted village-tract assessment and the MRCS Hub offices invited other agencies or organisations to make use of findings from such assessments for their operations.

The MRCS supported the PONJA initiative with the provision of volunteers as enumerators. In the first few weeks of the operation, the MRCS' community-based health and first aid (CBHFA) program concentrated on meeting the basic survival needs of affected communities - more than 80,000 households over a wide geographical area, covering 20 townships. In subsequent weeks (until July 2008), first aid support and health awareness on safe drinking water and better hygiene practice was provided to communities [IFRC 2011, p. 5].

In the cyclone relief operation **the MRCS was recognised as, among local organisations, a central actor in the relief efforts,** apart from the Government of Myanmar.

Coverage

The Cyclone Nargis operation conducted by MRCS with the support of the IFRC targeted 100,000 households in the 13 most affected townships. Over the six months of the relief phase, from May to October 2008, the operation provided relief, shelter, psychosocial support, water and sanitation. The distributions covered over 3,200 villages across 770 village tracts in the delta area. More than 280,000 households in the 13 targeted townships, as well as in an additional 15 townships, received non-food items.

With support from IFRC Emergency Response Unit (ERU) teams, MRCS engineers, volunteers and contracted companies operated eleven water treatment plants, producing 107,000 litres per day for 35,000 beneficiaries [IFRC 2011, p. 5]. Another successful initiative from MRCS was to initiate insurance coverage for over 6,000 volunteers working in the response operation. This was the first time that MRCS volunteers had received insurance coverage for their humanitarian work.

In the cyclone relief operation the MRCS was recognised as, among local organisations, a central actor in the relief efforts, apart from the Government of Myanmar. The value and vital role of the Red Cross volunteer network in humanitarian response was highlighted in subsequent reviews [ALNAP 2008].

Humanitarian relief agencies were encouraged to build on and add to the Myanmar Red Cross volunteer network, wherever possible, and without hindering the Red Cross' own response efforts [ALNAP 2008].

The MRCS and its thousands of volunteers were able to respond to the large-scale disaster by initially relying solely on previous training and their existing capacity. An external review [Featherstone & Shetliffe 2008] of the relief phase, commissioned by IFRC/MRCS, found the Red Cross Red Crescent response to Cyclone Nargis to be "broadly effective, providing urgently-needed relief to a large number of people in a relatively timely manner across a wide geographical area".

This proved to have been a very worthwhile earlier investment that clearly demonstrated the value of such prior training. This unique experience of the MRCS in response to Cyclone Nargis highlighted the importance of the capacity and performance of local organisations and infrastructure in the face of public health emergencies (PHEs).

Based on the review of MRCS, IFRC reports and program documents, this study analyses the humanitarian operation, identifies key lessons and offers recommendations for consideration. We emphasise human resource-related issues, given their centrality to effective responses.

Supports from International Red Cross Movement

The long presence of Red Cross Movement partners in Myanmar and its support to Myanmar Red Cross assisted in training a large number of human resources and volunteers throughout the country in health and emergency response.

In the early days of the Cyclone Nargis disaster, IFRC organised a Field Assessment and Coordination Team (FACT) with specialists in telecommunications, relief, water and sanitation, shelter, reporting, logistics, health, administration and media. This team included members of the Norwegian, German, Danish, Australian, Belgian, Japanese, Finnish, Spanish and Canadian Red Cross Societies as well as the Federation's staff, and provided invaluable support to the MRCS and IFRC country office in assessing, planning and cooperating with other humanitarian agencies on the ground.

The long presence of Red Cross Movement partners in Myanmar and its support to Myanmar Red Cross **assisted in training a large number of human resources and volunteers throughout the country in health and emergency response.**

This team also reviewed existing assessment information, recommendations and actions, and worked with the government and other humanitarian agencies in the UN's cluster approach on behalf of MRCS-IFRC Nargis relief operation.

The IFRC regional office also organised a Regional Disaster Response Team (RDRT) integrated with FACT. The RDRT included specialists in relief, water and sanitation, logistics and administration from Indonesian Red Cross, Philippine Red Cross and Malaysian Red Crescent Societies.

Through the IFRC channel, French, German, Australian and Austrian Red Cross Societies and ICRC sent their ERU teams with water treatment and production facilities. The teams worked together and trained local professionals and MRCS volunteers to be able to install, maintain and run their water treatment plants and ensure the ongoing provision of safe drinking water for communities in the disaster affected areas.

Through IFRC's appeal system, MRCS received Swiss franc 72.5 million for the Cyclone Nargis relief and recovery operation. The three-year fully-funded Cyclone Nargis relief and recovery operation was successfully completed in 2011, and had reached about 174,000 households and 132,460 school children in the Ayeyarwady Delta.

The successful appeal and surge funding to accommodate immediate needs of the disaster-affected people helps MRCS to get things done by allowing expansion and prioritisation to facilitate taking on relief and recovery initiatives.

With tremendous support from IFRC, ICRC and partner Red Cross societies, the MRCS was able to implement a successful disaster relief and recovery

DEVELOPING A WELL-PREPARED AND RESPONSIVE ORGANISATION

operation in the Cyclone Nargis-affected region. The organisation faced a lot of challenges in the operation including human resource capacity. From a financial perspective, the MRCS expanded from managing a USD $2 million annual budget to managing a USD $72.5 million appeal [IFRC 2008a].

The organisation's ability to quickly mobilise and manage surge capacity was the main contributor to the success of the disaster relief and recovery operation, due to the MRCS's institutional development and human resource development work in previous years. We describe the steps taken below.

The first move: institutional development

In May 1999, MRCS governance and senior management conducted institutional development (ID) workshops with the support of the IFRC [IFRC 1999]. Following these workshops a joint ID review led to several important decisions:

1. A new National Headquarters structure was developed
2. Seven executive committee members were appointed to head up newly established divisions, and define their roles and responsibilities.
3. Staff performance at headquarters' level was reviewed – staff were reallocated and new job descriptions issued.
4. An ID task force formulated a human resource development plan for the organisation and its staff.

These decisions were presented to the Southeast Asia Partnership meeting in Bangkok on 15-19 May 2000 to gain support from partners for the reform [IFRC 2001].

As a result, new divisions were established in MRCS National Headquarters: Disaster Preparedness and Response (DP/DR) in 2001, Health and Communication in 2002, and Training and Finance in 2003.

As part of the ID process, review of the MRCS health programs was also undertaken with IFRC (July/August 2000). The review team included representatives from MRCS governance, management and partner Red Cross Societies, particularly the Australian and Thai Red Cross Societies. The review led to MRCS formulation of a five-year strategic plan for its health and care programs [MRCS 2002].

The MRCS Strategic Plan 2007-2010 identified strategic goals and objectives; **the overall development aim was to focus on priority programs of the National Society which were relevant to the needs of the most vulnerable communities** and consistent with global and regional directions.

The MRCS first-ever branch survey in 2002 explored organisational and managerial gaps between national HQ and branches, and the need for development of branches and volunteers. Based on the findings, a branch development program was designed and branch coordinators were employed to facilitate communication and coordination between National Headquarters (NHQ) and the different levels of RC committees [IFRC 2002].

The MRCS Strategic Plan 2007-2010 identified strategic goals and objectives; the overall development aim was to focus on priority programs of the National Society which were relevant to the needs of the most vulnerable communities and consistent with global and regional directions.

All these initiatives assisted MRCS to provide better humanitarian services to those in need by mobilising the nation-wide network of Red Cross volunteers and keep the organisation in a position able to provide immediate responses to public health emergencies [MRCS 2004].

Capacity building for Red Cross volunteers

The IFRC formulated its Community-based first aid program (CBFA) with the aim of linking communities with governments' primary health care initiatives. The training department, later upgraded into a separate division in 2003, took responsibility for achieving nation-wide coverage. The division developed a CBFA training strategy to assist the most vulnerable communities with self-help health measures.

In 2002 and 2003, through a cross-divisional working group, the society continued preparation of a first aid

policy covering the role of MRCS in respect to CBFA, volunteering and training, and revised the first aid training manual to bring it in line with Association of Southeast Asian Nations (ASEAN) standards.

The training division improved the curriculum and delivered CBFA Training of Trainers program using participatory methodology and tools at community level. In addition to traditional first aid training, the CBFA program included human immunodeficiency virus (HIV), malaria, tuberculosis (TB), hygiene and sanitation.

The CBFA curriculum also supports ongoing ICRC activities in Myanmar's conflict-affected areas, including restoring family links, tracing people affected by conflicts, disaster and other situations, landmine awareness and injury response programs.

The CBHFA program is a widely recognised and effective program contributing to creating health workforce in communities, creating safe and healthy environments and leading to community empowerment.

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Together with the Health and DP/DR divisions, the Training Division also played an important role in supporting the continued development of the integration of CBFA and community-based disaster preparedness (CBDP) into community-based disaster management (CBDM), piloted in selected townships during 2005.

TABLE-2. MYANMAR RED CROSS SOCIETY – TYPES OF CAPACITY BUILDING TRAINING AND NUMBER OF COURSES (2002 – 2007)

Type of Training	2002	2003	2004	2005	2006	2007
Community-based First Aid (Training of Trainers)	8	10	7	11	10	3
Community-based First Aid (Multipliers courses at State, Regional and Township Levels)	210	210	210	180	180	180
First Aid (Instructor course)	-	2	2	2	4	2
Water Safety & Life Saving Training	-	-	1	1	1	1
Cardiopulmonary resuscitation (CPR) courses	-	2	2	2	2	2
Training of Trainer for Psychosocial Support Program	-	-	-	1	2	2

Source: IFRC Myanmar Annual Reports (2002-2007)

Disaster Preparedness and Responses

The Disaster Preparedness and Response (DP/DR) Division demonstrated considerable progress in 2002 and 2003, with the formation of MRCS Disaster Preparedness policy, the establishment of a disaster assessment and response team (DART) at headquarters and in 14 states/divisions, and piloting the Community-Based Disaster Preparedness (CBDP) program at selected townships in the delta region.

The aim of the CBDP program was to increase the capacity of the local community to cope with the effects of disaster and to establish a well-trained Red Cross volunteer network in the local communities. DART courses were provided for the Red Cross volunteers at all levels to be able to respond to the impact of disasters in an appropriate manner at state/division and township levels.

TABLE 3. TYPES OF DISASTER MANAGEMENT TRAINING AND NUMBER OF COURSES (2002 – 2007)

Type of Training	2002	2003	2004	2005	2006	2007
Logistics training	-	-	1	1	1	2
DART	1	2	6	6	6	7
DART Multiplier Courses	-	-	12	14	13	14
CBDM	-	-	-	1	2	2

Source: IFRC Myanmar Annual Reports (2002-2007)

Myanmar was affected by several natural disasters during 2004, prompting immediate rescue and evacuation support from MRCS volunteers. Emergency relief operation to flood victims in Kachin State in mid-July was skilfully handled entirely by the MRCS without external support. The most demanding operation was between May to October in support of cyclone victims in Rakhine State in 2004. This operation was supported by the first ever IFRC emergency appeal in Myanmar.

At the cyclone relief operation, the MRCS was the first and only organisation allowed to do direct relief distribution to the beneficiaries without working through the National Disaster Relief Committee as originally planned. The volunteers, especially in Rakhine State, gained both experience and exposure to a relief operation on an international scale.

At the same time, the Rakhine emergency operation clearly showed the usefulness of established and trained response systems at MRCS. It provided a good test of MRCS capacity to respond to larger scale disasters. Government authorities, international and local NGOs as well as volunteers were more aware of the MRCS role and responsibilities in times of disaster, with MRCS being recognised as one of the key players in disaster response [IFRC 2003].

Health programs for those in need (2002-2007)

Senior management staff, members of Executive Committee and experienced Red Cross volunteers formulated a new five-year Strategic Health Direction in 2002 to strengthen the capacity of the MRCS to design and implement community-based health development programs for general and specific target communities, disease prevention program for the country's priority diseases, blood donor recruitment and ambulance service program.

After responding to an avian influenza (AI) outbreak in Myanmar, and consistent with the Ministry of Health and the support of the IFRC, the MRCS set up a Public Health in Emergency (PHiE) task group at headquarters level in 2005 and AI preparedness and response plans for Red Cross volunteers and local communities. The task group was activated in response to an AI outbreak in poultry farms reported in middle Myanmar in March 2006.

The strengthening of avian human influenza (AHI) prevention, preparedness and response capability of MRCS staff and volunteers gained momentum after an AI forum attended by 56 RC volunteer leaders from all 17 states and divisions. An AI coordination mechanism was established with the Department of Health, World Health Organization (WHO), ICRC, United Nations Children's Fund (UNICEF) and Livestock Breeding and Veterinary Department (LBVC).

With assistance from the IFRC, the MRCS formulated a psychosocial support program (PSP) based on experiences in the Tsunami disaster in Southeast Asia region. The MRCS Training Division was designated as the coordinating office for the development and implementation of MRCS PSP activities.

The first ever PSP training workshop was organised in July 2006 and a PSP delegate from the IFRC regional office in Bangkok and a local counterpart from the Department of Psychology, University of Yangon, facilitated the training. At the follow-up workshop, MRCS PSP training curriculum was developed with technical assistance from the Department of Psychology, University of Yangon.

With the aim of developing the MRCS to be a well-structured and fully organised society with trained and competent human resources at all levels, the MRCS established in 2005 a "Development and Coordination Unit" under the direct management of the Executive Director and Executive Committee. The unit implemented organisational development, branch development and volunteer development programs with support from the IFRC.

TABLE 4. MYANMAR RED CROSS SOCIETY: TYPES OF STAFF/VOLUNTEER CAPACITY BUILDING TRAINING (2005 – 2007)

Type of Training	2005	2006	2007
Standard Course for Branch Leaders	1	1	1
Advanced Course for Branch Leaders	1	1	1
Leadership Development Training	1	1	1
Project Planning Process Training	1	1	1
Monitoring and Evaluation Training	1	2	-
Reporting Writing Training	-	1	-
Red Cross Values and Principles Training	8	9	7

Source: IFRC Myanmar Annual Reports (2002-2007)

DISCUSSION

The outcomes of the prior MRCS institutional and human resource development initiatives and training implementation were seen at the time of the Cyclone Nargis disaster.

The key lessons learned were the value of learning from prior experience of disasters and the consequent re-structuring of the organisation for more efficient and effective responses, the building of staff capacity, and the development of networks for rapid scale-up of community mobilisation. Even so, the scale of the disaster seriously strained the MRCS' ability to respond and required additional inputs.

The Myanmar experience of PHE shows that co-ordination of all levels of government and its auxiliary organisations commenced at the central level of the government by setting up a National Disaster Preparedness Central Committee (NDPCC) reporting to the Prime Minister, with operational units managed through sub-committees.

The MRCS is a member of the Sub-Committee for Health at National, State/Division and District levels. At Township level, the MRCS is a member of the Sub-Committees for Health, Search & Rescue, Rehabilitation & Reconstruction, Mitigation & Establishment of Emergency Shelter, and Assessment of Losses. The following sections reflect MRCS lessons learned during its Cyclone Nargis relief operation from May to August in 2008 [IFRC 2011].

Locally available and prepared human resources are invaluable in disaster response

At the height of the response to Cyclone Nargis there were an estimated 10,000 Red Cross volunteers involved. They put aside personal loss and suffering and worked tirelessly to assist affected communities [IFRC 2008b]. This massive response reflected MRCS tradition of mobilising resources from unaffected parts to assist those stricken by disaster.

Branches in northern Kachin state and in south-eastern Mon state are experienced in responding to floods and their expertise has been used for storm operations in other parts of the country [IFRC 2008c].

Small teams of trained Red Cross volunteers (nearly 300) from other parts of the country were rapidly deployed to the cyclone-affected areas within the first month of the operation to work alongside volunteers who lived in the affected areas [IFRC 2008d]. Prior to deployment these volunteers attended a one-day training session on public health in emergencies including first aid, psychosocial support and health education.

In the first few weeks of the disaster relief operation, the community-based health and first aid (CBHFA) program concentrated on meeting the basic survival needs of affected communities – more than 80,000 households in a wide geographic area, covering 20 townships, were reached. This was made possible because of the availability of 600 previously trained Red Cross volunteers in the CBFA program [IFRC 2008e]. The volunteers were from the delta area, as well as from other states and divisions.

The reliable workforce

At the time of the disaster, the extensive network of MRCS branches and volunteers was utilised by other agencies in the early stages of the operation. Many organisations approached MRCS at headquarters and field levels to assist them in implementing their actions, which placed pressure on the MRCS at that time. However, the national society was able to focus on the overall Red Cross Red Crescent Movement operation as a priority. At the same time Red Cross volunteers were able to help other organisations at field levels [IFRC 2008f].

During the disaster relief operation, the MRCS established a sound reputation among other aid agencies and organisations in the delta for its first aid activities. As an example, Merlin, the British NGO which was co-leading the UN Office for the Coordination of Humanitarian Affairs (UNOCHA) health cluster, requested the MRCS to provide first aid training for its community health workers. This was subsequently conducted by CBFA Red Cross volunteers [IFRC 2008f].

The extensive network of MRCS volunteers, the majority of whom were from the affected delta areas and had themselves experienced loss, worked tirelessly during the first few weeks of the disaster. They were an invaluable supply of human resources to respond to the disaster.

Effective collaboration

The MRCS collaborated closely with other aid agencies and organisations, including UN agencies

and the Ministry of Health, who also assisted efforts to reach affected communities. This collaboration included mobile health promotion and health assessments as well as basic health promotion in temporary shelters housing people displaced by the cyclone. MRCS staff and volunteers coordinated with UN agencies to provide and distribute immediate humanitarian assistance.

This support was both acknowledged and applauded by the UN humanitarian coordinator in Myanmar and by the UN Under-Secretary-General for Humanitarian Affairs and Emergency Relief Coordinator, during both visits in May and July for specific meetings with MRCS and IFRC [IFRC 2008e].

The First Aid Posts worked in partnership with the Ministry of Health and focused on health and hygiene promotion related to priority issues such as re-hydration and the distribution of oral rehydration salts for diarrhoea, cleaning and dressing wounds, identifying and referring high risk pregnant women, preventing malaria and dengue, and breastfeeding and nutritional advice.

Immunisation campaigns [IFRC 2008e] aimed at addressing a measles outbreak were launched by the Ministry of Health in September 2008 in all 13 affected townships. Midwives from rural health centres led this initiative and were supported by MRCS hub health officers and Red Cross volunteers who distributed information, education and communication materials, and conducted health education sessions.

As Cyclone Nargis destroyed health facilities and medicine stocks, the treatment of TB patients was interrupted. As a remedial measure undertaken in the early stages of the relief operation, untreated cases of TB among affected communities and internally displaced person (IDP) camps were identified during relief operations by CBFA volunteers and referred to hospitals in Yangon and Pathein Township. The identification and referral of patients was conducted in coordination with the Ministry of Health [IFRC 2009].

A Unique experience: sharing and learning experiences from Red Cross partners

IFRC mobilised field assessment and coordination teams (FACTs), regional disaster response teams (RDRTs) and emergency response units (ERUs) from member Red Cross societies to support the MRCS' relief operations. A total of 18-strong FACT from partner Red Cross societies were mobilised for the relief operation. The first RDRT team arrived on 9 May from the Malaysian Red Crescent Society, followed by support from the Indonesian and Philippines Red Cross in May and June [IFRC 2008g].

This was a great learning opportunity for MRCS staff and volunteers working together with internationally experienced Red Cross staff and volunteers in field assessment and coordination of relief operation.

The cyclone and the resulting tidal surge caused severe damage to water and sanitation infrastructure along coastal areas and alongside rivers. Water sources such as ponds, wells, and springs, had been damaged or contaminated by solid waste, animal and human bodies, and/or salt water. Affected communities thus had little or no access to clean drinking water and a threat of communicable diseases was present.

At the height of the relief operation from May to August, 11 water treatment units provided by the water and sanitation ERUs from Australian, Austrian and German Red Cross and the ICRC were operated in the four most disaster-affected townships: Labutta, Bogale, Mawlamyinegyun and Dedaye townships. The treatment plants produced a total of 107,000 litres of safe drinking water for 7,133 households (35,666 beneficiaries) every day [IFRC 2008h].

The teams of ERU trained and worked together with local technicians and volunteers with the aim that the plants would be operated by MRCS staff and volunteers at a later stage. Water and sanitation units and emergency kits were successfully handed over to the MRCS at the end of the ERU operations. A total of 15 water and sanitation technicians and 30 Red Cross volunteers in 4 townships managed the treatment plants for the local communities [IFRC 2008i].

Collaboration of Red Cross volunteers and newly recruited staff

All MRCS disaster relief operations before Cyclone Nargis kept Branch Executive Committees and their local volunteers in the driving seat of the program with the NHQ taking a support role. In order to respond to the operational needs of Cyclone Nargis nine field offices (known as 'hubs') were set up by the

MRCS in the affected delta area. The intention was to speed up the operations approval processes and to plan and react closer to the affected populations. Under direct management of NHQ, the field offices were run by a manager with numerous support staff, most recruited for the duration of the operation.

The implementation of activities was hampered in the initial stages of this new management model by a lack of coordination between local Red Cross volunteers and newly recruited Red Cross staff at the newly established MRCS field offices. (See Appedix 3 on page 25 for Myanmar Red Cross Cyclone Nargis Operation structure.)

Capacity-building efforts were conducted to improve the situation and included health team technical training, team building between volunteers and paid staff, and continuation of on-the-job training supported by IFRC delegates and MRCS headquarters [IFRC 2009].

The MRCS arranged refresher courses with additional training providing the added benefit of respite from usual activities in the delta through planned rotation [IFRC 2008j]. Improvements in volunteer management practices, particularly to retaining and motivating volunteers, were important to avoid losing them. The ability to support and retain experienced volunteers at their local branches allows for rapid mobilisation in future disaster response operations.

Human resource supply and competition for skilled workers

The selection of qualified personnel to strengthen the MRCS Cyclone Nargis Relief Operation was accompanied by a number of challenges. As the pool of qualified human resources in Myanmar is very limited, competition for qualified staff increased significantly for all international aid and humanitarian organisations at that time.

In May and June, a number of qualified staff left the MRCS for higher-paying jobs with international aid organisations. Despite an emergency allowance being provided to MRCS staff, the high demand for human resources meant that retaining such staff presented a significant challenge to the MRCS [IFRC 2008i].

The MRCS tried to overcome the challenge by reallocating existing human resources from other MRCS programs to the Nargis operation, and also

As the pool of qualified human resources in Myanmar is very limited, competition for qualified staff increased significantly for all international aid and humanitarian organisations at that time.

recruited experienced Red Cross volunteers from other regions of the country. The operation's evaluation report highlighted that MRCS also recruited new staff from other fields with little or no experience in humanitarian operations, including many of the staff working in the hub offices who lacked experience working in the humanitarian field.

Due to the great demand for skilled and qualified local engineers in the aftermath of Nargis, it was difficult to recruit all the required officers for water and sanitation teams within an expedient timeframe [IFRC 2008i].

Furthermore, from December 2008 to February 2009, the health component of the MRCS Nargis recovery program faced a significant number of resignations at field and headquarters level, due to job opportunities with other organisations. New staff were recruited soon after vacancies arose but the possibility of losing more officers was a constant issue for MRCS [IFRC 2008i].

The relief program recruited young doctors as health officers for hub offices, with a special responsibility towards PSP to improve implementation. However the young doctors did not possess the right skills for community-based interventions and were more likely to move on when other job opportunities arose. Furthermore, as a result of their medical training, they were inclined to treat by prescribing drugs, which was not appropriate for most PSP interventions.

Communities expected doctors to treat by prescribing drugs but health authority regulations did not permit them to do so because many were not registered for general practice. According to Myanmar's health management system, new medical graduates are able to apply for registration for general practice after

joining the public service. The young doctors at the hubs did not have registration because they joined the Nargis Operation while waiting for recruitment by the public service, or they had decided not to join public service. Field-based health officers found it difficult to delegate duties to Red Cross volunteers after managing activities themselves.

At the beginning of the relief phase the MRCS provided training for 247 local Red Cross volunteers who later assisted the MRCS field-based health officers in conducting community-oriented health activities and training villagers from affected communities, as community volunteers.

A large body of community volunteers was trained progressively between the third quarter of 2008 and late 2010, and were the frontrunners of village participants in regular health activities, such as hygiene promotion organised by MRCS field-based health teams. When the MRCS health officers left the field between mid-2010 and early 2011, community volunteers continued activities under the supervision of Red Cross volunteers.

The most significant responsibilities of community volunteers had been in facilitating or leading community-oriented activities such as environmental clean-up campaigns and conducting monthly household monitoring visits for the purpose of checking on hygiene practices and disease prevention, as well as identifying the health needs of individual households. Community-oriented activities were identified by villagers during the preparation of a community action plan drawn up earlier with the assistance of health officers and Red Cross volunteers.

The scale of the disaster – need for refresher courses and training new people

Despite the MRCS experience in facilitating staff and volunteer capacity building programs in health and disaster management, the scale of disaster revealed that the number of well trained Red Cross staff and volunteers for relief operations was inadequate. The MRCS also absorbed significant numbers of new volunteers, working alongside those with pre-existing experience [IFRC 2008f]. The situation pushed the MRCS to plan and conduct appropriate training for both existing volunteers and new-comers working in the disaster-affected areas.

Initially, a one-day community-based first aid refresher training session for MRCS volunteers from less affected areas in the Ayeyarwaddy and Yangon divisions started on 1 June. During the emergency period in 2008, the MRCS provided training for its volunteers and staff based on the needs of the relief operation, such as training for operation and maintenance of water treatment plants, participatory hygiene and sanitation transformation (PHAST) training, one-day intensive health and hygiene promotion orientation, and community-based health and first aid training (CBHFA).

The CBHFA training included sessions on community mobilisation in emergencies, identification and prevention of communicable diseases including acute respiratory infections (ARI) vector-borne diseases, diarrhoea and dehydration, provision of safe drinking water, psychosocial support, restoring family links and simple instructions on dealing with dead bodies.

Leadership capacity

The unique position of MRCS in terms of its humanitarian mandate, national volunteer base, and role as auxiliary to government enabled it to provide effective humanitarian operations to disaster-affected people and communities but relied on strong leadership. This was evidenced by the IFRC head of in-country delegation being the first person among international humanitarian workers allowed to travel the disaster-affected area, facilitated by government approval for 'movement response' to an otherwise 'politically sensitive and closed humanitarian environment'.

The MRCS also confirmed its openness to assistance in managing and planning this massive operation. The MRCS President and Executive Committee was proactive in these discussions. At the same time, the leadership was able to work with the full confidence of, and trust with, the line ministry (Ministry of Health) as well as the Ministry of Social Welfare, Relief and resettlement. The partners enjoyed the confidence of the national society, and were able to provide the necessary technical support critical to such large scale responses.

IMPLICATIONS FOR POLICY HRH/HEALTH SYSTEM DEVELOPMENT

The human resources crisis in humanitarian health care parallels that seen in the whole health sector, but it is scaled-up significantly during a disaster.

This crisis is exacerbated by the lack of resources in areas in which humanitarian action is most needed – difficult environments that often are remote and insecure – and the requirement of specific skill sets not routinely gained during conventional medical training [Mowafi et al. 2007].

Over the last few decades, humanitarian health agencies such as the Red Cross have transitioned from implementing *ad hoc* charitable giving to being more disciplined and sophisticated implementers of domestic and international health programs.

Disaster response has become more sophisticated; during the Cyclone Nargis response the MRCS was also able to work together with experienced Red Cross and Red Crescent volunteers from partner societies who assisted in bridging the human resource shortage and transferred their knowledge and skills. The Red Cross 'family' have a philosophy and set of values in common which allows for skills transfer and high levels of trust that might otherwise be absent with expatriate support.

The case study also shows that the success or failure of humanitarian operations is largely dependent on the quality of staff, timely deployment and availability of a standby-workforce, as well as the organisation's leadership and management of its surge capacity. This calls for operational adaptations, including strengthening capacities of existing staff members and working through local and international partners as well as government and community.

The case study also shows that **the success or failure of humanitarian operations is largely dependent on the quality of staff, timely deployment and availability of a standby-workforce,** as well as the organisation's leadership and management of its surge capacity.

CONCLUSIONS

During the Nargis emergency operation, the MRCS affirmed its reputation as a clear and reliable leader in national disaster management, through its role as auxiliary to the humanitarian arm of the authorities.

The MRCS committed itself to becoming a stronger national society in terms of supporting institutional learning and in managing the eventual transition from a response operation into the longer-term provision of volunteer-led community activities.

This case study provides the international community with a valuable demonstration of the importance of disaster preparedness. MRCS's prior activities in organisational strengthening and networking into communities to provide training translated its learning from past experience into a rapid response capacity and a central role.

The MRCS built up its operational capacity, volunteer networks, staff and institutional development initiatives over the years prior to Cyclone Nargis. Key elements in these developments were strategic management, building partnerships and strong leadership.

The achievements seen in the Cyclone Nargis operation was the outcome of all these initiatives by the MRCS and its Red Cross Movement partners, and is testimony to a considerable degree of success.

This case study provides the international community with **a valuable demonstration of the importance of disaster preparedness.**

REFERENCES

ALNAP 2008, *Cyclone Nargis: Lessons for Operational Agencies,* viewed 15 January 2011, http://www.alnap.org/pool/files/ALNAPLessonsCycloneNargis.pdf, Access date:

Featherstone, A and Shetliffe, J 2009, *Review of Red Cross and Red Crescent Movement response to Cyclone Nargis,* International Federation of Red Cross and Red Crescent Society, January 2009, viewed 25 March 2012, http://www.ifrc.org/docs/appeals/08/MDRMM002fr.pdf

GoM Myanmar 2009, *Standing Order on Natural Disaster Management in Myanmar,* Government of Myanmar, 2009, viewed 25 March 2012, http://www.gripweb.org/gripweb/sites/default/files/documents_publications/Standing%20Order%20on%20Natural%20Disaster%20management%20in%20Myanmar.pdf

IFRC Myanmar 1999, *Situation Report: Institutional Development and Capacity Building*, International Federation of Red Cross and Red Crescent Societies, August 1999, viewed 14 December 2010, http://www.ifrc.org/docs/appeals/annual99/319901mm.pdf

IFRC Myanmar 2001, *Annual Report, Appeal No. 01.26/2000,* International Federation of Red Cross and Red Crescent Societies, May 2001, viewed 14 December 2010, http://www.ifrc.org/docs/appeals/annual00/01262000an.pdf

IFRC 2003, *Annual Report, Appeal No.01.35/2002,* International Federation of Red Cross and Red Crescent Societies, viewed 14 December 2010, http://www.ifrc.org/docs/appeals/annual02/013502annrep.pdf

IFRC Myanmar 2008a, *Operation Update: Cyclone Nargis Operation Update No.15, Emergency appeal n° MDRMM002*, International Federation of Red Cross and Red Crescent Societies, 6 June 2008, viewed 14 December 2010, http://www.ifrc.org/docs/appeals/08/MDRMM00215.pdf

IFRC Myanmar 2008b, *Operation Update: Cyclone Nargis Operation Update No.1, Emergency appeal n° MDRMM002*, International Federation of Red Cross and Red Crescent Societies, 7 May 2008, viewed 14 December 2010, http://www.ifrc.org/docs/appeals/08/MDRMM00201.pdf

IFRC Myanmar 2008c, *Operation Update: Cyclone Nargis Operation Update No.5, Emergency appeal n° MDRMM002,* International Federation of Red Cross and Red Crescent Societies, 11 May 2008, viewed 14 December 2010, http://www.ifrc.org/docs/appeals/08/MDRMM00205.pdf

IFRC Myanmar 2008d, *Operation Update: Cyclone Nargis Operation Update No.2, Emergency appeal n° MDRMM002*, International Federation of Red Cross and Red Crescent Societies, 8 May 2008, viewed 14 December 2010, http://www.ifrc.org/docs/appeals/08/MDRMM00202.pdf

IFRC Myanmar 2008e, *Operation Update: Cyclone Nargis Operation Update No.23, Emergency appeal n° MDRMM002,* International Federation of Red Cross and Red Crescent Societies, 19 December 2008, viewed 14 December 2010, http://www.ifrc.org/docs/appeals/08/MDRMM00223.pdf

IFRC Myanmar 2008f, *Operation Update: Cyclone Nargis Operation Update No.9, Emergency appeal n° MDRMM002*, International Federation of Red Cross and Red Crescent Societies, 19 May 2008, viewed 14 December 2010, http://www.ifrc.org/docs/appeals/08/MDRMM00209.pdf

IFRC Myanmar 2008g, *Operation Update: Cyclone Nargis Operation Update No.4, Emergency appeal n° MDRMM002,* International Federation of Red Cross and Red Crescent Societies, 10 May 2008, viewed 14 December 2010, http://www.ifrc.org/docs/appeals/08/MDRMM00204.pdf

IFRC Myanmar 2008h, *Operation Update: Cyclone Nargis Operation Update No.13, Emergency appeal n° MDRMM002,* International Federation of Red Cross and Red Crescent Societies, 31 May 2008, viewed 14 December 2010, http://www.ifrc.org/docs/appeals/08/MDRMM00213.pdf

IFRC Myanmar 2008i, *Operation Update: Cyclone Nargis Operation Update No.14, Emergency appeal n° MDRMM002,* International Federation of Red Cross and Red Crescent Societies, 4 June 2008, viewed 14 December 2010, http://www.ifrc.org/docs/appeals/08/MDRMM00214.pdf

IFRC Myanmar 2008j, *Operation Update: Cyclone Nargis Operation Update No.16, Emergency appeal n° MDRMM002,* International Federation of Red Cross and Red Crescent Societies, 11 May 2008, viewed 14 December 2010, http://www.ifrc.org/docs/appeals/08/MDRMM00216.pdf

IFRC Myanmar 2009, *Operation Update: Cyclone Nargis Operation Update No.25, Emergency appeal n° MDRMM002,* International Federation of Red Cross and Red Crescent Societies, 5 May 2009*,* viewed 14 December 2010, http://www.ifrc.org/docs/appeals/08/MDRMM00225.pdf

IFRC 2011, *After the storm: recovery, resilience reinforced, Final evaluation of the Cyclone Nargis operation, 2008-2011,* International Federation of Red Cross and Red Crescent Societies, viewed 25 March 2012, http://www.ifrc.org/docs/Evaluations/Evaluations2011/Asia%20Pacific/Myanmar/MMCycloneNargis11.pdf

Mowafi H, Nowak K & Hein K 2007, 'Human Resources Working Group: Facing the challenges human resources for humanitarian heath', *Prehospital Disast Med*; 22(5):351–359.

MRCS 2002, *Myanmar Red Cross Strategic Health Direction*, Myanmar Red Cross Society, Yangon.

MRCS 2004, *Myanmar Red Cross Branch Survey,* Myanmar Red Cross Society, Yangon.

MRCS 2007, *Myanmar Red Cross Strategic Plan 2007-2010,* Myanmar Red Cross Society, Yangon.

MRCS 2010, *Myanmar Red Cross Society Strategy 2015,* Myanmar Red Cross Society, Yangon, viewed 25 March 2012, http://myanmarredcrosssociety.org/publications/Strategy%202015%20%28English%293.pdf

TCG 2008a, *Post-Nargis Recovery and Preparedness Plan,* Tripartite Core Group comprised of Representatives of Government of Union of Myanmar, the Association of Southeast Asian Nations and the United Nations with support of the Humanitarian and Development Community, pp 43, viewed 25 March 2011, http://www.mm.undp.org/UNDP_Publication_PDF/PONREPP.pdf

TCG (2008b) *Post-Nargis Joint Assessment,* Tripartite Core Group comprised of Representatives of Government of Union of Myanmar, the Association of Southeast Asian Nations and the United Nations with support of the Humanitarian and Development Community, pp 7, 8 viewed 25 March 2011, http://www.mm.undp.org/UNDP_Publication_PDF/PONJA%20full_report.pdf

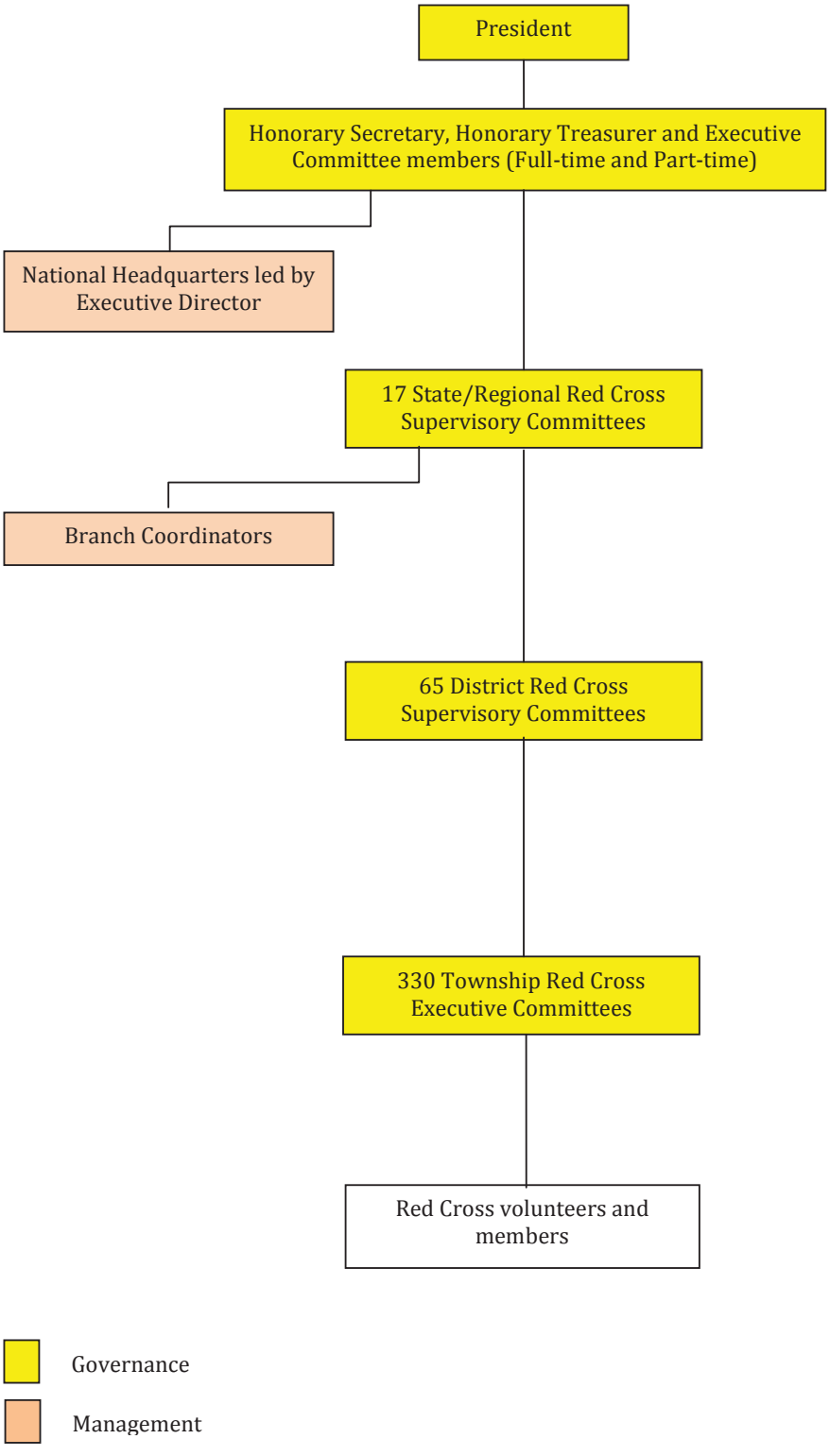
TEC 2006, *Tsunami Evaluation Coalition. Impact of the tsunami response on local and national capacities*, Indonesia Country Report, viewed 5 February 2011, www.alnap.org/pool/files/capacities-indonesia.pdf

UNDP 2008, *Human Development Report 2007/2008, Fighting climate change: Human Solidarity in a divided world*, United Nations Development Programme, New York, USA, viewed 25 March 2012, http://hdr.undp.org/en/media/HDR_20072008_EN_Complete.pdf

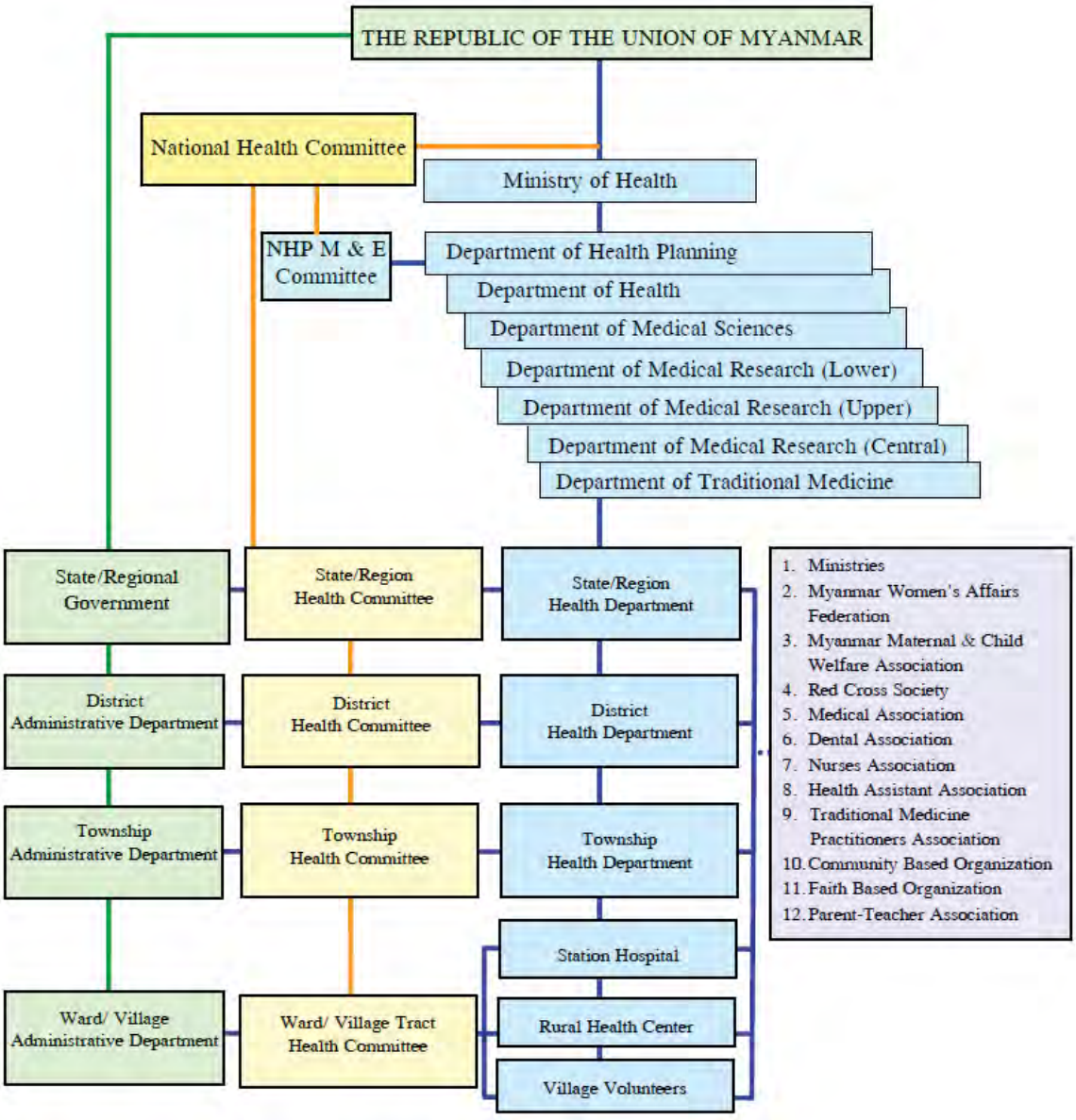
UNICEF 2009, *Best Practices and lessons learnt: UNICEF Myanmar's response following Cyclone Nargis*, UNICEF Myanmar, April 2009, viewed 5 February 2011, http://www.hapinternational.org/pool/files/unicef-lessons-learnt-in-myanmar.pdf

APPENDICES

APPENDIX 1. MYANMAR RED CROSS STRUCTURE

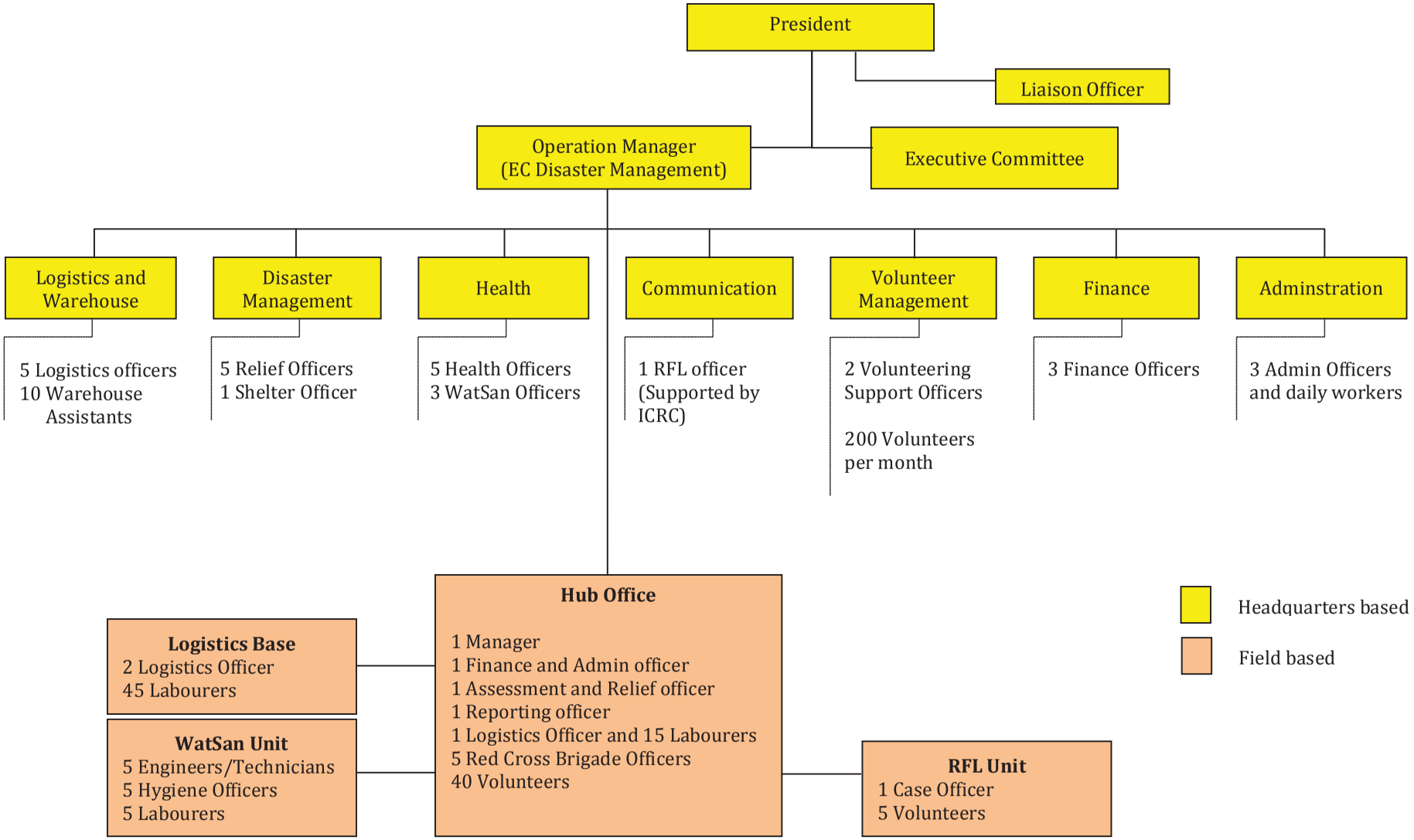


APPENDIX 2. ORGANISATION OF HEALTH SERVICE DELIVERY IN MYANMAR

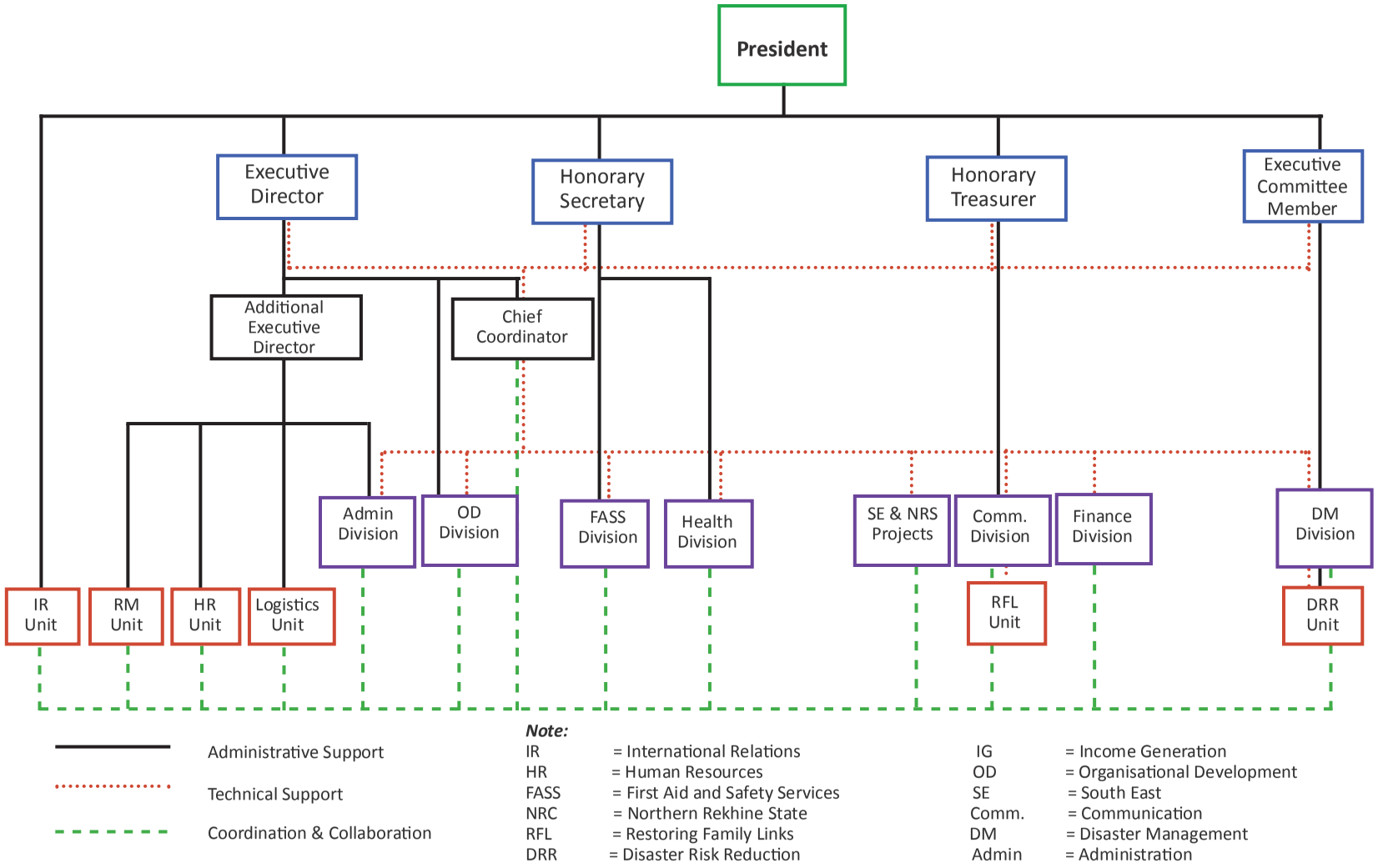


Source: Ministry of Health, Union of Myanmar

APPENDIX 3. MYANMAR RED CROSS CYCLONE NARGIS OPERATION STRUCTURE



APPENDIX 4. MRCS HEADQUARTERS STRUCTURE



Source: www.myanmarredcross.org

THE KNOWLEDGE HUBS FOR HEALTH INITIATIVE

The Human Resources for Health Knowledge Hub is one of four hubs established by AusAID in 2008 as part of the Australian Government's commitment to meeting the Millennium Development Goals and improving health in the Asia and Pacific regions.

All four Hubs share the common goal of expanding the expertise and knowledge base in order to help inform and guide health policy.

Human Resource for Health Knowledge Hub
University of New South Wales

Some of the key thematic areas for this Hub include governance, leadership and management; maternal, newborn and child health workforce; public health emergencies; and migration.

www.hrhhub.unsw.edu.au

Health Information Systems Knowledge Hub
University of Queensland

Aims to facilitate the development and integration of health information systems in the broader health system strengthening agenda as well as increase local capacity to ensure that cost-effective, timely, reliable and relevant information is available, and used, to better inform health development policies.

www.uq.edu.au/hishub

Health Finance and Health Policy Knowledge Hub
The Nossal Institute for Global Health (University of Melbourne)

Aims to support regional, national and international partners to develop effective evidence-informed national policy-making, particularly in the field of health finance and health systems. Key thematic areas for this Hub include comparative analysis of health finance interventions and health system outcomes; the role of non-state providers of health care; and health policy development in the Pacific.

www.ni.unimelb.edu.au

Compass: Women's and Children's Health Knowledge Hub
Compass is a partnership between the Centre for International Child Health, University of Melbourne, Menzies School of Health Research and Burnet Institute's Centre for International Health.

Aims to enhance the quality and effectiveness of WCH interventions and focuses on supporting the Millennium Development Goals 4 and 5 – improved maternal and child health and universal access to reproductive health. Key thematic areas for this Hub include regional strategies for child survival; strengthening health systems for maternal and newborn health; adolescent reproductive health; and nutrition.

www.wchknowledgehub.com.au

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