



**EMERGENCY RESPONSE CAPACITY  
SCOPING MISSION**

**KATHAMANDU, NEPAL  
MAY 2011**

**Report**

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The information contained in this report has been obtained from an in-country assessment, meetings, telephonic and email discussions. While the authors have made all reasonable effort to ensure the accuracy of the information contained herein, the authors cannot be held responsible for inaccurate information as has been supplied by participants of the scoping mission.

The opinions reflected in this report are those of the authors and do not necessarily reflect the opinions of any particular organisation or individual. Certain assumptions have been made due to assessment mission constraints.

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## Glossary of Terms

AP	Activity Plan
APF	Armed Police Force
BCPR	Bureau for Crisis Prevention and Recovery
CDRC	Central Disaster Relief Committee
CSSR	Collapse Structure Search and Rescue
DRM	Disaster Risk Management
EMS	Emergency Medical Service
EOC	Emergency Operations Centre
ERS	Emergency Response System
ES	Emergency Services
FCSS	Field Coordination Support Section
GA	General Assembly
GoN	Government of Nepal
HAZMAT	Hazardous Materials
INSARAG	International Search and Rescue Advisory Group
LPG	Liquid Petroleum Gas
MFR	Medical First Responder
MHA	Ministry of Home Affairs
MHP	Ministry of Health and Population
MLD	Ministry of Local Development
MSB	Swedish Civil Contingencies Agency

NA	Nepal Army
NGO	Non Government Organisation
NP	Nepal Police
NRRC	Nepal Risk Reduction Consortium
NSET	National Society for Earthquake Technology
OCHA	Office for the Coordination of Humanitarian Affairs
PPE	Personal Protective Equipment
SAR	Search and Rescue
SOP	Standard Operating Procedures
TOR	Terms of Reference
ToT	Training of Trainers
UN	United Nations
UNDP	United Nations Development Programme
USAR	Urban Search and Rescue
WHO	World Health Organisation

## Executive Summary

1. Nepal is vulnerable to a multitude of hazards. The Government of Nepal (GoN) has recognised its current limitations in its ability to respond to large scale disasters, and the international community has increasingly demonstrated its commitment to reduce the risk of disasters in Nepal. However, the impact of day-to-day emergencies is neither well understood nor does it enjoy the required attention by either the GoN or the international community.
2. In 2009, the Nepal Risk Reduction Consortium (NRRC), which aims to address the vulnerability to natural disasters in a coordinated manner, identified five flagship areas. Of specific relevance to this scoping mission is Flagship Area 2, Emergency Preparedness and Response Capacity, the objective of which is to “...enhance the Government of Nepal’s response capabilities at the national, regional, and district levels.”
3. The development of Urban Search and Rescue (USAR) capacity has been identified as a high priority activity as part of the institutional capacity building of first responders. Sustainable USAR capacities cannot be developed in isolation, it must form an integral part of a holistic response system.
4. Based on Chapter G of the INSARAG Guidelines as well as lessons learned from previous USAR capacity development projects, the focus of this scoping mission was expanded from purely USAR to include emergency response capacity.
5. In the context of this review, emergency response capacity is considered to encompass the disciplines of search and rescue (SAR), fire fighting, pre-hospital emergency care and hazardous materials (HAZMAT).
6. It is acknowledged that there are numerous non-government stakeholders actively engaged in Disaster Risk Reduction (DRR) activities; however the focus of this mission was on the capacities and requirements of the GoN.

7. SAR is currently being provided by the three security agencies, namely Nepal Police (NP); Armed Police Force (APF) and Nepal Army (NA), none of which have SAR as a primary mandate. The agencies lack institutional capacity, training and equipment to respond effectively as part of an integrated SAR system. The three agencies assume the role of SAR as a secondary or tertiary responsibility in an ad-hoc manner.
8. The capacity of the fire service does not meet the demands of the current environment. The institutional capacity is weak, training opportunities are sparse, equipment is outdated and many of the vehicles are unserviceable. Well-meaning donations are conducted in an ad-hoc fashion and therefore there is no intra-agency compatibility, types of vehicles in use cannot enter many areas in the Kathmandu Valley due to very narrow roadways and access to a water source is a significant challenge.
9. The Government provided ambulance service is essentially a transport service, with limited to no on-site medical intervention or in-transit medical care being provided. There is a strong reliance on the multitude on non-government ambulance organisations which are not centrally coordinated.
10. There does not appear to be any current capacity to respond to and mitigate the risks posed by HAZMAT to the public, livestock and the environment.

## **Summary of Recommendations**

1. The recommendations are presented in two categories. Category 1 is the technical capacity development recommendations and Category 2 is the implementation recommendations.

## Category 1: Summary of Technical Capacity Development Recommendations

No:	Recommendation	Flagship Section Activity Correlation
<b>1.</b>	<b>Establish a coordinated, integrated multi-disciplinary SAR capacity that addresses the needs of Nepal.</b>	<b>2, 2.1</b>
1.1	The GoN should assign the mandate of SAR, as a primary responsibility, to a single agency. (There will always be a need for SAR surge capacity from other agencies e.g., NA.)	
1.2	Develop institutional SAR capacity at a national, district and municipal level.	
1.3	Design and develop a SAR system tailored to address the unique circumstances and challenges of Nepal.	
1.4	Standardise and modernise SAR PPE, equipment and vehicles.	
1.5	Increase the end-user training activity of the PEER CSSR activities.	
1.6	Increase the end-user training activity of the PEER MFR activities.	
1.7	Establish national USAR capacity in accordance with the INSARAG Guidelines.	2.1.1
1.8	Implementation of an unrestricted (access by landline and mobile phone) national toll-free three digit number.	
1.9	Develop, disseminate and implement an emergency communications system for SAR services.	2.1.5
1.10	Develop a uniform disaster communication system to ensure that communications can be maintained during a disaster.	
1.11	Establishment of a national multi-disciplinary SAR training academy.	
1.12	Design and deliver a multi-disciplinary SAR training programme. This should include motor vehicle rescue (light and heavy); low angle high angle rope rescue; trench rescue; confined space rescue; aviation rescue; collapsed structure rescue; wilderness search and rescue (landslides); swift water rescue.	
1.13	Design and deliver Incident Command System (ICS) training.	
<b>2.</b>	<b>Complete overhaul of the existing fire fighting services.</b>	
2.1	Develop the institutional fire fighting capacity at a national, district and municipal level.	
2.2	Nationwide implementation of the <i>Fire Brigade Operation and Management Guideline of 2010</i> on a priority basis as determined by location and frequency of fire events.	
2.3	Develop and implement a national fire prevention code.	
2.4	Design and develop a fire fighting system tailored to address the unique circumstances and challenges of Nepal.	
2.5	Standardise and modernise the fire fighting PPE, equipment and vehicles.	2.1.2
2.6	Develop guidelines for donors regarding donations of fire fighting equipment and vehicles.	

2.7	Expansion of the 101 number to an unrestricted (access by landline and mobile phone) national toll-free three digit number for fire services.	
2.8	Develop, disseminate and implement an emergency communications system for fire services.	2.1.5
2.9	Develop a uniform disaster communication system to ensure that communications can be maintained during a disaster.	
2.10	Establishment of a national fire fighting training academy.	
2.11	Design and deliver a tiered fire fighting programme that provides for basic as well as specialised fire fighter and fire prevention training.	2.1.3
2.12	Design and deliver Incident Command System (ICS) training.	
2.13	Embark on a public awareness and education campaign regarding fire services.	
<b>3.</b>	<b>Complete overhaul of the existing ambulance services.</b>	
3.1	Develop the institutional Emergency Medical Service (EMS) capacity at a national, district and municipal level.	
3.2	Establish an EMS Regulatory Authority.	
3.3	Design and develop a national EMS tailored to address the unique circumstances and challenges of Nepal.	
3.4	Standardise the examination, certification, registration and licensing for EMS personnel.	
3.5	Establish a standing pre-hospital clinical advisory and oversight body.	
3.6	Define a pre-hospital clinical scope of practice and code of conduct.	
3.7	Standardise and modernise the pre-hospital equipment and vehicles.	2.1.4
3.8	Develop guidelines for donors regarding donations of pre-hospital equipment and vehicles.	
3.9	Implementation of an unrestricted (access by landline and mobile phone) national toll-free three digit number.	
3.10	Develop, disseminate and implement an emergency communications system for EMS.	2.1.5
3.11	Develop a uniform disaster communication system to ensure that communications can be maintained during a disaster.	
3.12	Establishment of a national pre-hospital training academy.	
3.13	Design and deliver a pre-hospital emergency medical training programme.	2.1.4
3.14	Design and deliver an emergency medical call taking and dispatchers training programme.	
3.15	Design and delivery of mass causality and triage training programme.	2.1.9
3.16	Design and deliver Incident Command System (ICS) training.	
<b>4.</b>	<b>Establish a HAZMAT capacity that deals with preventative measures as well as developing capacity to respond to incidents.</b>	
4.1	Establish a legislative framework that deals with HAZMAT.	
4.2	Establish a HAZMAT Regulatory Authority.	
4.3	Establish and implement a HAZMAT identification system e.g., UN Globally Harmonised System of Classification and Labelling of Chemicals (GHS).	
4.4	Establish and implement regulations for the transportation,	

	storage and disposal of HAZMAT.	
4.5	Develop, disseminate and implement an emergency communications system for HAZMAT.	2.1.5
4.6	Develop a uniform disaster communication system to ensure that communications can be maintained during a disaster.	
4.7	Establishment of a centralised hazardous materials and poison data base.	
4.8	Establish a HAZMAT primary response system within the fire service.	
4.9	Establish a multidisciplinary, multi-agency HAZMAT response unit.	
4.10	Develop HAZMAT Standard Operating Procedures (SOP).	
4.11	Design and deliver a HAZMAT training programme.	
4.12	Design and deliver Incident Command System (ICS) training.	

## Category 2: Summary of Implementation Recommendations

1. Capacity development requires attention and activity at three levels i.e. environment (institutional), organisation and individual. The supply of equipment and the provision of training, while important, form only part of developing capacity that is sustainable.
2. The GoN is the beneficiary and ultimate owner of any capacity that is developed. Therefore, the contents of this report should be discussed with GoN and it should be afforded the opportunity to provide comment.
3. Once agreed by the GoN, UN OCHA and the INSARAG Secretariat should embark on a donor awareness campaign to create awareness of the proposed emergency response capacity development activities in an effort to identify potentially interested stakeholders.
4. All interested donors should participate in the design and implementation of a donor coordination strategy to maximise activity deliverables.
5. An Activity Plan (AP) should be designed for each activity by a multi-disciplinary group of relevant international experts and national stakeholders to ensure the project deliverables and time frames are realistic.

6. The AP should provide for a comprehensive evaluation of the institutional capacity, readiness and commitment of all recipient stakeholders to receive the project prior to it commencing.
7. The authors acknowledge that institutional change and capacity development is a time consuming process. The authors also acknowledge the urgency required for initiating the development of emergency services capacity. Therefore it is recommended that the institutional, organisation and individual capacity development activities be run as parallel processes.
8. Projects of this nature should include a comprehensive pre-inception phase **prior to** the project design and a pilot project should be run prior to implementing the full project.

## **Options for Implementation**

**Option 1** proposes that each of the four components i.e. SAR, fire fighting, EMS and HAZMAT be developed separately.

**Option 2** is principally the same as Option 1 with one differential. It is common practise in many countries that the HAZMAT primary response function is co-located within the fire service; therefore this option proposes that the disciplines of fire fighting and HAZMAT be combined under a single agency.

**Option 3** recommends that an entirely new entity be created, for example a Department of Community Services (DCS), housed within a government ministry. This department would have as its primary responsibility the provision of essential services to protect and save lives and property in the communities of Nepal. It would include all four disciplines of SAR, fire fighting, EMS and HAZMAT. During day-to-day operations it would report into an established structure, however, during a disaster it would report into the DRM structures.

## **1. Mission Team Members**

1. This scoping mission was conducted under the auspices of the International Search and Rescue Advisory Group (INSARAG). Members of this team originated from two INSARAG member countries, however, they did not represent their respective countries, but rather were representatives of the INSARAG network.
  
2. The scoping mission team members included:
  - Mr Dewey Perks - USA;
  - Ms Heidi Huusko and Mr Olle Castell - Sweden;
  - Mr Trevor Glass – Consultant;
  - Mr George Murray and Mr Ram Luetel – OCHA Nepal.

## 2. Introduction

### 2.1 Risk Profile

1. Nepal is placed 20<sup>th</sup> on the global hazard map, 30<sup>th</sup> with regard to water-induced hazards (floods; landslides) and 22 of the 2315 glacial lakes are in imminent danger of outburst.(1) A study by the United Nations Development Programme (UNDP) Bureau for Crisis Prevention and Recovery (BCPR) ranks Nepal as the 11<sup>th</sup> most at risk country in the world in terms of relative vulnerability to earthquakes.(2)
2. The last major earthquake to strike Nepal was the Magnitude 8.4 Great Nepal Bihar Earthquake of 1934 which resulted in 8519 fatalities.(3) Data from the DesInventar Disaster Information System shows that 29,415 fatalities were recorded for the period 1971-2007. Of those, 95 (0.32%) resulted from earthquake and 10,274 (35%) resulted from fire (4,575), flood (3,138) and landslide (2,561). Of the houses damaged and destroyed, earthquakes were responsible for 23%, floods 45% and fire 18%.(4)
3. Due to the lack of infrastructure, combined with urbanisation, limited implementation of building codes and the challenges (cost; time) with retrofitting earthquake prone structures, it is reasonable to anticipate that the incidence of injury, death and damage following an earthquake in the Kathmandu Valley could be devastating. It is estimated that 103,000 injuries and 44,000 fatalities could result from a strong earthquake in the Kathmandu Valley.(5)
4. The Government of Nepal (GoN) has recognised its current limitations in its ability to respond to large scale disasters, and the international community has increasingly demonstrated its commitment to reduce the risk of disasters in Nepal.

5. The risks posed by natural disasters enjoy a high priority focus. However, the impact of day-to-day emergencies is neither well understood nor does it enjoy the required attention by either the GoN or the international community. While detailed statistics are not readily available, fires, industrial accidents, explosions, road accidents and poison related incidents are common in Nepal.(1) A journal article, *Injuries in Nepal – A Growing Public Health Problem*, quotes a 2002 World Health Organisation (WHO) report which states that 8% of deaths in Nepal result from injury.
6. The increasing adoption of technology and growing urbanisation adds to the challenges faced by emergency responders. As examples, increased housing densities make it easier for fires to spread, increased use of cooking gas raises the risk of ignition sources (as well as explosions) and the increased use of motorised transport increases the incidence of accidents.
7. While the GoN has recognised its limitations in responding to large scale disasters, its ability to respond effectively to day-to-day emergencies is also limited.

## **2.2 Background to Scoping Mission**

1. In furtherance of the implementation of General Assembly (GA) Resolution 57/150, the GoN, through the Ministry of Home Affairs (MHA), facilitated by United Nations (UN) Office for the Coordination of Humanitarian Affairs (OCHA) Nepal, hosted an INSARAG Earthquake Response Simulation Exercise in April 2009. This exercise proved to be a significant event in raising awareness of the complexities of a response to a major earthquake.
2. Later in the year, participatory discussions between the GoN and stakeholders resulted in the formation of a consortium known as the Nepal Risk Reduction Consortium (NRRC). Its intent is to address Nepal's

vulnerability to natural disasters in a coordinated manner. The NRRC has identified five flagship areas, namely:

- I. School and hospital safety - structural and non-structural aspects of making schools and hospitals earthquake resilient;
  - II. Emergency preparedness and response capacity;
  - III. Flood management in the Koshi river basin;
  - IV. Integrated community based disaster risk reduction/management;
  - V. Policy/Institutional support for disaster risk management.
3. Of specific relevance to this scoping mission is Flagship Area 2, Emergency Preparedness and Response Capacity, the objective of which is to “...enhance the Government of Nepal’s response capabilities at the national, regional, and district levels.”(5). The Flagship Area 2 joint programme has identified the following as high priority areas for intervention:
- a) Institutional Capacity Building of First Responders;
  - b) Disaster Response and Information Management Planning;
  - c) Warehousing and Stockpiling for Pre-positioning Stocks and Non-Food Items for Emergency Response;
  - d) Strengthening Preparedness for the Facilitation of international Assistance.(5)
4. The specific focus of this scoping mission was priority area *a) Institutional Capacity Building of First Responders*.
5. The development of USAR capacity is an activity that has been identified as part of the institutional capacity building of first responders. During the 2010 Global INSARAG Meeting, Mr. Rameshwor Dangal, Chief of Disaster Section residing within MHA, made an appeal for support on the development of national Urban Search and Rescue (USAR) capacities.
6. The GA 57/150 of 16 December 2002 on *Strengthening the Effectiveness and Coordination of International USAR Assistance* recognises the

INSARAG Guidelines as the standard for USAR in international disaster response. The INSARAG Guidelines serve as a reference tool for countries aiming to develop national USAR capacity, disaster prone countries that may require international USAR assistance, as well as established international USAR teams.(6)

7. Sustainable USAR capacities cannot be developed in isolation, it must form an integral part of a holistic response system. Chapter G of the INSARAG Guidelines focuses on developing a national USAR Capacity. It articulates the need to develop capacity at all levels (Figure 1) and describes a USAR Development Cycle (Figure 2).(7)

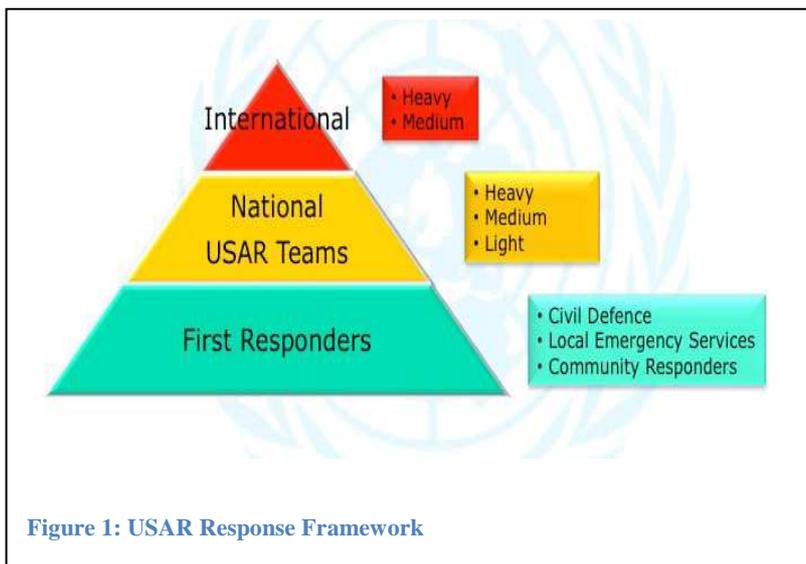


Figure 1: USAR Response Framework

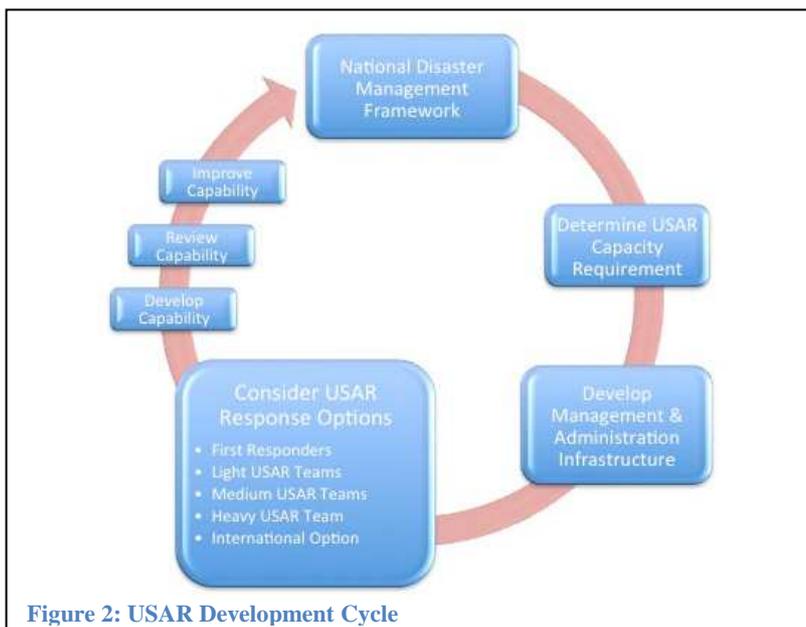


Figure 2: USAR Development Cycle

8. Based on Chapter G as well as lessons learned from previous USAR capacity development projects(8, 9), the focus of this scoping mission was expanded from purely USAR to include emergency response capacity. This stems from the fact that emergency services form the foundation on which specialised response capacity (e.g., USAR) is built. Experience has also demonstrated that the most lives are saved by local emergency responders and therefore this should be a priority focus of capacity development at the institutional, organisational and individual levels.

### **3. Scope of the Mission**

1. There have been countless assessments relating to the disaster setting in Nepal. The Team are not however aware of any previous assessment that focused on emergency response capacity.
2. A disaster is defined as “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.”(10) An emergency is defined as a “Sudden, unexpected, or impending situation that may cause injury, loss of life, damage to the property, and/or interference with the normal activities of a person or firm and which, therefore, requires immediate attention and remedial action.”(11) In the context of this review, the day-to-day emergencies do not overwhelm a community’s ability to cope with the event using its own resources.
3. This mission focused on day-to-day emergency response capacity rather than disaster response capacity. The capacity was analysed at three levels; institution, organisation and individual. In the context of this review, emergency response capacity is considered to encompass the disciplines of search and rescue (SAR), fire fighting, pre-hospital emergency care and hazardous materials (HAZMAT). The term SAR is used to describe the

technical rescue disciplines employed in responding to day-to-day emergencies. This includes the following:

- a. Motor Vehicle Rescue;
  - b. Confined Space Rescue;
  - c. Trench Collapse Rescue;
  - d. Low Angle High Angle Rope Rescue;
  - e. Structural Collapse Rescue;
  - f. Swift Water Rescue;
  - g. Wilderness Search and Rescue.
4. The aim of the scoping mission was to conduct a comprehensive analysis of the current emergency response environment and identify priority needs in order to guide capacity development of day-to-day emergency response which in turn, would ultimately lead to a more effective disaster response in Nepal. The mission was successful in achieving the aim and it has produced a set of recommendations that if implemented, will result in an integrated emergency preparedness and response capacity in Nepal.
5. For a detailed Terms of Reference (TOR) see Annex A.

### **3.1 Methodology**

1. While it is acknowledged that there are numerous non-government stakeholders actively engaged in Disaster Risk Reduction (DRR) activities in Nepal, the focus of this mission was on the capacities and requirements of the GoN.
2. The methodology comprised a comprehensive document review and an in-country assessment conducted in Kathmandu, Nepal. Due to time constraints, the in-country assessment was limited to Kathmandu Valley. However, several of the meeting participants were representatives of line ministries and they were therefore able to provide an overview of the country as a whole.

3. The in-country assessment comprised both a series of meetings as well as site visits to fire and ambulance services. The team did not however conduct a complete assessment of the technical SAR capability of the three security entities.
4. Details of the meeting schedule are included as Annex B.

#### **4. Results**

1. The scope of this mission was to determine the capacity of emergency services with regard to day-to-day emergency response. A review of Central Bureau of Statistics ([www.cbs.gov.np](http://www.cbs.gov.np)) showed a lack of statistical information that would have been useful in determining the baseline situation as it pertains to fire fighting, rescue, HAZMAT and ambulance activity in Nepal.
2. From the discussions, it is apparent that there is little delineation between a local event (e.g., a motor vehicle accident; structural fire), a district/regional incident (e.g., flash-flood; wild-land fire), a national emergency (Glacier Lake Outburst Flood) and an international disaster (major earthquake). All are considered in the context of a “disaster”. Therefore, to assist meeting participants to understand the focus of the assessment, a scenario was provided to facilitate discussions. The scenario used was that of a bus load of passengers being involved in a motor vehicle accident that left them trapped in the bus several hundred meters down a steep embankment.
3. The level of disaster vulnerability of Nepal rightly justifies a high level of focus to DRR. However, there is a critical lack of attention to the area of day-to-day emergency response capacity which explains, in part, the absence of an integrated emergency response system (ERS).
4. Due to the lack of an ERS system there are few interventions available in a timely manner to prevent a local event from escalating into a district/regional

incident or even national emergency (e.g., the wild-land fire of April 2009 that resulted in the death of several military personnel deployed to combat the fire).

5. It is important to differentiate between arriving on scene with manpower as opposed to responding to the incident in a timely manner with adequately trained and equipped staff.

## **4.1 Search and Rescue (SAR)**

1. In this context SAR refers to a range of search and rescue disciplines which includes, amongst others, motor vehicles, high angle low angle, confined space, swift water and collapsed structures.

### **4.1.1. Institution**

1. The MHA is the nodal ministry for all line ministries having a responsibility in Disaster Risk Management (DRM). Within the existing legal framework of Nepal it is not clearly defined as to where the *primary responsibility* for SAR resides. From discussions it is understood that SAR falls under the jurisdiction of the Disaster Section within the MHA.
2. SAR services are currently provided by the three security entities namely Nepal Police (NP); Armed Police Force (APF) and Nepal Army (NA). It is important to note however that none of these security entities have SAR as their *primary responsibility*.
3. In that there is no integrated system for emergency response to SAR, these entities assume this as a secondary or tertiary responsibility in an ad-hoc manner.

#### 4.1.2 Organisations

1. During discussions, representatives of the three security entities informed the team that none of the security forces have a presence in all areas of the country. The response to SAR events therefore is influenced by the geographical location of the event in relation to the closest security entity. By way of example, in the Municipality of Kathmandu it is likely that the NP will be the first responders whereas in outlying areas it may be either the APF or the NA who responds first.
2. During the same meeting it was also expressed that there is a tiered-response approach, albeit variable. Under this system, the NP serves as the first tier response, particularly in urbanised areas. If the event is beyond their capability they would most likely call in the APF for assistance. In theory, if the APF were unable to cope with the event, it would be escalated to the NA.
3. However, it was also apparent that these entities do not necessarily wait to be called upon; rather it is standard practise that they self-dispatch and obtain retrospective permission as required. This may result in an unnecessary duplication or triplication of response.
4. In terms of the current situation, the three security entities collectively provide the governmental SAR capacity, albeit as a secondary or tertiary responsibility. Although the three entities have in common elements of command and control and transportation, there is no clearly defined system of unified command at the tactical level.
5. The three entities are well staffed in terms of manpower however there is a common theme in that all have minimal access to the required SAR training and technical equipment.
6. In that the GoN has not delegated the mandate to provide SAR response to a single entity, and considering all three agencies are responding to SAR

related events, they are all required to conduct their own SAR training and purchase their own SAR equipment from existing budgets. Consequently there is no standardisation with regard to the provision of training or the purchase of equipment. This in turn impedes the effectiveness of multi-agency response.

7. With regard to communications, the NP has a three digit number, 100. From discussions it was noted that this number is the most widely known and used number to call for any type of emergency.

#### **4.1.3 Individuals**

1. The principle initiative for SAR training of members of the NP, APF, and NA is the Programme for the Enhancement of Emergency Response (PEER), which enables selected members to be trained as instructors in Collapse Structure Search and Rescue (CSSR) and Medical First Responder (MFR). These instructors in turn are intended to provide end-user training in their respective organisations.
2. Some of the CSSR and MFR modules require equipment for training delivery and therefore each course has a standardised equipment cache. However, instructors within the agencies providing this training have limited or no access to these standardised training equipment caches. They are required to use whatever limited “in-service” tools or equipment are available which results in taking equipment out of service. Consequently, some entities have eliminated these modules from their courses, focusing only on the didactic modules. This has resulted in a lack of standardisation and inconsistency of course curricula and delivery between the agencies providing this training.
3. Another issue arising is the availability of instructors. While there have been a reasonable number of instructors trained through the National Society for Earthquake Technology (NSET) PEER Training of Trainers (ToT) activity, it

was reported that they are often not available when requested<sup>1</sup>. There has also been a degree of attrition of the instructor pool. These examples exemplify the lack of commitment and consistency with regard to SAR training as well as critical gaps in sourcing equipment.

## 4.2 Fire Fighting

1. The Ilam Municipality-1, Chowk Bazaar fire which occurred on 15 February 2010 serves as a recent example to illustrate that the current state of fire fighting services is not dissimilar to that of SAR. The following quote from a report on the incident states “Ten houses were completely destroyed by the fire and five houses were dismantled to prevent the fire from spreading and 16 small cottage shops were destroyed in the fire. The locals, Armed Police Force, Nepal Police and Nepal Army brought the fire under control and rescued the people.”(12)
2. In May 2011, UNDP Nepal produced a draft report titled “*A Needs and a Capacity Assessment of Fire Preparedness in the Municipalities of Nepal.*” This report is based on a study of the existing capacities of the fire service and it identifies current gaps and provides recommendations on the way forward. The team concurs with the finding that for the *Fire Brigade Operation and Management Guideline of 2010* to be successfully implemented, it requires “strong technical, financial, managerial and institutional capacities”.(13)

### 4.2.1 Institution

1. The Ministry of Local Development (MLD) is the nodal ministry responsible for the governance of fire fighting services. In 2009 the GoN transferred the responsibility for fire fighting from the MHA to the local municipalities which fall under the MLD.(13)

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<sup>1</sup> Stated verbally in a meeting with NSET

2. Citing the draft report *A Needs and Capacity Assessment of Fire Preparedness in the Municipalities of Nepal*, “each municipality is directly responsible for its own fire brigade and all function under the aegis of MLD”. From discussions and a document review it was noted that there are discrepancies in the number of municipalities currently providing fire fighting services as well as the number of operational resources in each municipality.
3. Although the responsibility has been devolved to MLD, it should be noted that fire fighting capacity has historically been limited, as it continues to be today. Institutionally the fire service has been neglected for decades.

#### **4.2.2 Organisation**

1. There is very limited organisational capacity to develop and or sustain the fire services. While the *Fire Brigade Operation and Management Guideline of 2010* talks of the provision of a fire fighting service, there is no strategy document that articulates how to provide this service.
2. There is no national competency for fire fighting standards and the roles and responsibilities of a fire fighter are unclear. By way of an example, it is uncertain if a fire fighter’s responsibilities should encompass HAZMAT expertise and emergency first aid, as well as more traditional fire fighting skills.
3. Typically, fire services are utilised to enforce fire prevention codes. Meeting participants were not able to provide information to the team regarding the availability of such a code, whether fire fighters have any current responsibility with regard to its implementation, or how it could be enforced.
4. There is no organisation mandated to provide fire fighting training according to a national or even regionalised standard. In addition there is no physical facility where the practical aspects of fire fighting can be trained e.g., a fire training academy.

5. Although municipalities are responsible for organising their own fire service there is no national standard provided for them to follow. The MLD approved the *Fire Brigade Operation and Management Guideline of 2010*. However, from discussions it is understood that this is a very basic document and does not provide detailed direction on the provision of fire fighting services. (This document is currently only available in Nepalese and therefore the team were unable to review the document). Consequently the capacities being developed within the respective municipalities are being done in isolation and therefore may not integrate with the capacity of another municipality.
6. This lack of integration is further compounded by donations of fire fighting vehicles and equipment from multiple donors that use different fire fighting systems. There are no guidelines available for prospective donors and consequently there is an array of different and non-compatible fire fighting vehicles and equipment in Nepal. There is also no capacity to maintain what has been donated and therefore as soon as it requires even routine maintenance or minor repair it becomes unserviceable.
7. Based on existing staffing levels, there is a requirement for the security entities (in particular, the APF) to second staff to the municipalities in Kathmandu Valley to support fire service capability.
8. During discussions it was repeatedly stated that there is a need primarily for fire engines and equipment. However, these two components, while important, form only part of an integrated fire fighting system. It is also important to note that due to the haphazard nature of urban expansion and very narrow roadways, access to large parts of urban areas by fire engines is severely restricted.(14)
9. With regard to communications, the fire brigade has a three digit number, 101. However a recent study showed that only 49% of respondents knew that this was the emergency number for fires. Also, due to a large number of prank calls, calling 101 is restricted to landlines only.(13) According to

the World Factbook on Nepal, based on 2009 data, there are 820,500 main lines servicing a population of approximately thirty million people.(15) Therefore the majority of the population are unable to use the 101 number to report a fire. The 101 number is allocated to the fire station located at the district headquarters. Some districts have more than one fire station, however because the 101 can only be assigned to one fire station in the district, they have to use a different number.(13)

### **4.2.3 Individual**

1. It is encouraging to note that despite the obvious lack of support and resources, the fire fighters are committed to their work. This provides an element of confidence with regard to having a dedicated human resource pool on which to build fire fighting capacity.
2. However, due to the lack of common standards, the quality, timing and consistency of training currently provided varies significantly. Furthermore, there is little or no access to a standardised uniform, personal protective equipment (PPE) or fire fighting equipment that enables fire fighters to be recognised as such, and to respond safely and effectively.
3. It must also be noted that it is not just the assigned fire fighters that respond to fires. The issues of training, PPE and equipment are also relevant to the security entities that, through current circumstance, have a fire fighting role. The death of military personnel in 2009 who were engaged in fighting a wild-land fire serves as a case in point example.
4. A common standard would include provisions for recruitment and retention of personnel, position descriptions with performance expectations and a standardised training programme to achieve professional competency. Furthermore, a standardised training programme would include professional development to allow the trainee to meet the performance expectations of the position description.

## 4.3 Ambulance

1. Within Kathmandu there are approximately 700 emergency cases per day. There are approximately 45 functioning ambulances of which only 18 carry oxygen and none of them provide any other form of medical intervention. Of the available ambulances, 17 are small cars with ambulance symbols painted on them and are completely unsuitable for medical treatment.(16)

### 4.3.1 Institution

1. The Ministry of Health and Population (MHP) is responsible for the development of policy and regulations applicable to all ambulance services whether they be government or not. The implementation and monitoring of these policies and regulations are devolved to the Department of Health Services. However, it was determined during discussions that there does not seem to be any effective mechanism to regulate or monitor ambulance services.
2. The MHP has an Ambulance Service Operations Policy of 2003, which describes three categories of ambulance. Category A provides for ambulances to be crewed and equipped to provide advanced life support; Category B for basic life support; and Category C is essentially a transport service. However, this policy does not include an integrated approach to the systemic planning for the effective provision of ambulance services.
3. The Ministry of Finance waives the import duty on ambulances. This benefit is restricted to one ambulance per service provider, regardless of whether it is government based or not.
4. In discussion with MHP and WHO it was stated that emergency ambulance services should ideally be provided by the GoN. In that the GoN is not doing this effectively, the provision of ambulance services is consequently

largely dependent on non-governmental organisations (NGO) and the private sector.

#### 4.3.2 Organisation

1. Typically, ambulances are categorised as emergency or non-emergency vehicles. Based on the GoN policy on ambulances, vehicles categorised as A and B would be defined as emergency vehicles. Category C vehicles would be defined as non-emergency vehicles. Due to the fact that the vast majority of ambulances in Nepal are Category C, there is very limited access to well-equipped emergency ambulance services.
2. Additionally, meeting participants repeatedly described to the Team the inappropriate use of the current ambulances services in Kathmandu Valley. The example cited being that they are used as a “taxi” to transport people to places (e.g., airport), instead of patients to hospital, while using emergency warning devices. This situation not only increases the risk of accidents but undermines the credibility of the service within the community.
3. There are numerous providers of ambulance services through three broad categories; GoN (through its healthcare infrastructure), non-government organisations (NGO) and the private sector. There is however no central government emergency medical response system for these ambulance resources.
4. Although there may be a relatively large number of ambulance resources in Nepal (approximately 500<sup>2</sup>) available through a variety of government and non-government providers, there is no coordination of ambulance resources. Public access to these resources during an emergency is limited and therefore patients make use of any form of available transport to get to hospital. A study conducted in 2006 states that only 9.9% of patients that arrived at Patan Hospital Emergency Department did so by ambulance.(17)

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<sup>2</sup> Stated verbally in the meeting with MHP

5. With regard to communications, each provider of ambulance services has its own contact number. A recently established ambulance NGO has been assigned a toll-free three digit number, 102 for one year<sup>3</sup>.

### **4.3.3 Individual**

1. The Nepal Health Professional Council (NHPC) Act, 2053 of 1997 requires that all health professionals be registered.(18) It is not well defined whether ambulance personnel are classified as health professionals (Section 2, Point 5) and are therefore required to register with the NHPC.
2. Additionally, Section 2, Point 5 of the Act refers to the “prescribed minimum qualifications”. However, during meetings with the MHP no one was able to provide the minimum guidelines for ambulance personnel.
3. There is no national or regional coordinated regulatory body that has oversight over the provision of medical training for ambulance personnel or the equipping of ambulances and consequently, there is little consistency or standardisation with regard to the training and equipment provided.
4. It was described that in most instances the ambulance is crewed with only a driver. It was also described that the drivers do receive some basic training. However, even though the drivers may have basic medical training, as they work alone, they are unable to provide any medical care during transportation.
5. Similar to the issues identified in 4.2.3 under Fire Fighting, there is a lack of a common standard and the quality, timing and consistency of training currently provided vary significantly. Also, there is little or no access to a standardised uniform, personal protective equipment (PPE) or pre-hospital emergency medical equipment that enables ambulance personnel to be recognised as such, and to respond safely and effectively.

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<sup>3</sup> Stated verbally in the meeting with NAS

#### **4.4 Hazardous Materials (HAZMAT)**

1. In the context of this mission HAZMAT is considered from the perspective of commercial and industrial products. Examples include cooking gas i.e. liquid petroleum gas (LPG); petrochemicals and paint.
2. The issue of HAZMAT was raised in discussions in all meetings. None of those interviewed were aware of any regulation with regard to the identification, transport, storage and sale of these goods, nor of a HAZMAT emergency response system. Lastly they could not direct the team to the government officials responsible for this issue.
3. The presence of HAZMAT in what could otherwise be a relatively minor event could result in rapid escalation of the scale of the event with far reaching consequences. As an example, fire coming into contact with HAZMAT exponentially complicates the manner in which the fire is attacked due to accelerated spread of the fire and or explosion, as well as increasing the release of toxins into the environment.
4. **Due to the potentially detrimental risks posed by HAZMAT to public health and the environment, an integrated approach to systemic planning should include this critical issue.**

### **5. Recommendations**

#### **5.1 Prelude**

1. The Team aimed to obtain a realistic appraisal of the current situation in Nepal to ensure recommendations for capacity building, in conjunction with the donor community, identify achievable projects to be implemented over realistic timeframes resulting in an effective and sustainable solution for the GoN.

2. As has already been stated, there are numerous NGOs working on developing capacity in Nepal. These recommendations however focus specifically on developing the capacity of the GoN.
3. The first activity identified in the *Institutional Capacity Building of First Responders* of Flagship Area 2 is to develop 2 Medium USAR teams.(5) The rationale for this activity is sound and is supported by the Team. However, as has been previously stated, USAR is a highly specialised, manpower and equipment intensive resource that is costly to develop and maintain. It is a rescue discipline that resides at the apex of the technical search and rescue response pyramid. In order for it to be sustainable, it requires a solid emergency response framework foundation on which it can be developed. It must also be noted that even in developed countries, it is a constant challenge to justify the costs of maintaining this robust capacity.
4. In his Foreword to the Haiti 2010 *After-Action Review of Response*, Mr. Rashid Khalikov, Director, Office for the Coordination of Humanitarian Affairs (OCHA) Geneva, writes “First on the ground, USAR teams work hand-in-hand with local response teams, bringing additional expertise and technology to assist where needed, where local resources may be lacking.”(19) This statement underpins the fact that USAR is a highly specialised rescue discipline utilised to augment existing local response capacity.
5. It has been noted that motor vehicle accidents, pedestrian accidents, fires (structural; wild-land) and seasonal occurrences of flooding and landslides are the most frequently occurring events. These events result in the greatest number of non-medical related fatalities.
6. Therefore these recommendations focus on developing day-to-day emergency response capacity as this will provide the greatest benefit to the people of Nepal. Also, we know that during disasters the greatest numbers of lives are saved by first responders and therefore any capacity developed at this level will automatically provide benefit during a disaster. The

approach is therefore a bottom up technical capacity development strategy rather than top down.

7. The recommendations are presented in two categories. Category 1 is the technical capacity development recommendations laid out in Table 1. Category 2 is the implementation recommendations presented in Section 5.3.

## 5.2 Table of Recommendations

1. For the purpose of this report, time periods indicated represent the following time span:

- Short term - < 12 months;
- Medium term – 12 – 36 months;
- Long term - > 36 months.

2. The recommendations have been correlated with the relevant activities identified in Flagship Area 2, Section 2.1, *Institutional Capacity Building of First Responders* of the Joint Programme Implementation Work Plan.(5) Of the nine activities listed in Section 2.1, the following six have relevance to this report:

- 2.1.1 Develop two national Medium level Urban Search and Rescue (USAR) teams for collapsed structure rescue;
- 2.1.2 Provide updated equipment for Fire and Emergency Services in 5 major urban centres;
- 2.1.3 Provide specialised training in fire-fighting, paramedical care, and search and rescue techniques for the Fire Services;
- 2.1.4 Provide international standard ambulances to 5 major urban centres, and provide training to develop a cadre of emergency medical technicians;
- 2.1.5 Establish a national system for emergency response call networks and call centres for Police, Fire, Ambulance Services and hospitals

in 5 major urban centres, with appropriate communications equipment.

2.1.9 Health workers trained on managing mass casualty incidents, including trauma care, triage, and other specific health issues.

3. These recommendations also support the country programme outcomes of the *UNDP Comprehensive Disaster Risk Management Programme, Nepal 2011-2015*. This report has relevance to the following programme components:

- a) Institutional and Legislative Systems for DRM;
- b) Emergency Preparedness and Response.

**Table 1 Technical Capacity Development Recommendations**

No:	Recommendation	Output	Stakeholders	Flagship Section 2, 2.1 Activity Correlation	Time to Action
1.	<b>Establish a coordinated, integrated multi-disciplinary SAR capacity that addresses the needs of Nepal.</b>	<b>An easily contactable, appropriately staffed, trained and equipped SAR system tailored to suit the unique requirements of Nepal.</b>	<b>GoN; interested donors and implementers</b>		<b>Medium to long term</b>
1.1	The GoN should assign the mandate of SAR, as a primary responsibility, to a single agency. (There will always be a need for SAR surge capacity from other agencies e.g., NA.)	A single agency that is funded, staffed, trained and equipped to respond to SAR related events as its primary role and responsibility.			Short term
1.2	Develop the institutional SAR capacity at a national, district and municipal level.	A SAR institutional framework that caters for the provision of multi-disciplinary SAR services in a coordinated and integrated system.			Medium to long term
1.3	Design and develop a SAR system tailored to address the unique circumstances and challenges of Nepal.	An integrated multi-disciplinary SAR system developed around long term funding requirements, human resource requirements, geographical and seasonal distribution of events.  For example: Motor vehicle rescue capacity embedded within the NP and a wilderness SAR capacity embedded within the NA.			Medium to long term
1.4	Standardise and modernise the SAR PPE, equipment and vehicles.	Standardised equipment to ensure intra and inter-agency compatibility and access to an existing supply chain for maintenance, repair and procurement of disposable			Short to long term

		components.			
1.5	Increase the end-user training activity of the PEER CSSR activities.	Increased pool of CSSR end-users trained and equipped according to a standardised CSSR programme.			Short term - ongoing
1.6	Increase the end-user training activity of the PEER MFR activities.	Increased pool of MFR end-users trained and equipped according to a standardised MFR programme.			Short term - ongoing
1.7	Establish national USAR capacity in accordance with the INSARAG Guidelines.	National USAR capacity composed from emergency services who have received specialised training and equipment able to deploy nationally.		2.1.1	Medium - long term
1.8	Implementation of an unrestricted (access by landline and mobile phone) national toll-free three digit number.	An easily accessible national number to report SAR related events.			Short term
1.9	Develop, disseminate and implement an emergency communications system for SAR service.	A facility that will receive notification of SAR events, dispatch and monitor response units, coordinate with relevant multi-agency stakeholders and record and analyse data.		2.1.5	Medium term
1.10	Develop a uniform disaster communication system to ensure that communications can be maintained during a disaster.	A reliable communication platform that is accessible to all essential services (SAR, fire, EMS and HAZMAT) during a disaster. For example, a TETRA system.			Short – medium term
1.11	Establishment of a national multi-disciplinary SAR training academy.	A training facility providing standardised multi-disciplinary SAR training according to a national curriculum.			Medium to long term
1.12	Design and deliver a multi-disciplinary SAR training programme. This should include motor vehicle rescue (light and heavy); low angle high angle rope rescue; trench rescue; confined space rescue; aviation rescue; collapsed structure rescue; wilderness search and rescue (landslides); swift water rescue.	A package of nationally certified multi-disciplinary SAR training delivered according to a national curriculum.			Short term - ongoing

1.13	Design and deliver Incident Command System (ICS) training.	Standardise strategic, operational and tactical incident command training which will result in a coordinated and effectively integrated multi-agency response.			Short term - ongoing
<b>2.</b>	<b>Complete overhaul of the existing fire fighting services.</b>	<b>An easily contactable, appropriately staffed, trained and equipped professional fire fighting system tailored to suit the unique requirements of Nepal.</b>	<b>GoN; interested donors and implementers</b>		<b>Medium to long term</b>
2.1	Develop the institutional fire fighting capacity at a national, district and municipal level.	A fire fighting institutional framework that caters for the provision of fire fighting (structural; wild-land) services.			Medium to long term
2.2	Nationwide implementation of the <i>Fire Brigade Operation and Management Guideline of 2010</i> on a priority basis as determined by location and frequency of fire events.	An integrated national fire fighting system.			Medium to long term
2.3	Develop and implement a national fire prevention code.	A national fire prevention code that is implemented and enforced by the fire service.			Medium to long term
2.4	Design and develop a fire fighting system tailored to address the unique circumstances and challenges of Nepal.	An integrated fire fighting system developed around long term funding requirements, human resource requirements (professional and volunteer), vehicle access and water supply constraints to effectively meet the demands of structural and wild-land fires.  For example: A professional fire fighting service in urban areas; a volunteer (retained) fire fighting service in remote / rural areas and a seasonal specialised multi-agency wild-land fire fighting unit supported by the military to provide an appropriate transport platform.			Medium to long term

2.5	Standardise and modernise the fire fighting PPE, equipment and vehicles.	Standardised equipment and vehicles to ensure suitability to the environment, intra-agency compatibility and access to an existing supply chain for maintenance, repair and procurement of disposable components.		2.1.2	Short to long term
2.6	Develop guidelines for donors regarding donations of fire fighting equipment and vehicles.	See point 2.5			Short term
2.7	Expansion of the 101 number to an unrestricted (access by landline and mobile phone) national toll-free three digit number for fire services.	An easily accessible national number to report fire events.			Medium term
2.8	Develop, disseminate and implement an emergency communications system for fire service.	A facility that will receive notification of fire events, dispatch and monitor response units, coordinate with relevant multi-agency stakeholders and record and analyse data.		2.1.5	Medium term
2.9	Develop a uniform disaster communication system to ensure that communications can be maintained during a disaster.	A reliable communication platform that is accessible to all essential services (SAR, fire, EMS and HAZMAT) during a disaster. For example, a TETRA system.			Short – medium term
2.10	Establishment of a national fire fighting training academy.	A training facility providing standardised fire fighting training according to a national curriculum. ( <i>This facility could also cater for the provision of HAZMAT training.</i> )			Medium to long term
2.11	Design and deliver a tiered fire fighting programme that provides for basic as well as specialised fire fighter and fire prevention training.	A nationally certified fire fighting qualification that produces professional and volunteer fire fighters with standardised training according to a national curriculum.		2.1.3	Short term - ongoing
2.12	Design and deliver Incident Command System (ICS) training.	Standardise strategic, operational and tactical incident command training which will result in a coordinated and effectively integrated multi-agency response.			Short term - ongoing

2.13	Embark on a public awareness and education campaign regarding fire service	Raise public awareness and education regarding fire prevention, what to do in the event of a fire and how to call the fire service.			Medium – long term
<b>3.</b>	<b>Complete overhaul of the existing ambulance services.</b>	<b>An easily contactable, appropriately staffed, trained and equipped professional ambulance service tailored to suit the unique requirements of Nepal.</b>	<b>GoN; interested donors and implementers</b>		<b>Medium to long term</b>
3.1	Develop the institutional Emergency Medical Service (EMS) capacity at a national, district and municipal level.	An EMS institutional framework that caters for the provision of emergency and transport ambulance services in support of the tiered health system.			Medium to long term
3.2	Establish an EMS Regulatory Authority.	A regulatory authority responsible for the drafting of relevant documents, oversight of the implementation of EMS policy and regulation.			Medium
3.3	Design and develop a national EMS tailored to address the unique circumstances and challenges of Nepal.	An integrated ambulance system developed around long term funding requirements, human resource requirements and patient access to effectively provide on-site emergency medical care and transportation of the sick and injured.			Medium to long term
3.4	Standardise the examination, certification, registration and licensing for EMS personnel.	A EMS human resource pool that is professionally trained, registered and licensed to practice clinically in Nepal			Medium term
3.5	Establish a standing pre-hospital clinical advisory and oversight body.	A body of medical professionals that determine the parameters of pre-hospital emergency medical care, draft relevant policy and regulatory documents and provide a quality control and clinical oversight role.			Short term
3.6	Define a pre-hospital clinical scope of practice and code of conduct.	A regulation that defines what clinical interventions can be performed in the pre-			Medium term

		hospital environment and by whom.			
3.7	Standardise and modernise the pre-hospital equipment and vehicles.	Standardised equipment and vehicles to ensure suitability to the environment and access to an existing supply chain for maintenance, repair and procurement of disposable components.		2.1.4	Short to long term
3.8	Develop guidelines for donors regarding donations of pre-hospital equipment and vehicles.	See point 3.7			Short term
3.9	Implementation of an unrestricted (access by landline and mobile phone) national toll-free three digit number.	An easily accessible national number to report medical emergencies.			Short term
3.10	Develop, disseminate and implement an emergency communications system for EMS	A facility that will receive notification of medical emergencies, dispatch and monitor response units, coordinate with relevant multi-agency stakeholders and record and analyse data.		2.1.5	Medium term
3.11	Develop a uniform disaster communication system to ensure that communications can be maintained during a disaster.	A reliable communication platform that is accessible to all essential services (SAR, fire, EMS and HAZMAT) during a disaster.			Short – medium term
3.12	Establishment of a national pre-hospital training academy.	A training facility providing standardised pre-hospital emergency care and medical call taking and dispatch training according to a national curriculum.			Medium to long term
3.13	Design and deliver a pre-hospital emergency medical training programme.	A nationally certified pre-hospital medical qualification that entitles registration with the appropriate health professions regulatory body and grants a license to clinical practice in Nepal.		2.1.4	Short term – ongoing
3.14	Design and deliver an emergency medical call taking and dispatchers training programme.	A nationally certified qualification that entitles emergency medical call centre staff to receive, prioritise, dispatch and provide			Short term – ongoing

		on-line medical advice to callers.			
3.15	Design and delivery of mass casualty and triage training programme.	A certificate course that provides the holder with the knowledge and skills regarding mass casualty incidents management and patient triage.		2.1.9	Short term – ongoing
3.16	Design and deliver Incident Command System (ICS) training.	Standardise strategic, operational and tactical incident command training which will result in a coordinated and effectively integrated multi-agency response.			Short term - ongoing
<b>4.</b>	<b>HAZMAT: Establish a HAZMAT capacity that deals with preventative measures as well as developing capacity to respond to incidents</b>	<b>Mitigate the risk posed by HAZMAT to human health, livestock and the environment.</b>	<b>GoN; interested donors and implementers</b>		<b>Short, Medium, Long term</b>
4.1	Establish a legislative framework that deals with HAZMAT.	Act and Regulations that addresses all aspects of HAZMAT.			Long term
4.2	Establish a HAZMAT Regulatory Authority.	An inter-ministerial, multi-agency regulatory authority responsible for the drafting of relevant documents, oversight of the implementation of the Act and Regulations and coordinating preventative and response activities.			Medium term
4.3	Establish and implement a HAZMAT identification system e.g., UN Globally Harmonised System of Classification and Labelling of Chemicals (GHS).	A standardised system of identifying HAZMAT to protect all those involved with its packaging, transport, storage and response.			Medium term
4.4	Establish and implement regulations for the transportation, storage and disposal of HAZMAT.	Reduce the risk to the transporter, public, livestock and environment.			Medium term
4.5	Develop, disseminate and implement an emergency communications system for HAZMAT.	A facility that will receive notification of HAZMAT events, dispatch and monitor response units, coordinate with relevant multi-agency stakeholders and record and analyse data.		2.1.5	Medium term

4.6	Develop a uniform disaster communication system to ensure that communications can be maintained during a disaster.	A reliable communication platform that is accessible to all essential services (fire, rescue, EMS and HAZMAT) during a disaster.			Short – medium term
4.7	Establishment of a centralised hazardous materials and poison data base.	Improve the capacity to respond safely and effectively to incidents involving hazardous materials.			Medium term
4.8	Establish a HAZMAT primary response system within the fire service.	Capacity for immediate response and containment of HAZMAT events.			Medium term
4.9	Establish a multidisciplinary, multi-agency HAZMAT response unit.	Capacity for immediate response and containment, clean up, neutralisation and or storage, environmental and health impact assessments and rehabilitation.			Medium to long term
4.10	Develop HAZMAT Standard Operating Procedures (SOP).	Document providing guidance to responders regarding a hazardous materials incident.			Medium to long term
4.11	Design and deliver a HAZMAT training programme.	A training programme developed to address the requirements of the HAZMAT response system.			Short term - ongoing
4.12	Design and deliver Incident Command System (ICS) training.	Standardise strategic, operational and tactical incident command training which will result in a coordinated and effectively integrated multi-agency response.			Short term - ongoing

### **5.3 Implementation Recommendations**

1. Capacity development requires attention and activity at three levels i.e. environment (institutional), organisation and individual. The supply of equipment and the provision of training consistently feature high on the agenda of recipients. Support for these two components by donors and implementers offer a relatively easy opportunity for engagement. However, when equipment and or training are delivered in isolation, history has demonstrated that the benefits are short lived, particularly in environments where the institutional frameworks are weak. While these two elements are important, they form only part of developing capacity that is sustainable. Therefore, the following proposed implementation plan is offered for consideration.
2. The GoN is the beneficiary and ultimate owner of any capacity that is developed. Therefore, the contents of this report should be discussed with GoN and it should be afforded the opportunity to provide comment. Its input into the recommendations should be sought and agreed in an effort to maximise local ownership and sustainability.
3. Once agreed by the GoN, UN OCHA and the INSARAG Secretariat should embark on a donor awareness campaign to create awareness of the proposed emergency response capacity development activities in an effort to identify potentially interested stakeholders.
4. All interested donors should participate in the design and implementation of a donor coordination strategy to maximise activity deliverables. Activity implementation should feed into an integrated system while simultaneously avoiding duplication of expense and activities by individual donors and or implementing partners.
5. Once the interested donors have been identified and a donor-coordination strategy designed, an Activity Plan (AP) should be designed for each activity. The AP should be designed by a multi-disciplinary group of relevant

international experts and national stakeholders to ensure the project deliverables and time frames are realistic. All required stakeholders should be consulted in the design of the AP and stakeholder roles and responsibilities should be clearly identified and agreed.

6. The authors acknowledge that institutional change and capacity development is a time consuming process. The authors also acknowledge the urgency required for initiating the development of emergency services capacity. Therefore it is recommended that the institutional, organisation and individual capacity development activities be run as parallel processes.
7. The AP should provide for a comprehensive evaluation of the institutional capacity, readiness and commitment of all recipient stakeholders to receive the project prior to it commencing.
8. Projects of this nature should include a comprehensive pre-inception phase, including an in-depth analysis of recipient's environment and priority needs **prior to** the project design. This will ensure that when the project is designed, donor priorities and recipient priorities are aligned. Once the project has been designed, a pilot project should be run (if required) prior to implementing the full project. This will allow for the identification and correction of issues that will adversely affect the implementation and roll out of the larger project.

#### **5.4 Options for Implementation**

1. This report provides recommendations of four essential services i.e. SAR, fire fighting, ambulance services and HAZMAT. It recommends that all four of these services require an overhaul. There are several options in how this can be achieved.
2. **Option 1** proposes that each of the four components is developed separately. A potential model would be as follows:

- I. SAR: GoN identifies one of the three security forces, under the MHA, and issues it a mandate to provide SAR services as a primary responsibility. SAR capacity development continues in the other two security services but with the view that they will provide surge capacity to the mandated organisation as and when required.
  - II. Fire fighting: This capacity is developed on the existing platform at the municipal and district level under the MLD.
  - III. EMS: This capacity is developed within the MHP, based and operated out of the hospital and health facility infrastructure.
  - IV. HAZMAT: This new capacity is developed as a stand-alone entity because, based on the current status, this will need to be developed from scratch.
3. **Option 2** is principally the same as Option 1 with one differential. It is common practise in many countries that the HAZMAT primary response function is co-located within the fire service. Therefore a potential model would be as follows:
- I. SAR: GoN identifies one of the three security forces, under the MHA, and issues it a mandate to provide SAR services as a primary responsibility. SAR capacity development continues in the other two security services but with the view that they will provide surge capacity as and when required.
  - II. Fire fighting and HAZMAT: This combined capacity is developed on the existing platform at the municipal and district level under the MLD.
  - III. EMS: This capacity is developed within the MHP, based and operated out of the hospital and health facility infrastructure.
4. In both Option 1 and 2 however there is a significant degree of overlap in developing these services as separate entities. For example, each discipline requires its own emergency call centre to receive emergency calls and dispatch its resources; similarly each discipline requires access to a training facility. Also, of critical importance, is the need for the services to better integrate, as many emergency events require a multi-

agency response. As an example, a petrol tanker collides with a bus on the bridge causing both vehicles to careen off the bridge into the river. This would require a SAR, fire, EMS and HAZMAT response. The need for inter-agency coordination is even more exacerbated during times of disaster.

5. **Option 3** recommends that an entirely new entity be created, for example a Department of Community Services (DCS), housed within a government ministry. This department would have as its primary responsibility the provision of essential services to protect and save lives and property in the communities of Nepal. It would include all four disciplines of SAR, fire fighting, EMS and HAZMAT. During day-to-day operations it would report into an established structure, however, during a disaster it would report into the DRM structures. Figure 3 illustrates an example of how this could potentially be structured.

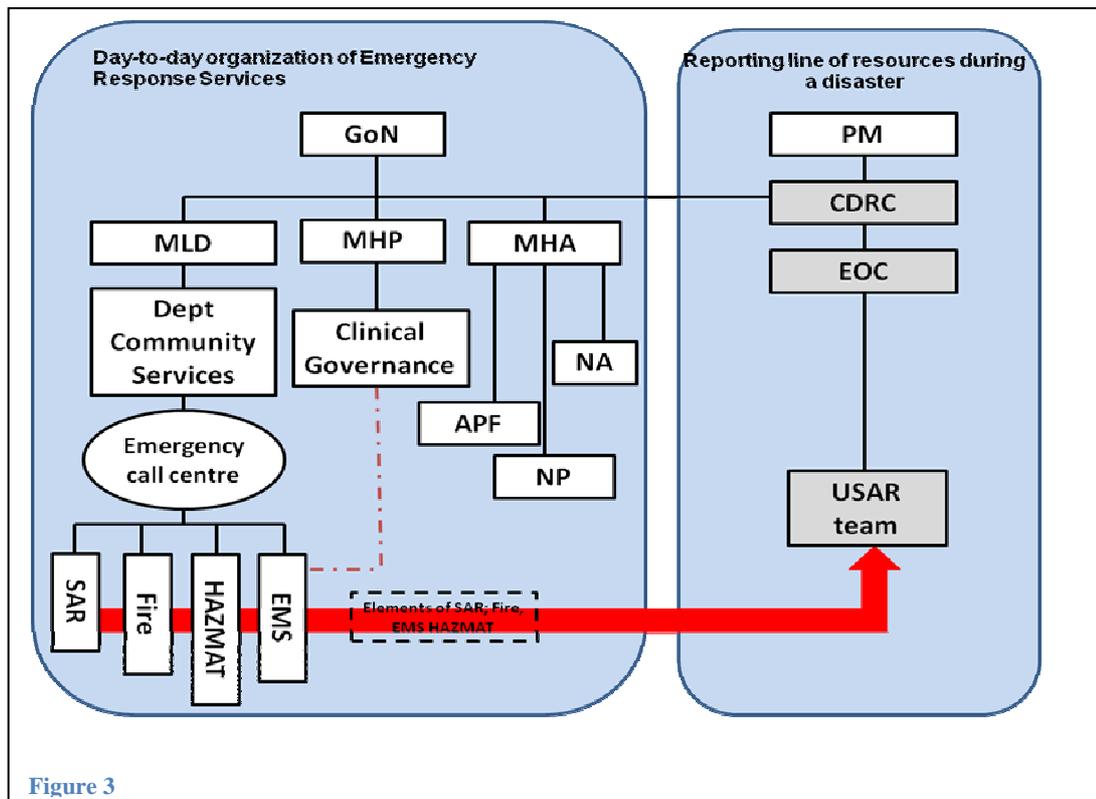


Figure 3

6. The advantages of this structure is that it provides an effective mechanism to deal with day-to-day events but when required, these resources are incorporated into the larger disaster response framework which allows it to be coordinated with all in-country resources, including the security forces and incoming international assistance.
7. A further significant benefit of following this model is that it allows for consolidation of resources i.e. a single multi-disciplinary emergency call and dispatch centre as well as a single multi-disciplinary training academy. This model provides significant cost saving as it effectively reduces multiple administrative and operational functions.
8. It is envisaged that staff come from existing agencies and are amalgamated to form the new entity, similar to what the GoN did when it created the APF.
9. While Option 1 and 2 are potentially more appealing from a time to initiation of activities perspective, the Team is of the opinion that these are the least desirable and this should be discouraged. The Team strongly recommends the third option as most suited to Nepal.

## **6. Conclusion**

1. A shift in capacity development focus from disaster response capacity to day-to-day emergency response capacity has two significant advantages. Firstly, capacity will be developed in an area where it is sorely needed. Secondly, any capacity developed within the day-to-day emergency response sector will automatically be of benefit during a disaster. An additional advantage is that because the techniques and skills will be utilised far more frequently, responders will have a greater level of proficiency and experience.

2. The aim of developing a robust domestic USAR capacity is without doubt needed. The approach adopted for this scoping mission and the outlined activity plan is somewhat different to what has been done in the past. However, with the ability for the recipient to own and sustain the developed capacity as an overarching theme, we must look at the INSARAG Guidelines and the lessons learned from previous projects.
3. It is envisaged that this fresh approach to USAR capacity development will identify the systemic issues that need to be addressed in parallel with the development of the technical capacity. This will maximise the probability of project success, local ownership and sustainability of the developed capacity.
4. In order for this initiative to be sustainable, it is imperative that it is constructed on the basis of a partnership between the GoN and the donor community. This report identifies and prioritises areas in which the donor community can partner with the GoN in an effort to improve and strengthen its day-to-day emergency response capacity while simultaneously providing a solid and sustainable platform on which to develop USAR capability.
5. This report will be circulated throughout the INSARAG network and the international donor community and support of these activities is strongly encouraged for the benefit of the people of Nepal.

## **7. Acknowledgements**

1. The statements and recommendations in this report have been derived from an intensive one week assessment comprising several site visits, interviews and discussions with multiple government ministries and agencies which, as a result of current legislation and existing government structures, have an emergency response function.
2. The INSARAG Team wishes to extend its sincerest appreciation to all concerned, particularly, the MHA, as well as the many other representatives

of the GoN and other stakeholders who willingly gave of their time. The spirit of enthusiasm and openness in which the meetings were conducted is commendable and a testament to the keenness to develop emergency service capacity.

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## 9. List of Annexes

## **9.1 INSARAG Emergency Response Capacity Scoping Mission Terms of Reference**

# **INSARAG EMERGENCY RESPONSE CAPACITY SCOPING MISSION**

**KATHAMANDU, NEPAL**

**MAY 2011**

**Terms of Reference (TOR)**

### **Background**

Nepal is prone to natural disasters including but not limited to earthquakes, floods, landslides and severe weather events. Located on an active seismic belt, Nepal has a history of major earthquakes and is ranked the 11<sup>th</sup> most-at-risk country in the world in terms of relative vulnerability to earthquakes. This factor, coupled with the rapid urbanisation of Kathmandu and other major centres in Nepal, places the Nepalese community at increasing risk to the adverse affects of a natural disaster.

In its ongoing efforts of implementation of the UN GA Resolution 57/150 of 16 December 2002 on “Strengthening the Effectiveness and Coordination of international USAR Assistance”, and within the framework of regional capacity building, the International Search and Rescue Advisory Group (INSARAG) conducted a regional earthquake response simulation exercise in Kathmandu in 2009 hosted by the Government of Nepal.

Later in the same year a participatory discussion between the Government of Nepal and an international consortium was initiated in order to address the vulnerability to natural disasters. Five activity areas of immediate action for disaster risk management in Nepal were identified and compiled into a document, The Disaster Risk Reduction in Nepal Flagship Programmes. The Flagship areas are:

1. School and hospital safety - structural and non-structural aspects of making schools and hospitals earthquake resilient;
2. Emergency preparedness and response capacity;
3. Flood management in the Koshi river basin;
4. Integrated community based disaster risk reduction/management;
5. Policy/Institutional support for disaster risk management.

The Government of Nepal has requested the INSARAG network to carry out this scoping mission of its emergency response capacity which is aligned to Flagship 2; Emergency preparedness and response capacity. The Swedish Civil Contingencies Agency (MSB), U.S. Foreign Disaster Assistance (OFDA) of U.S Agency for International Development (USAID) and UN Office for the

Coordination of Humanitarian Affairs (OCHA) is planning to conduct this assessment mission 8 – 15 of May 2011.

## **Aim**

Experience from previous disasters has demonstrated that the most lives are saved by local emergency responders.

The aim is to conduct a comprehensive analysis of the current operational environment and priority needs in order to provide an understanding of the existing government framework responsible for emergency response and disaster management, current incident management systems and existing emergency response capacity, in order to benefit capacity development of emergency preparedness and response in Nepal.

In the context of this mission, emergency services include the disciplines of emergency medical response, fire fighting, rescue and hazardous materials response capabilities.

## **Objectives**

The team will:

1. Develop an understanding of government legislation, funding and structure of emergency services in Nepal;
2. Develop an understanding of the structure, including recruitment, staffing, call centre's and incident management, of the each of the various emergency disciplines;
3. Develop an understanding of past, current and predicated call volume activity of each of the various emergency disciplines;
4. To identify existing inter-agency command and control structures and funding mechanisms for major incidents and national disasters;
5. Identify key stakeholders including government, private and NGO currently actively involved in the preparedness of and or the delivery of emergency services;
6. Develop an understanding of current training available to the respective emergency services and its funding mechanism;
7. Develop an understanding of current equipment available to the respective emergency services and its funding mechanism;
8. Identify, if any, existing donor/recipient relationships with regard to emergency services in Nepal;
9. Identify, if any, planned, ongoing or completed projects within the Flagship Programme 2 and within the area of emergency service in Nepal in general;
10. Develop an understanding of the role of the emergency service, police and military in the event of a major incident or national disaster;
11. Develop a written report with concrete recommendations for potential capacity development projects in Nepal including a suggested time line and cost estimations.
12. To further develop and strengthen the links between the Government of Nepal, INSARAG and the international donor community.

## **Stakeholders**

The stakeholders participating in this scoping assessment include:

- Representatives from the UN Office for the Coordination of Humanitarian Affairs (OCHA);
- Representatives from the Swedish Civil Contingencies Agency;
- Representative from the United States Agency for International Development (USAID) Office for Foreign Disaster Assistance (OFDA);
- External Consultant.

## **Expected Results**

The team will produce a mission report summarizing the scoping mission findings and recommendations. The team will make recommendations for potential emergency services capacity development to enhance emergency preparedness and response capacity in Nepal. The recommendations will include the identification of potential development project areas within the field of emergency services, and will include concrete suggestion on capacity developing projects. The report will also include required follow-up activities, to be put in relation to possible local stakeholders, along with an indicative timeline. The results will provide a basis for INSARAG donor countries and other donors who are interested to further investigate possibilities to support these types of projects.

## 9.2 Meeting Schedule

### INSARAG Emergency Response Capacity Scoping Mission KATHAMANDU, NEPAL 09-13 MAY 2011

Days	Time	Agencies or Offices	Meeting Participants
Sat 07 May		Informal discussion with USAID Nepal	Sheila Roquitte
Sun 08 May		Internal Team Meeting	Dewey perks, Heidi Huusko, Olle Castell, Trevor Glass, George Murray, Ram Luetel
Mon 09 May	1030 hrs	MoHA	Mr. Rameshwor Dangal, Under Secretary and Chief of Disaster Section & Mr. Balkrishna Panthi, Under Secretary and Chief of National EOC
	1200 hrs	Ministry of Physical Planning and Works	Mr. Suresh Acharya, Joint Secretary of Building Construction & Mr. Tulsi Prasad Situala (Joint Secretary for Road Department)
	1500 hrs	Ministry of Local Development	Resmiraj Pande (JS) and Binod Prakash Singh (US)
	1630 hrs	Fire Department in Lalitpur	Staff visited
Tue 10 May	0830 hrs	UNDP DM section	Jenty and Niranjana Tamrakar
	1400 hrs	Joint meeting of Security organizations in Nepal Army HQ.	NA: Col. Ishwor Hamal, Lt. Col Naresh Subba & Major Bhola Thapa DIG Mahabir Gurung (APF), Nabraj Tamang, Sanukaji Maharja (APF) Khadananda Bhatta (Nepal Police)
Wed 11 May	1145 hrs	NAS –Nepal Ambulance services	Dr. Rajesh Gangol and Mr. Keshav Rizal
	1400 hrs	NSET	Amod Dixit
	1700 hrs	IFRC/NRCS -Emergency preparedness and response of Nepal Red Cross Society	Binod Dhakal
Thur 12 May	1100 hrs	Ministry of Health and Population (EDCD) together with WHO representatives	Dr. Bal Kri Subedi, JS, Mr. Tulis Dahal Focal person of DM, Dal Bahadur KC from Health department WHO: Damodar Adhkari and Dr. Arun Mallik
	13h00	Meeting with USAID	Sheila Roquitte
	1600 hrs	Meeting with DFID	Philip Smith