



International Strategy for
Disaster Reduction

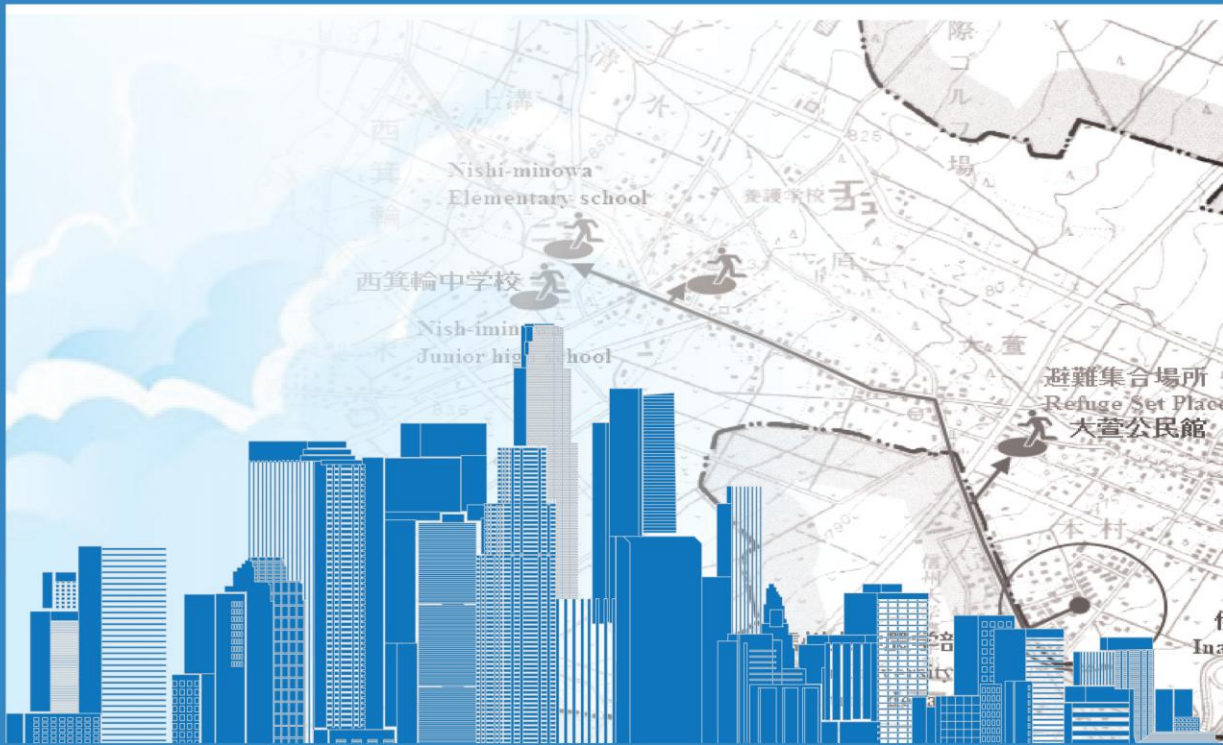


International
Recovery Platform

Draft

Guidance Note on Recovery

PRE-DISASTER RECOVERY PLANNING



The Guidance Notes on Recovery: Pre-Disaster Recovery Planning was developed by the International Recovery Platform (IRP) to present a series of steps to initiate and sustain pre disaster recovery planning. IRP acknowledges the leading work of Darren Hertz, the consultant who facilitated this guidance note and Sanjaya Bhatia, Knowledge Management Officer of IRP (UNISDR).

IRP was conceived at the World Conference on Disaster Reduction (WCDR) in Kobe, Hyogo, Japan in January 2005. As a thematic platform of the International Strategy for Disaster Reduction (ISDR) system, IRP is a key pillar for the implementation of the Hyogo Framework for Action (HFA) 2005-2015: Building the Resilience of Nations and Communities to Disasters, a global plan for disaster risk reduction for the decade adopted by 168 governments at the WCDR. The key role of IRP is to identify gaps and constraints experienced in post disaster recovery and to serve as a catalyst for the development of tools, resources, and capacity for resilient recovery. IRP aims to be an international source of knowledge on good recovery practice. IRP promotes “Build Back Better” approaches that not only restore what existed previously but also set communities on a better and safer development path and support development of enhanced recovery capacity at regional, national, and sub-national levels with particular focus on high-risk low-capacity countries.

The findings, interpretations and conclusions expressed in this paper do not necessarily reflect the views of the IRP partners and governments. The information and advice contained in this publication is provided as general guidance only. Every effort has been made to ensure the accuracy of the information. These volumes may be freely quoted but acknowledgement of source is requested.

Executive Summary

In the aftermath of a disaster, time is a valuable, yet extremely limited resource. Recovery decision-makers, planners and implementers face the immense task of assisting individuals, communities, economies, and the natural environment to recover in a coordinated, efficient, and risk-reducing manner. To do so requires thorough and deliberate assessment and planning. Yet this type of planning is usually forfeit in the demand for haste. Efforts have been made to encourage recovery planning in the earliest stages of the emergency, yet rarely does this allow the time planners need.

In an effort to address this dilemma, several governments have begun preparing for recovery in advance. This approach to recovery planning is most commonly termed pre-disaster recovery planning (PDRP). More specifically, PDRP is the pro-active process of anticipating future recovery issues, developing a scenario-based recovery plan, and building the capacity to improve recovery outcomes – all before a disaster happens. Strong evidence, and common sense, indicates that much can be done before a disaster to alleviate recovery planning demands after the disaster. Critical information can be gathered; tools to assess needs and provide assistance can be analyzed and prepared, and roles and responsibilities can be defined. Additionally streamlined processes can be developed to expedite recovery efforts and partnerships established to leverage additional resources. These opportunities, and more, have helped these governments to make more effective use of the limited time allotted for post disaster recovery planning. Furthermore, by preparing for recovery before a disaster, PDRP has allowed recovery actors to take advantage of a window of opportunity to initiate larger development changes and reduce future disaster risk.

Therefore, PDRP is a logical step towards ensuring that communities "build back better" following a natural disaster. Yet such planning is not as common a practice as one would think. One reason could be the lack of guidance on how to go about this critical, yet mostly untried, process. With this gap in mind, the International Recovery Platform (IRP) has researched the existing documentation and consulted with government entities and partners in Japan, the USA, and Latin America who have engaged in PDRP. This document is the result of that research.

The purpose of this guidance note is to present a series of steps to initiate and sustain pre disaster recovery planning. IRP hopes that the content of this guidance note will help government officials working in small communities or across an entire nation, to define and follow a process to pre plan for disaster recovery, and thereby strengthen their own future recovery efforts and outcomes.

This document offers guidance on developing a planning framework. It does not present issues, strategies, or actions specific to a given sector such as health, housing,

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or infrastructure. These issues and appropriate strategies must be defined by the government planning for recovery. Nonetheless, an awareness of common issues and lessons learned is important for PDRP. Thus, IRP suggests using its ten-part sector specific series, Guidance Notes on Recovery, as companion documents. IRP also acknowledges the fact that there is no universally correct approach to pre-disaster planning. Therefore the document will attempt to present the key steps and considerations at a broad level, present relevant examples, and provide recommendations grounded in the experiences of others. It is hoped that these will serve to spark reflection and generate strategies to adapt the PDRP process to the reader's context.

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1. Introduction to Pre-Disaster Recovery Planning

Chapter

1

1.1. WHAT IS PRE-DISASTER RECOVERY PLANNING?

Pre Disaster Recovery Planning (PDRP) is any planned attempt to strengthen disaster recovery plans, initiatives, and outcomes – before a disaster occurs. The concept of PDRP is built on the recognition that much can be done before a disaster happens to facilitate recovery planning after a disaster and improve recovery outcomes.

PDRP consists of a series of decisions and actions to be taken both before and after a disaster, in order to:

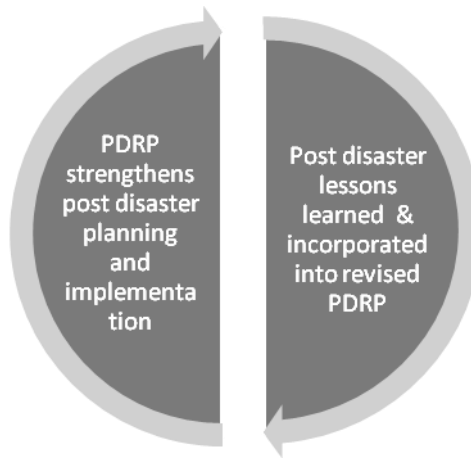
- *IDENTIFY AND ESTABLISH SHARED RECOVERY GOALS, OBJECTIVES, AND STRATEGIES* - to guide post disaster decision-making, ensure that relief and recovery activities align with long-term development goals, address actual needs, and enhance resilience to future disasters.
- *DEVELOP AND HAVE READY THE CAPACITY TO PLAN, INITIATE AND MANAGE* - an efficient, adaptive, and well-coordinated recovery effort that progresses towards the recovery goals.

Operationally, PDRP is made up of three main components.

1. Developing goals, objectives, and strategies for post disaster recovery based on informed disaster scenarios.
2. Creating a recovery organizational structure that assigns post disaster roles and responsibilities.
3. Planning and implementing pre-disaster actions that will expedite and strengthen post disaster planning and implementation.

Pre disaster planning does not replace post disaster planning. The unpredictable impacts of even seasonal hazards, such as monsoon flooding, make post disaster planning essential. Rather, the process of pre planning is part of a recovery planning cycle. PDRP facilitates quick yet informed decision-making and action in the demanding post disaster environment. In a cyclical fashion, PDRP then serves as a conduit to incorporate post disaster lessons learned into planning for future hazard events.

Box. 1 Recovery Planning Cycle



1.2. WHY PLAN FOR RECOVERY BEFORE A DISASTER HAPPENS?

THE CHALLENGE OF POST DISASTER RECOVERY PLANNING

You will be thrust into the world of instant life or death decisions, mounds of building permit applications, daily dealings with a new bureaucracy with incredible paperwork requirements, and unremitting pressure to get things back to normal. Everyone will want a plan, but few will want to take the time to plan. You will be expected to have answers to problems you have not even thought about before. You will be dealing with new experts - geologists, structural engineers, and seismologists with information you will not understand. Inadequacies in existing plans and applications will be glaringly apparent. Nothing in your planning education has adequately prepared you to deal with the problems and responsibilities now on your desk

Spangle, 1991

Complex demands

This firsthand account describes the post disaster environment in which disaster managers must collect critical information, make difficult decisions with complex repercussions, and design and implement plans for the long term recovery of the collective population. To enable an effective, sustainable and risk-reducing recovery, decision-makers and planners must:

- ✓ Raise awareness and build consensus on recovery goals, such as increased disaster resilience, improved land use and infrastructure, and environmental sustainability;

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- ✓ Develop new policies, coordination structures, regulatory frameworks and tools to assess needs, mobilize resources, ensure accountability, and coordinate a wide range of recovery actors;
- ✓ Identify and build surge capacity, establish essential partnerships, and provide the appropriate training; and
- ✓ Monitor the subsequent impacts of secondary hazards as well as ongoing relief and recovery activities that can inadvertently create new obstacles to recovery.

The “tyranny of the urgent”

The overwhelming pressure to act quickly, the tyranny of the urgent, arguably poses the greatest challenge to recovery decision-makers, planners and implementers. Urgent action is often required to avert economic stagnation and decline, prevent disease outbreaks, and ensure continuity of education services to children and youth. Short funding periods and political pressure to show visual results multiply the pressure to act quickly. Not least important, affected peoples begin to identify and act upon their own recovery strategies (often within the first few weeks). These informal plans can create new challenges for unprepared recovery planners, such as when individuals begin rebuilding weak structures in hazard-prone areas. Furthermore, short funding periods and political pressure to show visual results place even greater demands on recovery actors to act swiftly.

Immediate action vs. careful planning

One can already see that at the heart of recovery planning rests an inherent tension between rebuilding quickly and rebuilding thoughtfully. Overwhelmed and often understaffed, decision-makers feel forced to sacrifice one or the other leading to irrelevant and unsustainable initiatives or increased disaster deficits, economic stagnation and frustration.

Box. 2 The balance of urgency and thoroughness in recovery planning

<i>Sacrificing Care and Thoroughness Results In:</i>	Hasty and reactive decisions that exclude affected populations from decision-making and forfeit leadership, coordination and accountability. This ultimately sacrifices relevance and sustainability, delays recovery, and replicates the vulnerabilities contributing to the disaster.
<i>Sacrificing Urgency Results In:</i>	Careful but lengthy planning that can exacerbate damage and losses to individuals, foster dependency, and increase disaster deficits due to stagnant economies. Planners must also account for informal and potentially conflicting relief and recovery efforts that have taken place in the waiting period.

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In recognition of this challenge, new trends and large investments have been made in an attempt to strengthen post disaster recovery planning. For example, the United Nations Development Programme has established and leads an Early Recovery Cluster, to focus attention of the international humanitarian community on recovery planning at the earliest possible stages of relief efforts.

THE BENEFITS OF PRE DISASTER RECOVERY PLANNING

Pre-disaster recovery planning is one of the most highly effective means of addressing the challenges of planning and implementing a successful disaster recovery. Planning for recovery, before a disaster strikes, enables governments and partners to build consensus on recovery goals and strategies, gather critical information to inform recovery decisions, define roles and responsibilities and develop the necessary implementation capacity to efficiently manage recovery operations. This, in turn, benefits recovery initiatives in the following ways:

1. Expedites recovery

When appropriate recovery structures, policies, and strategies exist and are understood prior to a disaster, post disaster planners, decision-makers, and practitioners need only modify the general recovery plan rather than developing an entirely new plan. This enables those involved to initiate recovery efforts more quickly and decisively.

2. Reduces risk of future disasters - Building back better

General acceptance for disaster risk reduction and recovery planning peaks after the disaster when the needs of the recovering community are paramount in the thoughts of the planners, the government, the law makers, and the community itself. This creates a 'window of opportunity' to integrate mitigation measures in recovery and long term development activities. Yet, this window only remains open for a short time (Christoplos, 2006). By incorporating risk reducing concepts and measures into the PDRP, communities and governments are better prepared to utilize this window of opportunity to enhance their resilience to future disasters.

3. Enables demand-driven and inclusive recovery

One of the most commonly cited causes of irrelevant, and even harmful, recovery assistance is the failure to include affected communities in the planning and implementation of recovery initiatives. In the name of haste, recovery leaders fail to consult with affected peoples (particularly marginalized populations) and available assistance drives recovery priorities rather than actual needs. Pre disaster planning enables community involvement in defining recovery priorities and strategies before a disaster happens and can ensure their participation after a disaster occurs.

4. Minimizes development deficits

A natural hazard event triggers a rolling series of impacts influenced by the event, existing vulnerabilities, and the efficacy of relief and recovery efforts. Anticipating

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and planning for the compound impacts can mitigate or prevent secondary impacts such as the loss of subsequent harvests which hinder economic recovery and exacerbate deficits to development. Disasters can also create opportunities to advance longer term development plans in a shortened timeframe if sufficient planning has taken place beforehand.

5. Reduces recovery costs

A pro-active approach to recovery in which expected needs and corresponding services are collectively analyzed and identified before a disaster will limit expenditures on poorly-informed and oft irrelevant programs. Furthermore, anticipating obstacles and challenges prior to a disaster can reduce startup costs.

UNDP PDRP case study forthcoming.

Box. 3 Pre disaster recovery planning in Bogota

The city of Bogota, Columbia has been developing a pre-disaster recovery plan with the assistance of the United Nations Development Programme (UNDP). Many of the lessons learned throughout the planning process have been shared via workshops in Quito, Guayaquil, and Santo Domingo. The UNDP is presently documenting the planning experience of Bogota's government. Look out for the launching of this publication at the UNDP's Bureau for Crisis Prevention and Recovery website:

Source: <http://www.undp.org/cpr/index.shtml>

1.3. AT WHAT SCALE SHOULD PRE-PLANNING TAKE PLACE?

Pre-disaster recovery planning is most beneficial when conducted at multiple scales and policy levels. This enables a more effective response to disasters of various magnitudes and ensures a unified approach when multiple levels of government must work together. The 'right' levels at which to initiate pre-planning will differ from country to country. The existing disaster management infrastructure and the extent of government decentralization will influence this decision. Ideally, pre-planning should take place at the local level and at all other levels where disaster management decision-making takes place. At a minimum, planning for recovery at national and local levels is recommended.

NOTE: Initiating pre-disaster planning at any level and any scale (even one small community) should not be postponed to await a more comprehensive multi-level approach.

LOCAL RECOVERY PLANNING

Recovery from small-scale localized disasters is commonly the responsibility of individuals, communities and local governments. Local recovery planning builds local capacity to act without assistance from regional or national government. For large-scale disasters, local recovery planning is equally important; it helps ensure that local

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needs, priorities and long term plans drive the recovery process when national and international assistance is required.

NATIONAL RECOVERY PLANNING

When disasters of great magnitude and duration overwhelm the local capacity to cope, national levels of government may be needed to provide support and leadership. National pre-planning helps to ensure that support provided to affected communities is well-coordinated, relevant, and expedited. Pre-planning at the national level is also critical when international assistance is required. A well-thought out recovery plan, combined with a coordination structure, and a clear understanding of existing capacity and capacity gaps can provide the necessary direction for external partners and ensure that international assistance is used effectively and in line with national plans.

SUB-NATIONAL RECOVERY PLANNING

Depending on the extent of decentralization, sub-national disaster management agencies may exist, such as at state or district levels. In these cases, the sub-national entities provide the first line of support and assistance when local capacity is overwhelmed. This may be in the form of housing grants, allocation of land for relocation, or the restoration of medium scale infrastructure. When the sub-national capacity is overwhelmed, assistance is provided by the national government.

There may be some cases where it proves more effective to carry out the bulk of the planning process at a sub-national instead of local level. Several considerations may help determine when this might be appropriate. These include, but are not limited to, development planning authority, resource access and mobilization, and hazard exposure.

Development planning authority In some cases, local governments may not possess the authority to design and implement development plans. This authority is critical to successful pre-disaster planning and post-disaster implementation. Therefore, in such cases, pre-planning should be prioritized at the appropriate policy level where the required authority exists. It cannot be stressed enough that local representatives should be included in the planning process.

Resource access & mobilization Pre-planning for recovery necessitates commitment and resources from various government entities. Local jurisdictions may lack the resources to fully plan and implement recovery operations. In such cases, pre-planning at a sub-national level may prove more effective; allowing local jurisdictions to share available resources and benefit from regional capacity and resources.

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Hazard exposure In areas where natural hazards pose little or no threat, local investment in pre-planning may not be cost-effective. For example in the US state of Florida, only coastal communities (prone to hurricanes and flooding) are obligated to develop recovery planning frameworks (Citation).

1.4. HOW DOES PDRP FIT WITHIN THE DISASTER MANAGEMENT CYCLE?

The pre-disaster recovery planning process integrates logically within the disaster management cycle. It strengthens efforts within each phase and facilitates the transitions between relief, recovery and development.

PDRP AND DISASTER RISK REDUCTION

DRR and pre-disaster recovery planning fit hand in hand. The resources, strategies, and ongoing activities of disaster risk management bodies lay the foundation for planning a risk-reducing recovery. The crucial information they collect, concerning hazard types and characteristics as well as existing and potential vulnerabilities, allows recovery planners to develop the post disaster scenarios which guide the PDRP process. Furthermore, existing DRR plans and experts can facilitate the integration of appropriate mitigation measures into recovery action plans.

Likewise, PDRP benefits the mandate of those engaged in DRR planning and implementation. Collaboration with DRR planners ensures that their pre-disaster mitigation goals, plans and initiatives are sustained in the post-disaster period when the needed political will and public acceptance increases.

Box. 4 PDRP and the disaster management phases



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PDRP AND PREPAREDNESS

PDRP is, in essence, preparing for recovery and good recovery includes preparing for the next disaster. Pre planning for recovery is a participatory process which involves awareness-raising and public engagement in determining how to build back better.

PDRP AND DISASTER RELIEF

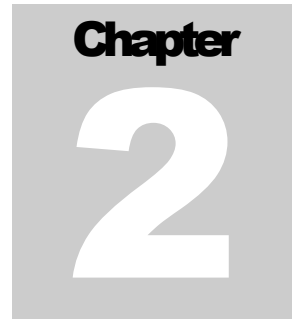
Linking pre-disaster recovery planning with disaster relief plans enables a more seamless transition between the two phases - a noted problem in the post disaster environment. Studies indicate that relief services are commonly extended beyond a useful period to fill the void as recovery plans are prepared (Brusset, et al., 2009). Pre planning helps to fill this void, by allowing recovery managers to initiate programs more quickly. This reduces the public frustration and dependency that otherwise occurs when people's own recovery strategies are stalled due to slow start up. Equally important, PDRP provides relief decision makers with the understanding of recovery efforts needed to prevent the inadvertent creation of new recovery obstacles (such as the placement of emergency shelters in hazardous locations).

PDRP AND DEVELOPMENT

Development plans provide the long term goals for a recovery plan as well as a framework for establishing appropriate recovery strategies. They ensure that recovery efforts progress forward towards a vision of the future defined by the population. This recovery-development alignment is particularly critical. Without a forward-looking focus, the overriding pressure to return to 'life as it was' will drive the recovery process. This not only delays development gains but can also create significant new obstacles. Integrating development and recovery planning also permits policy-makers and planners to take advantage of the post disaster window of opportunity to initiate larger changes which may have otherwise proved difficult.

NOTE: The development planning or review process can be an excellent entry point to advocate for and initiate pre-disaster recovery planning. To ensure a strong link between the pre-DRP and development planning, involve the development planners in the PDRP exercise.

2. How Does One Pre-Plan for Recovery



Pre disaster recovery planning differs from most other types of planning in that plans are made based on an informed scenario rather than actual conditions. By anticipating potential hazards and identifying pre-existing vulnerabilities, one can paint a picture of post disaster conditions and successively develop goals, strategies and actions to be taken. For example, a particular geographic area may rest in a known seismic zone. With both scientific and historic information, one can estimate the magnitude and likelihood of a future earthquake. Correlating this information with the state of building stock in the area can provide planners with a likely damage scenario. With this information they can design strategies to remove the debris, determine how to provide temporary shelter, and/or define how the rebuilding will take place. As mentioned earlier these plans would require refinement following a disaster. Yet, the work involved would be considerably less than developing a plan from scratch. Moreover, developing a clear organizational structure and assigning post-disaster roles and responsibilities will allow the government to act quickly.

In addition to specifying what is to be done after a disaster, PDRP also defines strategies and tasks to accomplish during the steady state, or, before a disaster. These planning outcomes are intended to facilitate quicker and more deliberate planning in the aftermath. Referring back to the example above, a PDRP strategy could be defined which identifies appropriate damage and loss assessment tools and trains a team of individuals to use them. A government might choose to update its building code to meet earthquake standards and enact laws to enforce them. This would help to ensure that house to be built and rebuilt are more resistant to future earthquakes. Additionally, potential sites can be chosen for temporary shelter or debris removal. These are just a few examples, yet they clearly illustrate how much time can be saved when recovery issues are addressed both before and after a disaster.

This section will suggest a process to guide pre-disaster recovery planning based on common experiences of the few governments who have engaged in PDRP. Box 5 illustrates the key stages of the process. Each stage will be discussed in further detail, highlighting key issues, important considerations, and lessons learned.

Box. 5 The pre planning process



There are three important points worth noting about the planning process illustrated in Box 5.

- ***Cyclical***

First off, the process is cyclical and non-linear. As new information and resources are identified, recovery goals and principles may be revised; new strategies and actions created; and further roles and responsibilities assigned. Additionally, steps from different stages may take place concurrently and initiating work in one stage does not prevent beginning work on another stage. Exercising and regularly reviewing the plan and its implementation progress will drive the cycle, improving the plan each time. When a disaster does occur, lessons from the post disaster recovery efforts should be incorporated into the PDRP, further strengthening it and future recovery initiatives.

- ***Scalable***

Secondly, PDRP is scalable. Its cyclical and non-linear nature allows the planning team to prioritize the development of strategies and/or their implementation. By identifying the most critical and feasible policies, strategies, and actions, the team can begin work with even limited funding, and address other issues as the availability of resources permits.

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- ***Participatory***

Lastly, PDRP requires the participation of those who would be affected by a future disaster. Whether the process takes place at a local, sub-national, or even national level, the engagement of the public is critical. Implementation of the most rationally- designed plan may fail, if those it intends to serve are not integral in its creation.

2.1. GETTING STARTED

As noted in the preceding section, the most critical piece of pre-disaster planning is getting started. How one initiates this process will depend on the level at which it is undertaken, the existing mechanisms by which policies and procedures are introduced and enacted, the extent of political and financial support, and the awareness-raising and education required to inform and engage the full range of stakeholders in the process.

BUILD POLITICAL SUPPORT

Like any new initiative, PDRP will require political support both to secure funding and the multi-sector engagement needed for its success. More immediate needs too often overshadow the longer term objectives of initiatives like pre-disaster planning. This results in limited participation and limited access to resources. Finding advocates amongst respected leaders will help ensure that PDRP is given higher priority by all stakeholders.

The arguments outlined in the previous section can be useful for garnering the needed support. Even with these arguments, making a strong case for PDRP may require raising awareness of recovery planning issues. Engaging individuals who have managed recovery efforts to describe the challenges of recovery and the benefits of pre planning can be particularly persuasive. Furthermore building support amongst development planners, officials responsible for emergency response, preparation, and disaster risk reduction, and civil society can create the critical mass needed to convince otherwise hesitant leaders.

NOTE: Gaining support for PDRP may initially require a significant amount of awareness-raising of recovery issues. Too often, post disaster efforts and resources are largely invested in the immediate response, while much less consideration is given to the greater challenge of long-term recovery. Because of this, long term recovery issues may be poorly understood.

The backing of respected leaders can also play an important role in garnering public support and encouraging community participation.

ENSURE BROAD STAKEHOLDER REPRESENTATION

The impacts of a natural hazard event can pervade virtually all aspects of life. To address the wide range of impacts - from damaged and destroyed homes to upset

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livelihoods, from disrupted education and health services to damaged critical natural resources – collaboration will be required amongst a broad and diverse array of actors.

Creating the planning team

Rarely will disaster recovery require assistance in one sole sector. Rather, it typically requires the support from a wide array of government bodies working together in close collaboration. Box 6 presents a sample list of government sectors which should be represented. If a recovery organizational structure already exists, this should provide you with an understanding of whom to invite and the respective sectors they represent.

NOTE: It is worth considering not only those departments involved in post disaster recovery, but also those that could potentially garner resources and help sustain PDRP

Box. 6 Potential government stakeholders

Disaster Management	Social Services	Public Infrastructure
Planning	Education	Housing
Finance & Budget	Transportation	Trade / Economy
Environment / Natural Resource Management	Waste Management	Agriculture
Office off the Chief Executive – Mayor, Governor, etc		

In addition to the government entities that have a stake in recovery, there exist many others who have contributed in past efforts and will be needed to do so in the event of a future disaster. Entities such as civil society organizations, private firms and businesses, and religious bodies, as well as the national/international humanitarian and development network of donors and NGOs possess important strengths, experiences and resources and should be considered when forming a planning team. Experts from local universities as well as research organizations have played equally significant roles in disaster recovery and can be valuable long term partners.

Some form of a stakeholder analysis, such as the list of questions below will help to identify appropriate representatives to make up the planning team.

- ✓ Who has been involved in past recovery initiatives?
- ✓ Whose membership will strengthen political and financial support of the PDRP process?

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- ✓ Who can provide the technical expertise needed to develop the plan?
- ✓ Are typically marginalized or more vulnerable populations effectively represented?
- ✓ In a future disaster, who would provide administrative, logistical, information management, and communication services?
- ✓ What individuals or groups might oppose the PDRP or create obstacles to an effective planning process?
- ✓ How well does a potential member represent a particular stakeholder group?
- ✓ Who can bring decision-making authority?
- ✓ Are there any network or umbrella organizations that may represent a large number of smaller groups?
- ✓ Will the planning team also be responsible for post disaster implementation? If not who will be? These are very important stakeholders.
- ✓ Others...

NOTE: The process of identifying potential stakeholders helps identify experts who can help in recovery. The resulting list may be developed into a roster of experts, to be drawn upon ex-post. Additionally, this exercise can help identify potential suppliers for the post disaster recovery.

Enabling strong community/public participation

To enable stronger public participation, developing an awareness-raising campaign is worth consideration. Holding public forums such as town hall meetings is one common way to raise awareness of the need for PDRP and the key role the community/public has to play. Yet, more pro-active measures should also be taken. Working through popular and accessible media outlets, NGOs, faith-based organizations, community associations, special interest advocacy groups, and others will enable greater understanding of PDRP and more effective participation of the broader public.

ORGANIZE THE PLANNING TEAM

With a potentially large stakeholder group, and the likely addition of more members once the process begins, it is critical to create an organizational structure to keep the process on track and prevent it from bogging down.

Where an organizational structure for post disaster recovery planning and implementation has already been defined, it may prove a good structure. Ideally, those responsible for PDRP will also coordinate recovery assistance. However, the establishment of recovery coordinating entities is often ad hoc, and it may not be

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clear who is responsible to coordinate post disaster recovery. In this case it is imperative to determine post disaster roles and responsibilities and how coordination is to be organized.

As the PDRP naturally integrates with disaster risk management (or mitigation), disaster relief, and development planning, it will also be useful to consider how those planning processes are organized. Using recognizable structures and terminology can facilitate greater acceptance of the PDRP and strengthen its sustainability.

The state of Florida (USA), has enacted a law that hazard-prone coastal communities develop a Post Disaster Redevelopment Plan. Several local governments have piloted the planning process, each of which devised their own organizational structure (See Box 7).

Box. 7 Two examples of organizing PDRP

Hillsborough County, Florida

An existing recovery task force assigned to lead post-disaster recovery efforts led the PDRP. The county Hazard Mitigation Director served as the overall coordinator. With a pre-planning team of over 100 representatives, eight sub committees were formed based on expertise. Each of the sub-committees worked semi-autonomously, with a member of the core project team providing technical assistance in all meetings. In addition to sub committees focusing on particular sectors (housing, economy, health) there exist sub committees on public outreach and finance and administration. Recognizing the inter-relatedness of many recovery issues, the core team also facilitated interaction between sub-committees. Representatives from all the municipalities also formed part of the team.

Panama City, Florida

Responsibility for Panama City's PDRP rested with the city planning manager who led an executive committee. The 27 member executive committee composed of city and county officials as well as other local and regional stakeholders. It was charged not only with PDRP but also its implementation both before and after a disaster. Because of its smaller size the committee developed the plan as a whole group, engaging other stakeholders where further expertise was needed or working at times in small groups for specific issues. The PDRP process was facilitated by a hired consulting firm, who also produced the final plan to be enacted.

Source: These plans along with others, plus case studies and other materials can be found at <http://www.dca.state.fl.us/fdcp/dcp/PDRP/toolbox.cfm#PDRP>.

Much can also be learned from other participatory planning efforts. There is a strong tradition of multi-sector, participatory planning for disaster risk management, which may provide tested frameworks for involving the public. Commonly referred to as Community-based disaster risk reduction (CBDRR) or community-based disaster risk management (CBDRM), these may serve as useful models that can be adapted to

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meet the specific needs of PDRP. Though these frameworks are for mitigation or post-disaster planning, similar principles of planning are applicable to PDRP.

BEGIN WITH SHARED UNDERSTANDING OF PDRP

While PDRP is not a new concept, it does not figure into the strategies and operations of most disaster management bodies. Thus it may be completely foreign to many of the planning team members. How well the process progresses will be greatly determined by how well those participating understand what PDRP is, why it is being done, and what role they are to play. One US city undertaking PDRP, found that the extent of education needed (not only on PDRP, but on long term recovery) greatly reduced the time allocated to the complete the plan. The decision to invite a former post Hurricane Katrina recovery manager to speak with the planning team proved an excellent educational tool.

2.2. COLLECTING PRELIMINARY INFORMATION

PDRP requires the collection and analysis of considerable information, much of which may already exist. This information will not only be used to create the disaster scenario(s) necessary to develop recovery strategies and actions, but to define the overall recovery goals and the capacity at hand to attain them. The participation of the public in acquiring and providing information cannot be understated if the plan is to be relevant.

CREATE DISASTER SCENARIO(S)

In order to estimate how a likely disaster will impact a population, and thus plan for recovery, it is necessary to create a disaster scenario – an estimated picture of life after the disaster. Disasters are commonly considered a result of the exposure to a hazard; the conditions of vulnerability that are present; and insufficient capacity or measures to reduce or cope with the potential negative consequences (UNISDR, 2009). Therefore, to build a useful disaster scenario will require information about potential hazards, populations and assets exposed to the hazards, and any vulnerable conditions (the purpose of the PDRP is to strengthen the capacity to cope).

The more detailed the information gathered, the more accurately the disaster scenario will represent a post disaster future. Yet time and cost may restrain gathering all the information desired, and some uncertainty will always exist. It is strongly advisable to begin with a thorough collection of information already available so as not to delay the planning.

As this information also guides the work of disaster risk management, much of it may be immediately accessible. DRM representatives on the team will be ideal candidates to coordinate and devise the scenarios.

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Gather and analyze existing data on all relevant hazards

It is imperative that all hazards be considered, not simply the most common ones. To illustrate the importance of this, one may look at the case of the 2010 Haiti earthquake. While some efforts had been made in Haiti to mitigate and prepare for the impacts of hurricanes and tropical storms, little had been done to address a potential earthquake.

Likewise, any potential secondary hazards should also be considered. For example, earthquakes, heavy rains and flooding can all cause landslides and/or mudslides. Toxic chemical plants, gas or oil refineries, and power plants are also potential threats in the wake of natural disaster. The leaking of radioactive material from a nuclear power plant following the 2011 earthquake and tsunami off the northeastern coast of Japan illustrates the potential devastation of secondary hazards.

In addition to disaster risk management agencies, experts amongst the planning team in addition to other sources may supply valuable information:

- | | | |
|------------------------------|--------------------------|-----------------------------|
| ✓ Land use planning agencies | ✓ Insurance companies | ✓ Meteorological department |
| ✓ Structural engineers | ✓ Architects | ✓ Fire Department |
| ✓ Environmental engineers | ✓ Universities worldwide | ✓ Geotechnical Agencies |
| ✓ Public works departments | ✓ Media records | ✓ Government records |
| ✓ Industrial sector | ✓ NGOs and INGOs | ✓ Agricultural Sector |
| ✓ Health & Education Sectors | ✓ Risk Management Firms | ✓ Insurance companies |
| ✓ Others... | | |

Compile data on known and potential vulnerabilities

Vulnerability comes in many forms and determines not only how people and valued assets are impacted by a disaster, but also the extent to which they have access to relevant assistance. Vulnerability is not only characterized by the exposure to a hazard, but by physical, social, economic, natural, and psychosocial factors as well (this is not an exhaustive categorization of vulnerability factors). Box. 7 lists some of these factors. While it may not be initially feasible to analyze how all these factors will play out, it is important to recognize them if a recovery initiative is to “Build Back Better”.

Box. 8 Vulnerability Factors

Physical	Most commonly considered, physical vulnerability factors include the resistance of the built environment to hazards. Have houses and other
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structures been built to hazard resistant building codes? Are there critical structures that pose a threat if damaged or destroyed? Have roads been constructed in hazardous locations? Would damage to transportation infrastructure constrict the delivery of recovery assistance?

Social / Cultural Social and cultural norms may govern who has access to certain resources or political representation. Inequalities due to age, gender, or socioeconomic status may limit certain populations to living in more disaster prone areas or less able to access recovery services. Considerations here might include: do damage, loss, needs and capacity assessments disaggregate their data by age, gender and other potential inequalities to ensure that the differences are made clear? Has attention been paid to individuals with disabilities and the particularities of their impacts and recovery?

Economic Economics plays a strong role in vulnerability. While there is no hard and fast rule, in general poorer people are more adversely impacted by a disaster and have less access to assets and assistance for recovery. Those of less wealth typically live in less desirable areas; areas often more prone to disaster impacts. Low income populations often have lower stocks of capital, making it more difficult to absorb and bounce back from shocks. Other economic vulnerability factors to consider might be the ability of local markets and major employers to quickly restore trade and business. In areas where a high percentage of people rely on one type of livelihood, damage to those livelihood assets can prove devastating. Are there strong links amongst the business community? What types of capital will be required for people to revitalize their livelihoods and markets?

Natural Natural vulnerability factors refer to those environmental characteristics which might amplify disaster impacts. For example, have dunes been removed from coastal zones, thus leaving communities unprotected from storm surge or tsunamis? Have slopes been clear-cut - reducing soil cohesion and posing a landslide threat? How might a flood or cyclone further damage already degraded topsoil in agricultural areas? See Annex 1 for a list of vulnerability assessment resources and tools.

Once again, starting off with what data is available is important so as not to stall the planning process. In fact, some vulnerability data may be quite easy to collect. The planning department of Metropolitan Tokyo quickly identified those residential areas more vulnerable to earthquake damage, by determining where houses were built before the enforcement of hazard resistant building codes (Nakabayashi et al., 2008). Similarly, a quick analysis of recent census data might locate where more aged people

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or lower income populations reside. These analyses are very general, yet they can be useful for decision-making at this stage. Historical records or accounts of past disasters are also important and valuable tools, specifically when disasters occur regularly or have occurred recently.

NOTE: The public can be key informants for collecting both hazard and vulnerability information. Their intimate knowledge of their surroundings and history (particularly of past disasters) make them experts capable of contributing valuable information quickly. How they cope and recover, both individually and collectively are of equal importance.

Superimposing the vulnerability data over the hazard data (commonly plotted on maps) will show those areas at greatest risk and illuminate the potential damage and losses for a hazard event of a given intensity. Furthermore, this information can be helpful in prioritizing recovery goals, strategies and actions.

Based upon the gathered information, a scenario can now be created which describes the potential disaster damages and losses. It is best to create a series of scenarios that correspond to each hazard and ideally, to varying magnitudes of a hazard event. For example, in Southern Leyte of the Philippines, planners would develop disaster scenarios for the 'worst case' cyclones, floods, earthquakes and mass wasting (landslides and mudslides which could be triggered by any of the other hazards). Furthermore, the planning team could develop additional scenarios which addressed hazards of lesser intensity. This would provide for a more detailed plan.

As time and budget may be limited, it is advisable to create at least the worst case scenarios for each relevant hazard. Scaling down will consume much less time and resources than scaling up.

ANALYSE EXISTING PLANS THAT ADDRESS RECOVERY-RELATED ISSUES

Existing strategic development and disaster management plans and policies may already include the hazard and vulnerability data needed to estimate potential damages and losses. Whether they do or not, these plans and policies are nonetheless critical stores of information. They provide:

1. The longer term goals for recovery planning;
2. A foundation for reducing disaster risk in recovery efforts;
3. The information needed to improve the transition between relief and recovery phases; and
4. Potential financial, physical and human resources for PDRP and its implementation.

Integrating these plans into the PDRP process and vice versa will strengthen PDRP relevance and sustainability.

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- **Development plans**

Development plans provide the long term goals for a recovery plan as well as a framework for establishing sound and appropriate recovery strategies. They ensure that recovery efforts progress forward towards a common vision of the future, rather than returning to things as they were. Additionally, development plans may bring to light opportunities for collaboration, current and future plans upon which to build, and obstacles which could impede recovery.

- **Disaster risk reduction / mitigation plans**

A thorough review and integration of DRR/mitigation plans will help the planning team to mainstream DRR in all recovery activities. These plans may not only provide the needed hazard and vulnerability analysis to create useful disaster scenarios, but also reveal potential key principles, strategies, proposed initiatives, and organizational structures worth consideration. For example, the enactment of new zoning laws to reduce storm damage may be a shared objective of DRR and the recovery planning team.

- **Emergency response / disaster relief plans**

With an understanding of relief plans, structures and capacities, the planning team, in collaboration with relief planners, can identify benchmarks and strategies to facilitate a smoother relief/recovery transition. The federal, or national, government of the United States has developed a National Disaster Recovery Framework outlining the roles and responsibilities of various government and non government bodies in providing recovery assistance. To ensure a smooth transition between relief and recovery phases, this framework aligns closely with the government's National Response Framework (NDRF, 2009, p.6).

- In case of private sector and businesses, review the existing **Business Continuity Plans**.

DETERMINE THE KEY AREAS OF INTERVENTION

Based on the disaster scenarios, the planning team should be able to identify broad categories in which to frame recovery needs and corresponding interventions. Examples of key areas of intervention include Housing, Land Use, Economy, Health, Infrastructure, Psycho-social Well-being, Communication, and Physical Infrastructure. An existing post disaster recovery structure may already define the appropriate categories. If the planning team is not charged with creating a new implementation structure for post disaster recovery, than these existing categories should be used (and modified where needed).

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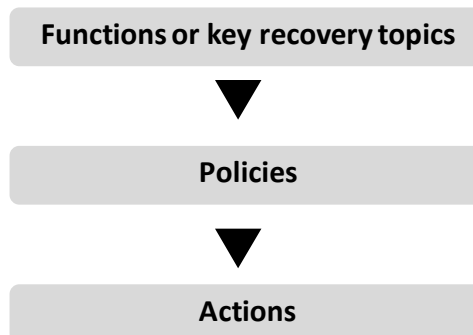
An initial list of intervention areas can be easily generated through a discussion of the disaster scenarios. Analysis of past disasters will help to point out gaps in the initial list. The city of Los Angeles initially developed seven key areas to frame its recovery planning (see Box. 9). Based on lessons learned from subsequent recovery experiences they added three more.

Box. 9 Sample key areas of intervention

THE LOS ANGELES'S RECOVERY AND RECONSTRUCTION PLAN	THE US NATIONAL DISASTER RECOVERY FRAMEWORK
Is divided into 10 key issue areas, called functions.	Employs a different set of categories as it plays a support role to local governments.
<ol style="list-style-type: none">1. Organization and Authority2. Residential, Commercial and Industrial Rehabilitation3. Public Sector Services4. Economic Recovery5. Land Use/Re-use6. Psychological Rehabilitation7. Vital Records8. Inter-Jurisdictional Issues9. Traffic Mitigation10. Public Information Plans	<ol style="list-style-type: none">1. Community Planning & Capacity Building2. Economic Development3. Health, Social & Community Services4. Housing5. Infrastructure Systems6. Natural & Cultural Resources

Note in Box 8 the inclusion of functions such as public information plans, inter-jurisdictional issues, and capacity-building. It is of particular importance to consider the operational services that will be required to implement a recovery plan. Business continuity for the private sector maybe an additional important area of intervention, to ensure faster economic and livelihoods recovery.

NOTE: Whilst determining the areas of intervention think of:



2.3. ESTABLISHING THE POST DISASTER RECOVERY ORGANIZATION

In the complex and constantly changing post disaster environment, recovery coordination commonly demands a set of new and often unfamiliar policies and procedures. When ad hoc task forces are created to lead the recovery efforts, considerable time is lost to developing and learning these new systems of working. In the demand to act, recovery actors often forfeit some or all of these new systems leaving many without a clear sense of what they should do and how to go about it. Following the 2004 East Indian tsunami, the central government of the Maldives took on the bulk of responsibility for recovery. This led to considerable confusion on each of the islands, where island chiefs were normally responsible for development activities. The central government set up new recovery committees on each island, which clashed with the established island development committees, resulting in a significant amount of irrelevant initiatives, wasted resources and public frustration (UNDP, 2006).

Recognizing this common recovery challenge, the city of Los Angeles developed a pre-earthquake recovery plan which laid out a recovery plan and clearly assigned roles and responsibilities for its implementation. The plan, developed without state or national recovery frameworks in place, was just finalized when a 6.7 magnitude earthquake shook the city in 1994. Due to the nascent state of the plan, some of the strategies were not implemented, however government officials and partners noted that they were able to initiate recovery activities promptly having clearly defined and understood their roles and responsibilities (Spangle et al., 1997).

There is no one best way to organize for the planning and implementation of recovery. Effectiveness will depend much on past experiences of disaster recovery as well as the governance systems, both formal and informal, which operate in normal times. Effectiveness will equally depend on the extent to which the organizational structure engages the affected population and other partners in its activities. It is not within the scope of this document to discuss the pros and cons of the many recovery approaches that have been deployed. However it may be of worth to provide an example of how one government has developed a post disaster organizational structure as a part of its pre disaster planning framework. The following case describes the US National Disaster Recovery Framework which was created in response to the many challenges encountered in the recovery efforts following Hurricane Katrina in 2005.

Box. 10 The US National Disaster Recovery Framework

The Post-Katrina Emergency Management Reform Act of 2006 charged the Federal Emergency Management Agency (FEMA) with developing a National Disaster Recovery Framework (NDRF). The order came directly from the Office of the President, furnishing the initiative with significant political support. This high level leadership was matched by FEMA through the careful selection of leaders who not only possessed considerable recovery experience, but also a history of advocating for

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pre disaster planning.

A Long-Term Disaster Recovery Working Group, composed of more than 20 federal departments, agencies and offices, were tasked with providing operational guidance for recovery organizations and making recommendation to improve the nation’s approach to disaster recovery (NDRF, 2010). As the governance system of the US is largely decentralized, a decentralized approach to recovery was defined. The organizational structure built upon the pre-existing National Response framework. Like the NRF, the recovery framework accorded responsibility and leadership to local levels of government. In the case that local capacity was overwhelmed, the state would provide support, and when the state capacity was insufficient, the national government would provide assistance.

The framework was designed with three characteristics in mind: structure, leadership, and planning. Recovery Support Functions have been created to provide structure and coordination to recovery efforts. The functions are groupings of federal agencies responsible for national level recovery planning and assistance both before and after a disaster. Each RSF is charged with one of the six key areas of recovery:

- Community Planning & Capacity Building,
- Economic Development,
- Health, Social & Community Services,
- Housing,
- Infrastructure Systems,
- Natural & Cultural Resources

For each function, one agency or department is designated as the RSF coordinator which is responsible for the management of the function services. Additionally, primary agencies, with significant authority and relevant resources, are assigned to each function. Finally other relevant entities act as support agencies providing specific services and resources to support the function. Other non-governmental partners can also work as part of the function.

For example, the Natural and Cultural Resources RSF consists of:

Proposed Coordinating Agency:	Dept. of the Interior
Primary Agencies:	Dept. of Commerce, Dept. of the Interior, Environmental Protection Agency, and the US Dept of Agriculture
Supporting Agencies:	Housing Urban Development and Federal Emergency Management Agency

To manage and oversee the recovery services, a federal recovery coordinator is designated. The coordinator is responsible to:

- Develop a strategic approach for coordinating federal assistance and policies;
- Coordinate federal assistance to support community recovery planning;
- Managing the Recovery Support Function (RSF) deployments, operations, and activities.

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- Facilitating federal funding streams and solutions to assistance gaps and overlaps.
- Working with the impacted community to establish relevant recovery measures.
- Working with the impacted community to incorporate mitigation and resilience-building measures into recovery implementation.
- Facilitating the development of a unified communication strategy.
- Promoting inclusiveness in recovery.

This organizational structure was designed to be replicated at state, tribal, and local levels of government. In this case, the federal coordinator and functions are designed to provide support to their counterparts at the subsidiary levels. The roles and responsibilities of both the federal actors and those to whom they provide support are also clearly outlined within the framework.

For further information, and to access a copy of the National Disaster Recovery Framework, please refer to: www.disasterrecoveryworkinggroup.gov.

The example above illustrates how recovery has been organized at a national level. For an example of a local level organizational framework, please see Annex 2

NOTE: It is a good idea to start within the framework of existing legislation and existing government body for disaster risk management, instead of attempting to create new structures.

2.4. FORMULATING RECOVERY PRINCIPLES AND GOALS

With a better understanding of potential hazards and existing vulnerabilities and a growing sense of the capacity and resources that may be available, the planning team can begin defining the overall recovery goals and principles. Where the recovery goals describe a vision of the recovered community or society, the recovery principles make clear the values which will guide how the goals are achieved. These goals and principles will frame the strategic and action planning.

Never is it more crucial to engage the broader public than in determining the recovery goals, objectives, and principles. The goals, objectives and principles defined by the team will be nearly impossible to achieve if they do not reflect those of disaster impacted communities. Yet when populations have contributed and see their own needs and priorities reflected, there stands a much greater chance of establishing the trust and cooperation needed in the disaster aftermath.

While recovery principles should be defined at national, sub-national, and local levels; recovery goals and objectives are best set by local authorities. This enables a more demand-driven recovery that aligns with people's own recovery needs and priorities. In this decentralized approach, national or sub-national PDRP focus primarily on providing support to local leadership when local capacity has been overwhelmed.

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NOTE: Pre-contracting of suppliers and pre-audit procedures and guidelines can be key policy principles of the PDRP.

BUILD A SHARED VISION OF A POST DISASTER FUTURE

While the disaster scenario establishes the starting point, the recovery goals and objectives serve as a collective vision of the post recovery future. Setting these goals ensures that recovery progresses towards an improved state; in other words, the recovery plan is one which ‘builds back better’. What the word ‘better’ means, will differ between populations. Therefore, defining recovery goals and objectives should be both an inclusive and a negotiated process.

The recovery goals should be as specific as possible yet still applicable to recovery initiatives in any and all sectors. Likewise, it should align with the larger development goals of a population. How specific the recovery goals are will depend on the extent of damage incurred, the longer term development goals and the priorities of the public. Examples of what might be included in the recovery goals include:

- ✓ An increased resilience to future disasters
- ✓ An improved quality of life
- ✓ A strengthened economy
- ✓ A strengthened tourism market

Recovery objectives indicate what is needed to achieve the recovery goal. One approach to defining these objectives might be to create a recovery objective for each of the defined functions (see Box 11). For instance, a PDRP team may include ‘a reduced risk of future disasters’ within its recovery goal. If housing is a function defined by the team, then an appropriate objective might be, ‘All new public buildings will be built to appropriate hazard resistant standards.’ However this is done, it is advisable to consider the planning frameworks and procedures used to formulate development and other disaster management plans. Using similar frameworks will enable a more seamless integration of recovery, disaster risk management, and development plans.

Box. 11 Sample recovery goal and objectives

A RECOVERY GOAL, as defined by the Hillsborough county government in its pre disaster recovery plan:

“The long-term redevelopment goal of Hillsborough County is to complete redevelopment efforts within a 3- to 5-year period after the disaster and restore or enhance the quality of life of Hillsborough County residents through the redevelopment process”.

THE RECOVERY OBJECTIVES include:

1. Long-term restoration of public infrastructure, social services, and

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environmental assets damaged by the disaster.

2. Re-establishment of an adequate supply of housing to replace that which was destroyed and provide safe transitional housing opportunities.
3. Restoration of the economic base of the disaster area(s) and jobs that were lost.
4. Sustainable and healthy redevelopment occurring in disaster resilient land use patterns.

Source: Hillsborough County Post Disaster Redevelopment Plan, Retrieved from www.hillsboroughcounty.org/pgm/pdrp

Once again, it is easy to focus on what needs to be accomplished in order to return to things as they were. A review of relevant development plans will help to ensure that the recovery objectives reflect a desired future state. In its land use development plan, the Tokyo Metropolitan government has prioritized the creation of more green public areas. Recognizing the window of opportunity after a disaster, the city planners have made sure that this priority is reflected as an objective in the city's pre disaster recovery plan (Tokyo Metropolitan Government, 2011).

IDENTIFY PRINCIPLES TO GUIDE RECOVERY

How recovery actors work to achieve their goals is as important as the goals themselves. Recovery principles are the values which guide how recovery will take place. There is neither a universal prescription for a successful recovery, nor a universally applicable set of recovery principles. Different peoples will achieve the same goals by different means. Therefore as a recovery planning team, you will need to define your own recovery principles. Examples of recovery principles include:

- Strong coordination amongst recovery actors
- Decisions concerning recovery needs and services made by affected communities and local leaders
- Maximized use of local resources
- Transparent yet expedited flow of funding and resources
- Pro-active communication with affected communities through contextually relevant mediums

There is a growing body of documentation on past and present recoveries which propose and provide evidence for various recovery principles. These publications can help the planning team to learn from a wide range of experiences and identify/adapt principles relevant to its context.

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While there may be no shortage of opinions on what will make a recovery successful, several considerations will help to ensure that the recovery principles are relevant and applicable.

Does the recovery principle reflect the needs and priorities of the public?

Involving the public in defining how the recovery goals and objectives are to be achieved will enable greater public trust and collaboration in government led recovery efforts. Community representatives often possess a more complex understanding of how a disaster affects the population, how affected communities cope and recover, and how recovery assistance has/will impact those recovering from a disaster. This knowledge is critical to ensure that the recovery principles align with the values and priorities of those affected. Box 12 presents a case of how the United States national government ensured the inclusion of the public in defining its core recovery principles.

Is it manageable in scope and quantity?

While a long list of principles may address most potential scenarios, too many principles may be too difficult to remember and eventually disregarded. Prioritizing principles is one way to define a more manageable number of recovery principles. A jurisdiction, well known for its effective coordination in past disasters, may want to prioritize recovery principles which need greater attention such as meeting the specific needs of more marginalized groups in the community. Additionally, the team can broaden the scope of principles so that several may be combined into one. More specific principles can be defined later for particular recovery functions

Is it drawn from experience and evidence

Strong recovery principles are drawn from actual experiences and the corresponding lessons learned. Consultations with former recovery managers or research on local past disasters will certainly provide relevant lessons. If little information is available, broadening the search to neighboring areas and even countries will help inform your selection.

Box. 12 Building consensus on recovery principles

In 2009, the US Federal Emergency Management Agency (FEMA) and the Housing and Urban Development (HUD) sponsored outreach sessions in each of FEMA's ten regions and stakeholder forums in five cities across the nation to provide stakeholders from a wide array of organizations and backgrounds the opportunity to provide up-front input on ways to strengthen disaster recovery. FEMA and HUD also organized discussion roundtables with professional associations and academic experts. The Long-term Disaster Recovery Working Group created a web portal which enabled a large and diverse group of stakeholders to provide input. Over six hundred

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stakeholders representing the local, state, tribal and federal governments, as well as public and private sector organizations contributed more than six thousand responses from across the nation.

Based on this information the Long-term Disaster Recovery Working Group defined the following core principles for the National Disaster Recovery Framework:

1. Individual and Family Empowerment
2. Leadership and Local Primacy
3. Preparation for Recovery
4. Partnership and Inclusiveness
5. Communications
6. Unity of Effort
7. Timeliness and Flexibility
8. Resilience and Sustainability

For further information, and to access a copy of the National Disaster Recovery Framework, see: www.disasterrecoveryworkinggroup.gov

The extensive process undertaken by FEMA in the example above illustrates how even at a national level, there are means of engaging the public in defining recovery principles. Recovery planning at local levels may not require the same large number of stakeholders or range of mechanisms to collect public input. Strong community representation on the planning team, combined with an open public meeting, may prove sufficient to identify the most important recovery principles.

2.5. DEFINING STRATEGIES AND ACTIONS

At this point the planning team should have a starting point (disaster scenario), an end point (recovery goals) and a set of principles to guide decision-making. Here begins the heart of the planning work, in which the team will identify and prioritize recovery issues and create the strategies and actions to address them.

IDENTIFY RECOVERY ISSUES

Using the disaster scenarios to foster an understanding of how the population will be affected, the planning team must now predict the issues they will need to address to assist the population's recovery. This is mostly a brain-storming activity and will greatly benefit from the participation of individuals who have participated in past recovery initiatives as well as those who will be affected

NOTE: Walking through those areas where damage is expected, can greatly facilitate the task of identifying issues

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Disasters are complex. They are manifest as a series of related impacts, beginning with the damage and loss of human life and assets. The challenge of coping with the damage and loss creates new issues. A gender imbalanced division of labor piles even more work and stress on women. Damage or destruction of schools can disrupt the education of children and youth, some of which may never return. Extended stays in transitional shelter can lead to disease outbreaks and inadequate assessments can leave those most in need with little assistance. The list goes on and on.

Prioritizing issues

Identify as many issues as possible. While no exhaustive list can be predicted and some of the issues identified may not come to pass, simply the awareness of these possibilities will strengthen recovery planning and outcomes. Prioritizing the list of issues once it has been compiled will help to make the process more manageable. While addressing the issues of highest priority, those issues of lesser priority can be placed in the plan to be treated at a later time.

Box. 13 Sample environmental issues prioritized

<i>Critical</i>	Environmental damage assessment Debris removal, processing, and disposal Safe water and sanitation Environmental impact of transitional shelter sites
<i>Recommended</i>	Restoration of protective ecosystem services Environmental impact assessment process for reconstruction Environmentally sound procurement of building materials
<i>Desired</i>	Eco-friendly building Increased green spaces

NOTE that the example above is only an abbreviated and general list of issues.

The criteria by which the issues are prioritized will vary between populations. However, the following list of questions may be a useful starting point:

- Does the issue represent an immediate threat to human life, health, or safety?
- Does significant capacity exist to address the issue? (if not, what resources are needed and how can they be accessed?)
- How does this issue impact the pace and quality of the recovery process?
- Must the issue be resolved in order to address other issues?
- How many people will be affected by this issue?
- How does the public rank the importance of the issue?

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Working in sub-groups

If the planning team is large or time is limited, the group can be divided into sub-groups to look at issues related to a particular function or topic area. Reporting findings back to the team as a whole is recommended to identify potential conflicts and discuss cross-cutting issues. For example, amongst the sample environmental issues listed in box 13, the ‘procurement of building materials’ will need to be discussed with the sub-group on housing reconstruction.

PLAN STRATEGIES AND ACTIONS

Working from the list of potential recovery issues, the team should now be prepared to identify strategies and actions to address the issues both before and after the disaster.

Determining overall role

Once again, it is essential at this point to consider the larger role the recovery organization is to play. If the recovery organization’s role is to support the efforts of local governments, then the strategies and actions will define how the support will be provided. If the role of the recovery organization is to directly assist the affected population, then the strategies and actions will define the projects and services and describe how they will be implemented. It may be the case that the organization takes on some combination of both roles. For example, a national government may primarily provide support to local recovery leaders. However, if the national government is responsible for certain public infrastructure, such as the electrical grid, it may also directly implement plans to repair or replace damaged power lines.

Identifying recovery stages

In general, strategies and actions can be categorized as pre or post disaster. Yet many governments have defined more specific phases of recovery such as early and long term recovery or reconstruction, rehabilitation and recovery. If recovery is divided into various stages, then it should be decided if specific strategies and actions will be defined for each of these stages.

Pre Disaster	Post Disaster	
Recovery preparation	Recovery	
Recovery preparation	Early Recovery	Long term Recovery

Developing recovery strategies

If the team divided into sub-groups to identify recovery issues, then it may want to do the same to identify recovery strategies. Whether working as a whole group or a sub group, it may be easiest to begin by considering the recovery strategies for the post disaster period. This will allow the group to work forward – more typical of planning

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processes. In doing so many of the pre disaster strategies will emerge. To help facilitate their emergence, the planning team should ask two questions concerning each of the post disaster strategy identified:

- Can this be accomplished before the disaster?
- What can be done before the disaster to facilitate the post disaster strategy?

For example, one issue identified might be the extended disruption of schooling. One post disaster strategy may be to ensure school services are restored within a one month period. While this strategy can only be accomplished after a disaster, several things can be done to facilitate the achievement of this strategy before the disaster. Arrangements may be made between neighboring schools to absorb the affected student population. Transitional facilities in which to conduct schooling can be identified and agreements made to secure them. Contingency arrangements with school administrators and teachers can be defined to ensure the necessary human resources and pre-contractual agreements can be made with local businesses to provide teaching and learning materials.

Box. 14 Sample education-related issue and strategies

<i>Issue</i>	The extended disruption of schooling
<i>Post disaster recovery strategy</i>	To ensure school services are restored within a one month period
<i>Pre disaster recovery strategies or actions</i>	Make arrangements between neighboring schools to absorb the affected student population
	Identify transitional facilities and make agreements to secure them
	Develop contingency plans to maintain and support school administrators and teachers
	Make pre-contractual agreements with local businesses to provide teaching and learning materials

Accompanying each strategy should be the entity responsible for its coordination and accomplishment, potential sources of funding, any resources needed, and an estimated timeline. More precise estimates on the resources and time needed to implement the strategy can be defined once the actions have been defined. The Partnership for Disaster Resilience recommends using the form below to fully identify each recovery strategy.

NOTE: The International Labour Organization (ILO) has developed a detailed guide on PDRP for livelihoods, covering issues of employment and income. Available at www.recoveryplatform.org

Box. 15 Sample form for developing a strong strategy

<i>Proposed Recovery Strategy:</i>	States the strategy.
<i>Theme Addressed:</i>	Indicates which key areas the strategy addresses (e.g. health, economy, housing).
<i>Rationale:</i>	Describes the critical issues that the strategy will address.
<i>Ideas for Implementation:</i>	Describes how the strategy will be implemented locally.
<i>Coordinating Organization:</i>	Identifies the group that is willing and able to organize resources, find appropriate funding, and oversee implementation, monitoring, and evaluation.
<i>Supporting Partners:</i>	Identifies groups that may be able to assist in the implementation of strategies by providing relevant resources to the coordinating organization
<i>Resources:</i>	Identifies the resources need to implement the strategy. This should include sources of funding.
<i>Timeline:</i>	Identifies when the strategies should be implemented, and if the strategy is either pre- or post-disaster.

Source: Post disaster Recovery Planning Forum: How-to Guide, Retrieved from <http://csc.uoregon.edu/opdr/recovery/resources>

Creating action plans

The coordinating organization and partners identified for each strategy should meet to determine how the strategy will be operationalized. The type of actions to be taken will depend on the strategy. An action might be the creation of a policy, an application for funding, the development of a program, or the establishment of a partnership. It may be the case that before a specific action can be specified, further assessment will be required. If so, the required assessment should be defined as an action. For pre disaster strategies, “The development of a series of specific and implementable ... actions provides a way for the [plan] to address the issues step-by-step over a period of time since not all of the issues can be solved in one planning initiative”(Florida Department of Community Affairs, 2010). This incremental approach should enable the planning team to complete the initial plan within a reasonable period of time, and allow implementers to begin taking action.

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Box. 16 Sample strategy and actions from the Los Angeles Recovery and Reconstruction Plan

Following is an excerpt from the city of Los Angeles Recovery and Reconstruction Plan. Presented are one strategy (policy) and its corresponding actions with respect to Traffic Mitigation, a key area of intervention. Notice how actions are divided into 'pre-event' and 'post-event short-term'. Other strategies in the plan also include 'post-event long-term' actions. Also note that following each action is the list of responsible entities (the lead agency is marked with an asterisk).

I. TRAFFIC MITIGATION

POLICY STATEMENT NO. I.1 - EMERGENCY TRANSPORTATION NETWORK

It is the city's policy that during the recovery and reconstruction phase of a major disaster, an emergency transportation network be implemented that would maintain public health and safety and aid in the economic recovery of the city

ACTION (IMPLEMENTATION) PROGRAMS

Pre-event

I.1.1 Identify and develop a priority list of those essential primary streets which provide access to key emergency facilities, such as hospitals, fire and police stations, and major utility buildings and structures that would be critical in maintaining public health and safety. (*Transportation, Fire, Police, Public Works)

I.1.2. Identify those streets or routes that would be significant in aiding the economic recovery of the City. These streets could include those that provide access to major transportation transfer facilities such as the Los Angeles Harbor and the Los Angeles International Airport, and those that connect the region to other areas of the state. (*Transportation, Airports, Harbor)

Post-event Short-term

I.1.3. Identify those streets that have been closed due to a major disaster. (*Transportation)

I.1.4. Implement the priority opening list for those essential primary streets that have been closed. (*Transportation)

I.1.5. Implement detour routes as required to quickly regain any lost roadway capacity. (*Transportation)

Source: City of Los Angeles Emergency Operations Organization Recovery and Reconstruction Plan

To prevent the plan from remaining simply a document, the teams should assign responsibility for each action to one or more entities, create deadlines for completion of pre-disaster actions, and specify the resources required and the means to obtain them.

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Within the Los Angeles Recovery and Reconstruction Plan, the Emergency Operations Organization not only grouped the actions by strategy and function (see box 16), but additionally grouped them by each agency or partner involved. This provided a clear and detailed checklist of responsibilities for each agency.

Some key considerations

The recovery issues, as well as the strategies and actions to address the issues, will be highly contextual. To address them in any useful way is well beyond the scope of this document. However, a growing collection of recovery documentation is publically available; much of which can be found in IRP's database at www.recoveryplatform.org

NOTE: Since 2005, the IRP has been collecting case studies and analyses of recovery issues and initiatives from around the world. Their series, Guidance Notes on Recovery, presents evidence-based issues and approaches (with analysis) for eleven common sectors of recovery.

Nevertheless, certain operational issues are common and thus deserve, at least, a brief note. This is by no means a complete list of issues or an exhaustive discussion of each issue. But hopefully it will illustrate the importance of operational recovery issues and generate additional issues for inclusion in the plan.

Capacity

One of the greater challenges to effectively coordinating and maintaining leadership of recovery initiatives is to understand the capacity at hand and the capacity gaps. In the wake of Hurricane Mitch, the government of Honduras, ill prepared to take on a large scale recovery program, adapted an "all assistance is welcome" approach. This resulted in the arrival of a wave of NGOs, many of which had little or no experience in recovery, the sectors they were working in, and/or the Latin America region. With no understanding of the capacity at hand, the government quickly became a passive actor – at best only reacting to what was happening (Telford et al., 2004).

In defining recovery strategies and actions, the planning team should be sure to identify potential sources capable of carrying them out. If the needed capacity does not exist, then building that capacity can become a pre-disaster strategy. At a minimum, the gap should be clearly documented and potential external sources identified. This will allow recovery leaders to more effectively channel external assistance and maintain leadership.

Keep in mind that regular government functions may need to be sustained. Plan for surge capacity so as not to overwhelm those who may be balancing pre-existing workloads and attending to their own recovery needs.

Information management

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The 21st century has introduced new and innovative ways to provide critical information to those engaged in disaster relief and recovery. From combing satellite images to assess damages to using cell phone text messaging to manage microfinance savings and loans. Strong recovery coordination relies heavily on possessing and distributing the right information at the right time.

Information gathered for assessments are, or at least should be, the foundation for all recovery decision-making. Conducting assessments must take place post disaster. However, identifying appropriate assessment tools, building the capacity to use them, and collecting the necessary baseline data, are all pre disaster strategies and actions that will expedite and strengthen post disaster assessments.

Collecting and sharing information throughout the recovery process is equally important. Recovery initiatives and outcomes become untraceable without a sense of 'who is doing what where'. Wasted time and resources due to duplicated efforts are a common repercussion. Developing information management systems and mechanisms to ensure their use and prevent bottlenecks can be done prior to a disaster

Communication

Equal thought should be given to the means by which information is shared. Ensuring that the right amount and type of information is exchanged and accurately presented at each point of transfer will directly impact the effectiveness and efficiency of the recovery process. Pro-active and transparent communication, particularly with the public, will help ensure expectations are consensually defined and understood. Unclear or unattainable expectations result in frustration, loss of trust, and even conflict; all significant barriers to a strong recovery.

Developing a post disaster communication strategy prior to a disaster gives recovery planners adequate time to learn the communication needs of the public and identify appropriate mediums and mechanisms to ensure transparent and effective two-way communication.

NOTE: Pay special attention to typically underserved populations who have historically failed to benefit from recovery assistance due to irrelevant communication mediums

Resource mobilization

The difficulty mobilizing resources in the disaster aftermath can lead to major recovery delays. Over a year past the 2010 Haiti earthquake a large percentage of the Port-au-Prince population still inhabit tent camps across the city. One of major factors hindering the movement of people into transitional or permanent housing is the inability to mobilize the necessary heavy equipment to remove debris. Following the 2004 East Indian Tsunami, many recovery actors involved in housing

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reconstruction faced extended delays when local building materials were scarce. Compounded by poor inter agency coordination, housing reconstruction in many areas was seriously delayed (World Agroforestry Centre, 2008).

In most cases it will not be feasible to stock all the necessary resources needed to address these types of issues, Nevertheless, developing pre-disaster plans that make note of existing resources and identify gaps will, at a minimum, provide recovery decision-makers with clear directives when requesting external assistance. To further mitigate these delays, the PDRP team can identify non-traditional or external sources to fill the resource gaps and even arrange pre-disaster agreements. An excellent example of such an arrangement is the “twinning policy”, implemented following the 2008 Sichuan earthquake. Partnerships were developed between provinces such that a “twin” province would assist the disaster affected province with resources, personnel and moral support for recovery. In the case of Wenchuan province, the epicenter of the earthquake, teams of doctors, public health professionals and sanitation and disease control experts were immediately dispatched from its twin province, Guangdong. Additionally a reported 1–3% of the annual gross domestic product of twin provinces was pledged towards long-term recovery efforts in the affected areas for at least three years (Hoyer, 2009).

Mobilizing funding, even when large amounts of assistance have been pledged, can be equally challenging. The pre-disaster identification of funding sources at local, sub-national, national, and international levels is a useful strategy. Analyzing the various types of funding available (grants, loans, etc...), application requirements, and conditions will help governments to make informed decisions on appropriate external assistance. This may also help recovery leaders to secure funds more quickly and plan recovery activities to align more realistically with funding availability.

NOTE: Be sure to estimate disaster impacts on revenue sources and availability of public funds for recovery

Actions should include procedures for organizing a recovery budget. Elucidation of the principles for a Recovery Financial Plan, identifying methods to access funds for recovery, and their payback, would save time and effort during the actual recovery. Principles for tax incentives for businesses, increase of taxes, issue of bonds and other means may be determined in the PDRP.

Following the 2001 Mozambique floods, the government was able to quickly secure international funding and assistance, due to its familiarity with the appeals process, which it undergone a year before (Wiles et al., 2005).

Other pre-disaster strategies might include:

- Building partnerships with private sector, civil society, and academic

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institutions to leverage wider range of resources

- Creating model Memoranda of Understanding for post disaster partnerships

Streamlining processes

Initiating recovery programs in a timely manner can become quickly impeded by the various bureaucratic processes required to coordinate and monitor the flow of activities, money, information, and impacts. Yet their importance is often amplified during the more dynamic post disaster period. Typically, alternative streamlined processes are enacted to expedite recovery activities, yet most often these must be created and learned post disaster. During the recovery of Banda Aceh (after the 2004 East Indian tsunami), the Indonesian government, recognizing the area's environmental fragility, worked with the German organization, GTZ, to develop a streamlined environmental impact assessment. The existing assessment could take up to a year to complete and was stalling rebuilding efforts. However, the development of the new abbreviated assessment took two years and once it was completed, many inspectors refused to use it as they were unfamiliar with it. Finally the government enforced its use; however, critical time was already lost (GTZ, 2009).

Developing such tools and processes and providing the requisite training before a disaster are excellent pre disaster actions

Accountability

When large amounts of money and resources are moving quickly between myriad recovery actors, it is essential to have accountability frameworks in place to ensure that resources are being used as planned and that recovery actors are fulfilling their responsibilities. Both upwards and downwards accountability mechanisms should be considered. Downward accountability mechanisms can be particularly effective in measuring progress and impact, as they engage beneficiaries in assessing how well initiatives are meeting their recovery needs.

Essential to an effective accountability system is a clear understanding of roles, responsibilities, and standards of performance, as well as the possession of sufficient resources and authority.

Accountability mechanisms will also help sustain pre-disaster implementation. Without such mechanisms in place, more immediate needs can quickly draw attention and resources away for pre-disaster implementation.

Transition from relief and to development

Recovery planning and implementation will begin while relief efforts are underway. Poor coordination between relief and recovery actors can create significant obstacles to meeting short and long term recovery goals. The recovery plan should

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clearly outline:

- How post disaster recovery planning and implementation is to be activated;
- A series of benchmarks which clarify when relief services are withdrawn and recovery implementation begins (for a population or subset of the population); and
- An exit strategy, or when recovery activities phase out.

To establish more than arbitrary transition points, careful attention to integrating relief and development plans will be required throughout the PDRP process.

2.6. ASSESSING AND MAINTAINING THE PLAN

As PDRP is a cyclical, evolving process that requires regular assessment, it is important to ensure that the planning process becomes more than a one-off event. In most all of the documented cases of pre disaster planning, mechanisms to exercise and review/update the plan have been put in place.

EXERCISE THE PLAN

While many implementation challenges may have been identified in the planning process, conducting an exercise of the recovery plan will expose gaps, overlaps, and potential conflicts in the plan. Exercising the plan also serves to familiarize individuals and groups with their post disaster recovery responsibilities.

Using the disaster scenarios, the relevant entities can step through a simulated recovery in which each attempts to fulfill its roles. The participation of entities responsible for disaster relief efforts will strengthen the transition between disaster phases, and the inclusion of recovery actors from national, sub-national, and local levels will help to better integrate their respective plans. In Manatee County, Florida (USA), the planning team scheduled their recovery exercise to coincide with the customary response exercise (Manatee County Government, 2009).

As the affected populations are key stakeholders in recovery, special attention should be given to their role in exercising the plan. Box 17 describes how the city of Tokyo has encouraged public involvement in exercising their recovery plan.

Box. 17 Tokyo pre disaster recovery exercises

The Tokyo Metropolitan Government's pre disaster recovery plan consists of three documents: the grand design, a recovery manual for officers (outlining municipal responsibilities), and a recovery manual for citizens. To test their recovery plan and familiarize citizens with their recovery roles and responsibilities, the TMG conducted a unique exercise to help place the planning participants in the disaster scenario. With a worst-case earthquake scenario in mind, participants were brought to a

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selected area of the city and briefed on hazard characteristics and known vulnerabilities.

While walking through the city, they were first asked to observe the infrastructure around them and describe their predicted damages and the ensuing recovery issues. In a worst-case scenario earthquake, many of the houses would be destroyed and one short term recovery issue would be to identify where temporary shelters could be erected to house people. Reflecting on the issue of transitional shelter, participants were next asked to identify vacant lots which could be used to shelter people temporarily. To enhance the experience, the TMG rented a school gymnasium in the area, set it up as a shelter and had the participants spend the night there on cots as if they had evacuated their own homes. Finally, participants were asked to define how they would like to redevelop the city and present it to the planning team.

Source: Presentation by the Tokyo Metropolitan Government at the IRP Forum, 2011.

Recovery job training, conducted beforehand, will facilitate the exercise and provide participants with a framework to assess the plan's effectiveness. Documented outcomes and lessons learned following the exercise should be used to update the plan. To maintain implementation capacity, it is recommended that the plan be exercised regularly.

NOTE: Involve the development planners in the simulation. As a consequence, they will have better understanding, once they see the PDRP in action.

REVIEW AND UPDATE THE PLAN

As pre disaster implementation progresses, new information and changes in responsibility, capacity, resources and policy will warrant a review and update of the plan.

Recovery plan reviews should focus on the following steps:

- Measuring and documenting progress;
- Identifying and integrating new stakeholder groups;
- Modifying roles and responsibilities;
- Adding new strategies and actions; and
- Adjusting timeframes (Florida Department of Community Affairs, 2010)..

It is recommended that reviews should occur whenever the plan is exercised and at least on an annual basis.

Updating the plan is a more involved process which should include the following steps:

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- Updating hazard and vulnerability information;
- Incorporating current knowledge on relevant aspects of disaster recovery;
- Reviewing integration of recovery plan with disaster management and development plans;
- Revising goals, principles, and issues where necessary;
- Reprioritize issues, strategies, and actions;
- Identify future funding sources; and
- Document any changes to the planning process (Florida Department of Community Affairs, 2010).

Updates should be planned regularly. A suggested schedule is once every 3 to 5 years, however where support for recovery planning is less assured more frequent updates will be needed.

NOTE: Scheduling plan reviews and updates to take place prior to development planning reviews and updates will prepare the planning team to make useful recommendations and advocate for further support.

3. Conclusion

Improving disaster recovery is a learning process. Disasters happen and people work against seemingly impossible challenges, individually and collectively, to recover. Lessons are learned and when effectively channeled into preparation for future disasters, recovery capacity and outcomes improve. Those few governments which have engaged in post disaster recovery planning, have all experienced severe and frequent disasters and recognized the value of preparing for recovery in the less demanding period of time before a disaster occurs - A time when active involvement of the public can be facilitated; a time when significant attention can be given to identifying or developing relevant approaches, tools, strategies, and capacities; and a time when information and resources crucial to strong decision-making can be collected.

These governments are equally aware of the opportunities presented after a disaster – the opportunity to progress towards an improved future; the opportunity to build a safer more resilient lifestyle; and the opportunity to reduce the significant development setbacks brought on by disasters and ill-prepared recovery efforts.

There exists an old adage, ‘failing to plan is planning to fail’. Pre disaster recovery planning offers the opportunity to begin planning, to be pro-active, rather than reactive. Its scalability allows small communities or entire nations to begin improving future recovery outcomes and its incremental approach permits even those governments with the most limited budgets to get started. The key ingredients are commitment and a willingness to learn.

IRP looks forward to documenting more cases of PDRP and welcomes governments who have begun their own pre planning process to share their experiences and lessons learned with the global community of individuals and entities working to improve disaster recovery.

ANNEXES

Annex 1: Source for further learning

Pre disaster recovery planning

- Pre-Disaster Restoration Measure of Preparedness for Post-Disaster Restoration in Tokyo
<http://www.fujiipress.jp/finder/xslt.php?mode=present&inputfile=DSSTR000300060005.xml>
- Post Disaster Redevelopment Planning, Florida Department of Community Affairs
<http://www.dca.state.fl.us/fdcp/dcp/PDRP/index.cfm>
- Natural Disaster Recovery Planning, Roger Brewster
<http://www.commonwealth-planners.org/papers/recovery.pdf>
- National Disaster Recovery Framework, US Long Term Disaster Recovery Working Group
<http://disasterrecoveryworkinggroup.gov/>
- City of Los Angeles Recovery and Reconstruction Plan
http://emergency.lacity.org/stellent/groups/departments/@emd_contributor/documents/contributor_web_content/lacityp_013209.pdf
- International Recovery Platform Forum 2011 on Pre Disaster Recovery Planning
http://www.recoveryplatform.org/outfile.php?id=553&href=http://www.recoveryplatform.org/assets/meetings_trainings/irf2011/Forum%20Concept%20Note_Nov19%20v2.doc
- Post-Disaster Recovery Planning Forum: How-to Guide, Partnership for Disaster Resilience
<http://csc.uoregon.edu/opdr/recovery/resources>
 - [International Labour Organization / Crisis Pre-disaster Recovery Planning Guide \(for Employment and Income \(2010\)\)](#)
www.recoveryplatform.org

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Disaster Recovery Information Stores

- International Recovery Platform
<http://www.recoveryplatform.org>
- Global Facility for Disaster Reduction and Recovery
<http://www.gfdrr.org/gfdrr/node/57>
- ASEAN
<http://www.aseansec.org/20440.htm>
- United Nations Bureau of Crisis Prevention and Recovery
http://www.undp.org/cpr/whats_new/publications.shtml
- Provention Consortium
<http://www.proventionconsortium.org/?pageid=37&publicationid=27>
- Shelter Centre
<http://sheltercentre.org/library>
- PreventionWeb
<http://www.preventionweb.net/english/professional/publications/?pid:6&pih:2>

Hazard, Vulnerability, Capacity, and Risk Assessment

- Hazard, Risk and Vulnerability Analysis Tool Kit, Emergency management - British Columbia

<http://www.pep.bc.ca/hrva/toolkit.pdf>

- NOAA Roadmap for Adapting to Coastal Risk

<http://www.csc.noaa.gov/digitalcoast/training/roadmap/index.html>

- FEMA tools

<http://www.fema.gov/plan/determine.shtml>

and

https://hazards.fema.gov/femaportal/wps/portal!/ut/p/c5/04_SB8K8xLLM9MSSzPy8xBz9CP0os3gDCyNfM_OAYHcnA3cPH19vQ09DAwjQDwfPQKhwtjBwNnI3cDI1NoCpgMjjAI4G-n4e-bmp-gXZ2WmOjoqKAAjsQyY!/dl3/d3/L2dJQSEvUUt3QS9ZQnZ3LzZfMDgyTTY3UFNHQjBHSExNS1RFMTAwMDAwMDA!/

- FEMA Flood Hazard Mapping Resources

http://www.fema.gov/plan/prevent/fhm/frm_docs.shtml

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- Flood Hazard Assessment for the Construction of Flood Hazard Map and Land Development Priority Map Using NOAA/AVHRR Data and GIS - A Case Study in Bangladesh, by Md. Monirul Islam & Kimiteru Sado
http://www.gisdevelopment.net/application/natural_hazards/floods/floods002pf.htm
- Hazard Mapping and Vulnerability Assessment, by Toshiaki Udono and Awadh Kishor Sah
<http://unpan1.un.org/intradoc/groups/public/documents/APCITY/UNPAN009857.pdf>
- Global Risk Identification Program (GRIP)
<http://www.gripweb.org/grip.php?ido=1&lang=eng>
- Global Risk Data Platform
http://www.grid.unep.ch/activities/earlywarning/preview/data/data_sources/index_data_sources.php
- Dartmouth Flood Observatory –World Atlas of Flood Hazard
<http://www.dartmouth.edu/~floods/Atlas.html>
- Pacific Data Center Asia Pacific Natural Hazards Information Network
<http://www.pdc.org/mde/>
- Pacific Data Center Hazard Mapping Tools
<http://www.pdc.org/iweb/products.jsp>
- Natural Disasters Data Book (2006)
http://www.adrc.asia/publications/databook/DB2006_e.html

Annex 2: A local recovery organizational structure

Monroe County, FL (USA) developed the following recovery implementation structure for its pre disaster recovery plan. The diagram below presents the various government entities responsible for recovery planning and implementation and the different recovery functions which they lead.



Source: Post-Disaster Redevelopment Planning: A guide for Florida Communities, Retrieved from: <http://www.dca.state.fl.us/fdcp/dcp/pdpr/>

Annex 3: Example from City of Los Angeles PEPPER (Pre-Earthquake Planning for Post- Earthquake Rebuilding)

Sectors covered under PEPPER:

- 1 - Organization and Authority
- 2 - Residential, Commercial and Industrial Rehabilitation
- 3 - Public Sector Services
- 4 - Economic Recovery
- 5 - Land Use/Re-use
- 6 - Psychological Rehabilitation
- 7 - Vital Records
- 8 - Inter-Jurisdictional Issues
- 9 - Traffic Mitigation
- 10 - Public Information Plans

The structure of the Plan is reflected in Chapter IV, which provides both policies and the implementation actions needed to carry them out.

Under each policy, actions are organized into three separate planning/action phase categories, depending upon their phase:

- pre-event
- post-event short-term
- post-event long-term

The heart of the Plan, however, is Chapter V which **ranks the implementing actions in priority** order for each department by planning phase. This chapter will become the **source of operational guidance to user departments** both before and after a catastrophic disaster.

CHAPTER III

RECOVERY AND RECONSTRUCTION POLICY

This Section provides a summary of Plan policies related to recovery and reconstruction.

E. ORGANIZATION AND AUTHORITY

IT IS THE CITY'S POLICY:

E-1 THAT TO THE EXTENT POSSIBLE, THE CITY SHALL ACCOMPLISH DISASTER RECOVERY AND RECONSTRUCTION THROUGH THE EXISTING CITY ORGANIZATION STRUCTURE WHICH MAY BE MODIFIED TO ADDRESS RECOVERY AND RECONSTRUCTION CONCERNS.

E-2 THAT A RECOVERY AND RECONSTRUCTION DIVISION BE CREATED AS A MULTIAGENCY DIVISION OF THE EMERGENCY OPERATIONS ORGANIZATION.

E-3 THAT FOLLOWING ANY MAJOR DISASTER, EVERY EFFORT BE MADE TO RESTORE NORMAL OPERATING AND DECISION-MAKING PROCESSES AS QUICKLY AS POSSIBLE, AND THAT, TO THE EXTENT POSSIBLE, RECOVERY AND RECONSTRUCTION OBJECTIVES BE ACCOMPLISHED THROUGH STANDARD OPERATING PROCEDURES.

E-4 THAT LEGISLATIVE POLICY PRIORITIES BE ESTABLISHED AND MAINTAINED ADDRESSING RECOVERY AND RECONSTRUCTION FROM A MAJOR DISASTER

E-5 TO IDENTIFY AND INTEGRATE THE ACTIONS OF THIS PLAN WITH THOSE OF THE PREDICTION RESPONSE PLAN AND THE EMERGENCY OPERATIONS MASTER PLAN AND PROCEDURES THROUGH A FIVE-YEAR IMPLEMENTATION PROGRAM

OVERSEEN BY THE EOO AND COORDINATED BY THE CAO THROUGH THE ANNUAL BUDGET PROCESS.

CHAPTER IV

POLICIES AND ACTIONS

This Section contains Plan policies and actions necessary to carry them out. The Department involved in each action statement are noted in abbreviated form in parentheses after each action statement. The lead agency is noted with an asterisk.

E. ORGANIZATION AND AUTHORITY

POLICY STATEMENT NO. E.1 - EMERGENCY OPERATIONS ORGANIZATION

IT IS THE CITY'S POLICY THAT TO THE EXTENT POSSIBLE, THE CITY SHALL

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ACCOMPLISH DISASTER RECOVERY AND RECONSTRUCTION THROUGH THE EXISTING CITY EMERGENCY OPERATIONS ORGANIZATION STRUCTURE WHICH MAY BE MODIFIED TO ADDRESS RECOVERY AND RECONSTRUCTION CONCERNS.

ACTION (IMPLEMENTATION) PROGRAMS

Pre-event

E.1.1. Prepare implementation procedures, forms, and training; keep an updated list of members of the Division. (*City Plan, CRA)

POLICY STATEMENT NO. E.2 - RECOVERY AND RECONSTRUCTION DIVISION

IT IS THE CITY'S POLICY THAT A RECOVERY AND RECONSTRUCTION DIVISION BE CREATED AS A MULTI-AGENCY DIVISION OF THE EMERGENCY OPERATIONS ORGANIZATION.

ACTION (IMPLEMENTATION) PROGRAMS

Pre-event

E.2.1. Coordinate the development of recommendations for City Policy involving multiple agencies on Recovery and Reconstruction issues. (*City Plan, CRA)

E.2.2. Coordinate the revisions, involving multiple agencies, of the Recovery and Reconstruction Plan for the City. (*City Plan, All)

E.2.3. Coordinate the development of each Division of the Emergency Operations Organization's necessary operating procedures relating to Recovery and Reconstruction. (*City Plan, All)

E.2.4. Coordinate each Division of the Emergency Operations Organization's own implementation of the new adopted policies, plan legislation and operating procedures relating to post-emergency Recovery and Reconstruction. (*City Plan, All)

POLICY STATEMENT NO. E.3 - OPERATING PROCEDURES

IT IS THE CITY'S POLICY THAT FOLLOWING ANY MAJOR DISASTER, EVERY EFFORT BE MADE TO RESTORE NORMAL OPERATING AND DECISION-MAKING PROCESSES AS QUICKLY AS POSSIBLE, AND THAT, TO THE EXTENT POSSIBLE, RECOVERY AND RECONSTRUCTION OBJECTIVES BE ACCOMPLISHED THROUGH STANDARD OPERATING PROCEDURES.

ACTION (IMPLEMENTATION) PROGRAMS

Pre-event

E.3.1. Modify the Emergency Operations Master Plan and Procedures Manual as necessary in order to assure consistency. (*Police, CAO, Fire)

Post-event

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E.3.2. Where applicable, implement streamlined procedures immediately after a declared emergency and determine when standard operating procedures should be resumed. (*City Plan, *Bldg. & Sfty., All)

POLICY STATEMENT NO. E.4 - LEGISLATIVE PRIORITIES

IT IS THE CITY'S POLICY THAT LEGISLATIVE POLICY PRIORITIES BE ESTABLISHED AND MAINTAINED ADDRESSING RECOVERY AND RECONSTRUCTION FROM A MAJOR DISASTER.

ACTION (IMPLEMENTATION) PROGRAMS

Pre-event

E.4.1. Identify, prioritize, sponsor and support legislation needed to implement the Recovery and the Reconstruction Plan. (*CLA, All)

POLICY STATEMENT NO. E.5 - FIVE YEAR IMPLEMENTATION PROGRAM

IT IS THE CITY'S POLICY TO IDENTIFY AND INTEGRATE THE ACTIONS OF THIS PLAN WITH THOSE OF THE EARTHQUAKE PREDICTION RESPONSE PLAN AND THE EMERGENCY OPERATIONS MASTER PLAN AND PROCEDURES THROUGH A FIVE-YEAR IMPLEMENTATION PROGRAM OVERSEEN BY THE EOO AND COORDINATED BY THE CAO THROUGH THE ANNUAL BUDGET PROCESS.

ACTION (IMPLEMENTATION) PROGRAMS

Pre-event

E.5.1. Prepare for EOB, Mayoral and City Council approval Five-year EOO Work Program, (*CAO, All)

E.5.2. Annually review and revise the Five-year EOO program in coordination with annual EOO and the departmental budget submittals and periodic revisions of various Emergency Operations Organization plans. (*CAO, All)

CHAPTER V

ACTION PROGRAMS LISTED BY LEAD DEPARTMENT

This section lists the actions by responsibility of **lead department** and **supporting departments**. Maybe designated **Recovery Support Functions**.

OFFICE OF THE MAYOR

Pre-event

1. Develop a plan for a City "Office of Business Aid" that can be opened immediately after a

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major disaster which: (H.7.2.)

- a. Identifies who to contact in order to set up the business after the emergency period. (*Mayor, CLA) (See also C.2.2.)
 - b. Facilitates businesses in reopening by providing information regarding disaster assistance loans and grants, engineering, utilities, alternate work sites, permits, etc. (*Mayor)
 - c. If feasible, facilitates rehabilitation permit processes. (*Mayor, CRA, City Plan, B&S, Pub. Wks., Transportation, Water and Power)
 - d. Promote the development of business hot lines and assistance centers. (*Mayor) (H.4.6.) (H.7.4)
2. Develop liaison with other local governments and the media for public education programming immediately after a natural disaster. (*Mayor and Media Task Force) (D.3.4.) (H.12.5.)
 3. Develop a list of designated spokespersons in the various fields of expertise who would be utilized to prepare public information after a major disaster. (*Mayor, EOB) (B.5.2.)
 4. Maintain a liaison with trade associations of essential commercial services (food, pharmaceuticals, banks, etc.) to determine what it would take to set up temporary business locations. Perhaps develop an emergency planning task force within those organizations. (*Mayor, CLA) (C.2.1.) (H.7.1.)
 5. Develop a plan identifying who to contact in order to set up the temporary essential commercial service business locations after the emergency. (*Mayor, CLA) (C.2.2.)
 6. Continue to support and encourage the efforts of the business community in emergency preparedness and planning. (*Mayor, CAO, CLA) (H.5.1.)
 7. Coordinate with other governmental entities to develop a plan for coordinating the release of joint official statements as needed. (*Mayor, Media Task Force) (H.12.1.)
 8. Coordinate with other governmental entities to improve activation and use of the Emergency Broadcast System. (*Mayor, Media Task Force, CAO) (H.12.2.)
 9. Coordinate with the Los Angeles County Emergency Public Information Advisory Group to ensure appropriate languages are utilized in sending emergency messages to citizens. (*Mayor, Media Task Force) (H.12.3.)
 10. Investigate “hot line” or other capabilities for providing information to the public and/or press. (*Mayor, Media Task Force) (H.12.4.)
 11. Utilize the Office of Economic Development as the “Office of Business Aid” that can be opened immediately after a major disaster to facilitate rehabilitation

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permitting processes. (*Mayor) (C.2.6.)

12. Establish processes, procedures, and criteria to prioritize private sector recovery working with Federal and State agencies. (All, *Mayor) (C.4.1.) (H.6.1.)
13. Maintain processes and procedures to identify and assist businesses in applying for disaster assistance. (*Mayor) (C.4.4.)
14. Promote the implementation of the Action Programs in the Recovery and Reconstruction Plan (*Mayor, *City Plan., All) (D.8.1.)
15. Promote private sector emergency preparedness planning and business resumption planning. (CAO, CLA, *Mayor) (C.4.12.)
16. Encourage private lenders to develop a program that facilitates post-disaster loans to private industry and provide City assistance in obtaining such loans. (CDD, *Mayor) (See also C.4.11) (H.7.6.)
17. Initiate private sector participation in the development of a strategic plan to facilitate private redevelopment and reconstruction phases. (*Mayor, City Plan., CAO, CRA, CDD) (D.9.3.)

Post-event

1. Coordinate inter-jurisdictional and interagency requests for mutual aid through the Office of the Mayor consistent with Executive Directive No. 58. (*Mayor, All) (H.13.7.)
2. Assign and release public information announcements as appropriate. (*Mayor, EOB, All) (B.5.4.)
3. If necessary, form a long-term Reconstruction Task Force to prepare and coordinate the implementation of a post-event strategic recovery plan. (*Mayor, *City Plan., CAO, C. Atty., Bldg. & Sfty., Pub. Wks., Water & Power, CRA, Trans., HD, CDD, Fire) (D.8.2.)
4. Open "Office of Business Aid." (*Mayor, CRA, CDD) (H.7.2.) (C.2.8.) (H.7.8.)
5. Establish business hot line and assistance center. (CAO, CLA, CDD, *Mayor) (C.4.16.)
6. Implement procedures to obtain mutual aid assistance for services where mutual aid agreements do not exist. (*Mayor, EOB, All) (H.13.8.)
7. If feasible, facilitate mutual aid between private businesses. (*Mayor, CLA, CAO, (C.4.17.) (H.13.10)
8. If necessary, approve extraordinary expenditure requirements. (*Mayor, EOB) (C.1.25.)
9. If necessary, initiate fast-track repair permit ordinance. (*Mayor, City Plan., Bldg.

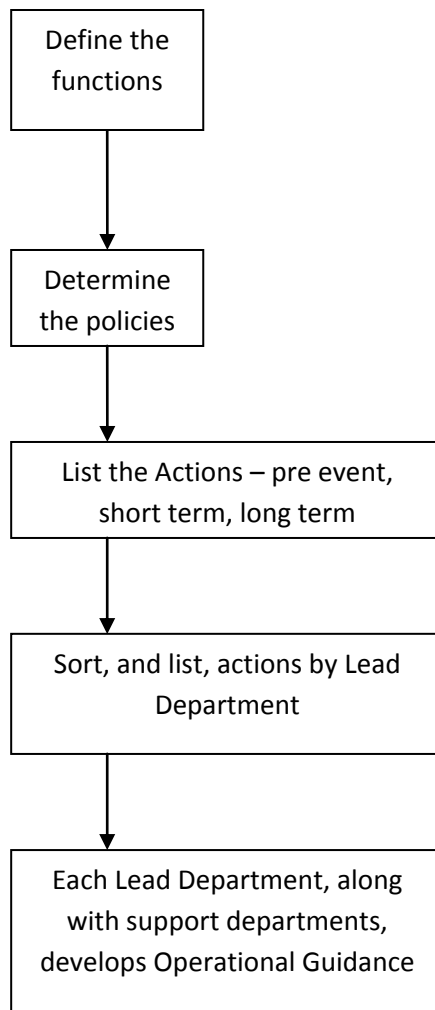
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& Sfty., Pub. Wks., Water & Power, CRA, Trans., Fire) (A.12.9.)

10.If necessary, approve sale or lease of surplus City property. (*Mayor, EOB) (C.1.20.)

Source: Recovery and Reconstruction Plan, City Of Los Angeles, Emergency Operations Organization, as approved by the Emergency Operations Board Sept. 19, 1994

Schema: Steps for Pre-Disaster Recovery Planning



Annex 4: Note on Recovery Support Functions (RSFs)

The **Recovery Support Functions (RSFs)** bring together departments and agencies – including those not active in emergency response – to collaborate and focus on recovery needs. By organizing long-term recovery into these RSF, relevant stakeholders and experts can effectively be brought together to identify and resolve recovery challenges.

Additionally, this organizational framework provides a model coordinating structure for stakeholders, such as local governments, businesses, and voluntary, faith-based and community organizations - to organize and request assistance and/or contribute resources and solutions. Together, these RSFs help facilitate local stakeholder participation and promote inter-governmental and public-private partnerships.

Each RSF has a designated coordinator and primary and support agencies pertinent to the functional area.

The **RSF coordinator** is the entity with management oversight for that particular RSF. The coordinator has ongoing responsibilities throughout the preparedness, response, and recovery phases to ensure ongoing communication and coordination between primary and support agencies and to coordinate efforts.

An **RSF primary agency** is a Federal or Local agency with significant authorities, roles, resources, or capabilities for a particular function.

Support agencies are those entities with specific capabilities or resources that support the primary agency in executing the mission of the RSF.

Source: National Disaster Recovery Framework Draft February 5, 2010 United States

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