

Structural response to building capacities for 'disaster risk reduction' (DRR)

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Abstract

Building capacities for disaster risk reduction is a complex activity that requires long processes, institutional stability and capital investment. RedR is currently helping Hindustan Construction Company (HCC) to develop an organisational structure to utilize/deliver HCC's engineering and disaster response capacity. A concept note for the same was recently prepared which included conceptualization of capacity building needs and the process for organisation building. This is being shared as a case study to demonstrate the estimation of capacity building needs. It may read like a paper within a paper.

DRR is often believed to be a kind of project where in Organization's need to include 'elements' of risk reduction in all the development programs- true but..... The central thought in this paper is that organizations aspiring to contribute to DRR should at once have the capacity and capability to plan and implement strategic action for preparedness, development/mitigation and response; disaster risk reduction. Planning for DRR is a complex process that requires coordinated effort and an approach that utilises an organisation's expertise. Risk management and vulnerability reduction is the two pronged approach that must be incorporated into the mandate of organisations that aspire to do DRR work. Important question, how do we do capacity building for a practice so diverse and varied? Build organisation! Need is to build organizational perspective on disasters and development continuum, public health approach to disasters etc. and specific training on planning and management of emergency response. HCC may be operational only post disasters that too in a narrow spectrum but as an organisation it is expected to have knowledge and understanding of all the domains of disaster risk reduction

Key Messages from the case study

- Various sciences and perspectives feed into making the **intelligence** required to do effective disaster management.
- This collective intelligence needs to interact with established decision support systems to produce effective decisions.
- There is need for specific class of organisational to hold collective intelligence and establishment of decision support systems to deliver strategic action and thinking for disaster risk reduction (disaster response, mitigation, preparedness).
- To do effective risk reduction, treat disasters and development as a continuum. Understand link between:
 - Development planning
 - Preparedness planning
 - Contingency planning and
 - Emergency Response

- Disasters tend to intensify pre-existing status, differences and inequalities. **Understanding vulnerabilities is the critical success factor for DRR.**
- Reducing vulnerability to disasters can be a Public Health Priority. The organisation be prepared not only to meet the basic needs of disaster survivors but also to work to change behaviour and practices that cause vulnerability and have repercussions on public health.
- Mapping vulnerability is not enough, analysis along different pathways [inequality stemming from race, class, gender.....demographic processes (growth and population distribution) etc.] is important for targeted risk reduction¹. Analysis need to be followed by policy and structural responses.
- **Addressing vulnerability:** Vulnerability reduction is a political-economic phenomenon, which more than often reinforces the existing patters where institutions define problems in terms of what their own capacities are meant to be, or the proposed solutions to a problems are defined in terms of what is 'possible' rather than what is really needed. (Cannon, 1997). These tend to address only limited components of peoples' vulnerability, mainly in Societal Protection and in providing the technical capability (but often not the means for implementation) for Self-protection. Need is to go much beyond 'technical fix' approach and consider the opportunity costs and how that capital might be spent in other ways to deal with the forces that generate peoples' vulnerability.
- **Vulnerability Analysis and Policy Response:** a key problem is that for vulnerability analysis to be implemented seriously requires the state to engage in activities that deal with inherent inequality and prejudice. Where the state is part of the problem in maintaining such power systems, then it is difficult to see how it can foster adequate solutions to vulnerability. It is also possible for some states to recognise the benefits of a vulnerability analysis approach, since there are few governments in the world which officially claim that they are uninterested in protecting their own citizens, and which would not be interested in potentially cheaper ways of reducing their vulnerability.

CASE STUDY

Concept note for Organization of: 'HCC Disaster Management Team'

"A System to Deliver Engineering Expertise for Disaster Response"

Draft, Concept note prepared by RedR India

Abbreviations used

- HCC-DMT: Hindustan Construction Company- Disaster Management Team
- RedR: Registered Engineers for Disaster Relief
- PC: Project Controller

¹ At a broader level, it would be useful to understand "event vulnerability" and "consequence vulnerability" and explores the relationships between them in order to better understand the recovery process for men women and children.

Event vulnerability refers to household vulnerability that is associated with the direct impacts from a disaster agent; and **consequence vulnerability** will refer to the household's vulnerability associated with the social and political processes of recovering from the disaster event.

Abstract: HCC and RedR India are working together to develop an organisational structure to utilize/deliver HCC's engineering and disaster response capacity. This concept paper sets-out a framework for discussion and identification of the future course of action². *Please read this concept note in conjunction with the annexure-I that detail the agenda for capacity building and capability creation.*

1.0 Executive Summary

In the year 2004 due to natural disasters, India lost 17,737 lives, 33,860,512 people were affected and 1.5 billion US\$ worth of economic loss was incurred.³ It is an accepted fact that development configures disaster risk. In other words appropriate development has the capacity to reduce the disaster risk.⁴ Many parts of India and other developing countries have very low level of life-line services like drinking water, sanitation coverage, health services etc., which further exacerbates the disaster risk and reduces the coping capacity of target population. Disasters result in large scale displacement of population and damage of built environment, which at times challenges the response capacity of even the biggest players like Governments or UN. 20 million **people** are thought to be **affected** in 2007 floods in north and east of India.⁵ While envisaging HCC's disaster response capacity, it is note worthy to remember some of the problems from the past emergencies that have gone past some of us but we couldn't put-up timely response, like:



- a. 2001 Kutch Earthquake: Break down of infrastructure [water filtration plant, water distribution network (pipes, pumping stations), bridges, sewage treatment plants, electrical grid and associated structures etc. etc.) in Kutch. There was scope for damage assessment of critical infrastructure, preparation of rehab project plans and respond with temporary alternatives before implementation of rehab of infrastructure.
- b. 2003, Earthquake in Bam, Iran: Damage of water supply system. Need for leakage detection and emergency repair of pipelines.
- c. 2004 tsunami: Damage of jetties in Andaman and Nicobar islands, leading to logistical bottle necks.
- d. 2004 Tsunami: Break down of water supply to Port Blair town.
- e. 2005 Earthquake in Kashmir: Need for winterised temporary shelter for millions to be organised within one month (before winter set-in).

² Please note that before writing of this concept note, there have been many rounds of discussions with HCC staff at various levels.

³ Source of data: Centre For Research in Disaster Epidemiology, Belgium

⁴ 'Disasters are not random occurrences but reflect the interaction of human beings with a given environment. General consensus is growing that there are no purely "natural" disasters: there are natural *hazards*, which impact upon human *vulnerabilities* that are mostly determined by human causes. Environmental pressures and social inequalities heighten vulnerability to natural disasters'-WHO

⁵ Statement by Oxfam International

Important areas where Government and other responders face challenge are:

- a. Achieving right scale of operation in comparison to the needs.
- b. Delivering a strategic action- Timely response with adequate perspective and technical knowledge, this is linked to getting appropriate people quickly in place.

Just a simple epidemic like the recent Cholera outbreak in Orissa (Aug.'2007) was difficult to contain as agencies involved could not ensure blanket consumption of disinfected drinking water. There was lack of water quality monitoring as there were not enough testing kits, chloro-scopes and trained people.....What was required was a strategy to contain the epidemic and some rigorous clinical response to save the affected lives.

A strong combination of strategic thinking, response capacity and capability is invariably missing. Important question is, can private sector fill the gap?

Private sector can respond to the immediate needs of disaster affected population but important window of opportunity for the Private Sector for constructive engagement with the Government and other stakeholders in disaster response is seen more in terms of providing **transformative post-disaster recovery**. Private sector has the desired scale of operation and management skills to handle, though it would need substantial **preparation to develop understanding and perspective that could feed into strategic decision making for post disaster response**.

“By developing a clear program for action in advance of a catastrophe, companies, governments and aid organizations can work together to mobilize private-sector resources when and where they are needed most when disaster strikes. Two basic initiatives must be undertaken. They are:

1. **Establish local business resource programs to address local emergencies** by building upon and integrate existing efforts where they exist.
2. **Link these local programs to create a resource network for large scale disaster** to enable the marshalling of resources from across the nation if the need arises including wider networks of NGO's and business associations.

The first initiative, local networks, acknowledges the fact that “all emergencies are local” and that they are generally handled locally with local governments in the lead.

HCC disaster response approach expects its local project sites to lead on the response as HCC-DMT

The second initiative, a network of networks, recognizes that large scale disasters can overwhelm local resources and that when catastrophes reach such a level, the wider region and nation stands ready to respond.”⁶

Deployment of Engineers, other human resource and services in partnership with other humanitarian actors will be an important disaster response strategy for HCC.

⁶ Mobilizing Corporate Resources to Disasters: Toward a Program for Action, Version – 24 January 2007
William Raisch, Matt Statler & Peter Burgi, The International Center for Enterprise Preparedness, New York University

HCC-DMT's mandate could be:

Delivering transformative post disaster recovery⁷

HCC's disaster response team should be looking for this level and intensity of pre and post disaster engagement. While doing work of mega scale, this organisation could still rely on proven public health/environmental health perspective on emergencies. Similarly there would be scope for developing people centred engineering solutions in collaboration with other stakeholders like Govt, multilateral organisations, INGOs, UN etc.

Practically this would mean post disaster relief work in the area of water, sanitation, shelter and settlement. Besides this HCC could deploy its capacities and capabilities on rehabilitation of infrastructure during the reconstruction phase, which may also have business opportunity for HCC. Over a period of time HCC could take-up work in-line with sectoral risk reduction, which would be a business opportunity as well. **To achieve all this, internal preparedness would be a critical success factor, it is expected to be an evolutionary process of capacity building.** For more details, Ref. Annexure-1 Setting Agenda for Development of HCC-DMT

1.1 Probable line of action (may not be in this order) [ref. 5.0 for time line]

- a. Agree on the core competence of the organisation.
- b. Agree on the mandate of the organisation.
- c. Prepare a detailed emergency response policy.
- d. Prepare and agree on internal systems and procedure for disaster response.
- e. Agree on important disaster response 'decision support tools' such as standards etc.
- f. Capacity building at various levels within the organisation.
- g. Inform Government, INGOs, UN, Red Cross, etc. on the capacity and capability of HCC.
- h. Work on development of partnerships with various humanitarian actors including Government.
- i. Respond, monitor, evaluate, learn, and respond better.....

1.2 Type of programmes/projects HCC may work on work

- a. Non-disaster time: Develop partnerships with Government, NGOs and UN to evolve framework for post-disaster joint action by utilising HCC capabilities.
- b. Disaster Mitigation and Preparedness: Out reach programme for DRR with district authorities and communities in the vicinity of the HCC project site.
- c. Post Disaster: Immediate relief in the district or Taluka/Mandal where the HCC project site is located.
- d. Post relief: Rehabilitation and recovery work in the district or Taluka/Mandal where the HCC project site is located.
- e. Deploy Engineers, other human resource and services in partnership with other humanitarian actors.

⁷ going beyond small innovative initiatives, which are typical disaster response of civil society organizations.

2.0 Reengineering Disaster Management in India

Indian sub-continent, due to its unique geo-physical, agro-climatic and socio-political characteristics has been vulnerable to different natural disasters over ages.

Despite the recent spurt in the economy with the GDP growing annually at 9.2% there still are about 300 million Indians who are living on less than a dollar a day! While boasting of ever increasing mobile coverage which reaches out to 82 out of every 1000 people in the country today, India also faces a grim reality that 56 out of 1000 children born in the country do not make it beyond the age of 5.

Enormous population pressures have led to unplanned urbanisation and subsequent marginalisation of the underprivileged making them hapless victims of the recurrent cycle of cyclones, floods, droughts and earthquakes.

Although the national capacities to respond to the small-size localised disasters are relatively adequate, handling of the medium and large scale disasters is still sub-optimal. It is evident from the table below that the hydro-metrological hazards, mainly the floods are not only recurrent but their effects are widespread and impact the population on a larger scale.

Table: Natural Disasters in India 1900 -2007⁸

S. No.	Natural Disasters	No. of Events	Affected Population	Economic Damages '000 USD
1	Drought	11	711,841,000	942,400
2	Floods	196	729,433,888	21,355,935
3	Earthquake	25	27,265,183	4,147,900
4	Cyclone	141	87,669,297	12,719,100
5	Tsunami	2	654,512	102,800

Government of India has recently drawn out a structure which details disaster management process and policies at different levels. However inadequate coordination and lack of analysis of causes of disasters and willingness to learn from the follies poses a question...whether we would ever be able to manage risks effectively?

Level of preparedness at the Centre and some States is seen to be uneven. For e.g. States like Gujarat and Orissa which experienced worst natural calamities in the years 1999 and 2001 respectively have evolved and established a mechanism for disaster response under the State Management Authorities. But the larger states in the northern Gangetic plains that perennially face the floods are yet to come up with such a mechanism.

⁸ Source: Centre For Research in Disaster Epidemiology, Belgium
Floods in Bihar and UP in year 2007 are not included in this tabulation.

Despite the considerable awareness about changed paradigm that fosters disaster risk reduction rather than relief, the Government as the largest relief and development agency has to identify and address the scope for engagement with potential stakeholder partners. Apart from encouraging the culture of preparedness and prevention the need is for developing a culture of knowledge management wherein skills and excellence based on the core competencies of the stakeholders would be managed effectively and efficiently towards the betterment of the lives of the many underprivileged in this country.

Moreover the magnitude and complexities of disasters in Orissa, Gujarat and of late, in Tamil Nadu have enhanced Government of India's interest and willingness to work with other stakeholders viz. UN Agencies, International NGOs, Philanthropic Organisations and other Civil Society Organisations along with the Private Sector.

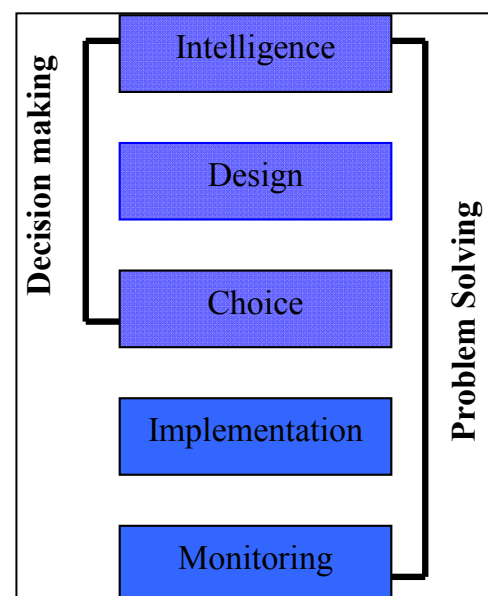
As USAID puts it, 'interest is high in the Government of India for addressing major weaknesses such as poor planning and coordination, lack of relevant technology for forecasting and early warning, inadequate human capacity and skills for response and inadequate attention to good zoning and building'⁹

UN Agencies and the International NGOs have been working with a 'rights based' approach, reaching the un-reached and bridging the gap where Government efforts and response mechanisms fall short. Some time investing significant resources in innovative ideas for rapid response like, water (Collapsible Tanks with larger capacities) or shelter sector (Winterised Tents or Mud block technologies for earthquake resistance housing)

While the faith based organisations like Swadhyay Parivar in Gujarat or Mata Amritanandmayi Math in Tamil Nadu or the CSOs like the Bharatiya Jain Sangathan have been engaged in work that goes beyond the physical restoration but deals more with psycho-social support for the victims and looks towards restoring the lives.

Bilateral agencies are already involved in stockpiling of supplies, training on incident command systems and overall capacity building of human resources. **Important areas where important areas where Government and other responders face challenge are:**

- a. Achieving right scale of operation in comparison to the needs.
- b. Delivering a strategic action- Timely response with adequate perspective and technical knowledge, this is linked to getting appropriate people quickly in place.



⁹ USAID Strategic Objective 3: Our work in Disaster Management

Various sciences and perspectives feed into making the **intelligence** required to do effective disaster management. This collective intelligence needs to interact with established decision support systems to produce effective decisions for crisis management. Post disaster decision making is a kin to problem solving, which requires understanding of emergency response functions, intelligence and very clear understanding of the emerging situation.

Finally a strong mix of strategic thinking, response capacity and capability helps plan and deliver appropriate response.

With their strength in planning, management and mobilisation of resources, a window of opportunity for the Private Sector for constructive engagement with the Government and other stakeholders in disaster response is seen more delivering a **transformative post-disaster recovery**. In the recovery and rehab phase, situation, roles and responsibilities etc. are relatively clearer compared to the relief phase and this is when all the hard work of putting lives and economy together set-in. It is important to remember that to work effectively in recovery and rehab phase it is imperative to get involved in pre-disaster preparation and post disaster relief work as well. Private sector has the desired scale of operation and management skills to handle disaster response, though it would need substantial internal **preparation to develop understanding and perspective that could feed into strategic decision making**.

3.0 HCC-DMT HUMANITARIAN POLICY (BASIC OUTLINE ONLY¹⁰)

3.1 Introduction

“Any situation where there is an exceptional and widespread threat to life, health or basic subsistence, which is beyond the coping capacity of individuals and the community’. In such situation, HCC will assess needs and mount a timely response in coordination with local authorities and other actors.

Preserving life and health is both the objective and the measure of success in disaster response
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3.2 Strategic Objectives

- Fewer people will die and fall sick as a direct or indirect result of natural disasters.
- Rehabilitation and restoration of critical physical and social infrastructure to a level higher compared to pre-disaster situation.

3.3 Strategy

HCC-DMT works to mitigate the consequences of calamity by

- developing appropriate preparedness capacity (internal) for a rapid and appropriate scale of response
- responding rapidly and effectively to humanitarian need

¹⁰ Crystallization of the humanitarian policy would be an important step in formulation of the system for disaster response. The above outline has been adopted from Oxfam and organisation that highly relies on its engineering capacity for disaster response.

- working with others to promote co-operation with both local and international agencies, and across professional sectors.
- developing skills and coping capacities (external) of local authorities, communities and others.

3.4 Organisational framework (ref. 4.0 for organogram)

National Director and the team will have the responsibility to implement the totality of HCC-DMT mandate and will be recruited and managed accordingly. National office will have the responsibility to resource preparedness and capacity building work and develop partnerships etc.

In recognition of the fact that there will always be situations where local capacity is outstripped, national office will be responsible for mobilisation of external support. It is important to note that the role of national office is predominantly facilitative while much of the decision making for disaster response would be located at site level.

Assessments and decision-making: Assessments will normally be triggered and conducted by the local project site. In large scale or complex situations, the national office will normally be expected to bring-in reinforcement.

Assessments will include a judgement of HCC and partner capacities, and of the necessary additional resources (funds, equipment, and managerial and technical personnel) needed to mount an effective response.

Response Programmes: Decisions about the size of response or on scaling up will be based on humanitarian need, and HCC's ability to have an impact, not on current local/regional HCC and partner capacity. The Project Controller of local project site will sign off all emergency response programmes. The Project Controller is responsible for the implementation of response programmes, and for managing programme expenditure within the proposed/agreed budgets. Project controller is also responsible for preparedness and development of linkages with local authorities.

Responses will be kept under review to ensure opportunities are maximised, where possible, to (a) save and protect lives speedily and effectively; (b) build people's capacity for the future; (c) address the underlying causes.

It is accepted that most emergency response work will have to be time bound. Any decision on longer term programmes or to extend will be made proactively in consultation with national director, and not by default.

Priorities: At times there can be a clash between

- taking action to save or to protect lives, or the need for a judgement on any particular approach

In these circumstances key criteria for decisions is which course of action is likely to lead to a greater saving of lives and long term disaster mitigation.

3.2 Public Health Approach

All emergencies are public health emergencies. They will entail deterioration in public health conditions, which will show up, sooner or later, in a deterioration of public health indicators, such as mortality, morbidity and malnutrition, compared to the pre-emergency situation.

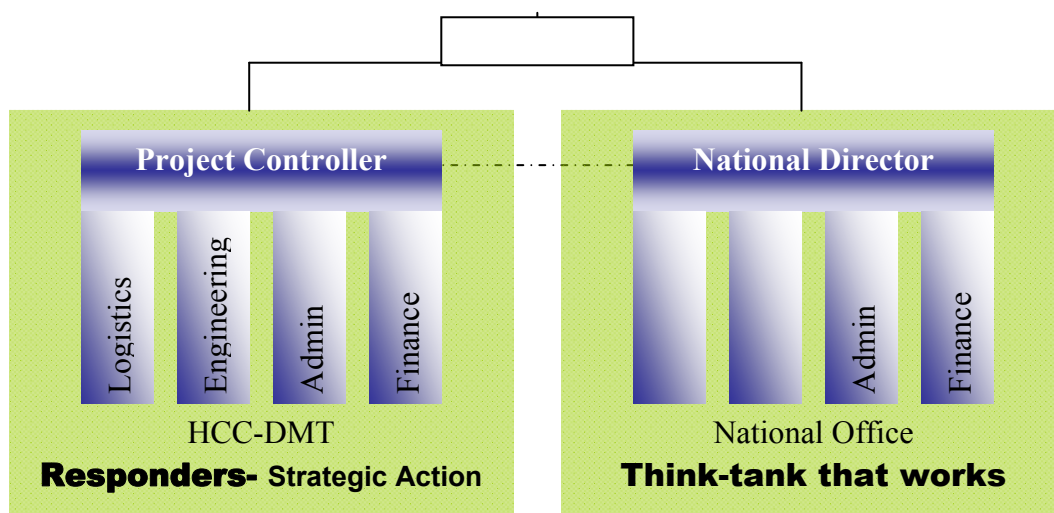
In addition to immediate death or injury, suffering in humanitarian emergencies will be increased by

- the destruction of livelihoods, leading to inadequate nutrition
- the destruction of environments (water, sanitation, shelter) which can sustain health
- the emergence of unhealthy environments (e.g. floods)

HCC emergency response programmes therefore focus on a public health approach which is distinguished by ‘a reliance on public health information for managing a response; a response aimed at maximum impact on the health of the affected population as a whole; and a dynamic, or phased response, which adapts to meet changing needs over time.’

HCC’s response in relief phase will normally concentrate on its distinctive competencies, which are key to any public health programme: **public health engineering**, and provision of **food and non-food items**. **In the rehab phase it would concentrate on rehabilitation of physical and social infrastructure to capitalise on the engineering and construction capabilities of HCC.**

4.0 Organogram: The Project controller of any site with his/her team (DMT) is envisaged as an independent entity to respond to disasters in the immediate region of their site. Similarly the national director with his/her team works on the agenda outlined in 3.4. In its relationship to the DMT, National director has a facilitative role. Their upward reporting etc. needs to be worked-out.



The verticals are just indicative, numbers and type would depend on various factors.

5.0 The Start-up Phase: First three years is envisaged as a start-up phase within which the organisation, its systems and procedures would evolve out of:

- a. Formal planning of business processes, which include adoption from other sources as well.
- b. Respond as HCC-DMT to the crisis situation that emerges within India.
- c. Deploy HCC personnel with other humanitarian agencies.
- d. Training of staff at various levels

5.1 A basic framework for start-up phase can be seen below, which could be used for preparation of detailed business plan

S. No.	Activity	Three year time line, starting in Dec.'2007												Responsibility/Remarks
1.	Agree on the core competence and mandate of the organisation.													Senior management needs to spend its time. RedR can facilitate the process.
	Allocation of roles and responsibilities for the start-up phase													Clarification of role for national office and agreement on additional responsibility of PC. Formation of a core team within HCC to steer the process, prepares detailed plan for start-up phase. RedR can facilitate.
3	Prepare a detailed emergency response policy.													RedR should help bring-in the necessary perspective, experience and linkages
4	Prepare and agree on internal systems and procedure for disaster response.													Agree on minimum systems and procedures early and let it evolve over time. National office would have a significant role.
5	Agree on important disaster response 'decision support tools' such as standards etc.													RedR to bring-in necessary perspective and knowledge on Sphere standards and other protocols and mainstream them into all the training courses.

S. No.	Activity	Three year time line, starting in Dec.'2007												Responsibility/Remarks	
6	Capacity building at various levels within the organisation.														A continuous commitment. RedR's training capacity to be used..
7	Develop linkages with Government, INGOs, UN, Red Cross etc.														National office would have important role. Placement of HCC engineers with other humanitarian actors through RedR would be useful.
8	Placement of HCC engineers with other humanitarian actors.														RedR to inform the humanitarian sector on the scale of trained resources available for emergency response. RedR to facilitate standing-agreement with various organisations.
9	Respond, monitor, evaluate, learn, and respond better														Monitoring of impact and process would be very important to evolve into a robust disaster response system.

5.2 Capacity Building Priorities: (Ref. A8.0 in Annexure –I for types of training courses proposed)

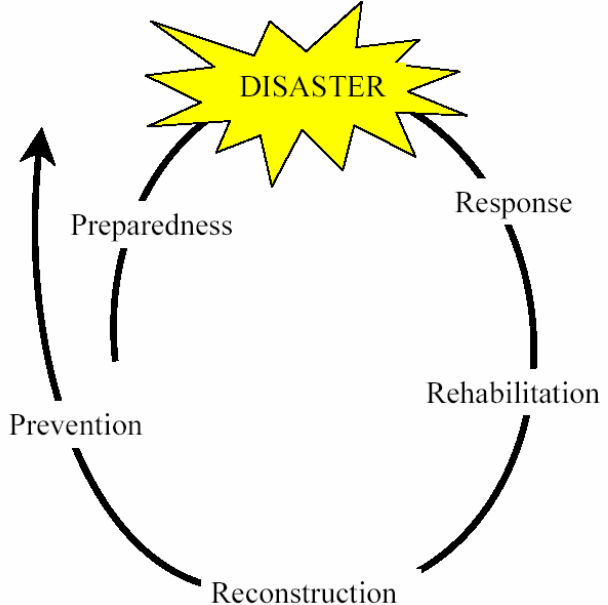
S. No.	Priorities	Three year time line, starting in Dec.'2007												Remark	
1.	Training: Perspective development for senior persons on: --Emergency and humanitarian work with public health approach. --Disasters and development continuum.														Important and immediate need, which will remain an important priority for capacity building over long term as well. It would cover awareness about the existing and emerging humanitarian system.

S. No.	Priorities	Three year time line, starting in Dec.'2007												Remark				
2.	Training: Technical training to engineers																	Apart from use of public health engineering for securing wellbeing of disaster affected population the courses would provide perspective on disaster and development continuum.
3	Training: First responder training																	First aid training along with simple search and rescue techniques. It is expected to be provided to all the staff including the labour force. Hence training in local languages would also be provided. It may include use of e-learning along with class room based as well as practical training.
4	Knowledge Building																	Adopt/assimilate existing knowledge streams to support the delivery of HCC mandate and public health approach.
5	Knowledge creation																	Mainstreaming delivery of innovations and new ways of working within HCC and making it available to other actors.
6	Action																	Highest priority. All the above shall help in capacity building but capability creation will happen only through application of learning. Hence there would be strong emphasis on timely and appropriate response to disasters.

Note: All the training courses would include standards for emergency response as a cross cutting theme. Further few key people within the organisation may be specifically trained on Sphere minimum standards for humanitarian response and UNHCR standards for emergency response.

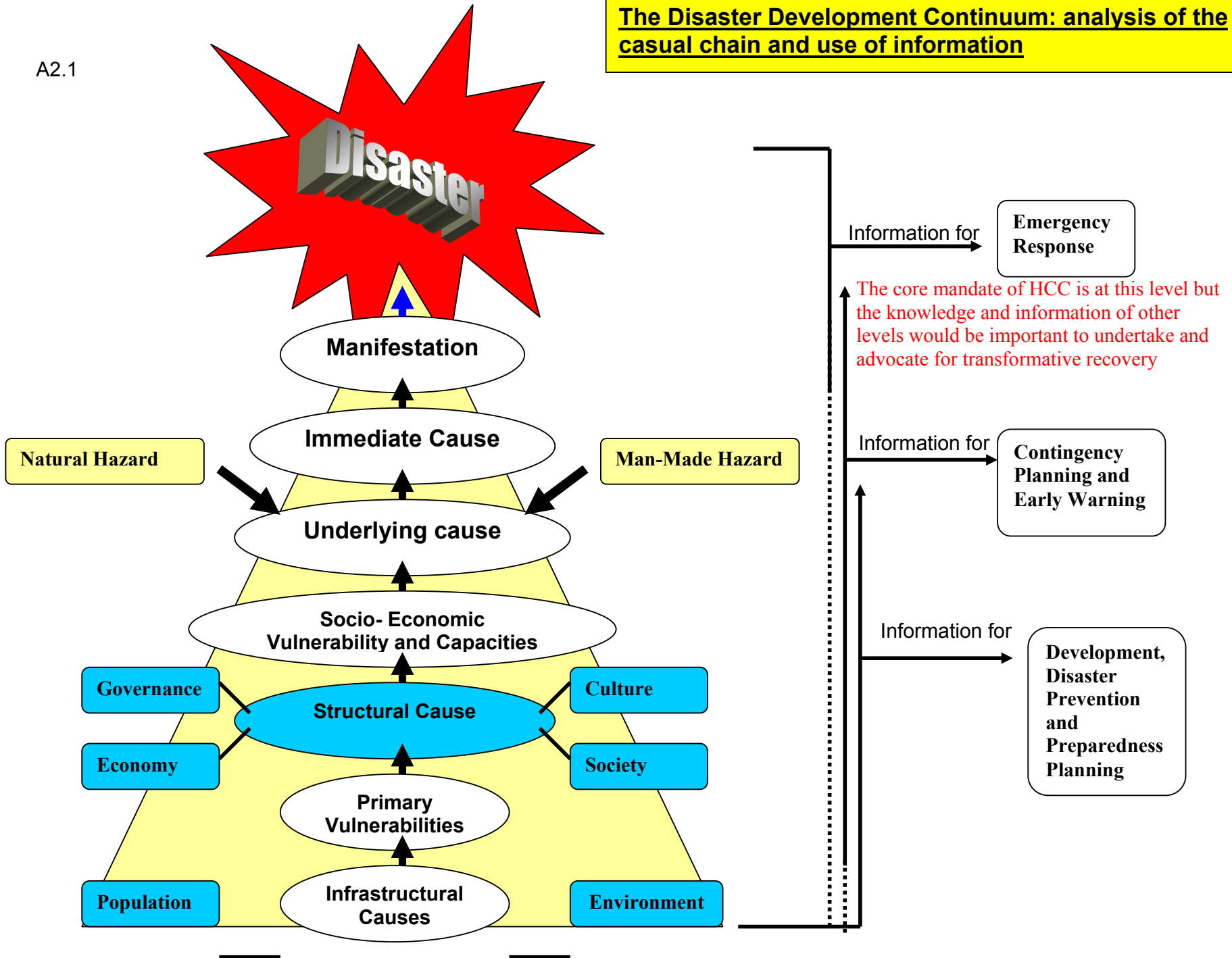
Annexure-1

Setting Agenda for Development of HCC-DMT (draft, prepared by RedR India, it is to be referred along with the concept note)

S. NO.	FUNDAMENTAL OF DISASTERS & DEVELOPMENT	Priorities for HCC-DMT	Needs for preparation for HCC-DMT
A1.0	A disaster is an occurrence disrupting the normal conditions of existence and causing a level of suffering that exceeds the capacity of adjustment of the affected community.	Shall provide significant capacity as per needs hence: -Shall assess needs -Mobilise resources to respond to needs in-line with HCC mandate .	-Choose a clear mandate -Learn on how to do needs assessment -Preparedness planning. -Contingency Planning -Logistics for timely response.
A1.1	It is the people who matter most, and without the people we have no disaster.	Develop people centred solutions.	-Develop understanding of working with communities and other stakeholders.
A2.	<p>The Disasters and development continuum</p> 	<p>Understand link between -Development planning -Preparedness planning -Contingency planning and -Emergency Response</p> <p>Important: <i>Disaster prevention, mitigation & preparedness safeguard development.</i></p> <p style="text-align: center;">↓</p> <p><i>Good response facilitates recovery and development.</i></p> <p style="text-align: center;">↓</p> <p><i>But only development can reduce vulnerabilities, and the hazards arising from the socio-economic disfunctionalities.</i></p> <p style="text-align: center;">↓</p> <p><i>Disasters and crisis “emergencies” are reflections of the ways societies structure themselves and allocate their resources.</i></p> <p>Ref. figure A2.1</p>	<p>-Perspective building on disasters and development.</p> <p>-HCC disaster response to contribute to mitigation and preparedness; development.</p> <p>-Investing in information generation at local level, which would help in timely and appropriate decision making; most emergencies are local.</p> <p>-Having and supporting adequate and right kind of people who hold this information and convert it into understanding.</p>

A2.1

The Disaster Development Continuum: analysis of the casual chain and use of information



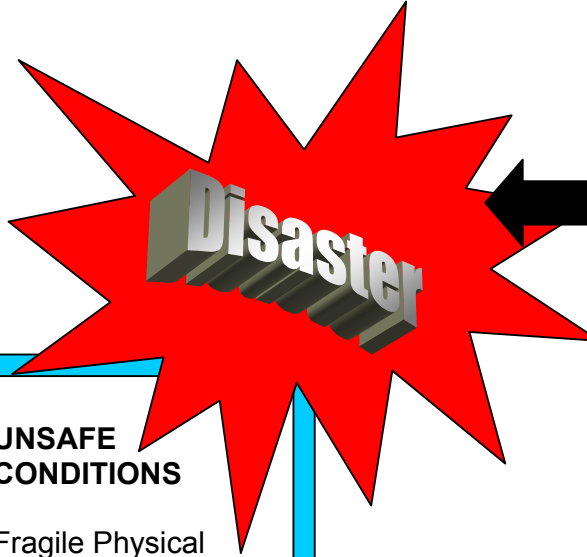
A3.0	<p>Perspective building on disasters and development</p> <p>Probability of disaster occurrence Hazard x Vulnerability = Risk</p> <p>Capacity -Disaster happens when threats and vulnerability meet. -Capacity building of various stakeholders including community at risk is one of the potent strategies for risk reduction. Capacity is inversely proportional to risk. <i>Ref. figure A4.1 and A4,2</i></p> <p>VULNERABILITY the predisposition to suffer damage due to external events</p> <p>CAPACITY ability, ableness to do</p>	<p>Capacity of HCC-DMT would include this perspective, an organisational structure that lends itself to swift response and capabilities for emergency management.</p> <p>Capacity for emergency management would include</p> <ul style="list-style-type: none"> - INFORMATION -CLARITY OF ROLES AND RESPONSIBILITIES -ORGANISATIONAL STRUCTURE -PARTNERSHIPS -PLANS, RESOURCES AND PROCEDURES TO ACTIVATE THEM 	<ul style="list-style-type: none"> -Setup a decentralized organizational STRUCTURE FOR DISASTER RESPONSE. -Have a clear idea of internal capacity which is linked to the organizational mandate. - Capacity building of staff. -Knowledge building work along with Knowledge creation. Ref. to 5.2
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A4.1

A disaster occurs when threat and vulnerability meet

Vulnerability

Threat



UNDERLYING CAUSES

- Poverty
- Limited access to
 - Power structures to
 - Resources
 - Information
 - Ideologies
- Economic systems
- Age
- Gender
- Illness & disabilities

DYNAMI PRESSURES

- Lack Of
 - Local institutions
 - Education
 - Training
 - Appropriate skills
 - Local investments
 - Local markets
 - Services
- Freedom of information
- Macro – forces
 - Population expansion
 - Urbanization
 - Environment degradation

UNSAFE CONDITIONS

- Fragile Physical Environment:
 - Dangerous locations
 - Dangerous buildings
- Fragile local economy:
 - Low level of income
 - Precarious livelihoods
 - Public actions

TRIGGER EVENT

- Earthquake
- Storm
- Floods
- Landslide
- Volcanic eruption
- Drought
- Epidemic
- War
- Economic crisis
- Industrial or Technological incident

Vulnerability + Threat = Disaster

HCC's mandate of transformative recovery can help in vulnerability reduction



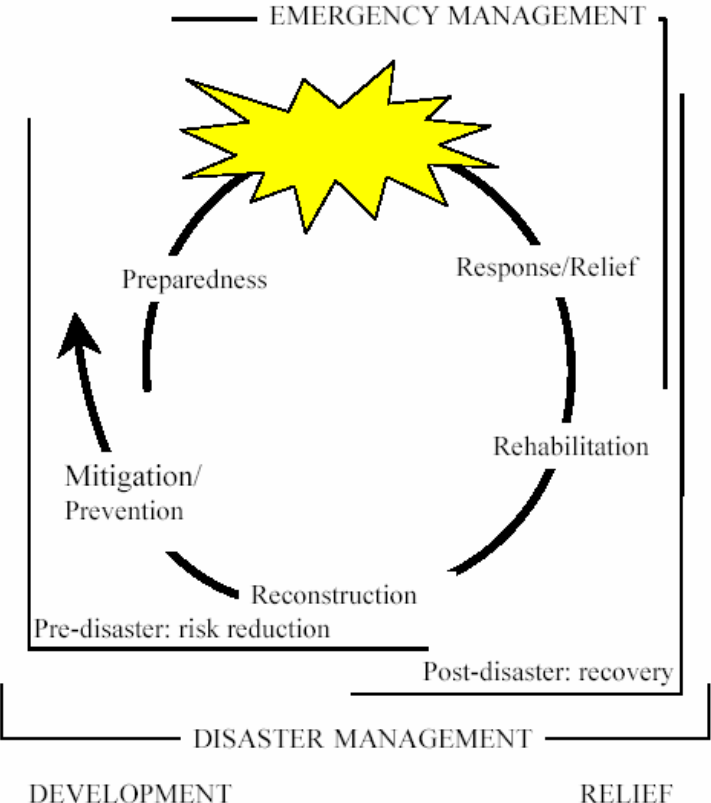
A4.2 Poverty, population growth and urbanization force living in unsafe areas



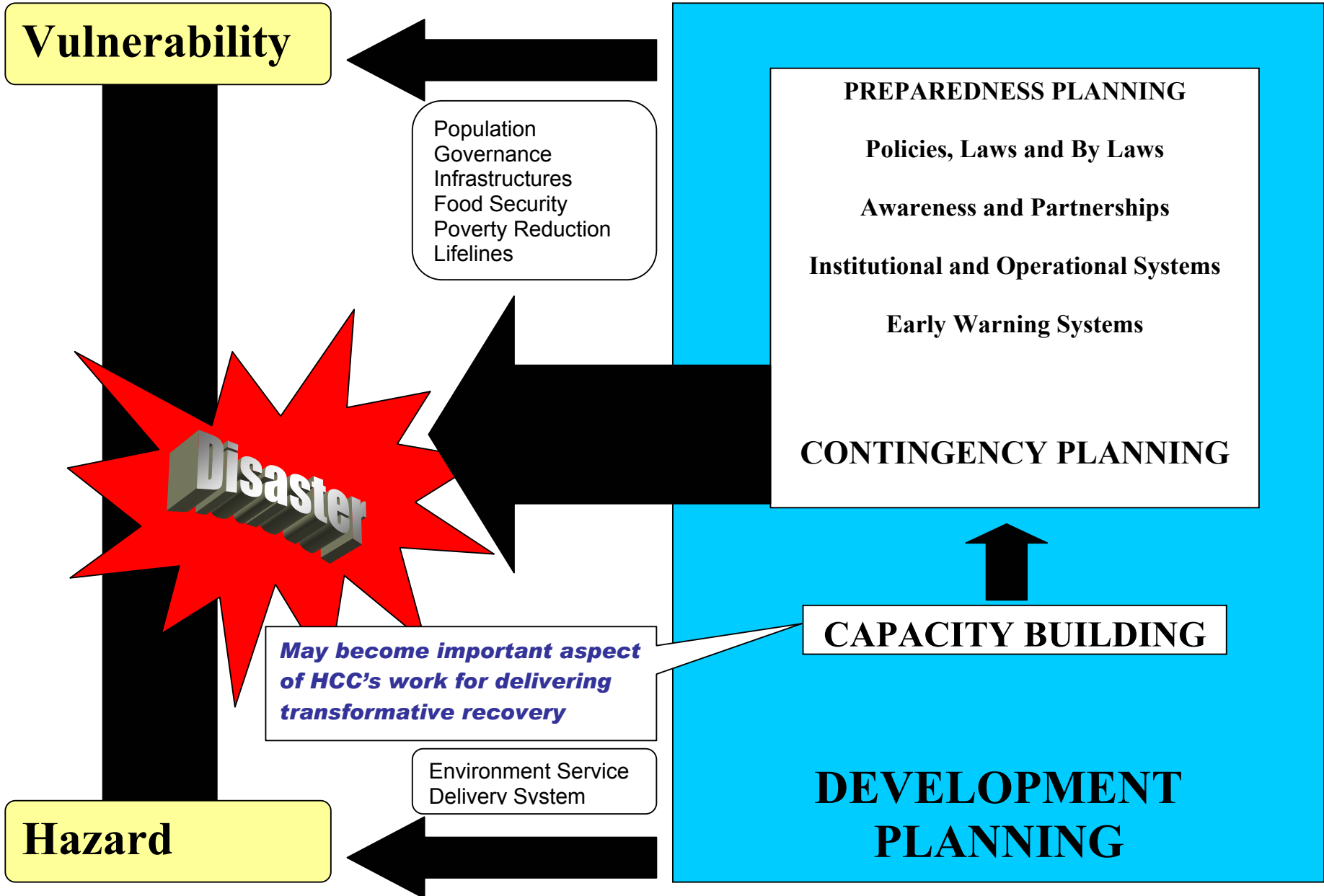
Site



Site after pressures from population growth and urbanization

A5.0	<p>EMERGENCY a state in which normal procedures are suspended and extra-ordinary measures are taken in order to avert a disaster</p>	<p>For effective relief</p> <ul style="list-style-type: none"> -assess the needs -reduce the suffering -limit the spread and the consequences of the disaster -open the way to rehabilitation 	<ul style="list-style-type: none"> -Prepare Emergency Response Manual -Set protocol for organized mobilization of: -personnel, -funds, -equipment and supplies
A6.0	<p>Disaster Management and Emergency Management</p> 	<p>Important to understand our limitation in terms of time and domain where HCC would get actively involved.</p> <p>Remember that involvement in one particular domain has the capacity to influence outcomes in the others. E.g. the level and type of development would configure the disaster risk and it is equally true that disaster response has the capacity to set the future development agenda;</p> <p>TRANSFORMATION</p> <p>Hence HCC's post disasters work would have an opportunity to bring about positive transformation in affected communities and geography.</p>	<p>Organisational Mandate for HCC-DMT:</p> <p>'Delivering transformative post disaster recovery'.</p> <p>AIMS OF HCC DISASTER MANAGEMENT</p> <ul style="list-style-type: none"> --assure prompt and appropriate assistance to victims when necessary. --achieve rapid and durable recovery. --reduce (avoid, if possible) the potential threat from hazards.

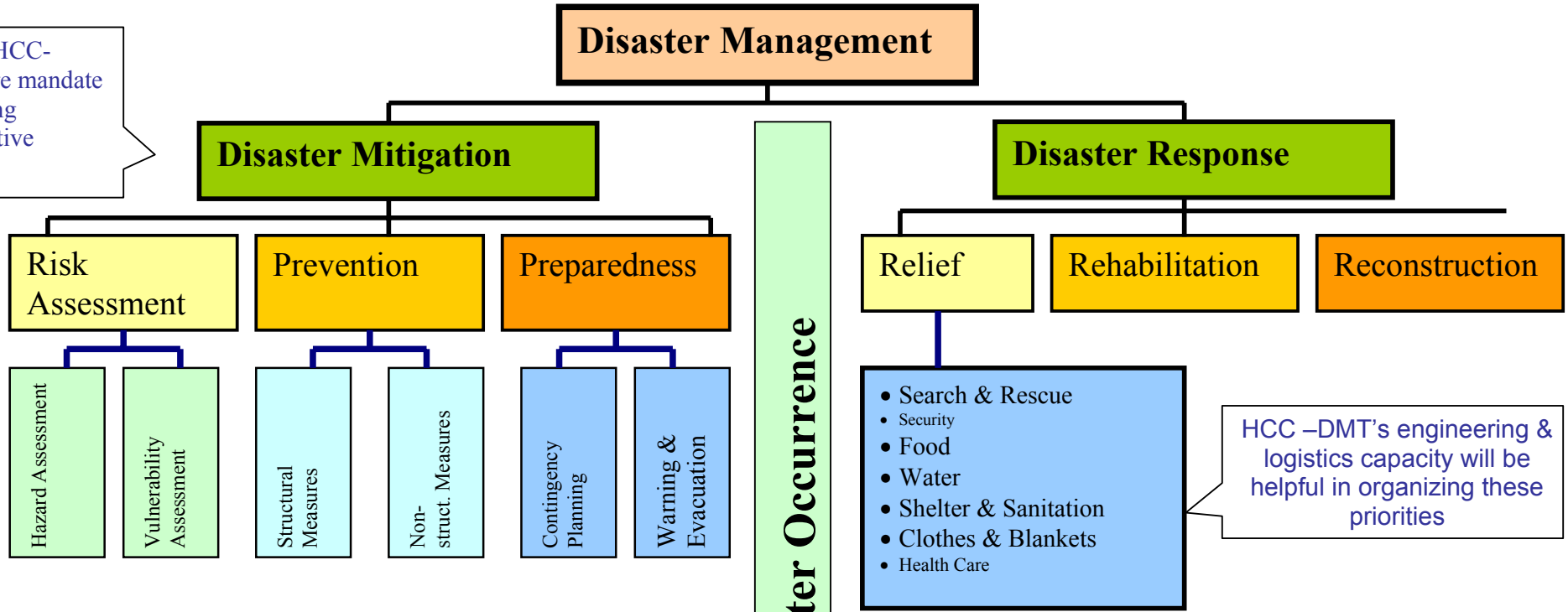
A6.1 RISK REDUCTION PLANNING



A7.0	Partnership for to secure knowledge and perspective on disaster management	Identify a partner to bring-in knowledge and perspective required for disaster management.	<p>--RedR could be one of the partners, they have a global reputation for capacity building and knowledge management for emergency response.</p> <p>--Through the RedR system HCC engineers can also work around the world with humanitarian agencies like Oxfam, Unicef, WHO etc.</p> <p>--RedR can be an important partner to link with various humanitarian agencies and initiatives like research and development.</p>
A8.0	Specific areas for capacity building	<p>--Public health approach to emergency management.</p> <p>--Personal Preparedness.</p> <p>--Standards in Emergencies.</p> <p>--Essentials of Humanitarian Practice.</p> <p>--Disasters and Development continuum</p>	<p>--Various training programmes that complete the larger agenda of 'Engineering in Emergencies'</p> <ol style="list-style-type: none"> a. Public health (Environmental health in emergencies). b. Shelter and settlement in emergencies. c. Rehabilitation of critical infrastructure. <p>--Various training programme to develop perspective and increase effectiveness of disaster response.</p> <ol style="list-style-type: none"> a. Planning and managing humanitarian response. b. Personal preparedness (first responder training). c. Personal and Team Security Management. d. Damage and Needs Assessment e. Rapid Environmental Impact Assessment of Disasters
A9.0	Research and Development	Emergency response requires constant innovation and improvement and is still a relatively new field with strong demands for research and development.	<p>-Development of specific equipments to facilitate engineering response to emergencies.</p> <p>-Technology selection for disaster response and mitigation.</p> <p>- Technology promotion for disaster response and mitigation</p> <p>- Develop elearning tools for providing wider access to knowledge and understanding.</p>

Disaster Management: Leading activities and Related terms

Linked to HCC-DMT's core mandate of delivering transformative recovery



Pre – Disaster

<p>Hazard Assessment: Mapping, monitoring Vulnerability assessment: Assessment of Vulnerability for all elements exposed to the Hazard Risk assessment: Calculation of expected losses</p>	<p>Structural Measures: Special building codes, dams, floodwalls, etc. Non Structural measures: Land use planning, laws, insurance, public education, etc.</p>	<p>Contingency planning: Plan of action in case of Disaster, training of terms Warning and Evacuation development of indicators & early warning systems, Simulation exercises.</p>
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Post – Disaster

<p>Immediate intervention. Duration:.... By definition, short-term</p>	<p>Rehabilitation Restoration of basic Social functions. Durations:.... Weeks to months</p>	<p>Reconstruction. Full resumption of Socio-economic functions, plus preventive measures. Duration:.... Months to years</p>
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WHO is source of all the sketches used in annexure-I