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# Urban Disaster Management Toolkit

An Assessment-Based Approach to World Vision's Disaster Management Dimensions

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# **Urban Disaster Management Toolkit**

An Assessment-Based Approach to World Vision's Disaster Management Dimensions

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## EXECUTIVE SUMMARY

This toolkit was developed in response to the interest of World Vision (WV) to support disaster management in urban areas in line with its DM2020 strategy. It is targeted for use by WV staff in national offices to allow them to assess strengths and shortfalls in existing urban disaster management programs and thereby identify action plan agendas across the different stages of disaster management, and also as a planning tool. The aim of this toolkit is to develop a framework for leading practice in the delivery and management of urban DM projects with particular relevance to Asia and targeted for operations and program staff in WV National Offices. It follows an exploratory method consisting of an assessment-based approach.

The toolkit responds to the following key issues:

- Development and humanitarian agencies have relatively few urban programs because of the complex situation in urban areas and often because tenure is not legalised in urban poor settlements.
- Asia and Africa are the world's most rapidly urbanising regions and also the most disaster-affected. Urban poverty is widespread in these regions. Therefore this toolkit has strong relevance for Asia and Africa, although it can also find application in other disaster-prone and developing contexts.
- Cities experience natural and human-induced hazards and urban poor communities face chronic vulnerability, where rapid urbanisation is exacerbating existing vulnerabilities as well as creating new ones.
- Disaster risk assessment comprises a significant element in this toolkit where the range of urban human-induced and natural hazards should be taken into account.
- DM in the past has dealt mainly with the emergency stages of a disaster, but now there is agreement about anticipatory pre-disaster activities. The Disaster Risk Management (DRM) approach is widespread, but places less emphasis on post-disaster response and recovery.
- There are very few agencies specialised in urban DM, but there is strong acknowledgement of the need to address the severe impacts of disasters in cities. Agencies that include DM within other development activities are becoming sensitised to this need.

This DM toolkit consists of sub-sections dealing with the Operational Dimensions (OD) of World Vision's DM cycle - Early Warning, Preparedness, Disaster Mitigation, Response, Recovery and Transition. Its key features include:

- **Layout:** Each OD consists of five dimensions – physical, social, economic, institutional and natural. Each of these dimensions consists of four parameters, used in assessment matrices.
- **Assessment matrices:** The matrices allow assessing availability and/or extent, quality and satisfaction of inputs in each parameter, and an overall rating for each dimension.
- **Linkages:** Links between the different ODs are considered and the parameters of Preparedness and Response are similar and also those of Disaster Mitigation and Recovery.

- **Resilience as the underlying objective:** Across all the ODs, DRR and resilience should always be kept in mind.
- **Assessment-based approach:** This toolkit is assessment-based; strengths and shortcomings of the program inputs in each OD can be identified with a corresponding plan of action.
- **Scope:** The extent of this toolkit’s use will depend on the stage of the DM program. Initial pre-disaster and a full cycle of DM activities can be assessed, and also monitoring of on-going response and recovery activities.
- **Target users:** This toolkit has been designed primarily for the use of operations staff in World Vision’s National Offices. To serve as a user-friendly resource, it will not be necessary for them to undertake the quantitative assessments with absolute precision, but they should be done as close approximations.
- **Attention to urban context:** The parameters included in the assessment matrices focus on the urban context, although many of them are also applicable in other contexts. Some parameters are specific to the urban context.
- **Essential aspects:** The well-being of children and families associated with them and an inclusive developmental approach should be kept in mind when using the toolkit. The role of community leaders/ volunteers has been included as a social parameter in all the ODs.

## 1.0 INTRODUCTION

This Urban DM Toolkit was developed in response to the interest of World Vision (WV) to support disaster management (DM) in urban areas, especially in developing countries that are exposed to and experience severe impacts of natural and human-induced disasters. It will help support WV's *Disaster Management 2020* (DM2020) strategy, which has urban disaster management as one of the key focus areas.<sup>1</sup> The research for the development of this toolkit identified and assessed the ways in which leading practice can contribute to urban DM, with disaster risk reduction (DRR) and well-being outcomes for the urban poor, particularly children in these communities. It is based on existing DM/DRR approaches of World Vision (WV) and targeted for its national offices (NOs) to allow them to assess strengths and shortfalls in existing urban DM programs and thereby identify action plan agendas across the different stages of DM. Depending on the stage of the DM program, it can be used for assessing stages completed so far, or the full DM cycle if it has been implemented. It can also be used as a planning tool where urban DM programs do not exist, but are expected to be developed.

This document consists of three main thematic parts:

- (a) Providing the background and setting, in sections 1.0 and 2.0, the rationale, objectives, methodology and setting of the toolkit are explained, and section 3.0 includes a review of key approaches to urban DM. This part has been purposefully kept concise so as not to detract from the main application-orientated contents of the document; it is intended mainly to familiarise the users about the broader framework of the toolkit. References are provided for those interested in more detailed information.
- (b) Section 4.0 consists of the toolkit itself, which is the heart of this document. **Before going into the toolkit, there is a guide on its use with detailed instructions and explanations. It is important that the user reads this guide.**
- (c) Finally Section 5.0 indicates future directions and echoes some of the points mentioned below regarding operationalising this toolkit, and Section 6.0 is a compendium of references, key links and resources. The compendium has maintained a strict focus on DM/DRR, highlighting the work of agencies with a primary mandate in this field.

As with other toolkits developed by WV<sup>2</sup>, operationalising this toolkit would require actual field tests in urban contexts where WV is active. This is an activity that the Humanitarian Architecture Research Bureau (HARB) at RMIT might consider undertaking. Such field tests would allow determining:

- (a) The specific **internal programs and staff within WV NOs** most relevant for utilisation of the toolkit. Conditions vary widely across NOs and correspondingly in each country, hence WV NOs would have to support and undertake reviews to maximise the utility of the toolkit.
- (b) The **external urban stakeholders** that would support the assessments at different stages. Again, conditions vary widely across countries. At a general level, it can be suggested that at the Early Warning and Preparedness stages, there would be a stronger role of external stakeholders such as municipal, urban planning and meteorological authorities; whereas in

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<sup>1</sup> World Vision International, 2014a.

<sup>2</sup> For example Shaw, 2014.

the Mitigation, Response, Recovery and Transition stages, the inquiry would need to be focused more at the internal programmatic level. Nonetheless, external stakeholders such as urban authorities and service providers will need to be consulted at all the stages in varying levels, based on the context and scope of the particular assessment.

Additionally, WV might identify training needs on the toolkit for its NOs, and back-up support when using it. Again, HARB would be in a position to consider providing such training and support. Thus this toolkit is not a final product in itself, nor is it a top-down product that WV can directly into its NO programs; its function is to initiate a process of refinement and adaptation to specific contexts in partnership with WV and its national counterparts.

## 1.1 Rationale of this Urban DM Toolkit

Development and humanitarian agencies are most experienced in rural areas as most of the developing countries had predominantly a rural population concentration in the past. The number of urban programs remains relatively small,<sup>3</sup> despite the rapid urbanisation that has proceeded in recent decades<sup>4</sup>. Consequently disaster management in urban areas has not received significant attention by humanitarian agencies, also observed by WV in its new DM2020 strategy.<sup>5</sup> Working with urban poor communities is particularly constrained because tenure security is often not legalised and official permission to provide community services in slums, including disaster management (DM) programs, can be difficult; services provided can sometimes prove counter-productive due to official eviction drives. The urban context is also complex, where natural and human-induced hazards interact, making it challenging for agencies to operate in cities.

Nonetheless, in the last decade or so, agencies such as WV have initiated targeted urban community development programs. However there is a need for integration of such development programs with disaster management programs, emphasised in the DM2020 strategy.<sup>6</sup> This toolkit is an initiative in that direction. Given the range of hazards that urban communities experience, there is a strong need to respond and reduce the risk that communities face through urban DM programs, also explicitly recognised within WV.<sup>7</sup> Children, the key target group of WV, and often linked to them, poor women and families, are particularly vulnerable to urban hazards and experience their impacts most severely.<sup>8</sup> Hence there is a strong need for urban DM programs that reduce the risk of these vulnerable groups and contribute to their long-term well-being. This is now explicitly recognised by WV.<sup>9</sup>

WV's work on DM is extensive and although WV has recently invested in gaining a better understanding of urban resilience<sup>10</sup>, its approach to DM is still not specifically urban, nor is there a toolkit to implement it. This is the basic purpose of this toolkit, which takes into account the complexity of the urban context, yet is sufficiently user-friendly for operations and program staff in

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<sup>3</sup> See for example Banks et al, 2011.

<sup>4</sup> United Nations, 2014.

<sup>5</sup> World Vision International, 2014a. See section on "Urban Disaster Management".

<sup>6</sup> Ibid. Also, see MacLeod, 2014.

<sup>7</sup> Moore, 2014.

<sup>8</sup> Thompson Reuters Foundation, 2013.

<sup>9</sup> World Vision International, 2014b.

<sup>10</sup> See Shaw, 2014.

NOs. It seeks to build on the existing DM and related work of WV and broaden it for application in urban areas.

## 1.2 Aims and objectives

Drawing from the experiences of Australian and other international aid organisations, municipal authorities, the private and civil society sectors, the aim of this document is to develop a framework for leading practice in the planning, delivery and management of urban DM projects. To achieve this aim, the document addresses the following objectives:

- Reviewing literature on leading practice in urban DM/DRR projects to identify key approaches; this in particular includes a review of DM and urban DRR frameworks of World Vision.
- Developing a toolkit for operations/program staff of WV NOs on urban DM by integrating leading practices and existing toolkits of HARB and WV.
- Compiling a list of resources and links on urban DM/DRR.

## 1.3 Methodological approach

In 2014, WV commissioned a study for developing an urban DRR framework<sup>11</sup> as an initiative to understand the linkages between disasters and urban areas, which as pointed out above in section 1.1, had hitherto received relatively less attention within WV. The assessment-orientated methodological approach of the study was adopted in this toolkit to maintain continuity with an existing piece of work within the organisation. However, the WV study was **empirical** in nature as the proposed framework was developed and tested in three Asian cities, whereas this toolkit is **exploratory** as there was no scope within its terms of reference to test or apply it in the field.

Therefore, without access to primary data, this toolkit has drawn from a range of secondary sources of literature and tools, which are included in the compendium at the end of this document. The DM cycle, definitions and related activities have been derived from WV's Strategic Intent 2010-2015 document<sup>12</sup>, and complemented by UNISDR's disaster terminology<sup>13</sup>. Finally, the extensive experience of the authors in fields relating to urban development/planning and DM/DRM/DRR has been instrumental in giving the toolkit its shape.

# 2.0 BACKGROUND

## 2.1 Context and urban hazards

Asia and Africa are among the most rapidly urbanising regions in the world and at the same time a significant proportion of the population there live in slums and experience high poverty; in Sub-Saharan Africa, more than 60% of the population lives in slums or substandard housing.<sup>14</sup> Latin

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<sup>11</sup> Shaw, 2014.

<sup>12</sup> World Vision International, 2010.

<sup>13</sup> UNISDR, 2009.

<sup>14</sup> UN-Habitat, 2013; United Nations, 2014.



America and the Caribbean is the other region of the world with a high prevalence of poverty<sup>15</sup>, but conditions there differ somewhat from Asia or Africa in that it has been much more urbanised from an earlier period, and despite extreme poverty, there is smaller proportion of people living in slums.<sup>16</sup> The other regions also experience more disasters, particularly Asia, which is the most-disaster-affected continent in the world.<sup>17</sup> Urban poor communities in these regions are often most vulnerable to disaster impacts, with women and children facing critical risk; among many reasons, women in these communities tend to be physically, economically and politically weaker, and the loss of parents in disasters places children in highly difficult circumstance.<sup>18</sup> In disasters, children are particularly vulnerable because of the uncertain and disruptive situation that arises, coping with which is often beyond their capacity. This toolkit has been developed in light of these facts and it is expected to find application in disaster-prone urban areas in Asia and Africa, and to some extent also in Latin America, where WV has ongoing or planned programs.

Many urban areas, particularly in South and Southeast Asia, experience floods on a regular basis, and many coastal cities are exposed to tropical cyclones and associated storm surges. Such hydro-meteorological disasters are increasing in frequency and intensity due to climate change and persistently exact a heavy toll on cities due to the concentration of assets and property. These disasters are aggravated by extensive paved areas causing rapid run-off and lack of adequate drainage causing water-logging, often due to the unplanned and rapid urbanisation taking place. Urban poor communities are particularly affected due to the location of their settlements often in marginal and exposed areas. Cities are particularly at risk from earthquakes due to poor settlement planning, high density and height of buildings compared to rural areas, and often sub-standard construction. The oft and widely quoted adage applies: "Earthquakes don't kill people, buildings do."<sup>19</sup>

Urban environs are extensively impacted by natural hazards and they are also subject to a range of human-induced hazards resulting from unplanned urbanisation, industrial pollution, traffic, sub-standard construction, etc. Natural hazards such as floods and storms can be seasonal, whereas these human-induced hazards persist on a day-to-day basis and constitute chronic vulnerability, exacerbating disasters when they occur. Urban poor communities are particularly vulnerable to such hazards; poor water supply, sanitation and solid waste management, and substandard building materials contribute to vulnerability and compound the impacts of natural hazards.<sup>20</sup> For example, in a community-based vulnerability assessment in an urban slum in Dhaka, Bangladesh, shown below in Table 2.1, all seven groups of slum residents participating in the assessment ranked inadequate drainage and inadequate waste disposal as the most serious hazards, above natural ones.<sup>21</sup>

Table 2.1 also indicates that the list of hazards is predominantly human-induced. On top of these natural and human-induced hazards, rapid urbanisation is exacerbating existing vulnerabilities as well as creating new ones, including those brought about by climate change. This complexity of urban hazards is recognised in this toolkit. It is envisaged that WV can apply the toolkit in urban poor

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<sup>15</sup> World Poverty, 2014.

<sup>16</sup> UN-Habitat, 2013; United Nations, 2014.

<sup>17</sup> EM-DAT, 2014; UNESCAP, 2012.

<sup>18</sup> Thompson Reuters Foundation, 2013.

<sup>19</sup> See for example, McKenna, 2011; UNOPS, 2013.

<sup>20</sup> See for example Dodman et al, 2012; Turnbull et al, 2013.

<sup>21</sup> Ahmed, 2013.

communities living in slums or similar conditions of poverty where children are particularly vulnerable.

Hazards	High Impact High Probability	Low Impact Low Probability	High Impact Low Probability	Low Impact High Probability
Inadequate drainage	7	0	0	0
Inadequate waste disposal	7	0	0	0
Storm	6	0	1	0
Water-logging	5	0	1	1
Bad house condition	5	0	0	1
Poor health condition	5	0	0	1
Polluted water	5	0	2	0
Heavy rain	4	1	2	0
Social problems	4	1	0	2
Poor latrines	3	0	0	0
Electric hazards	3	0	0	1
Fire	2	3	2	0
Flood	0	4	2	1

Table 2.1 Assessment of impacts and probability of human-induced and natural hazards in a Dhaka slum.

## 3.0 REVIEW OF KEY DM/DRR APPROACHES

### 3.1 DM/DRR approaches

The field of Disaster Management (DM) has its origins in emergency activities during a disaster and providing relief and other support in the aftermath of the disaster. After the extensive disaster vulnerability revealed by the 2004 Indian Ocean Tsunami, the Hyogo Framework for Action formulated by member countries of the United Nations emphasised the necessity of disaster risk reduction (DRR) beyond emergency management.<sup>22</sup> The DM field thereafter has been broadened with a stronger focus on DRR to include a range of pre- and post-disaster activities represented typically as a DM Cycle, discussed below.

- **DM cycle:** This consists of a sequence of activities before and after disasters and is a diagrammatic way of conceptualising the DM field. There are many versions of the DM cycle that vary in terms of the activities defined, and the sequence of activities also varies from agency to agency (see Fig. 3.2). However, most of the versions concur on the cyclical nature of DM where the chain of activities typically begin in the pre-disaster phase in anticipation of a disaster, and after a disaster strikes, is followed by a post-disaster stage with activities to address and overcome the disaster's impacts. The activities are typically led by humanitarian

<sup>22</sup> UNISDR, 2005.

agencies together with at-risk (pre-) and or disaster-affected communities (post-), and are hence operational in nature. A basic version of the DM cycle is shown below in Fig. 3.1.



Fig. 3.1 DM cycle showing the key stages (source: GOI-UNDP 2005)

- **Defining DM:** DM is generally understood as a planned way of dealing with the impacts of disasters, defined widely according to the needs of particular agencies. To take the definition of one of the most globally prominent agencies, the International Federation of Red Cross and Red Crescent Societies (IFRC):

“Disaster Management can be defined as the organisation and management of resources and responsibilities for dealing with all humanitarian aspects of emergencies, in particular preparedness, response and recovery in order to lessen the impact of disasters”.<sup>23</sup>

This definition of DM places greater emphasis on the emergency or reactive side of disasters and is concerned primarily with the post-disaster context. Many humanitarian agencies in the past, and even now to some extent, follow this approach.

- **DM is also about reducing risk:** Nonetheless, IFRC together with the Swiss Resource Centre and Consultancies for Development (SKAT), in a diagrammatic representation of the DM cycle in the urban context, has included a wider range of pre-disaster activities beyond a focus only on post-disaster activities, which include disaster risk reduction (DRR) (see Fig. 3.2).<sup>24</sup> Importantly, the diagram suggests that a combination of DRR and development activities can help break out of the DM cycle by avoiding future disaster impacts. This kind of viewpoint has become widespread. To provide another similar example, a version of the DM cycle by Action by Churches Together (ACT) suggests that Disaster Mitigation activities can lead to the

<sup>23</sup> IFRC, 2014.

<sup>24</sup> SKAT and IFRC, 2012.

prevention of disasters and thereby avoid the need for post-disaster activities such as response and recovery (see Fig. 3.2).<sup>25</sup>

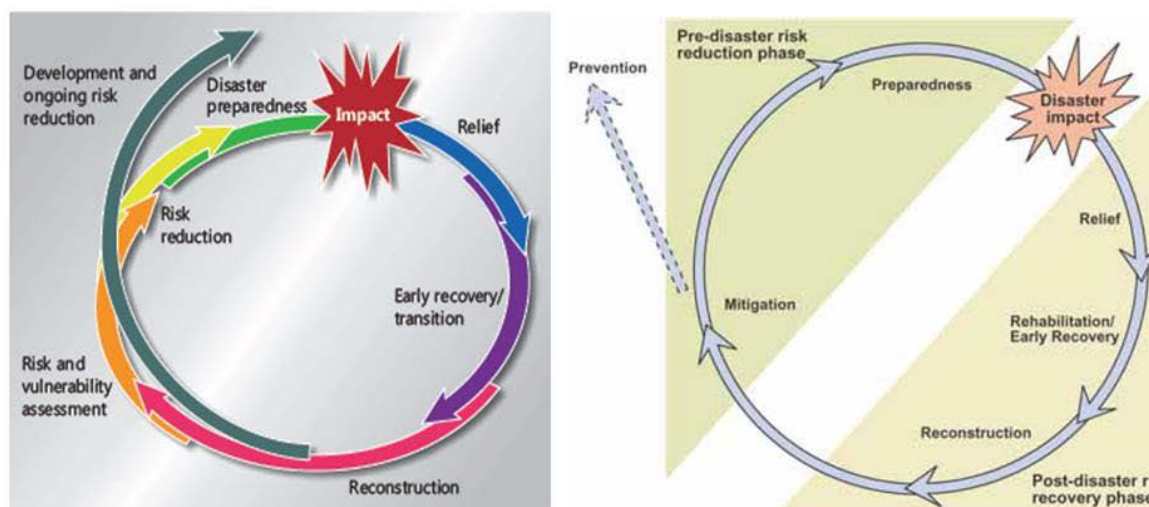


Fig. 3.2 Representations of the DM cycle by IFRC/SKAT (left) and ACT (right) (sources: SKAT & IFRC 2012; ACT 2001)

- **Key message:** The above approaches indicate that the field of DM is not only about emergency activities during and after a disaster, but should include a range of anticipatory activities before a disaster so that the risk of its impacts are reduced or avoided. This is a paradigm shift from earlier approaches as IFRC's definition of DM above signifies, when the DM field consisted largely of emergency and reactive activities.
- **Disaster Risk Management:** In recent years, many agencies do not prefer to use the term DM as it represents a reactive approach. They prefer the term "Disaster Risk Management", defined as,

"Disaster risk management aims to avoid, lessen or transfer the adverse effects of hazards through activities and measures for prevention, mitigation and preparedness."<sup>26</sup>

This approach however is somewhat one-sided as it does not include or places less emphasis on post-disaster response, recovery and other activities that are often essential.

- **Urban DM:** Few agencies are specialised in and focus primarily on urban DM. Nonetheless there is strong acknowledgement of the severe impacts of disasters in cities and the need to address them. For example, the World Disasters Report published annually by IFRC had a thematic "Focus on Urban Risk" in 2010.<sup>27</sup> Key agencies in the disasters field, for example the Asian Disaster Preparedness Center (ADPC) has a department on "Resilient Cities and Urban Risk Management"; UNISDR has initiated a "Resilient Cities Campaign" in 2010 (see Compendium at the end of this document). Particularly after the 2010 Earthquake in Haiti, the

<sup>25</sup> ACT, 2001; also see Lloyd-Jones, 2006, where the transition from recovery to development is discussed.

<sup>26</sup> UNISDR, 2009.

<sup>27</sup> IFRC, 2010.

terrible impacts in a highly impoverished city, Port-au-Prince, and the corresponding response and recovery activities of a range of agencies has made urban disasters a priority issue for many agencies.<sup>28</sup> NGOs that include DM within a wide range of other development activities have become sensitised to the problem of disasters, and increasingly urban disasters. WV for example has initiated a range of urban programs and is seeking to specifically incorporate DM into such initiatives.

- **This toolkit's approach:** For operations staff of agencies, often mandated with post-disaster responsibilities, the DM term is readily understood. What is necessary is to provide them with an approach to DM that has an underlying objective of disaster risk reduction, not only post-disaster activities that bring back a disaster-affected community to its pre-disaster status, but to incorporate risk reduction in a range of pre- and post-disaster activities so that the community is in an improved position to resist, withstand and recover from future disaster impacts. This is the approach followed in this toolkit, orientated for application in the urban context as described above in section 2.0.

### 3.2 Overview of WV's Urban DRR Framework

The Urban Disaster Risk Reduction (DRR) Framework, commissioned by WV, is a toolkit for assessing urban resilience.<sup>29</sup> It was tested in three Asian cities, based on which suggestions were provided for supporting resilience through World Vision's urban programs. It thus focused on resilience as developed through a DRR approach.

WV also has a long history in the area of post-disaster relief, response and recovery and WV's 'strategic intent' is to act across a wider arena of Disaster Management (DM) activities<sup>30</sup>, although the underlying purpose is to develop and support disaster risk reduction. Thus a framework for a broader range of operational activities is required beyond the scope of the Urban DRR Framework toolkit. The DRR Framework tool was also sophisticated and elaborate, demanding a high level of capacity of WV's operations staff in National Offices. Nonetheless, the framework's assessment approach consisting of a set of parameters (physical, social, economic, institutional and natural) and a corresponding set of dimensions offered potential for adaptation to the purpose of the Urban DM Toolkit in this document (see Section 4.0).

### 3.3 Overview of WV's strategic approach and DM operational dimensions

As discussed earlier in section 3.1, the DM field typically consists of a cycle of pre-disaster and post-disaster activities in a sequence of stages with a degree of overlap between these stages. WV's strategic approach is summarised through its interpretation of the DM cycle where the stages of the DM cycle are considered as "Operational Dimensions" (or OD).<sup>31</sup> Fig. 3.3 below shows WV's DM cycle including the ODs, based on which this DM Toolkit has been developed.

The ODs comprise two distinct phases (although there is possibility of overlap between them):

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<sup>28</sup> See ALNAP, 2012.

<sup>29</sup> Shaw, 2014.

<sup>30</sup> World Vision International, 2010; World Vision International, 2014a.

<sup>31</sup> World Vision International, 2010.

- a. Pre-Disaster, where “Building long-term community resilience” is the underlying objective of the series of activities in this phase: (a) Early Warning; (b) Preparedness; and (c) Disaster Mitigation.
- b. Post-Disaster, where again supporting resilience through “Building back better” runs across a series of activities: (a) Response; (b) Recovery; and (c) Transition.

A sample of activities to be undertaken in the above two phases is also suggested, shown in Fig. 3.3 below. These are indicative activities and the DM Toolkit in section 4.0 considers a more comprehensive range of activities. Particularly, to go beyond a general approach to one that is specifically urban, activities that reflect the urban context is given importance in the toolkit.

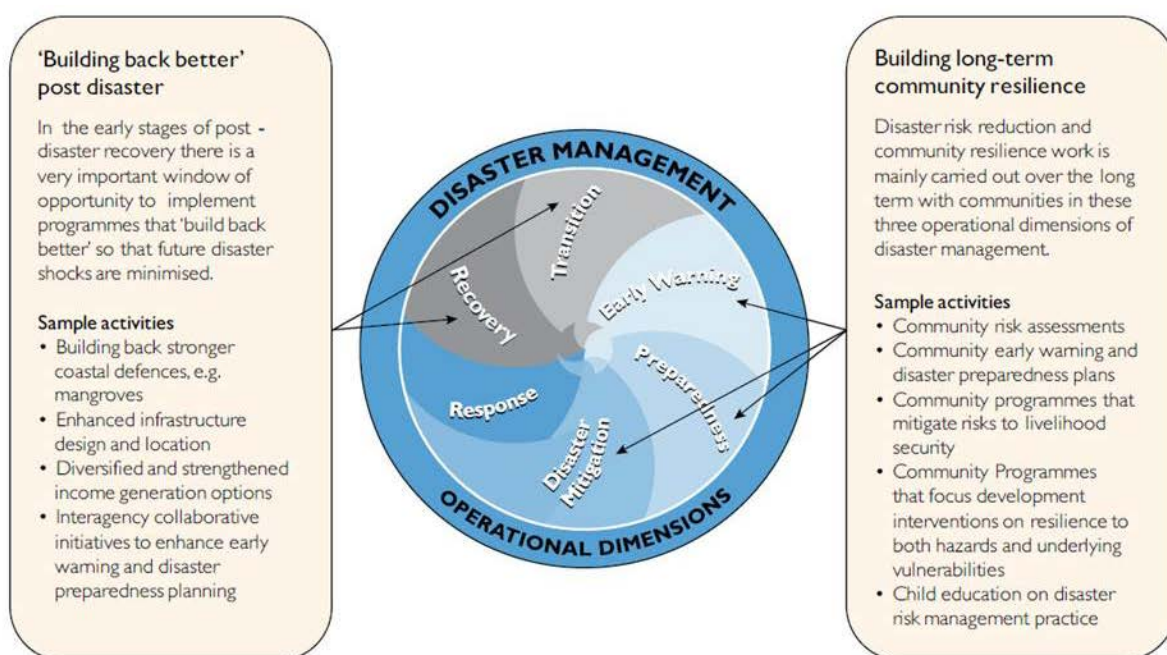


Fig. 3.3 World Vision's DM cycle (source: World Vision International 2010)



## 4.0 URBAN DM TOOLKIT: GUIDANCE AND MATRICES

### GUIDANCE NOTES

This section is central to this document as it presents the DM toolkit. Each sub-section here deals with one of the **Operational Dimensions (OD)** of WV DM cycle discussed in the preceding section 3.3 (Early Warning, Preparedness, Disaster Mitigation, Response, Recovery and Transition). A guide to the key features of the toolkit is provided below.

- a) **Assessment-based approach:** The approach followed in this toolkit is assessment-based, that is, through an assessment of the program inputs in each OD their strengths and shortcomings are identified, allowing formulation of a corresponding plan of action. It follows from WV's Urban DRR Framework<sup>32</sup> that guides assessing resilience, but in the case of this toolkit, answers to a set of assessment questions at the level of each OD of the DM cycle are to be sought in order to define and implement DM program objectives.
- b) **Layout:** A brief definition<sup>33</sup> and notes for each OD is provided at the beginning of each sub-section to facilitate understanding. Each OD (or stage) of the DM cycle consists of five **dimensions** – physical, social, economic, institutional and natural – following from the Urban DRR Framework discussed above in section 3.2. Each of these dimensions consists of four key **parameters** that are specific to each OD, and **assessment matrices** for these dimensions are provided. Each section below consists of one OD with five matrices corresponding to the five dimensions, with associated parameters.
- c) **Assessment matrices:** Within the matrices, each parameter is clarified briefly within brackets to provide understanding of the nature of the parameter; this is particularly relevant to operations staff members who may not be familiar with the parameters, and also to provide a common understanding to the users of the toolkit. The matrices allow assessing availability and/or extent, quality and satisfaction of inputs corresponding to each parameter, and an overall rating for each dimension.
- d) **Linkages:** Links between the different ODs are presented as parameters where relevant, for example links between Early Warning and Preparedness, between Disaster Mitigation, Preparedness and Response, etc. It should be noted that the parameters of Preparedness and Response are similar because the Preparedness activities will be implemented in the actual post-disaster context during the Response stage. Parameters of Disaster Mitigation and Recovery are also similar because in both cases DRR and building resilience are underlying objectives, although in the former it pertains to a pre-disaster phase to promote good practice and in the latter to a post-disaster phase where “building back better” should be a fundamental strategy.
- e) **Target users:** This toolkit has been designed for the use of program and/or operations staff, as relevant, in WV's NOs<sup>34</sup> working on urban DRR/DM programs. Although the parameters of the dimensions under each OD are assessed in quantitative terms, the rigour invested in the assessment process by the users of the toolkit is expected to help arrive also at qualitative

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<sup>32</sup> Shaw, 2014.

<sup>33</sup> The definitions have been adapted from UNISDR, 2009 and GoI-UNDP, 2005.

<sup>34</sup> The staff would depend on specific World Vision offices and their needs, programs and contexts of operation.

interpretations in terms of areas of satisfaction, gaps and programmatic action. **It should be noted that the quantitative assessment of the parameters in terms of percentages are not expected to be done with absolute or high precision, which may at times be impossible; these are to be closest approximations and the user may have to use common sense and even intuition to arrive at them.** The objective is to allow ease of interpretation for operations staff at WV's National Offices without the need for very complex procedures.

- f) **Information sources:** The toolkit will assist WV staff to undertake assessments by seeking information from their own programmatic provisions and experiences and also through consultations with different stakeholders. For each OD, they will need to investigate what provisions and resources exist and what has been achieved in the context of their particular programs and projects. Through an assessment of existing or ongoing programs, the toolkit can also assist in planning for future related programs, or program improvements. For information on some of the parameters of the Institutional and Economic dimensions, stakeholders from relevant government agencies will need to be consulted, while for the Social and Economic dimensions, consultations with target communities will need to be undertaken. As the contexts in different countries vary, WV staff will be required to utilise their local knowledge to decide the appropriate information sources.
- g) **Scope:** The extent to which this toolkit will be used will depend on the stage of the DM program. If the program is at an initial pre-disaster stage, it can be used to examine Early Warning and Preparedness, and Disaster Mitigation activities if they have been implemented. At the Response and Recovery stages, it can be used as a monitoring tool, as well as to review the outcomes when these stages have been completed. It can be used to examine all the ODs if they have been implemented over a full disaster cycle. It can even be used to look at Response, Recovery and Transition activities a few years after they have been completed, if data is available. If there is no existing DM program, the toolkit can help initiate planning one by taking into account the range of parameters involved in the different ODs of a DM program.

When using this toolkit, the following aspects that are critical to its use will have to be kept in mind:

- **DRR as the underlying objective:** Across all the ODs, DRR should always be kept in mind, as reflected in the toolkit. Even at the Response stage, DRR can be achieved, for example – a cash-for-work program intended as a post-disaster economic relief activity can enable communities to build dykes and drains for future flood mitigation; provision of thick and good quality tarpaulin sheets instead of thinner plastic sheets for temporary shelter can offer protection from rain over a longer term and re-use in subsequent wet seasons; targeted nutritious food relief for children and women to ensure their specific vulnerability is addressed; etc.
- **Attention to urban context:** It should be highlighted here that as this is an urban toolkit and reference to the urban context has been included where relevant. The approach to understanding and assessing hazards extends beyond typical natural hazards (such as floods, earthquakes, windstorms, etc) to a range of human-induced and urban-specific hazards as discussed earlier in section 2.



- **Essential aspects:** WV is particularly interested in supporting the well-being of children, and in connection women and families, as well as an inclusive developmental approach for the disabled, elderly, ethnic minorities and other disadvantaged groups. The ultimate goal of all WV programming, including DM, is the sustained well-being of the most vulnerable children, and this has to be borne in mind in all the ODs and stages of use of this toolkit. **Whenever any parameter is assessed, the role of children and impacts on their lives will need to be explored.** For example, “community awareness” and “community participation” are parameters included in social dimensions of all the ODs. Here the awareness of children and their participation, which might be different from adults, will need to be examined. A key cross-cutting parameter across all the dimensions is the necessity of community leaders and/or volunteers to support and sustain the DM program. This has been included as a social parameter in all the ODs.

### An example of how to use the toolkit

As an example, how to fill up one of the assessment matrices of the toolkit is shown below. This is the first matrix within the Early Warning OD, of its Physical dimension.

- **STEP 1:** Each parameter<sup>35</sup> listed in the extreme left column will have to be assessed in terms of Availability and Quality according to four broad percentage bands (0-25%, 25-50%, 50-75% and 75-100%).<sup>36</sup> In the case of some of the other matrices, Extent instead of Availability will need to be assessed, where that is appropriate.
- **STEP 2:** Based on the above assessments in percentages, for each parameter a Satisfaction rating has to be done in a scale of 1 to 4, where 1 is the least satisfactory and 4 is the most satisfactory.
- **STEP 3:** In the extreme right column, key observations can be noted against each parameter. This column can be expanded using the soft copy of the toolkit where it is anticipated that the observations are likely to be extensive.
- **STEP 4:** Based on the satisfaction ratings of each parameter, an overall satisfaction rating for the particular dimension of the matrix should be done. As with all the satisfaction ratings, the users will need to apply their informed judgement; even though it might not be precise, the attempt to achieve the closest approximation should be made.

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<sup>35</sup> Under each parameter, within brackets an indicative list of some of the key aspects or elements that characterise that parameter is provided. This is not meant to be a comprehensive list, but rather a guide to direct the investigations. Note that this is not a questionnaire, but a template where users can bring in their own experiences in a guided way.

<sup>36</sup> These assessments are not expected to be precise, but approximate estimates from field observations, interviews and discussions at the program and target community levels, as well as other related stakeholders (eg municipal authorities, service providers, etc).

4.1.1 PHYSICAL				
Parameter	Availability (%)	Quality (%)	Satisfaction	Comments
<b>EQUIPMENT</b> (telecommunications, megaphone, apparel, etc)	<input type="checkbox"/> 0-25 <input type="checkbox"/> 25-50 <input type="checkbox"/> 50-75 <input checked="" type="checkbox"/> 75-100	<input type="checkbox"/> 0-25 <input type="checkbox"/> 25-50 <input checked="" type="checkbox"/> 50-75 <input type="checkbox"/> 75-100	1 2 3 <b>4</b>	Well equipped, but some equipment need to be upgraded.
<b>SAFE REFUGE</b> (community shelter, schools, religious buildings, sturdy houses, etc)	<input type="checkbox"/> 0-25 <input type="checkbox"/> 25-50 <input checked="" type="checkbox"/> 50-75 <input type="checkbox"/> 75-100	<input type="checkbox"/> 0-25 <input type="checkbox"/> 25-50 <input checked="" type="checkbox"/> 50-75 <input type="checkbox"/> 75-100	1 2 <b>3</b> 4	generally ok.
<b>VEHICLES</b> (for door-to-door warning and evacuation)	<input type="checkbox"/> 0-25 <input type="checkbox"/> 25-50 <input checked="" type="checkbox"/> 50-75 <input type="checkbox"/> 75-100	<input type="checkbox"/> 0-25 <input type="checkbox"/> 25-50 <input checked="" type="checkbox"/> 50-75 <input type="checkbox"/> 75-100	1 2 <b>3</b> 4	generally ok.
<b>ROADS</b> (primary, secondary, tertiary, footpaths and any other)	<input type="checkbox"/> 0-25 <input type="checkbox"/> 25-50 <input type="checkbox"/> 50-75 <input checked="" type="checkbox"/> 75-100	<input type="checkbox"/> 0-25 <input checked="" type="checkbox"/> 25-50 <input type="checkbox"/> 50-75 <input type="checkbox"/> 75-100	1 <b>2</b> 3 4	Unpaved footpaths and some roads, sometimes unusable.
<b>OVERALL SATISFACTION</b>			1 2 <b>3</b> 4	

Fig. 3.4 A hypothetical example of a completed assessment matrix (OD: Early Warning; Dimension: Physical)

## 4.1 Early Warning (EW)

Dissemination of timely and meaningful warning information when threatened by a hazard to prepare and act appropriately and in sufficient time to reduce the possibility of harm or loss



### GUIDANCE NOTE

Note that **Early Warning** contributes strongly to DRR. It is important to note that in densely built cities the time required to deliver effective Early Warning and conduct evacuation are often severely constrained, requiring special measures according to the context. The road network is a key parameter in this regard. Use of early warning equipment may require training of staff and community volunteers.

- **Dimensions and Parameters**

Physical	Social	Economic	Institutional	Natural
Equipment	Receptiveness	Assets	Dissemination channels	Relevance to local hazards
Safe refuge	Community awareness	Finance and savings	Linkages	Warning frequency
Vehicles	Security	Livestock protection	Trained personnel	Constraints
Roads	Leaders/ Volunteers	Livelihood protection	Community capacity building	Timing required

- **Assessment Matrices**

4.1.1 PHYSICAL				
Parameter	Availability (%)	Quality (%)	Satisfaction	Comments
<b>EQUIPMENT</b> (telecommunications, megaphone, apparel, etc)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1 2 3 4	
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50		
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75		
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100		
<b>SAFE REFUGE</b> (community shelter, schools, religious buildings, sturdy houses, etc)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1 2 3 4	
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50		
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75		
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100		
<b>VEHICLES</b> (for door-to-door warning and evacuation)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1 2 3 4	
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50		
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75		
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100		
<b>ROADS</b> (primary, secondary, tertiary, footpaths and any other)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1 2 3 4	
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50		
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75		
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100		
<b>OVERALL SATISFACTION</b>			1 2 3 4	

4.1.2 SOCIAL				
Parameter	Availability (%)	Quality (%)	Satisfaction	Comments
<b>RECEPTIVENESS</b> (barriers to receiving warning from external sources)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1 2 3 4	
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50		
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75		
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100		
<b>COMMUNITY AWARENESS</b> (understanding of EW signals and messages; also by children)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1 2 3 4	
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50		
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75		
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100		
<b>SECURITY</b> (security of children, property and belongings after evacuation)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1 2 3 4	
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50		
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75		
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100		
<b>LEADERS/VOLUNTEERS</b> (at community level)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1 2 3 4	
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50		
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75		
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100		
<b>OVERALL SATISFACTION</b>			1 2 3 4	

4.1.3 ECONOMIC				
Parameter	Availability (%)	Quality (%)	Satisfaction	Comments
<b>ASSETS</b> (at community level: radio, television, phones, etc)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1 2 3 4	
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50		
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75		
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100		
<b>FINANCE AND SAVINGS</b> (at community and/or household level)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1 2 3 4	
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50		
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75		
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100		
<b>LIVESTOCK PROTECTION</b> (supported by EW)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1 2 3 4	
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50		
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75		
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100		
<b>LIVELIHOOD PROTECTION</b> (supported by EW)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1 2 3 4	
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50		
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75		
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100		
<b>OVERALL SATISFACTION</b>			1 2 3 4	

4.1.4 INSTITUTIONAL				
Parameter	Availability (%)	Quality (%)	Satisfaction	Comments
<b>DISSEMINATION CHANNELS</b> (radio, television, phones, community volunteers, etc)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1 2 3 4	
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50		
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75		
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100		
<b>LINKAGES</b> (from meteorological (or other, eg police) centre to community)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1 2 3 4	
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50		
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75		
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100		
<b>TRAINED PERSONNEL</b> (for EW dissemination)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1 2 3 4	
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50		
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75		
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100		
<b>COMMUNITY CAPACITY BUILDING</b> (training on understanding and responding to EW)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1 2 3 4	
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50		
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75		
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100		
<b>OVERALL SATISFACTION</b>			1 2 3 4	

4.1.5 NATURAL				
Parameter	Availability (%)	Quality (%)	Satisfaction	Comments
<b>RELEVANCE TO LOCAL HAZARDS</b> (EW according to hazard type)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1 2 3 4	
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50		
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75		
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100		
<b>WARNING FREQUENCY</b> (Seasonal, periodic, random, etc.)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1 2 3 4	
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50		
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75		
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100		
<b>CONSTRAINTS</b> (due to traffic congestion, density of buildings, water bodies, topography, etc )	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1 2 3 4	
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50		
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75		
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100		
<b>TIMING REQUIRED</b> (as per slow, medium or rapid onset disasters; urban density)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1 2 3 4	
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50		
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75		
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100		
<b>OVERALL SATISFACTION</b>			1 2 3 4	

SUMMARY OBSERVATIONS
<b>MAIN SATISFACTORY AREAS:</b>
<b>KEY GAPS:</b>
<b>PLAN OF ACTION:</b>



## 4.2 Preparedness

Activities in anticipation of and prior to the impacts of likely or imminent hazards



### GUIDANCE NOTE

**Preparedness** is strongly linked to Early Warning; without effective Early Warning, Preparedness activities cannot be effectively implemented for disaster Response. Preparedness in cities requires special attention, such as whether there are open areas for evacuation and temporary camps; where the roads are not congested and wide enough for evacuation and rescue operations. Preparedness also relies on the capacity of the community, their social networks and cohesiveness, and rapport with agencies and their staff.

- **Dimensions and Parameters**

Physical	Social	Economic	Institutional	Natural
Land-use	Link to early warning	Medicines	Risk assessment	Preparedness for local hazards
Housing	Community awareness	Clothing	Stakeholder roles	Frequency
Infrastructure	Community plans	Food	Trained personnel	Topography
Services	Leaders/ Volunteers	Cash	Community capacity building	Mobilisation time

- **Assessment Matrices**

4.2.1 PHYSICAL				
Parameter	Availability (%)	Quality (%)	Satisfaction	Comments
<b>LAND-USE</b> (open areas for evacuation and temporary camps)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1 2 3 4	
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50		
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75		
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100		
<b>HOUSING</b> (stockpile of tents and/or other temporary shelter; alternative accommodation)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1 2 3 4	
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50		
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75		
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100		
<b>INFRASTRUCTURE</b> (roads, bridges, etc for evacuation and rescue)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1 2 3 4	
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50		
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75		
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100		
<b>SERVICES</b> (supply of emergency water, sanitation, electricity, etc)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1 2 3 4	
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50		
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75		
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100		
<b>OVERALL SATISFACTION</b>			1 2 3 4	

4.2.2 SOCIAL				
Parameter	Availability (%)	Quality (%)	Satisfaction	Comments
<b>LINK TO EARLY WARNING</b> (Early warning to assist evacuation)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1 2 3 4	
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50		
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75		
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100		
<b>COMMUNITY AWARENESS</b> (understanding of preparedness measures; also of children)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1 2 3 4	
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50		
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75		
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100		
<b>COMMUNITY PLANS</b> (emergency plan of action; community organisations; mock drills)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1 2 3 4	
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50		
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75		
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100		
<b>LEADERS/VOLUNTEERS</b> (at community level)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1 2 3 4	
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50		
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75		
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100		
<b>OVERALL SATISFACTION</b>			1 2 3 4	



4.2.3 ECONOMIC				
Parameter	Availability (%)	Quality (%)	Satisfaction	Comments
<b>MEDICINES</b> (first aid and primarily against epidemics)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1 2 3 4	
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50		
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75		
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100		
<b>CLOTHING</b> (to replace lost clothing and provide protection from weather eg cold)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1 2 3 4	
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50		
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75		
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100		
<b>FOOD</b> (Dry, non-perishable; also clean drinking water)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1 2 3 4	
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50		
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75		
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100		
<b>CASH</b> (for short-term basic provisions)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1 2 3 4	
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50		
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75		
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100		
<b>OVERALL SATISFACTION</b>			1 2 3 4	

4.2.4 INSTITUTIONAL				
Parameter	Availability (%)	Quality (%)	Satisfaction	Comments
<b>RISK ASSESSMENT</b> (hazard mapping, vulnerability and capacity assessments)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1 2 3 4	
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50		
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75		
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100		
<b>STAKEHOLDER ROLES</b> (preparedness planning by govt, NGOs, private sector and community)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1 2 3 4	
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50		
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75		
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100		
<b>TRAINED PERSONNEL</b> (prepared for response and recovery)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1 2 3 4	
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50		
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75		
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100		
<b>COMMUNITY CAPACITY BUILDING</b> (training on preparedness for response and recovery)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1 2 3 4	
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50		
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75		
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100		
<b>OVERALL SATISFACTION</b>			1 2 3 4	

4.2.5 NATURAL				
Parameter	Availability (%)	Quality (%)	Satisfaction	Comments
<b>PREPAREDNESS FOR LOCAL HAZARDS</b> (preparedness according to urban context-specific local hazards)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1 2 3 4	
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50		
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75		
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100		
<b>FREQUENCY AND INTENSITY</b> (preparedness planning according to different scenarios of hazard frequency and intensity)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1 2 3 4	
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50		
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75		
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100		
<b>TOPOGRAPHY</b> (preparedness according to topographical conditions and urban context )	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1 2 3 4	
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50		
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75		
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100		
<b>MOBILISATION TIME</b> (to activate response operations )	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1 2 3 4	
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50		
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75		
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100		
<b>OVERALL SATISFACTION</b>			1 2 3 4	

SUMMARY OBSERVATIONS
<b>MAIN SATISFACTORY AREAS:</b>
<b>KEY GAPS:</b>
<b>PLAN OF ACTION:</b>

## 4.3 Disaster Mitigation

Activities to lessen or limit the adverse effects of disasters



### GUIDANCE NOTE

Quite commonly, **Disaster Mitigation** activities are often initiated after a recent disaster. However, even if a major disaster has not struck, but a risk assessment indicates the potential for future disasters and consequently the need for pre-disaster anticipatory activities, Disaster Mitigation should be undertaken as part of the DM cycle in such places.

▪ **Dimensions and Parameters**

Physical	Social	Economic	Institutional	Natural
Land-use	Link to Preparedness and Response	Cost effectiveness	Integration into local development	Measures against local hazards
Housing	Community awareness	External resources	Stakeholder roles	Structural / Non-Structural balance
Infrastructure	Community plans and actions	Community resources	Technical support	Human-induced impacts
Services	Local technical capacity	Maintenance funds	Community capacity building	Sustainability

▪ **Assessment Matrices**

4.3.1 PHYSICAL						
Parameter	Extent/Availability (%)	Quality (%)	Satisfaction			
<b>LAND-USE</b> (land development/ use by consideration of risk)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1	2	3	4
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50				
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75				
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100				
<b>HOUSING</b> (building codes, resilient design and construction)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1	2	3	4
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50				
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75				
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100				
<b>INFRASTRUCTURE</b> (codes, resilient design and construction)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1	2	3	4
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50				
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75				
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100				
<b>SERVICES</b> (protected and resilient supply of water, sanitation, electricity, etc)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1	2	3	4
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50				
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75				
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100				
<b>OVERALL SATISFACTION</b>			1	2	3	4

4.3.2 SOCIAL						
Parameter	Extent (%)	Quality (%)	Satisfaction			
<b>LINK TO PREPAREDNESS AND RESPONSE</b> (integrated programs)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1	2	3	4
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50				
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75				
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100				
<b>COMMUNITY AWARENESS</b> (understanding of mitigation measures; traditional knowledge; role of children)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1	2	3	4
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50				
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75				
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100				
<b>COMMUNITY PLANS AND ACTIONS</b> (participatory planning and implementation)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1	2	3	4
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50				
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75				
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100				
<b>LOCAL TECHNICAL CAPACITY</b> (enhancement and utilisation of community skills)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1	2	3	4
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50				
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75				
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100				
<b>OVERALL SATISFACTION</b>			1	2	3	4

4.3.3 ECONOMIC								
Parameter	Extent/Availability (%)		Quality (%)		Satisfaction			
<b>COST EFFECTIVENESS</b> (cost-benefit analysis of mitigation measures)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>EXTERNAL RESOURCES</b> (access to govt and/or international funds)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>COMMUNITY RESOURCES</b> (availability of community funds or in-kind resources)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>MAINTENANCE FUNDS</b> (for upkeep of infrastructure, housing, community organisations, etc)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>OVERALL SATISFACTION</b>					1	2	3	4

4.3.4 INSTITUTIONAL								
Parameter	Extent (%)		Quality (%)		Satisfaction			
<b>INTEGRATION INTO LOCAL DEVELOPMENT</b> (DRR integrated into local urban development plan and budget))	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>STAKEHOLDER ROLES</b> (govt, NGOs, private sector and community)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>TECHNICAL SUPPORT</b> (for mitigation activities)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>COMMUNITY CAPACITY BUILDING</b> (technical training)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>OVERALL SATISFACTION</b>					1	2	3	4

4.3.5 NATURAL								
Parameter	Extent (%)		Quality (%)		Satisfaction			
<b>MEASURES AGAINST LOCAL HAZARDS</b> (mitigation activities according to hazard type)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>STRUCTURAL/NON-STRUCTURAL BALANCE</b> (integration of physical, ecosystem-based and social activities)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>HUMAN-INDUCED IMPACTS</b> (mitigation against unplanned urbanisation, conflicts, etc)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>SUSTAINABILITY</b> (durability, longevity of measures; community ownership)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>OVERALL SATISFACTION</b>					1	2	3	4

SUMMARY OBSERVATIONS
<b>MAIN SATISFACTORY AREAS:</b>
<b>KEY GAPS:</b>
<b>PLAN OF ACTION:</b>



## 4.4 Response

Activities and provision of emergency services during and immediately after a disaster



### GUIDANCE NOTE

**Response** activities are strongly linked to Preparedness; with good Preparedness, effective Response can be undertaken. As with Preparedness, urban conditions have a strong bearing, such as settlement density, traffic conditions, availability of roads, open areas for evacuation and temporary camps, and other such factors. Response can present serious challenges in cities.

▪ **Dimensions and Parameters**

Physical	Social	Economic	Institutional	Natural
Land-use	Link to Preparedness	Medical supply	Emergency rapid assessment	Local hazards response
Housing	Community awareness	Clothing	Stakeholder roles	Aftershocks/ Secondary impacts
Infrastructure	Gender	Food	Trained personnel	Topography
Services	Children	Cash	Community capacity building	Timeframe

▪ **Assessment Matrices**

4.2.1 PHYSICAL						
Parameter	Availability (%)	Quality (%)	Satisfaction			
<b>LAND-USE</b> (open areas for evacuation and temporary camps; accessibility)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1	2	3	4
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50				
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75				
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100				
<b>HOUSING</b> (options: temporary, transitional shelter; alternative accommodation)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1	2	3	4
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50				
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75				
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100				
<b>INFRASTRUCTURE</b> (emergency repair of roads, bridges, etc for evacuation and rescue)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1	2	3	4
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50				
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75				
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100				
<b>SERVICES</b> (supply of emergency water, sanitation, electricity, etc)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1	2	3	4
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50				
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75				
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100				
<b>OVERALL SATISFACTION</b>			1	2	3	4

4.2.2 SOCIAL						
Parameter	Extent (%)	Quality (%)	Satisfaction			
<b>LINK TO PREPAREDNESS</b> (preparedness measures corresponding to response activities; timeliness)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1	2	3	4
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50				
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75				
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100				
<b>COMMUNITY AWARENESS</b> (understanding of response activities)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1	2	3	4
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50				
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75				
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100				
<b>COMMUNITY PLANS</b> (plan of action for response stage)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1	2	3	4
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50				
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75				
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100				
<b>LEADERS/VOLUNTEERS</b> (at community level)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1	2	3	4
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50				
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75				
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100				
<b>OVERALL SATISFACTION</b>			1	2	3	4



4.2.3 ECONOMIC								
Parameter	Availability (%)		Quality (%)		Satisfaction			
<b>MEDICINES</b> (first aid and primarily against epidemics)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>CLOTHING</b> (to replace lost clothing and provide protection from weather eg cold)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>FOOD</b> (Dry, non-perishable; also clean drinking water)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>CASH</b> (for short-term basic provisions)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>OVERALL SATISFACTION</b>					1	2	3	4

4.2.4 INSTITUTIONAL								
Parameter	Extent (%)		Quality (%)		Satisfaction			
<b>RISK ASSESSMENT</b> (emergency rapid assessment)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>STAKEHOLDER ROLES</b> (activities by govt, NGOs, private sector and community)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>TRAINED PERSONNEL</b> (to implement rapid assessment and response activities)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>COMMUNITY CAPACITY BUILDING</b> (training on eg NFI distribution, camp management)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>OVERALL SATISFACTION</b>					1	2	3	4

4.2.5 NATURAL								
Parameter	Extent (%)		Quality (%)		Satisfaction			
<b>LOCAL HAZARDS RESPONSE</b> (response according to local hazards)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>AFTERSHOCKS/SECONDARY IMPACTS</b> (cascading and subsequent hazard impacts)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>TOPOGRAPHY</b> (response according to topographical conditions and urban context )	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>TIMEFRAME</b> (adequate duration of response stage )	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>OVERALL SATISFACTION</b>					1	2	3	4

SUMMARY OBSERVATIONS	
<b>MAIN SATISFACTORY AREAS:</b>	
<b>KEY GAPS:</b>	
<b>PLAN OF ACTION:</b>	

## 4.5 Recovery

Restoration and improvement of facilities, livelihoods and living conditions after a disaster



### GUIDANCE NOTE

**Recovery** is strongly linked to Disaster Mitigation; with good socio-economic and physical Mitigation activities, the need for Recovery activities is reduced. Building back better should be the key agenda in Recovery. The urban context, particularly redefining land-use and introducing improved design of construction of housing and infrastructure may pose challenges, but are essential to good Recovery.

- **Dimensions and Parameters**

Physical	Social	Economic	Institutional	Natural
Land-use	Link to response and transition	Health	Risk assessment	Measures against local hazards
Housing	Community participation	Finance and Savings	Stakeholder roles	Structural / Non-Structural balance
Infrastructure	Community plans	Local enterprises	Trained personnel	Human-induced impacts
Services	Leaders/ Volunteers	Livelihood	Community capacity building	Sustainability

- **Assessment Matrices**

4.5.1 PHYSICAL						
Parameter	Extent (%)	Quality (%)	Satisfaction			
<b>LAND-USE</b> (rebuilding on safe land; zoning according to risk)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1	2	3	4
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50				
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75				
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100				
<b>HOUSING</b> (building codes, resilient design and construction)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1	2	3	4
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50				
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75				
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100				
<b>INFRASTRUCTURE</b> (codes, resilient design and construction)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1	2	3	4
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50				
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75				
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100				
<b>SERVICES</b> (protected and resilient supply of water, sanitation, electricity, etc)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1	2	3	4
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50				
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75				
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100				
<b>OVERALL SATISFACTION</b>			1	2	3	4

4.5.2 SOCIAL						
Parameter	Extent (%)	Quality (%)	Satisfaction			
<b>LINK TO RESPONSE AND TRANSITION</b> (follows an integrated plan)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1	2	3	4
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50				
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75				
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100				
<b>COMMUNITY PARTICIPATION</b> (involvement in planning and implementation)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1	2	3	4
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50				
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75				
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100				
<b>COMMUNITY PLANS</b> (follow-up over long term)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1	2	3	4
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50				
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75				
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100				
<b>LEADERS/VOLUNTEERS</b> (at community level)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1	2	3	4
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50				
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75				
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100				
<b>OVERALL SATISFACTION</b>			1	2	3	4

4.5.3 ECONOMIC								
Parameter	Extent (%)		Quality (%)		Satisfaction			
<b>HEALTH</b> (health recovery, provisions and facilities)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>FINANCE AND SAVINGS</b> (link to economic recovery; cash-for-work if applicable in urban context)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>LOCAL ENTERPRISES</b> (restoration of local economy, especially small and informal businesses)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>LIVELIHOODS</b> (restoration or new options, attention to urban informal livelihoods)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>OVERALL SATISFACTION</b>					1	2	3	4

4.5.4 INSTITUTIONAL								
Parameter	Extent (%)		Quality (%)		Satisfaction			
<b>RISK ASSESSMENT</b> (post-disaster risk assessment)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>STAKEHOLDER ROLES</b> (inputs by govt, NGOs, private sector and community)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>TRAINED PERSONNEL</b> (to plan and implement recovery activities)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>COMMUNITY CAPACITY BUILDING</b> (training through participation in recovery activities)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>OVERALL SATISFACTION</b>					1	2	3	4

4.5.5 NATURAL								
Parameter	Extent (%)		Quality (%)		Satisfaction			
<b>MEASURES AGAINST LOCAL HAZARDS</b> (integrating DRR into recovery)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>STRUCTURAL/NON-STRUCTURAL BALANCE</b> (integration of physical, ecosystem-based and social activities)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>HUMAN-INDUCED IMPACTS</b> (measures against unplanned urbanisation, conflicts, etc)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>SUSTAINABILITY</b> (durability, longevity of recovery inputs; community ownership)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>OVERALL SATISFACTION</b>					1	2	3	4

SUMMARY OBSERVATIONS	
<b>MAIN SATISFACTORY AREAS:</b>	
<b>KEY GAPS:</b>	
<b>PLAN OF ACTION:</b>	



## 4.6 Transition

Activities to direct post-disaster recovery to long-term development and resilience



### GUIDANCE NOTE

While Recovery activities should aim to reduce the future disaster risk of affected communities, **Transition** should aim to ensure that DRR is sustained over the long term. Knowledge and understanding of how the city may grow and transform over time is necessary to enable Transition. New long-term land-use planning, housing and infrastructure construction, together with community and local institutional structures are key elements that might need to be considered and developed.

- **Dimensions and Parameters**

Physical	Social	Economic	Institutional	Natural
Land-use	Link to development	Health	Risk assessment	Measures against Local hazards
Housing	Community participation	Finance and Savings	Stakeholder roles	Structural / Non-Structural balance
Infrastructure	Community plans	Local enterprises	Trained personnel	Human-induced impacts
Services	Leaders/ Volunteers	Livelihood	Community capacity building	Sustainability

- **Assessment Matrices**

4.6.1 PHYSICAL						
Parameter	Availability/Extent (%)	Quality (%)	Satisfaction			
<b>LAND-USE</b> (long-term land-use plan for disaster risk reduction)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1	2	3	4
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50				
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75				
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100				
<b>HOUSING</b> (replication and upscaling of resilient design and construction)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1	2	3	4
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50				
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75				
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100				
<b>INFRASTRUCTURE</b> (replication and upscaling of resilient design and construction)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1	2	3	4
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50				
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75				
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100				
<b>SERVICES</b> (replication and upscaling of resilient supply of water, sanitation, electricity, etc)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1	2	3	4
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50				
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75				
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100				
<b>OVERALL SATISFACTION</b>			1	2	3	4

4.6.2 SOCIAL						
Parameter	Extent (%)	Quality (%)	Satisfaction			
<b>LINK TO DEVELOPMENT</b> (disaster risk reduction mainstreamed in long-term urban development plan)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1	2	3	4
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50				
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75				
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100				
<b>COMMUNITY PARTICIPATION</b> (involvement in development planning and implementation)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1	2	3	4
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50				
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75				
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100				
<b>COMMUNITY PLANS</b> (continuity from recovery to follow-up over long term)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1	2	3	4
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50				
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75				
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100				
<b>LEADERS/VOLUNTEERS</b> (at community level)	<input type="checkbox"/> 0-25	<input type="checkbox"/> 0-25	1	2	3	4
	<input type="checkbox"/> 25-50	<input type="checkbox"/> 25-50				
	<input type="checkbox"/> 50-75	<input type="checkbox"/> 50-75				
	<input type="checkbox"/> 75-100	<input type="checkbox"/> 75-100				
<b>OVERALL SATISFACTION</b>			1	2	3	4



4.6.3 ECONOMIC								
Parameter	Extent (%)		Quality (%)		Satisfaction			
<b>HEALTH</b> (long-term provisions and facilities, expansion)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>FINANCE AND SAVINGS</b> (long-term microfinance and savings programs)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>LOCAL ENTERPRISES</b> (development and growth of local economy)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>LIVELIHOODS</b> (development and growth, especially urban informal livelihoods)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>OVERALL SATISFACTION</b>					1	2	3	4

4.6.4 INSTITUTIONAL								
Parameter	Extent (%)		Quality (%)		Satisfaction			
<b>RISK ASSESSMENT</b> (long-term risks, especially posed by climate change)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>STAKEHOLDER ROLES</b> (development activities by govt, NGOs, private sector and community)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>TRAINED PERSONNEL</b> (to plan and implement development activities)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>COMMUNITY CAPACITY BUILDING</b> (training to implement and manage development activities)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>OVERALL SATISFACTION</b>					1	2	3	4

4.6.5 NATURAL								
Parameter	Extent (%)		Quality (%)		Satisfaction			
<b>MEASURES AGAINST LOCAL HAZARDS</b> (especially against climate change impacts)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>STRUCTURAL/NON-STRUCTURAL BALANCE</b> (integration of physical, ecosystem-based and social development activities)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>HUMAN-INDUCED IMPACTS</b> (long-term measures against unplanned urbanisation, conflicts, etc)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>SUSTAINABILITY</b> (durability, longevity and expansion of development actions; community ownership)	<input type="checkbox"/>	0-25	<input type="checkbox"/>	0-25	1	2	3	4
	<input type="checkbox"/>	25-50	<input type="checkbox"/>	25-50				
	<input type="checkbox"/>	50-75	<input type="checkbox"/>	50-75				
	<input type="checkbox"/>	75-100	<input type="checkbox"/>	75-100				
<b>OVERALL SATISFACTION</b>					1	2	3	4

SUMMARY OBSERVATIONS
<b>MAIN SATISFACTORY AREAS:</b>
<b>KEY GAPS:</b>
<b>PLAN OF ACTION:</b>

## 5.0 FUTURE DIRECTIONS

This Urban DM Toolkit has been developed through a review of existing approaches and consultation with WV staff who expressed the need for such a toolkit that covers the entire DM cycle to address the lack of such a toolkit. The Urban DRR Framework<sup>37</sup> developed for WV was tested in three Asian cities, allowing understanding of its strengths and gaps. Similarly, the efficacy and utility of this Urban DM toolkit can only be ascertained by being applied and tested. There are hardly any toolkits that run across the whole DM cycle and can thereby potentially inform all the stages of DM. Therefore it is important that this toolkit is tested, even if on a pilot scale on a WV project that has run the entire DM cycle.

As with any new toolkit, provision of training can enhance its use and acceptability by its potential users. The urban context, its conditions and scale, vary immensely; training courses would be the platform for the adaptation of the toolkit to the needs of specific cities and WV's National Offices. Based on testing it and local adaptation, translating the toolkit into other languages to suit the needs of a wider range of users should be considered. In conclusion, this toolkit is intended to:

- Provide a basis to underscore the specific significance of urban DM within WV's programs;
- Serve as a practical resource to examine urban DM initiatives within WV and thereby learn from their strengths and overcome weaknesses;
- Serve as a planning tool for implementing future cycles of the DM operational dimensions (ODs) – for improving activities of ODs already implemented and planning for the activities of forthcoming ODs

## 6.0 COMPENDIUM OF REFERENCES, KEY RESOURCES AND LINKS ON URBAN DM/DRR

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## Key Resources and Links

- **Bilateral and Multilateral Agencies**

**Asian Development Bank (ADB):** Disaster Risk Management Program:

<http://www.adb.org/themes/climate-change/disaster-risk-management>

Operating in the Asia-Pacific region, ADB supports a range of disaster risk management programs in its member countries. Its main strategy is to integrate disaster risk management into development programs and projects. Although it supports urban projects and has an Urban Sector Strategy (see: <http://www.adb.org/documents/urban-sector-strategy>), ADB does not have a dedicated program on urban DM/DRM.

**Department of Foreign Affairs and Trade (DFAT), Australia:**

<http://aid.dfat.gov.au/aidissues/drr/Pages/default.aspx>

DRR is a key area in DFAT's aid policy and under its new development policy (2014), "Building resilience: humanitarian assistance, disaster risk reduction and social protection" has been articulated as a priority area. Australian aid through the former AusAID in the past provided support largely for disaster response and recovery, but now under DFAT a wider set of activities are stated to be considered.

**Department for International Development (DFID), UK:**

<https://www.gov.uk/government/organisations/department-for-international-development>

DM/DRR is not directly one of DFID's priorities, but it is addressed through its Climate and Environment priority area. DFID extensively supports urban projects that consider the full DM cycle. For example, a study commissioned by DFID (Dodman et al 2012; see references above) includes discussion and analysis of disaster preparedness and response.

**United Nations Office for Disaster Risk Reduction (UNISDR):** Resilient Cities Campaign:

<http://www.unisdr.org/campaign/resilientcities/>

This campaign works with national and local governments in more than 2,000 cities around the world to promote commitments to building urban resilience and local capacity. This is one of the most extensive programs relating to urban disasters. The focus however is on resilience and the full disaster management cycle is not explicitly covered.

**World Bank:** Global Facility for Disaster Reduction and Recovery (GFDRR): <https://www.gfdr.org/>

GFDRR does not have a specific urban focus, but it supports various urban projects, capacity building and other initiatives. The World Bank has an Urban Development program (see:

<http://www.worldbank.org/en/topic/urbandevelopment/overview#1>) where disasters are considered as a key urban challenge and therefore urban disaster risk management projects are supported.

- **Non-Governmental Agencies (NGOs)**  
(Agencies having a primary focus on disasters)<sup>38</sup>

**Active Learning Network for Accountability and Performance in Humanitarian Action (ALNAP):**

<http://www.alnap.org/>

ALNAP is a network of humanitarian agencies and it focuses primarily on response to disasters and other crises. Its members include UN and donor agencies, NGOs, academia and private sector agencies. ALNAP also operates as a resource centre and publishes annual reports documenting the range of work done by its members (see: <http://www.alnap.org/who-we-are/annualreports>). Relevant to this toolkit, ALNAP hosts the online “Urban Humanitarian Response Portal” reports, policy documents, tools, methods, etc are featured and periodically updated (see: <http://www.urban-response.org/>).

**Asian Disaster Preparedness Center (ADPC):** <http://www.adpc.net/igo/>

Since the early 2000s, ADPC has had a dedicated team dealing with urban disasters. Formerly the Urban Disaster Risk Management (UDRM) team, it is now a department on Resilient Cities and Urban Risk Management. However the focus is on DRM and DRR, and ADPC generally does not engage in disaster response activities. Of relevance here is a recent publication as part of a series for DRM practitioners, the handbook on “Integrating Disaster Risk Management into Urban Management” (downloadable from: <http://www.adpc.net/2012/download/DRM-Handbook/ADPC%20DRM%20Practitioners%20Handbook%20-%20Urban%20Management.pdf>).

**Asian Disaster Reduction Center (ADPC):** <http://www.adrc.asia/>

ADRC is primarily a resource centre that shares DM/DRR related information, supports networks and other such activities. It operates a satellite image and mapping system called DM Support System and runs an Urban Search-and-Rescue training course. ADRC annually publishes the Natural Disasters Data Book (see: [http://www.adrc.asia/publications/databook/DB2012\\_e.html](http://www.adrc.asia/publications/databook/DB2012_e.html)).

**International Federation of Red Cross and Red Crescent Societies (IFRC):**

<https://www.ifrc.org/en/what-we-do/disaster-management/about-disaster-management/>

IFRC in the past engaged primarily in post-disaster response and to some extent recovery. It has however begun to include a wider range of DM activities as discussed above in section 3.1.

- **Information and Data Sources**

**EM-DAT: The International Disaster Database:** <http://www.emdat.be/>

This online database is compiled and managed by the Centre for Research on the Epidemiology of Disasters (CRED), Belgium. This is one of the most authoritative sources of global data on disasters including natural, technological and biological disasters.

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<sup>38</sup> There are many NGOs and donor agencies that engage in DM, DRM and DRR as part of a wider range of development programs. Some of the key ones are members of ALNAP and can be found from: <http://www.alnap.org/members/> (accessed 15.09.14).



**PreventionWeb:** <http://www.preventionweb.net/english/>

This online platform is run by UNISDR (see Bilateral and Multilateral Agencies above) and provides current, news, information and views on DRR. Free online subscription is available for receiving updates by email, which can be customised by the users.

- **Online Networks**

- **Disaster Researchers and Disaster Management Professionals** network
- **Humanitarian Professionals** network

Both of these networks operate through the LinkedIn social networking service: [www.linkedin.com](http://www.linkedin.com)