



Myndigheten för
samhällsskydd
och beredskap

Early Recovery Road Map Linking Relief to Recovery and Development

Strengthening International Humanitarian Post-Disaster Assistance New Approach to Early Recovery Planning and Implementation



FORSKNING



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1. Summary

This research project's aim is to strengthen MSB's growing input to early recovery (ER) by introducing a structured application of ER within Sweden's international humanitarian assistance. In Practice, the problem of bridging between humanitarian operations and sustainable recovery has been recognized by International Organizations for a long time. The EU introduced the concept of "linking relief, rehabilitation and development" or LRRD. UNDP introduced the concept of Early Recovery and the Cluster Approach to overcome this problem as an attempt to bridge the gap between humanitarian disaster relief and long term sustainable development. In spite of the efforts made so far, this has created more debate and less practical impact. Challenges are greater in urban disaster settings where post-disaster response and early recovery interventions are 'wicked problems' in nature. The physical symptoms of disaster impacts in urban areas are merely the consequence of complex issues in which the solutions to address them cannot be found through linear processes and go beyond the scope of a single discipline. Since, post-disaster response and recovery operations are about city-re-organizing its multifaceted and interconnected layers to function better, thus urban planning knowledge is the point of departure of this research to untangle the complexities of urban disaster problems. The work grew from a blending between academic research and practice to better tackle the complexity of ER from a number of perspectives. It covers analytical review of the architecture of early recovery interventions within key international humanitarian organisations, the relevancy of collaborative planning model. It includes as well field investigations in post-tsunami of 2004 in Thailand, review of post-Katrina of 2005 and post-Sandy of 2012 in the USA to extract lessons learned, and practicing in real cases to test the relevancy of urban planning knowledge in two humanitarian response operations: post-war of 2006 in Lebanon and post-Yolanda of 2012 in the Philippines. This research suggests the introduction of an additional dimension to the existing early recovery approaches (ER and LRRD) that is process-driven, utilizes geography-based plan and is governed by collaborative principles termed 'Early Recovery Road Map (ERRoMap)'. The operational framework of ERRoMap is built up of three main working components: time-sensitive, integrated and area-based planning to identify vital areas for early recovery; inter-organizational interaction; and leadership of collaborative type. It is guided by five core principles: collaborative, dynamic, inclusiveness, accountability and should be applied at both, pre- and post-disaster. The process of ERRoMap planning is according to three stages: getting in, getting on, and getting out. It works with local and national authorities, key organizations already in-country, local NGOs and affected people on the same basis as it work with international humanitarian organizations. The operations of ERRoMap begins onset of a disaster and continue to work in accordance to, and provide inputs to different requirements specified in the Humanitarian Program cycle identified by IASC with a period that varies between 3-6 months depending on the scale of the disaster and areas coverage. ERRoMap is a knowledge-based mission with a well-defined aim, role and output. MSB can build on its competences to fill a very significant gap, which is linking relief with recovery within the Humanitarian Program Cycle developed by IASC. In this context, this research proposes a modality of MSB to support ERRoMap and recommends building on the knowledge obtained and carrying out number of studies for capacity building and operational ERRoMap purposes.

2. Introduction

Sweden is the world's fifth largest donor of humanitarian aid. In 2009, Sweden's humanitarian aid reached US\$640 million or 0.12% of its gross national income. Search and Rescue (SAR), disaster relief and recovery activities constitute an important part of the overall aid continuum on the path towards sustainable development programs and the integration of Disaster Risk Reduction (DRR) and disaster preparedness in recipient countries. The increase in the level of Sweden's international humanitarian activities necessitates a continual strengthening of theoretical knowledge and enhancing competence in operational professionalism and skills. This research project's aim is to strengthen MSB's growing input to early recovery (ER) by introducing a structured application of ER within Sweden's international humanitarian assistance. It will provide a means of linking planning knowledge with ER operational practices to provide a better platform for sustainable development.

In disaster management, the international community has historically focused upon immediate humanitarian disaster relief efforts. Notwithstanding the goodwill and humanitarian intentions of the international organizations and donor agencies, it appears that their starting point is mainly focused on narrowly defined post-disaster aid programs with a '*quick delivery - high impact*' aim, rather than being predicated on any coherent vision for an early recovery program that builds local capacity and facilitates inter-organizational coordination that is well integrated with a country's/community's long term economic and societal development. When disaster has already occurred, the post-disaster response should aim to ensure that recovery assistance prevents reproduction of pre-existing vulnerabilities and risks and contributes to long-term development. While comprehensive, participatory, and collaborative planning models and tools provide an effective means to guide early recovery interventions and reconstruction they are often underutilized in the post disaster response operations and early recovery phase. Due to the increasing number of disasters in urban settings, humanitarian actors are challenging new modalities for addressing the complexity of humanitarian response and recovery.

3. Early Recovery Problem in Focus

In Practice, the problem of bridging between humanitarian operations and sustainable recovery has been recognized by International Organizations for a long time. The EU introduced the concept of “linking relief, rehabilitation and development” or LRRD. UNDP introduced the concept of Early Recovery and the Cluster Approach to overcome this problem as an attempt to bridge the gap between humanitarian disaster relief and long term sustainable development. Some argue, in spite of the efforts made so far, this has created more debate and less practical impact; though it has gained momentum it has also stimulated contradictory views and its added value is yet to be consistently proven. In practice, the purpose of early recovery remains unclear as there is no general consensus on its practical meaning and contents and is still subject to different interpretations by humanitarian responders, development actors, donors and the developing countries themselves.

Rapid urbanization and poorly managed urban development are among the many contributing factors to the scale and complexity of disaster impacts. Post-disaster response and early recovery interventions in urban settings are ‘*wicked problems*’ in nature; their physical symptoms are merely the consequence of complex issues in which the solutions to address them cannot be found through linear processes and go beyond the scope of a single discipline. Urban, post-disaster response and recovery operations in particular are in large measure about city-re-organization so that its multifaceted and interconnected layers to function more effectively. The point of departure considered in this project is the relevance of urban planning due to its capacity to incorporate interdisciplinary knowledge in order to deal with the complex aspects of city development. Urban planning has well-established means to interplay with disaster risk reduction, preparedness and resilience. Therefore, it is worth investigating in practical ways to bridge urban planning knowledge into the humanitarian response so as to increase assistance efficiencies, strengthen early recovery interventions and contribute to sustainable development.

3.1 Overall Aim

The project’s aim is to strengthen the growing input of MSB in ER by introducing an innovative application of ER within international humanitarian assistance. The objective is to provide a means of linking urban planning knowledge with ER operational practices through exploring the viability of using planning models and tools to develop the post disaster Early Recovery operational framework. The research achieves its overall aim through undertaking the following measures:

- Assess the ER operational framework, methodology and tools produced by MSB and UN Agencies: UNDP/BCPR, CWGER, UNWOMEN (UNIFEM), OCHA/IASC, ISDR, UN

Habitat, UNICEF, WB/GFDRR, EC/ECHO; the voluntary relief organizations IFRC and OXFAM; and in addition an overview of Sweden's humanitarian assistance.

- Examine the potentiality of Urban Planning (UP) models for the development of sustainable ER operations.
- Carry out comparative analysis of number of case studies selected from different geographical areas with different socio-economic and cultural context, and affected by different types of disasters, the comparative analyses comprised:
 - Field investigations of Thailand post 2004 tsunami and literature review of the hurricane Katrina and storm Sandy events in the USA, to examine the post-disaster response approaches and extract those lessons learned that have a particular relevance to the application of urban planning in early recovery interventions.
 - Practice in real cases of the new ideas developed during the project's progress to examine their relevance in linking relief, recovery and development and the mainstream sustainability aspects. This was carried out in the instances of South Lebanon and Tacloban in the Philippines.
- Develop generic knowledge that improves early recovery interventions, contributes to sustainable recovery and strengthens the integration of gender goals in humanitarian response operations.
- Make recommendations to MSB based on the knowledge developed and experience gained which will expand capacity and effectiveness of MSB's performance in the disaster management cycle.

3.2 Blending Academic Research with Practices

This work grew from a blending of *academic research* and *practice* (see Fel! Hittar inte referenskälla.). The *academic research* included, a general review of planning models and tools examining their adaptability and flexibility for application within a comprehensive operational ER framework and guidelines; an analytical review of the existing operational frameworks for ER as applied by leading international agencies,

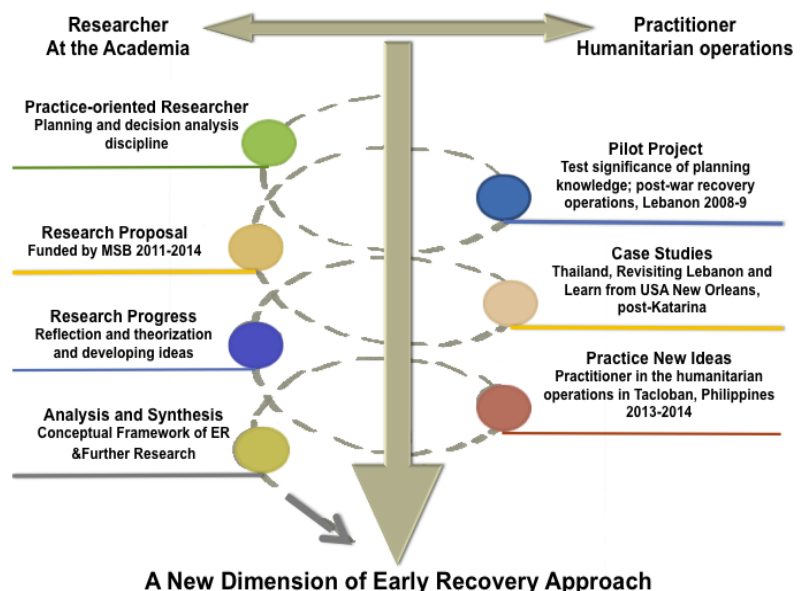


Figure 1: Research Strategy

combined with MSB inputs; lessons learned were extracted from field studies, which cover the 2004 South East Asian tsunami ; and a review of the literature on post-disaster

responses in the USA including hurricane Katrina 2005 and storm Sandy 2013. For the *practice* component, I undertook a practitioner role in two humanitarian operations where I had the opportunity to examine the relevancy and experience the implications of the ideas developed during the progress of this project. The practice included testing the new early recovery conceptual framework using urban planning knowledge in a real working environment with different agencies. This was initiated before the commencement of this project with the experience gained in post-war Lebanon in 2006 where the findings have contributed to the knowledge developed in this project. My field involvement in the post-Yolanda response of 2014 in Tacloban, the Philippines, enabled me to examine further the utilization of urban planning in a humanitarian response. The outputs from practicing a planning framework in the reality of urban disaster responses has improved the knowledge of its implications and opportunities when it is put into practice. The lessons extracted from practical experience, field study and from reviewing the post-disaster responses in the USA context, gave a good coverage of different types of crisis in the context of varied physical, socio-economic and cultural backgrounds. The research strategy employed a transdisciplinary approach involving the researcher and practitioners working collaboratively across disciplines and engaging both academic and non-academic communities. This approach enabled the complexity of the research to be better tackled from a number of perspectives including identifying the interconnectedness of various aspects and capturing the total dynamics of urban disaster issues. This project would not have been possible to achieve if I had worked solely as either a researcher or practitioner. My dual role, provided me with a multi-strand awareness, which was reflected in the practical and the theoretical strands of the research undertaken. The knowledge generated through this study can potentially serve to narrow the gap between practice and theory. When undertaking this project, I examined issues from both practical and theoretical dimensions. Apart from the satisfaction of contributing to the recovery in Lebanon and the Philippines, the main product of my practice in both countries, was learning how the researcher/practitioner, experts and actors may best work together in sharing their expertise for the common interest of the project.

3.3 Project Time Plan

The project was accomplished in four years including academic research and applied practice. The project ran from January 2011 to March 2015, inclusive of breaks to the research, to participate in as practitioner in recovery events.

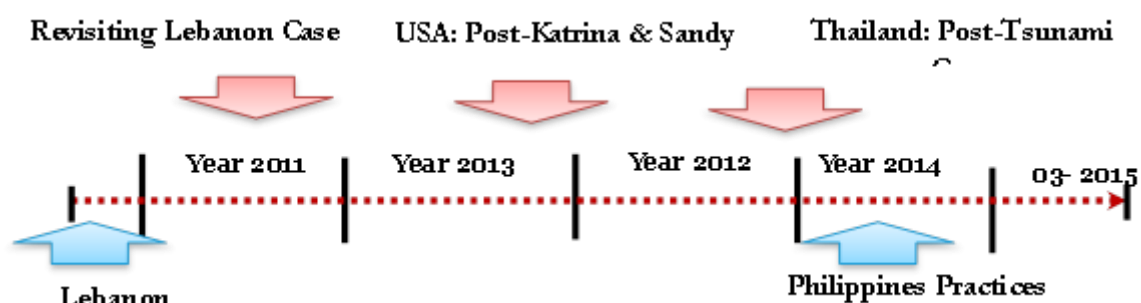


Figure 2: Project Time Plan

4. Architecture of Early Recovery

The results of the review made of the key UN Humanitarian Organizations, demonstrate the relevance of the Cluster Approach in improving the coordination mechanism between the humanitarian organizations operating in post-crisis settings and the potential of Early Recovery approach to bridge the gap between relief and recovery whilst ensuring efficient use of resources. ER is defined by BCPR as a multidimensional process guided by development principles that begins in a humanitarian setting, and seeks to build on humanitarian programs and catalyze sustainable development opportunities thereby establishing the foundations for longer-term recovery. While these approaches have provided a practical means for coordination, the mechanisms deployed thus far have proved less effective in delivering comprehensive and integrated early recovery interventions that flow into the longer term development requirements. There is a wide acknowledgement of the need to acquire necessary knowledge to improve the implementation of ER in order to improve the working methods of the recovery approaches to raise the efficiency and effectiveness of the humanitarian response in general. A review of the concept: 'Linking, Relief, Recovery and Development' developed by the European Commission, Directorate General for Humanitarian Aid and Civil Protection, also revealed the need to improve internal humanitarian response procedures to meet the challenges of the 'grey zone' between response and recovery, to maximize the efficiency of assistances and contribute to societal resilience in disaster-prone countries especially in urban settings. Despite the degree of systematic progress in the coordination of humanitarian responses and early recovery interventions introduced by the ER, LRRD and Cluster Approaches, there are several implications when these approaches are put into practice and particularly in urban disaster settings. The city socio-economic and institutional diversity requires deep analysis to understand the dynamic of urban livelihood and vulnerabilities which contradicts those humanitarian assistance concepts that assume one modality-fits-all. Also, most urban disaster impacts are inherently spatial and have natural synergies and overlaps. Therefore, they necessitate the use of the well-developed knowledge and tools in urban planning. **Fel! Hittar inte referenskälla.** summarizes the general finding and major gaps of Early Recovery Approach in practice.

Table 1: General Findings and Major Gaps in Early Recovery in Practice

General Findings	Major Gaps
A common holistic understanding of ER objectives	Evaluations of ER approach suggest attributable weaknesses lie in execution rather than concept
Cluster Approach has introduced a degree of systematic progress in the coordination of humanitarian	Coordination is complex , utilizes an ad-hoc basis, and is poorly described Insufficient strategic focus

General Findings	Major Gaps
responses.	Deficiency in monitoring and evaluation Lack of coordination with the country system's weakened capacity Undermining of sustainability Accountability to HCs remains minimal Lack of exit strategies Participation of national or local NGOs in clusters remains marginal Integration of cross-cutting issues still minimal Funding and cluster relationships created conflicts of interest
Type of disaster: natural disaster or war/conflict	Type of disaster still is a major challenge to determine ER focus, coordination mechanism, building local capacity and exit strategy
Organizations recognizes ER financing gaps	No formal interagency mechanisms for mobilizing resources for ER .
All actors in ER activities are in agreement that ER should be nationally owned	Decision making process of ER done at global level in relation to initiation and planning of humanitarian assistance and early recovery without local input.
Organizations have recognized the complexity of the humanitarian response in an urban environment	Urban planning discussed in relation to its physical aspects Little attention on the role of planning as coordinating mechanism
Exit strategy	Lack of focus on national capacity impacts the timing of ER de-activation

IASC suggested undertaking a serious review of the 2005 Humanitarian Reform to address the challenges in large scale disaster after the experience gained from the weaknesses and inefficacies of the international humanitarian emergency response to the Haiti earthquake and Pakistani floods of 2010. Out of that, a Transformative Agenda was formulated in 2012 aims to address the weaknesses in humanitarian response to focus on the impact of change and to be more accountable to all stakeholders. The UN Agencies and other donors and humanitarian organizations emphasized the need for better coordinated and more efficiency of the international humanitarian response. ER is perceived as a multidisciplinary issue, which cannot be tackled by individual clusters alone. Since the humanitarian system needs to evolve in order to meet the increasing scale of disaster, the Transformative Agenda is to adapt and be more responsive. The Transformative Agenda adopted by the IASC identifies three basic areas: leadership, coordination and accountability to improve the timeliness and effectiveness of humanitarian response operations.

To meet the increasing challenges of disaster, to respond to the principles emphasized in the Transformative Agenda and support the multidisciplinary role of Early Recovery Approach, this work suggest the addition of a new dimension to this approach that emphasizes; '*process*', to enable coordination between Cluster System members; and '*content*' to deal with the complex institutional, spatial, social and economic dimensions of the urban disaster impacts in order to enable a 'city' to recover 'as early as possible'.

5. Field Investigations and Practices

Obviously, comparing cases from the developing world with cases from the developed world sounds unworkable. But the aim here is to understand how a pre-established organizational structure for the early recovery mechanism could make a positive difference in planning, coordinating and implementing early recovery in a post disaster area. The findings from the USA reveal that several factors contribute to the failure or success of early recovery operations. A well established organizational structure where roles and responsibilities are already identified can significantly contribute to better early recovery operations. Lessons from Katrina were learned that improved the response and early recovery in Sandy. Urban planning knowledge including a collaborative approach and planners skills have contributed to the coordination mechanisms between actors, early recovery interventions and the development of the National Response and Recovery Frameworks developed by FEMA in the USA. Most of all, preparedness, mitigation, a recovery plan with sustainability measures, coordination, financial resources and elements of resilience are among the important factors that play a role in effective early recovery activities.

Generally speaking, early recovery of post-disaster and post-conflict are driven by the same dynamics of humanitarian assistances and early recovery actions and are led by the same actors. The post-war experience in Lebanon underlines the challenges that can face early recovery in difficult and complex political conditions. Though the institutional setting was still functioning in Lebanon after the war, the political conditions weakened the performance



Figure 3: Lebanon 2008 – Aytaroun Recovery Planning

of its institutions. This emphasises the prerequisite of understanding the politics and conflict conditions in planning for post-conflict early recovery. The Peacekeeping Force UNIFIL had an operational presence in South Lebanon before the 2006 war. After the war, the UNIFIL's mission expanded and became engaged in several community restoration projects e.g. demining, community restoration, capacity building, disaster management and disaster medicine projects within their operational areas. Therefore, UNIFIL had to liaise with the early recovery operating agencies.

In Thailand the hierarchical political structure led to a centralised coordination mechanism. But the permission of the Royal Thai Government given to the International Organizations to address the needs of affected people directly provided a lot of flexibility to the huge number of organizations operating at the same time in the same areas, which turned the early recovery activities operation to chaos in many locations through duplication of assistance distribution and providing opportunities for corruption. The early recovery plan was manipulated by tourism interests and business entities at the expense of poor villagers. The most vulnerable groups comprised women with children or pregnant without official marriage certificates, female sex-workers, ethnic minorities and migrants from Burma.

Leading Cluster practitioners interviewed during the field work underlined the ambiguity with which ER is regarded describing it as the soft side of response. Donors, however, would prefer to invest in things producing 'tangible' results such as school building/reconstruction. Also, ER projects are subject to various interpretations varying between a single activity such as rubble removal or to an entire DRR program. Similarly attention to restoring employment can encompass and across the



Roof construction vulnerable to wind



Makeshift shelter



A modality of Shelter kits



Affected Coconut trees

Figure 4: Practicing in Tacloban

board Livelihoods programs, or simply cash for work. Coordination may happen vertically within one cluster but it rarely happens horizontally across clusters. “Coordination mechanism” in many cases is interpreted as a DATA system to trace donations with an ultimate goal of avoiding duplication. Coordination is perceived as expensive. Practitioners emphasise that an early recovery approach that aims to achieve an early exit strategy has to build on local capacity. This requires additional elements to be included in the post-disaster assessment to map existing local assets in order to plan for an early recovery that is built on such assets.

Tacloban was a great opportunity to examine the potential and implications of this project’s new conceptual framework for early recovery when applied in one of the ‘Cluster Hub’ in Tacloban city. The relevance of urban planning knowledge was very significant and drew the attention of the Clusters operating in the city as a tool to provide an integrated and holistic early recovery picture of an affected city. This was desirable because the operating agencies realised that one modality-does not fit all in the context of the complexity of disaster impact in an urbanized area. The case demonstrates the need to improve planners’ skills to consider the ‘time compression’ factor when planning for recovery to avoid losing the opportunities that a disaster may create. The unfamiliarity of planners, despite their skills, with the emergency context limits their capacity to articulate and share the significant knowledge they have to mainstream sustainability and long-term development into the humanitarian response operations. Playing a dual role as researcher/practitioner in Tacloban provided me with an opportunity to develop an Early Recovery Road Map for Tacloban, ERRT, based on analysing gaps, opportunities, untangling the complex urban issues, and identifying the vital areas in the city for early recovery interventions to speed overall recovery.

6. Relevance of Urban Planning

Over many decades, humanitarian actors have focused essentially on rural emergencies and post-disaster recovery. The investigations made within this project conclude that humanitarian actors are challenging new modalities for addressing the complexity of humanitarian response and recovery due to the increasing number of disasters in urban settings. Urban problems are 'wicked problems' in nature; they are 'wicked' in that their physical symptoms are merely the consequence of issues for which the solutions to address them cannot be found through linear processes and go beyond the scope of a single discipline. The concept of 'wickedness' describes ill-defined and complex problems; and where the problem is insufficiently understood and the consequences of a solution to solve such a problem are unknown. Mostly urban issues are of the 'wicked' type because they are interconnected, have multiple facets and considerations, and because untangling them requires transdisciplinary and innovative approaches to support the decision making process and to develop sustainable solutions.

Fel! Hittar inte referenskölla. provides some examples on possible types of wicked problems in urban disaster and their impacts on humanitarian response operations and recovery in post disaster urban settings. The diversity and interconnectedness that characterizes urban areas necessitates well informed and effective governance from which the humanitarian response can draw upon both the formal and informal processes and the engagement of a broad range of local and national stakeholders thereby to understand the local dynamic and to identify and make use of existing socio-economic and intellectual assets like local NGOs, private sectors and universities.

Urban planning has incorporated interdisciplinary knowledge to deal with complex issues like climate change and mitigating disaster impact, which become more pronounced in urban areas due to the high population density, infrastructure elements, and the concentration of economic assets. Urban planning plays a key role in shaping the physical and social development of cities through its capacity to deal with spatial and non-spatial issues of city development including public spaces, institutional structures, environmental factors, social and economic considerations. Planning emphasises the participation of stakeholders in the decision making processes and has, therefore, developed different tools to involve actors in the planning process

Despite the knowledge developed to deal with the complex aspects of city development and the interplay between that knowledge and some aspects of the disaster continuum e.g. risk reduction and preparedness, the use of planning knowledge in post-disaster early recovery has been quite limited. The tyranny of urgency is the main impediment to the greater application of urban planning in the disaster response. The key question is how to adapt a field of knowledge that is usually implemented in "normal time", and

make it suitable for application in the post-disaster environment. More specifically is how to make use of planning as a process to improve the coordination mechanism of the sectoral recovery activities carried out within the organizational structure of humanitarian response. The experiences obtained from Tacloban post-Yolanda, 2013 in the Philippines, demonstrate the relevance of this knowledge but also draw attention to implications particular to when it is practiced during emergency conditions.

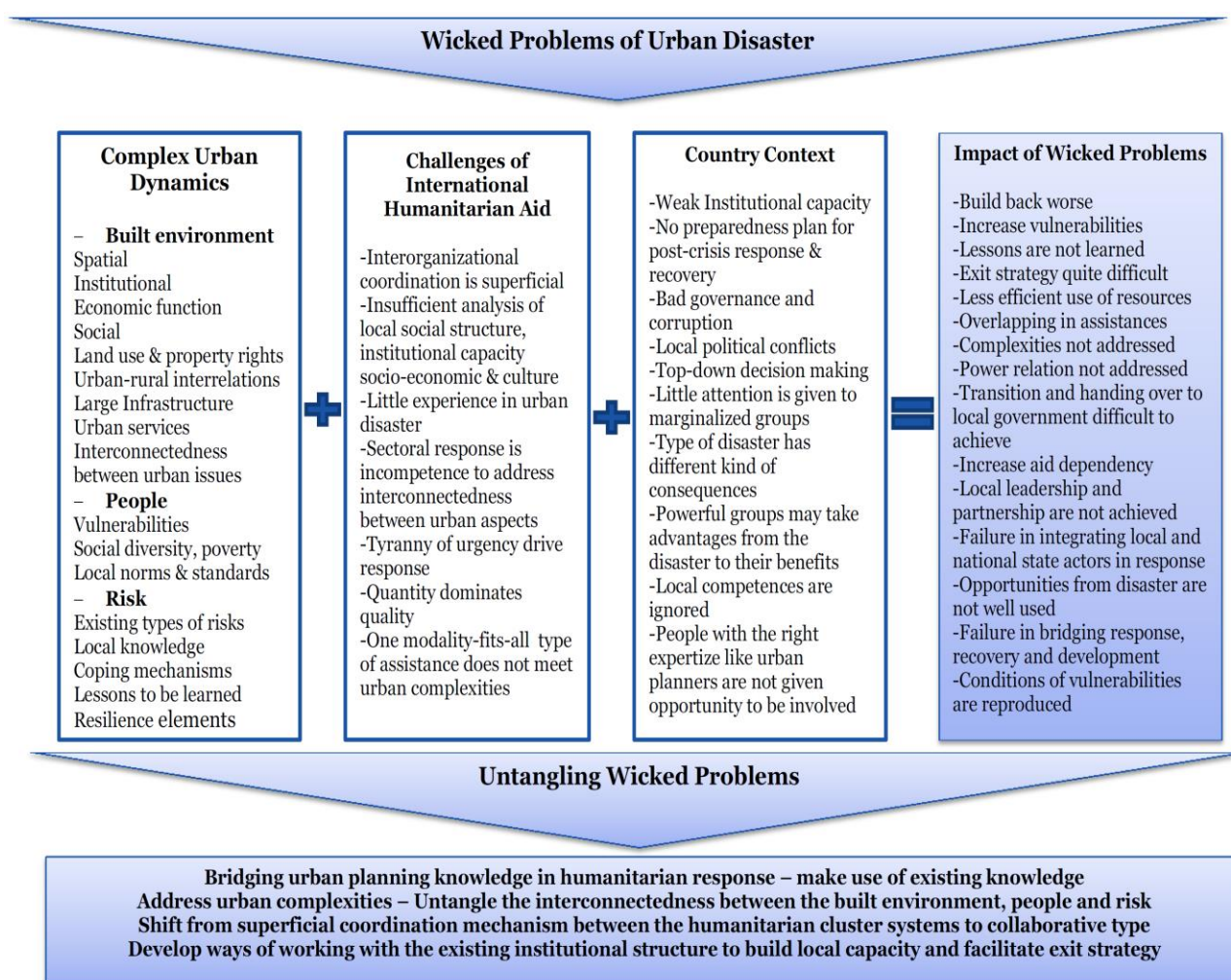


Figure 5: Example of wicked problems in urban disaster settings and their impacts

The experience in Tacloban demonstrates a number of challenges that face planners when undertaking planning in a post-disaster environment:

- Planning must happen quickly; it should be ‘compressed in time’.
- Aims of planning should be introduced to and be informed by the interests of the various actors to ensure their contribution to its process.

- Planning process should motivate and bring in diverse urban stakeholders: citizens, international organizations, international and local NGOs, government, donors, private sector, universities and other relevant institutions.
- Understand the institutional and political settings in a new context.
- Geography-based and grounded on a good mapping of socio-economic gaps, opportunities of the place and good understanding of interconnectedness between the complex features of the urban area.
- Communicate the big picture, but focus on priority issues to maximize the efficiency and make better use of the humanitarian organizations' inputs in the context of the big picture.
- Emphasise the opportunities that the disaster may create.
- Understand the vulnerabilities before the disaster to avoid reproduction of risks.
- Assess available resources and ensure their efficient use.
- Mobilize community to deal with people as survivors not as victims.
- Make use of local assets and intellectual capacity such as universities, local business community, professionals.
- Be ready to coordinate ad-hoc inputs.
- Develop skills to build collaboration and networking despite chaos.
- Advocate the rights of affected people, to counter the bias of planners to work for the authorities, decision makers and politicians. Planners should be supported to defend their ethical role and be innovative to develop win-win strategies.

6.1 Collaborative Urban Planning Knowledge

Urban Planning has developed many models and tools that can help organize a city's activities in terms of physical, social, economic and environmental aspects of community life as well as establishing a collaborative relationship with diverse interest groups. It is therefore important to integrate planning models and tools as a new way of thinking in post disaster ER planning. Collaborative planning knowledge has a great potential to strengthen the coordination mechanism within the humanitarian cluster system; to emphasize accountability to local institutions and the affected citizens and to contribute to long-term development. Collaborative Planning provides a framework for understanding and interpreting the spatial structure of a place for practical actions and interplay between the 'content' of a physical plan as a visual reference for collaboration and 'process' to do planning, where the particularity of institutional structure and geographies in any country reflect its particular organizational set up and framework.

6.2 Reflection on 'cooperation', 'collaboration' and 'coordination'

In practice, 'collaboration' is often interchanged with 'cooperation' and 'coordination'. The interconnectedness of diverse aspects of disaster impacts in urban settings necessitate a collaborative decision making processes to provide conditions for participants to work together on the same task rather than in parallel on separate segments of the task. It supports a comprehensive planning of humanitarian operations

and efficient aid delivery. Coordination and cooperation could be valid for specific subtasks at later stages, especially when a decision is made collaboratively on a comprehensive recovery roadmap.

6.3 Skills of Urban Planners in Post Disaster Environment

Planning becomes more urgent when disaster hits an urban area as the socio-economic and physical features of damage are more complicated and interconnected. The recovery process is similar to the urban planning process, in that it evolves from decisions made by different actors over time. But the key difference is the 'time compression' in a post disaster environment where planning takes place under extreme conditions and high demands for quick decisions and actions. Therefore, planners need to be skilled in balancing between the competing demands of 'time compression' whilst ensuring the quality of 'actions' that are decided 'collaboratively'. Despite the importance of planning, if it takes too long it will not be effective. The window of opportunity to make use of available resources coming from international aid is very short and people do not wait upon planners' ideas but they build back with available knowledge and resources. Skills required for a planner to work in the post-disaster environment are to deal with the competing demands of 'time compression' on one hand and the 'collaborative processes' to build back better on the other hand.

6.4 GIS to Support Early Recovery Decision Making

Understanding how urban conditions is structured and could be developed in post disaster settings is not straightforward for policy makers and external actors who are supposed to take decisions on recovery of socio-economic sectors, necessary land use changes and the local capacity of coping mechanisms to improve resilience against future disasters. Most urban problems are inherently spatial and have natural synergies and overlaps, therefore geo-analytical and visualizations techniques are vital to deal with the heterogeneity of these data and support decision making process. For instance, GIS techniques for integrating and analysing the diverse types of data and knowledge of affected communities into decision making processes have gained acceptance over the last decade. GIS should be employed to turn the data obtained sectorally by different cluster members into more flexible spatial information to allow municipality, planners and humanitarian actors to develop an early recovery roadmap and to monitor and update the dynamic recovery process.

7. Operational Framework of Early Recovery Roadmap

The review of the architecture of early recovery concepts used by ECHO and UN Humanitarian organizations undertaken in this project and lessons extracted from literature review of planning knowledge and from practices in real cases conclude by identifying the potential for incorporating an operational framework into the existing early recovery interventions. Therefore, this project suggests introducing an additional dimension to the existing early recovery interventions that is process-driven, utilises geography-based plan and is governed by collaborative principles. Termed '**Early Recovery Road Map**', (**ERRoMap**) its purpose is to strengthen early recovery interventions in bridging relief, recovery and development, and to avoid the creation of a new entity within the existing international humanitarian system. **ERRoMap**, using collaborative urban planning knowledge, will bring in the essential ingredients for successful humanitarian response and recovery operations.



Figure 6: Visual description of ERRoMap

7.1 Early Recovery Road Map into Practice

ERRoMap is an operational framework for linking relief with recovery and development. The operational framework of ERRoMap is built up of three main working components: *time-sensitive, integrated and area-based planning* to identify vital areas for early recovery; *inter-organizational interaction*; and *leadership* of collaborative type. It is guided by five core principles: *collaborative, dynamic, inclusiveness, accountability* and should be *applied at both, pre- and post-disaster*. The cost arising from this additional activity should be covered from the budget allocated to support planning for humanitarian and recovery operations, which usually exist in the humanitarian funding mechanisms. (Fel! Hittar inte referenskölla. visualizes the ERRoMap components and principles).

7.2 Working Components of ERRoMap

7.2.1 Time-sensitive, Integrated and Area-based Planning

ERRoMap planning is about organizing multi responses/recovery tasks and modeling them into a plan of action that will involve key players from international, national,

regional and city/town level (See **Fel! Hittar inte referenskälla.**, ERRoMap levels of functions).

ERRoMap plan should be an effective instrument to acknowledge both the problems and the opportunities for improvement that the disaster has caused. ERRoMap is an area-based comprehensive plan that integrate the knowledge obtained from urban dynamics of an affected area to fully describe and illustrate visually – using urban planning techniques – the interconnectedness between the physical and institutional aspects of the built environment, the existed risk and people in order to identify the most vital areas for interventions that have cumulative effects on the type and speed of recovery (Figure 8, Aspects of Urban Dynamics).

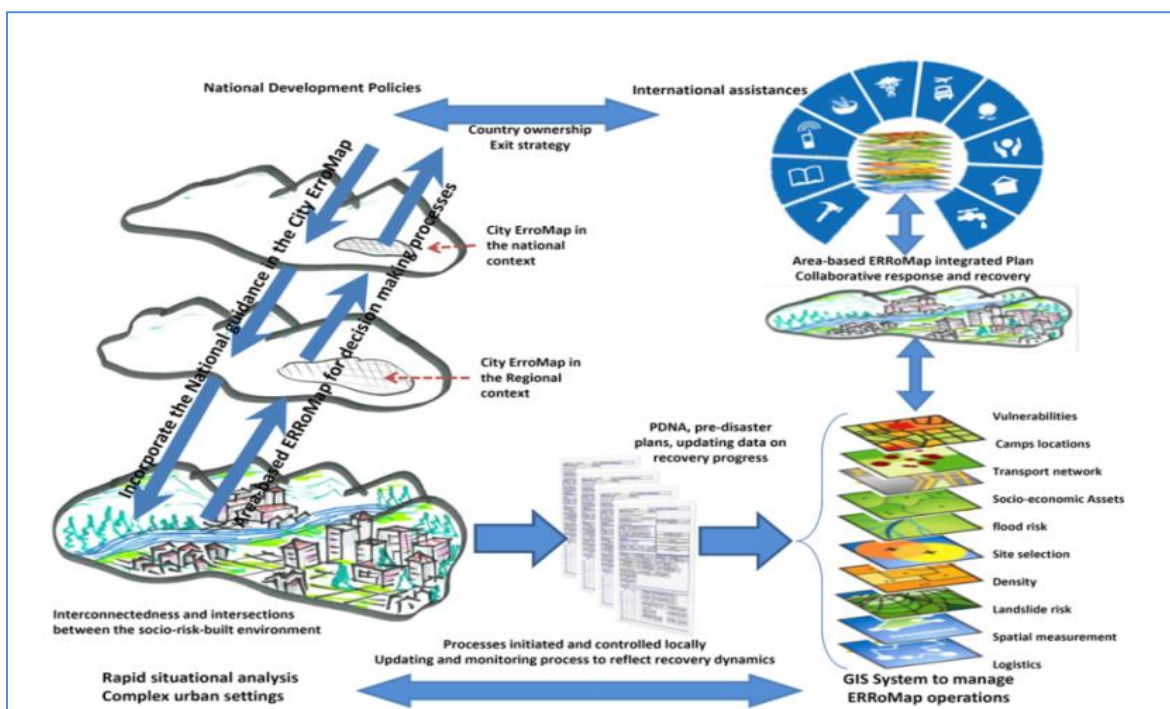


Figure 7: Levels of Function and linkage between local, regional and national inputs when making ERRoMap

To maximize the role of planners in post-crisis response, planners should be time-sensitive, and they should possess the disciplines and ability to consider appropriateness and apply flexibility in conducting the ERRoMap in order to minimize loss of opportunities and prevent delays in delivering assistance. ERRoMap planning should be supported by the advanced technology of Geographic Information System. GIS techniques facilitate joint planning, bring in several aspects to better integrate the sectorial humanitarian response in a comprehensive manner and increase capacity

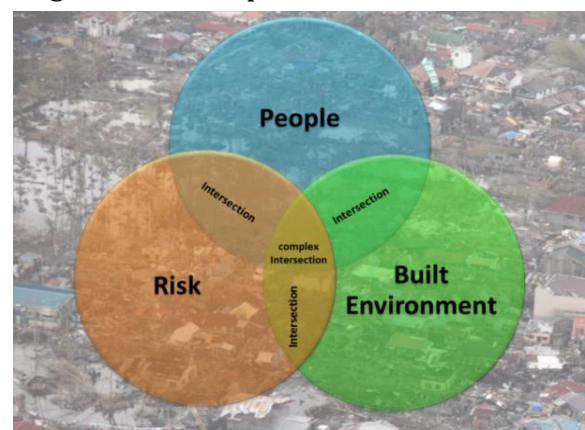


Figure 8: Aspects of Urban Dynamics

to incorporate real time feedback and recovery progress. Therefore decisions will be based on more robust analysis, and more accurate budget linked to projects and efficient use of resources. ERRoMap is driven by a crisis's geographical and context variables such as crisis type: natural or conflict, scale of physical destruction and its socio-economic attributes, and complexity of the institutional structure, the policy effects and the country's stability and security. Therefore it has great potential to be applicable to both natural and conflict originated crises, but further investigation is required to develop robust knowledge in relation to conflict crises and country instability.

7.2.2 Vertical and Horizontal Inter-Organizational Interactions

The ERRoMap process is area-based but is consistent with overall national policies and recovery goals. The process of making ERRoMap should be designed to ensure both *vertical* and *horizontal* inter-organizational collaborations, in order to support exit strategy of the international humanitarian organizations (See Fel! Hittar inte referenskölla.. The *vertical* inter-organizational interactions, is required to provide reliable information for decision makers to increase ability to access resources.

The *horizontal* inter-organizational interactions are aimed to bring about collaboration with key organizations operating in the affected area and key stakeholders from the society, and to implement the programs and projects necessary to speed recovery. Mapping the existing organizational and institutional structure, their capacity and at what level they function; should be done from the onset of crisis. The investigation should identify the existing technical capacity, the core functions of institutions and their roles and responsibilities in relation to core recovery areas.

7.2.3 Leadership (Collaborative type)

Leadership of a collaborative type is necessary to lead, facilitate and maintain processes that encourage information sharing and a unifying of efforts. The collaborative leadership should be action orientated but demonstrate the capacity to see the big picture and be able to build relationships and network so as to facilitate the process for decision making and forging group vision. Practically, an ERRoMap Leader should work with Core Working Group(s) that could be established at local level, led by the Municipality and supported nationally to manage incidences of increased workload at different levels, to enhance the horizontal as well as the vertical inter-organizational interactions, and build local capacity to emphasise country ownership and facilitate the

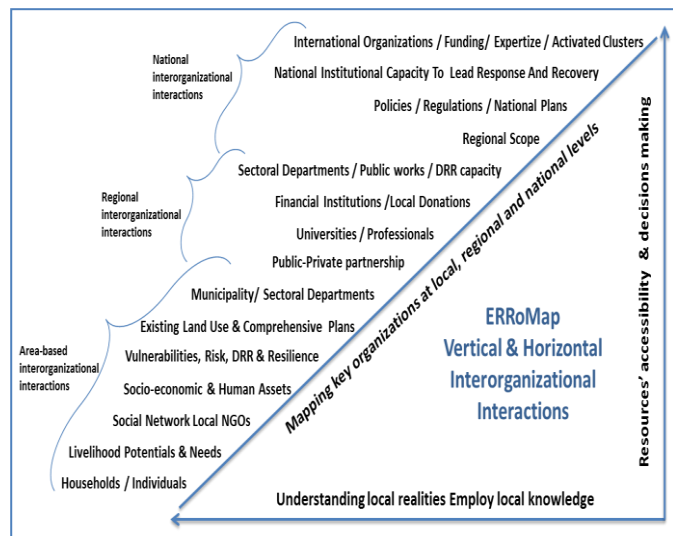


Figure 9: Inter-organizational Interactions
(Smith 2011, adapted by the author)

exit strategy. There is no single way by which membership of the core working group is formed, but it should be subject to local circumstances; it should be flexible and scalable to mobilize available resources and socio-economic and human assets. **Fel! Hittar inte referensskälla.** illustrates examples of the required skills at different stages of ERRoMap

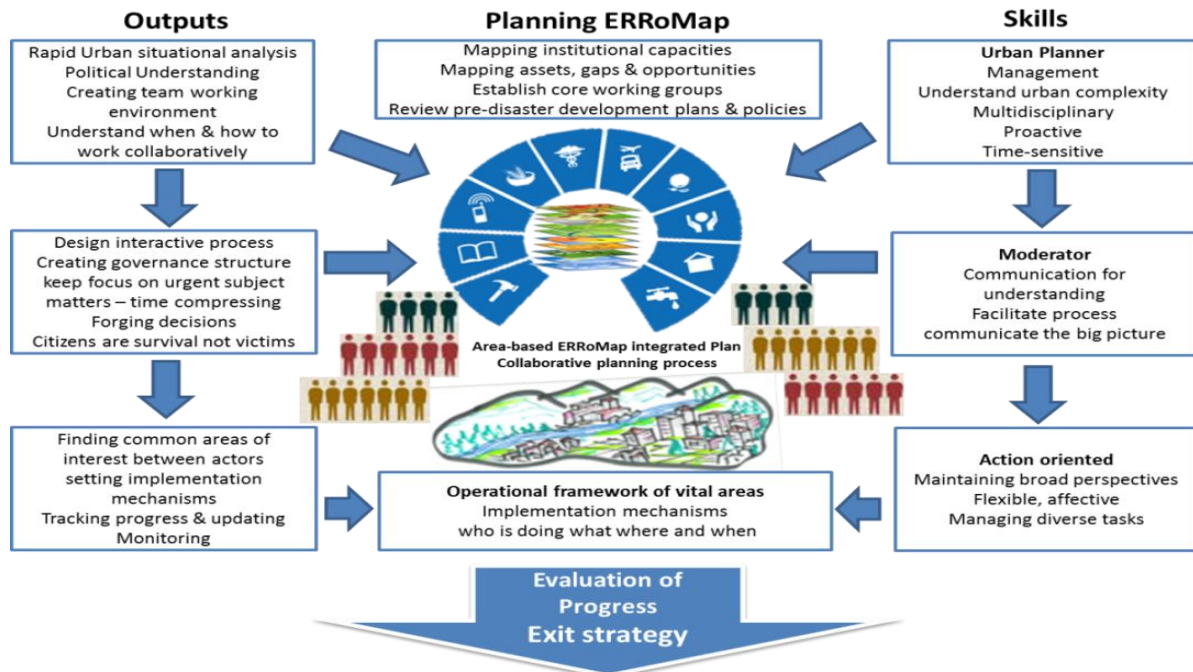


Figure 10: Examples of Leadership Skills and Outputs in ERRoMap

planning process.

In the transition from emergency into recovery and long term development, new tasks are involved e.g. how to enable the recovery of economy, reconstruction of shelter, retrofitting of damaged buildings, build municipal capacity, mainstream disaster risk reduction across activities, ensure that building back is to a better standard than that prevailing pre-disaster; all these tasks require a diversity of knowledge, that is more complicated in urban settings and extends beyond that which has historically been required of the humanitarian response professionals. ‘Planners’ are the group of professionals that have received the most appropriate education, training and experience for orchestrating the ERRoMap planning process and have the discipline to maintain its focus on the long term and the development big picture. The post-crisis recovery planning process requires the participation of broad and knowledgeable actors, the question is how to build and maintain support and consensus on decisions at critical moments. Urban planning literatures, for decades, have accumulated ideas and knowledge about strategies and techniques for fostering meaningful stakeholders’ participation and building consensus through communicative rationality.

Calling for a greater role of urban planners in the humanitarian response necessitates an increasing awareness of planning practitioners in international development organizations, to make use of their competences in humanitarian response operations

when time is a crucial factor. Unfamiliarity with humanitarian response operations limits a planner's ability to articulate well informed goal- oriented actions. This, however, requires more attention in planning education to the sensitivity of 'compressing time' as a factor that challenges planners' skills.

7.3 Guiding Principles of ERRoMap

7.3.1 Collaborative

An effective humanitarian response and recovery in urban settings, is beyond the capacity of any single agency and necessitates a great understanding of and a willingness to embrace collaboration. Therefore, the collaborative principle is the core of the ERRoMap planning process. ERRoMap is not only about technical

solutions to address the post-disaster response and early recovery problems, but it is also about a process that is built up from the particular institutional interrelationships of a place. The interconnectedness of the diverse aspects of disaster impacts in urban settings necessitates a collective decision making processes to develop a comprehensive approach to early recovery operations – to be visualized in a physical plan using GIS techniques to facilitate collaboration (Fel! Hittar inte referenskölla.) – and maximize the efficiency of aid delivery. In this regard, the collaborative urban planning will provide the conditions for humanitarian and development actors to participate and work together on the same task rather than in parallel on separate segments of the task. Collaboration therefore reinforces social learning and builds the capacity to achieve more, even where difficult issues are concerned. In practice, the term 'collaboration' is often applied interchangeably with 'cooperation' and 'coordination'. The multiorganizational, intergovernmental, and intersectoral interactions process will not necessarily lead always to collaboration, but it may well manifest different levels of cooperation or coordination according to the need of each stage of planning and implementation.

7.3.2 Dynamic

The humanitarian response requires good planning on one hand but also it should incorporate scope for spontaneous activities on the other hand. Therefore, a continuous situational awareness of the rapidly changing circumstances of recovery is crucial to the decision makers. The required dynamism of ERRoMap will be achieved through a continuous updating, monitoring and evaluating process to transform the information flows of recovery progress that come from sectoral directions using GIS techniques. This



Figure 11: A physical plan provides a visual reference for collaboration between the Cluster Members

will give a reliable integrated picture of the situation so as to progressively advance an affected area towards a successful recovery.

7.3.3 Inclusiveness

Inclusiveness is a vital principle for ensuring all interests are taken account of and that all available assets including socio-economic and intellectual ones are brought in to support recovery. The ERRoMap collaborative planning process will enable interorganizational involvement and participation of actors representing diverse groups of interests in the affected areas. To bring affected communities into the process gives them a sense of efficacy and builds their capacity to resist future disaster. This will further contribute to building the self-confidence of the affected people through valuing them as survivors with useful capacities and not as victims reliant upon external assistance. Women's active contribution should receive a full recognition in the planning and implementing of ERRoMap. Mobilizing women's skills and capacities as a social force and channelling that to enhance efforts to protect their safety and that of their communities and dependents should be an integral principle that governs ERRoMap planning process. A key factor in recognizing specific different cultural practices in disasters is to understand the gendered nature of vulnerabilities.

7.3.4 Accountability

ERRoMap should establish metrics for tracking progress of the activities planned and implemented by the operating agencies within the geographical area. Tracking the progress of activities across sectors will reinforce realistic expectations among stakeholders, including donors as well as beneficiaries. It will promote transparency, accountability and flexibility to adjust activities to meet rapid changes due to self-recovery. Indicators reflecting the core principles of ERRoMap will be formulated to measure the application of these principles during the planning and implementation of ERRoMap. Such processes employ a huge amount of data and easy communication of progress and results is required, so the use of advanced technology is essential.

7.3.5 Developed during both, Pre- and Post-disaster

The ability of a city or town to increase its recovery performance as regards both time and quality lies in its pre-disaster preparedness, resilience and its built recovery capacity. A preparation of ERRoMap, especially in disaster-prone areas, is best begun with pre-disaster preparedness. Pre-disaster ERRoMap includes creating a framework for early recovery operations and coordination mechanisms, stakeholder's roles and responsibilities; actions to mitigate and reduce disaster impacts through resilience building practices; and identifying/creating locally generated tools and socio-economic and human capital that will serve to support disaster mitigation and the early recovery efforts.

7.4 Illustration of ERRoMap Process

The process of ERRoMap planning is illustrated in Figure 12 according to three stages:

getting in, getting on, and getting out. It works with local and national authorities, key organizations already in-country, local NGOs and affected people on the same basis as we work with international humanitarian organizations. The '*getting in*' phase: starts at the onset of the crisis where an ERRoMap Expert is employed to establish the process, prepare a rapid urban situational analysis and identify areas of ERRoMap interventions. This phase will contribute to the Initial Strategic Plan. The '*getting on*' phase: develop ERRoMap Baseline that outlines the big picture of the impacts in an integrated manner, which will be evolved during the progress of response operations; provide inputs to the Rapid Response Plan and the Multi-Cluster Initial Rapid Assessment (MIRA). Together with Core Working Group(s), she/the ERRoMap expert will carry out a collaborative planning process to identify vital areas for early recovery focusing on those of interconnectedness and overlapping the different affected sectors in collaboration with the members of humanitarian cluster system. She/he will establish mechanisms for monitoring and updating including metrics to track recovery progress and establish a mechanism to communicate results to the public. Employ GIS techniques to manage data and speed the provision of reliable information for decision-making. The '*getting out*' phase: concludes the operational framework for each vital area identified in the ERRoMap, which defines, in collaboration with ERRoMap stakeholders, who is doing what, where and when. ERRoMap will help to define the path for exit of the international organizations that have collaborated in the process of ERRoMap within the geographical areas. The operations of ERRoMap begins operationally at the onset of a disaster and continue its work throughout the response and in accordance with the identified circumstances and needs over the life of the Humanitarian Program Cycle. Whilst a period of 3-6 months is normally expected, this will depend upon scale and nature of the disaster, Fel! Hittar inte referensskälla..

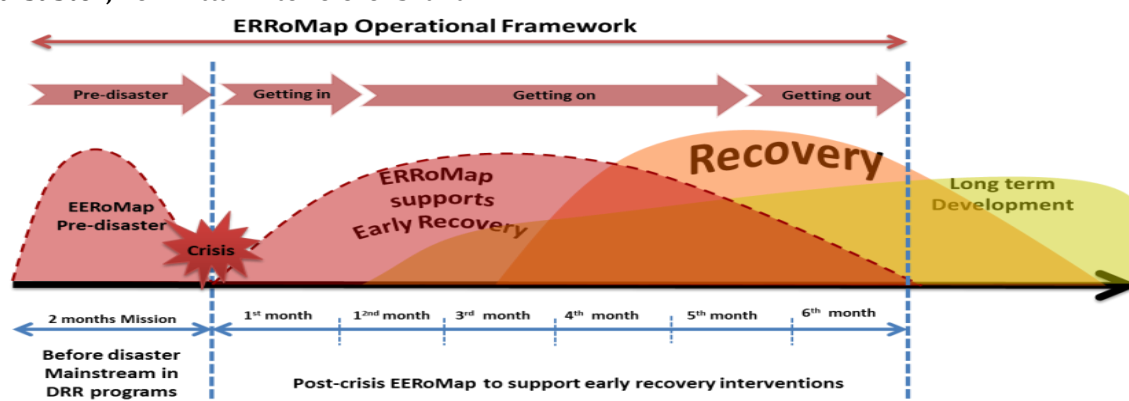


Figure 12: ERRoMap Operational Framework in the Humanitarian Program Cycle

7.5 Proposed Modality of MSB's Role in ERRoMap

ERRoMap is a process-driven and knowledge-based mission with a well-defined aim, role and output. MSB can build on its competences to fill a very significant gap, which is

linking relief with recovery within the Humanitarian Program Cycle developed by IASC. In this context, the proposed modality of MSB to support ERRoMap is from SPP0: **Strategy, Proactive, Preparedness and Operational** perspectives, which are summarized in **Fel! Hittar inte referenskölla..**

Table 2: Summary of the proposed MSB Modality to support ERRoMap

SPPO	Time Line		
	o-6 months (immediate actions)	7-24 months (medium-term actions)	Long-term-term actions
Strategy	<ul style="list-style-type: none"> MSB should define its involvement with its partners in providing ERRoMap expertise based on a better understanding of current and future requirements. Promote ERRoMap as new area of competence of MSB. Dialogues with Sida to support the new ERRoMap areas of inputs for MSB but also leaving considerable scope for MSB's direct involvement with the Government Develop a description of ERRoMap (e.g. brochure) to promote its added value to increase donors' familiarities with this new concept. 	<ul style="list-style-type: none"> MSB can provide bilateral support to mainstream ERRoMap in DRR operations. MSB could introduce ERRoMap in the Country Strategy Papers developed by the EU to support DRR and LRRD. Develop qualitative and quantitative indicators that measure the quality and quantity of the contribution of ERRoMap to gender empowerment, Strategic support to urban planning education in Sweden to produce urban planners that are familiar with post-disaster humanitarian response. 	<ul style="list-style-type: none"> More attention should be given to leading agencies that have significant interest in bridging relief with recovery WB/GFDRR; ERCC; ECHO. Strengthening of MSB role in IASC policy and decision making processes. Promote the conceptual framework of ERRoMap within UNISDR and 'Making Cities Resilient' campaign. ERRoMap would be of value and may also prove to have synergy with the work undertaken in the cooperation with GFDRR.
Proactive	<ul style="list-style-type: none"> Promote MSB as a profiled agency in ERRoMap among UN Agencies, World Bank and ECHO through developing guidance, leading seminars, conferences and providing training to humanitarian agencies. Using IT technology to develop ERRoMap applications as electronic guidance to be used by ERAs and other concerned experts. 	<ul style="list-style-type: none"> Develop a new modality of 'multi-partners agreement' for discussion between MSB and a number of UN agencies that operate in disaster management issues where early recovery is of common interest. Emphasize the contribution of ERRoMap operations to gender empowerment in the agreement formulated with partners. Send expertise with professional and research skills to investigate and develop areas of potential inputs 	<ul style="list-style-type: none"> MSB can develop further thematic ERRoMaps based on the existing competences to promote ERRoMap across sectoral clusters such as UNICEF, OCHA, UN Women and UN Habitat. Mainstream ERRoMap in Post Disaster Needs Assessment (PDNA).
Preparedness	<ul style="list-style-type: none"> Develop ERRoMap training and pedagogic educational package e.g: Operational, Cases, Architecture of ER, Develop ERRoMap guidance Develop thematic ERRoMap e.g. WASH, Gender Develop pre-disaster ERRoMap guidance. Develop a GIS modality of ERRoMap for applications. 	<ul style="list-style-type: none"> Build capacity of MSB staff in ERRoMap knowledge Lead or co-lead training programs. Learning from past experience. Develop ERRoMap modality that focuses on processes that empower gender pre- and post-disaster recovery. Develop a Post-conflict ERRoMap Version Develop collaboration modality to mainstream humanitarian response in planning education, KTH 	<ul style="list-style-type: none"> Using scenarios to enables development and mainstreaming of ERRoMap and DRR strategies. Increase the number of urban planners recruited in MSB.
Operations	<ul style="list-style-type: none"> Together with Sida, MSB selects number of disaster-prone countries to field experts to carry out number of pilot projects to mainstream ERRoMap in DRR ERRoMap operations to be undertaken both pre- and post-disaster. Training and deployment should incorporate gender equity. 	<ul style="list-style-type: none"> Select cases with relatively manageable recovery process crisis to deploy experts to test ERRoMap and extract more lessons. Bilateral agreement with disaster-prone countries to mainstream ERRoMap for risk mitigation, disaster risk reduction and preparedness. Practices should include mechanism to clearly demonstrate how ERRoMap has contributed to women empowerment. Deployment of ERRoMap experts to work as ERAs with UNDP/BCPR to improve Early Recovery Approach 	<ul style="list-style-type: none"> Deployment of ERRoMap experts to work with ECHO in LRRD. Deployment of ERRoMap experts to OCHA to work with HC in strengthening collaboration Deployment of ERRoMap experts to UN Habitat to support planning for recovery. Deployment of ERRoMap experts to work as Early Recovery Cluster Coordinator. Deployment of ERRoMap experts to UNICEF Deploy Experts to Mainstream ERRoMap in City Resilience Campaign projects.

8. Recommendations for Operational Purposes

This project has concluded with the elaboration of an operational framework that supports the established early recovery approach and extends it beyond its existing narrow range of application so that it may better address complex situations and particularly those prevailing in urban settings, both pre- and post-disaster. The current project has extracted from research and practice the scientific knowledge that provides the basis for ERRoMap. For operational application it is necessary to elaborate this framework of ERRoMap and its five principles and three working packages into practical guidance to maximize the benefit of the knowledge obtained. Employing the GIS techniques in ERRoMap is highly efficient and is needed to manage the enormous quantity of data generated in post disaster settings, especially in an urban context, in order to provide timely support to decision makers. Based on these conclusions, it is recommended that MSB provide support for the development of the following studies for operational purposes:

- 1) Develop an ERRoMap guidance to be used either separately or added to the existing ER guidance (BCPR 2008 and revised in 2014).
- 2) Develop ERRoMap pedagogic training packages extracted from the knowledge produced in this research to be an additional component of the Early Recovery Training Program carried out at MSB/BCPR:
 - a. The ERRoMap three Working Components and the five Guiding Principles;
 - b. The case studies Katrina, Sandy, Aytaroun, and Tacloban; and
 - c. The Architecture of Early Recovery Approaches and Concepts
- 3) Develop thematic ERRoMap within the interest and competence of MSB e.g. WASH, gender, municipal infrastructure, building institutional capacity in fragile state.
- 4) Develop GIS modality for ERRoMap including an APP option for easy guidance and applications of ERAs and other experts operating in humanitarian operations.
- 5) Develop guidance for pre-disaster ERRoMap to be mainstreamed in DRR programs.
- 6) Develop further a Post-conflict ERRoMap Version, where the focus is on vital early recovery areas that contribute to peace building, state stability and security.

Urban and Regional Studies Division at KTH, which dealt with the current project possesses the skills and competence to undertake these task in cooperation with MSB.

