HAND BOOK

FOR DISASTER RECOVERY PRACTITIONERS

Tsunami Global Lessons Learned Project

DISASTER RECOVERY TOOLKIT

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1) Handbook for Disaster Recovery Practitioners
2) Training Manual – Learning Workshop on Recovery and Reconstruction
3) Guidance on Critical Facilities
4) Guidance on Housing
5) Guidance on Land Use Planning
6) Guidance on Livelihood

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FOREWORD

Ten years have passed since the Indian Ocean Earthquake and Tsunami of December 2004. The consequences of this disaster have continued to unfold in the minds of individuals, the collective lives of affected families and communities, and within the framework of nations and the region as a whole. Indeed, the memory of this great tragedy is imprinted on the global mind. The loved ones of the more than 228, 000 people who perished look back on this disaster every day. For the rest of us, the 10th anniversary provides an opportunity to reflect on the memory of these departed souls, and to think of those who were left behind in devastated families, communities and environments.

There is certainly no one-size-fits-all solution to preventing disasters or to recovering from them; each is unique, in terms of its physical and emotional impact. But there is a critical role for preparedness. The recovery of the affected areas in the months and years since the event itself is an affirmation of human resilience and creativity in building solutions- and finding ways out- of the most challenging situations. It is out of respect to those who perished or suffered that we should take what lessons we can from such experiences, and use them to design better strategies for disaster response and recovery in the future.

As well as response, there is prevention. The earthquake and tsunami of December 2004 reminded us of a necessary humility in understanding the impact of our actions vis-à-vis nature. But we are not helpless: vulnerability is a socio-economic condition as well as an

objective fact. We can work to address the enabling causes of disasters to improve the long-term safety of people living in vulnerable areas. With climate change proceeding apace, the notion of environmental vulnerability is becoming increasingly broad and hard to pinpoint: everybody is vulnerable, and because of this, our incentive to learn from what came before should be heightened.

The Tsunami Global Lessons Learned Project (TGLLP) was created with a view to gathering, learning and sharing from experiences of the 2004 earthquake and tsunami, and other disasters in the region that occurred between 1993 and 2013. The project sought to deliver three principle outcomes: a global lessons learned study, a Discovery Channel documentary tracking the recovery, and a disaster recovery toolkit for recovery practitioners.

The first of these outcomes was a report entitled *The Tsunami Legacy: Innovations, Breakthroughs and Challenges*. This was officially released on 24 April 2009 at a ceremony at the United Nations Headquarters in New York, attended by UN Secretary General Ban Ki-Moon, former UN Special Envoy for Tsunami Recovery President Bill Clinton, UNDG Chair Helen Clark, ministerial delegations from the five-most tsunami-affected countries, officials from permanent missions of all UN member states, heads and representatives of UN agencies, funds and programmes, representatives from the IFRC as well as Red Cross and Red Crescent Societies, and major NGOs. The Tsunami Legacy examined the most pressing issues faced by each of the five countries that worked on the TGLL, which were the five countries most affected by the tsunami (India, Indonesia, Sri Lanka, the Maldives and Thailand). Breakthroughs in responses were highlighted, and opportunities for their institutionalization explored. A few months later, in December 2009, the second deliverable was launched: a documentary on lessons learned, produced independently and aired on the Discovery Channel. The documentary focused on the experiences of the beneficiaries of the tsunami recovery effort in the 5 years since the event.

At the launch of *the Tsunami Legacy* in 2009, an announcement was made regarding the development of a suite of handbook and guidance notes targeted specifically at recovery programme leaders and practitioners. The Disaster Recovery Toolkit forms the third deliverable, and it is this that has been developed by the Tsunami Global Lessons Learned Project Steering Committee (TGLLP-SC) in partnership with the Asian Disaster Preparedness Centre (ADPC). The 'Toolkit' is targeted at practitioners responsible for implementing recovery programmes, their objective to provide a 'how to' guide on development, implementing and managing complex post-disaster recovery programmes. Taking a ten-year overview of the recovery process, the Handbook covers the long-term management of post-disaster recovery and collects key recovery documents produced in tsunami affected countries.

The first component of the toolkit, comprising of a handbook and a training manual, is targeted at managers or practitioners responsible for implementing recovery programmes and would provide the 'how to' develop and manage complex post-disaster recovery programmes. The second component consists of technical guidelines for how to 'build back better'. These guidelines aim to close the gap where knowledge was lacking before, and build upon and refine the knowledge that already exists. The guidelines provide guidance on the process, content and technique to be adopted to implement sectoral programmes on livelihoods, land use planning, housing and critical facilities.

These reports complete the work of the TGLL Project. Each component is envisaged as valuable independently and as part of a whole product which comprises key mechanisms for drawing out the lessons learned from such tragedies with a view to improving responses in the future, and to build the resilience of environments and societies so that such tragedies do not have to be repeated.

The production of the Handbook, the Training Manual and the Technical Guidelines was made possible only through the invaluable time, effort and resources of several contributors. First of all, the Asian Disaster Preparedness Centre, who led the process of developing the toolkit. The ADPC was established in 1986 as a resource centre committed to reducing the impact of disasters upon communities and countries in the Asia Pacific region. The leadership, persistence and vision shown by the ADPC in its response to the 2004 earthquake and tsunami- and other regional disasters- provides a true model and foundation for how disaster response and recovery can be strengthened. The production of these reports- particularly their thorough grounding in the lived experiences of individuals, communities and nations- would not have been possible without financial support from the International Federation of Red Cross and Red Crescent Societies (IFRC), the United Nations Development Programme (UNDP) and the World Food Programme (WFP). Tsunami-affected countries have provided oversight and legitimation to the toolkit development process; without their input and approval, the toolkit would have fallen far short of what it aspires to be, which is a truly global effort to move on from a tragedy equally far-reaching in its impacts. Lastly, but by no means least importantly, thanks to all of the technical committee members, peer reviewers, and other individuals who provided input, comments and review to these reports.

- Steering Committee of The Tsunami Global Lessons Learned Project

CONTENT

ABBREVIATIONS

AADMER	ASEAN Agreement on Disaster Management and Emergency Response
ADRM	Aceh Disaster Risk Map
ARTF	Afghan Reconstruction Trust Fund
ASEAN	Association of Southeast Asian Nations
BMTPC	Building Materials Technology Promotion Council
BRR NAD-Nias	Badan Rehabilitasi dan Rekonstruksi NAD-Nias (Indonesia) *(Agency for the Rehabilitation and Reconstruction of Aceh and Nias)*
CBA	Community Based-Assessment / Communication-based Assessment
CBO	Community-based Organization
CCA	Climate Change Adaptation
CFAN	Coordination Forum for Aceh and Nias
CSO	Civil Society Organization
CZMA	CZM Authority
DAD	Development Assistance Database
DALA	Damage and Loss Assessment
DRMS	Disaster Risk Management Strategy
DRR	Disaster Risk Reduction
DRR-A	"Making Aceh Safer Through Disaster Risk Reduction in Development"
ECHO	European Commission for Humanitarian Aid and Civil Protection
EIA	Environmental Impact Assessment
ERRA	Earthquake Reconstruction & Rehabilitation Authority (Pakistan)
GFDRR	Global Facility for Disaster Reduction and Recovery
GIS	Geographic Information System
GoTN	Government of Tamil Nadu'
GPS	Global Positioning System
GSDMA	Gujarat State Disaster Management Authority (India)
HRNA	Human Recovery Needs Assessment
IASC	Inter-Agency Standing Committee
ICT	Information and Communication Technologies
IRP	International Recovery Platform
KPI	Key Performance Indicator
LIFT	Livelihoods and Food Security Trust Fund
MDF	Multi Donor Fund for Aceh and Nias
MDTF	Multi-Donor Trust Fund
M&E	Monitoring and Evaluation

MHJ	Ministry of Health
MoU	Memorandum of Understanding
MPTF	Multi-Partner Trust Fund
NCRC	NGO Coordination and Resource Centre (Nagapattinam, India)
NDRF	National Disaster Response Force (India)
NDRF	National Disaster Response Framework (USA)
NWFP	North-Western Frontier Province
OCHA	Office for the Coordination of Humanitarian Affairs
ODA	Official Development Assistance
OSD	Officer of Special Duty
OSDMA	Orissa State Disaster Mitigation Authority
PAK	Pakistan-Administered Kashmir
PDNA	Post Disaster Needs Assessments
PHC	Primary Health Centre (India)
PONJA	Post-Nargis Joint Assessment
PONREPP	Post-Nargis Recovery and Emergency Preparedness Plan
PR	Periodic Review
RADA	Reconstruction and Development Agency (Sri Lanka)
RAN	Recovery Aceh-Nias Database (Indonesia)
RIAS	Recovery Information and Accountability System
R&R	Recovery and Reconstruction
SAARC	SAARC South Asian Association of Regional Cooperation
SIFFS	South Indian Federation of Fishermen Societies
SIM	Social Impact Monitoring
SLF	SL framework or SLA framework (according to IFAD)
SNEHA	Social Need Education and Human Awareness
TCCC	The Coca-Cola Company
TCG	Tripartite Core Group
TGLL	Tsunami Global Lessons Learned
TGLLP	TGLL Project (UNDP publications never wrote TGLLP)
TGLLP-SC	TGLL Project Steering Committee
TRIAMS	Tsunami Recovery Impact Assessment and Monitoring System
UN ECHA	United Nations Executive Committee for Humanitarian Affairs
UNF	United Nations Foundation
UNISDR	United Nations International Strategy for Disaster Reduction
UNORC	United Nations Office of the Recovery Coordinator for Aceh and Nias
USD	United States Dollar
VTC	Volunteer Technology Community

KEY TERMS

The following concepts and terms are frequently used in the Handbook:

CAPACITY DEVELOPMENT The process by which people, organisations and society systematically stimulate and develop their capabilities over time to achieve social and economic goals, including through improvement of knowledge, skills, systems and institutions within a wider and culturally enabling environment.

DISASTER A serious disruption of the functions of a community or a society through widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources.

DISASTER RISK REDUCTION The concept and practice of reducing disaster risks through systematic efforts to analyse and manage the causal factors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and property, management of land and the environment, and improved preparedness for adverse events.

ENVIRONMENTAL IMPACT ASSESSMENT Process by which the environmental consequences of a proposed project or programme are evaluated, undertaken as an integral part of planning and decision-making processes, with a view to limiting or reducing the adverse impacts of the project or programme.

GENDER (MAINSTREAMING) Addressing gender implications of DRR policy and practice, raising awareness of gendered vulnerabilities of both men and women and promoting gender-sensitive approaches to DRR.

RECOVERY The restoration – and improvement where appropriate – of facilities, livelihoods and living conditions of disaster-affected communities, including efforts to reduce disaster risk factors.

RESILIENCE The ability of a system, community or society exposed to hazards to resist, absorb, accommodate and/or recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions

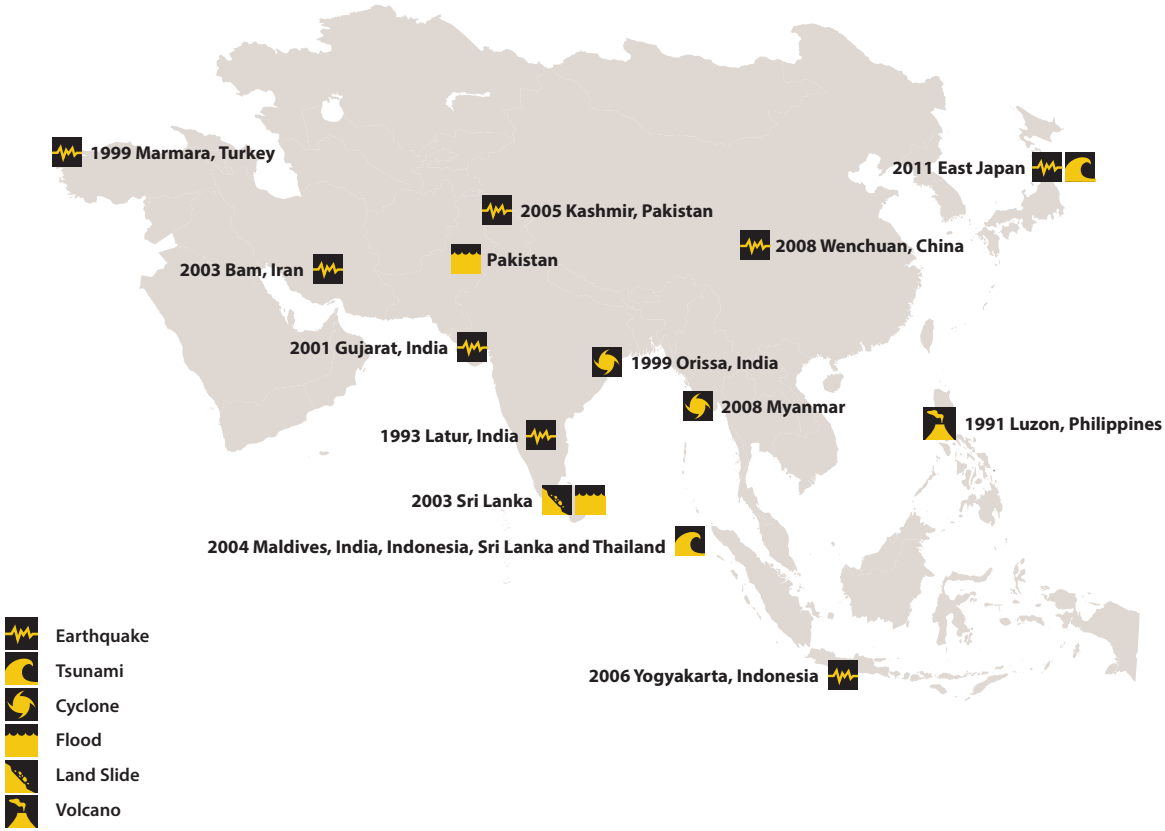
SUSTAINABLE DEVELOPMENT Development that meets the needs of the present without compromising the ability of future generations to meet their needs.

VULNERABILITY The characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard.

PROLOGUE

Each Recovery and Reconstruction (R&R) programme is considered unique and offers a plethora of learning for policy makers and practitioners engaged in post-disaster recovery. The *Handbook for Disaster Recovery Practitioners* has derived learnings and good practices in the form of 'key considerations' from large-scale R&R programmes undertaken in the aftermath of disasters from Asia and other regions.

The learning has been derived from large-scale R&R programmes implemented in the last two decades in Asia, from 1993 to 2008. The R&R programmes related to Pakistan Floods in 2010 and East Japan Earthquake & Tsunami 2011 has been unfolding at the time of development of the Handbook, hence limited learning from these programmes has been included in different chapters, including the Epilogue.



INTRODUCTION

Recovery and reconstruction (R&R) often simply referred to as 'recovery' is one of the key components of disaster management. It has been defined as "Restoration, and improvement where appropriate, of facilities, livelihoods, and living conditions of disaster-affected communities, including efforts to reduce disaster risk factors."[1]

Opinions differ with regards to the starting point of R&R, ranging from the day the disaster strikes to the period after emergency relief has been completed. According to UNISDR, "the recovery task of rehabilitation and reconstruction begins soon after the emergency phase has ended".[2]

It is important to consider recovery as a continuum rather than as a distinct phase of the disaster management cycle *(see Figure a)*.

Recovery usually begins in the early days of emergency relief efforts and continues downstream in form of development programmes, recovery continuum should be seen as stretching from pre-disaster planning, to relief and reconstruction, to development. It is important to ensure early on that government and international partners are commited to continue recovery efforts beyond the relief phase to ensure a sustainable pathway to disaster resilience and development. An anecdotal example from the Aceh-Nias recovery is provided *(see Figure b)*.

It is also important to consider R&R as an opportunity, since recovery programmes coupled with heightened public awareness and engagement after a disaster afford a valuable opportunity to develop and implement disaster risk reduction (DRR) measures and to apply the 'Build Back Better' principle.

DISASTER MANAGEMENT AND RECOVERY CONTINUUM

Figure a

Figure b

	RECOVERY CONTINUUM:	RECOVERY CONTINUUM: THE EXPERIENCE OF ACEH-NIAS
DISASTER RESPONSE	**0–10 Days** Rescuing Life and Property	**30 Days** ACEH, JAKARTA, NEW YORK, GENEVA
DISASTER RELIEF	**0–25 Days** Cash grants, food relief, restoring critical public services, temporary employment generation, emergency needs assessments	**90 Days** FOOD, WATER, MEDICAL CARE, ROOF, MOBILITY, EMPATHY, INFORMATION
DAMAGE AND LOSS ASSESSMENT	**14–45 Days** Baseline data, physical damage, economic losses, impact, needs, disaster risk management	**120 Days** MOBILISATION, DATA, ANALYSIS, PLANNING, CONFIRMATION, LEGITIMATION
RECOVERY AND RECONSTRUCTION	**20 Days to few Years** Cash grants, asset replacement, temporary employment generation, infrastructure and micro-finance projects, medium- and long-term planning	**4 to 5 Years** BENEFICIARY CONFIRMATION, PLAN CALIBRATION, ORGANIZATION, IMPLEMENTATION, MONITORING AND EVALUATION
RISK REDUCTION	**Continuous** Building codes, retrofitting, risk transfer mecha-nisms, risk assessments, land use planning, awareness raising, institutional development	DISASTER RISK, RECONSTRUCTION RISK, IMPACT RISK, ETC.
DEVELOPMENT	**from 20 Days** Local resource based infrastructure development, regular micro-finance projects, local baseline studies, counselling of local governments	SHIFTING STRATEGIES, APPROACH, ORGANIZATION, PROCESSES, HAND-OVERS

COMMON CHALLENGES IN R&R

R&R programmes face a range of challenges, including the identification of suitable agencies; developing policy and plans; addressing sector-specific issues and cross-cutting challenges; mobilising resources; reaching multiple stakeholders; monitoring and adjusting to meet end goals, and transitioning from R&R to development. These challenges are more prominent and complex in the case of large-scale R&R programmes.

In the aftermath of the 2004 Indian Ocean tsunami, most of the affected countries faced a similar set of challenges on a varied scale. Though there were no national frameworks in place to guide the process of sustainable recovery and reconstruction, the governments, with the support form partners, undertook large R&R programmes to achieve meaningful development and reform, employing evolving strategies and acting swiftly to address changing demands[3]. In the process, lessons were learned and best practices were identified for future use. In the words of the UN Secretary-General Kofi Annan, "It's not enough to pick up the pieces. We must draw on every lesson we can to avoid such catastrophes in the future."

NEED FOR THE HANDBOOK ON R&R

Each R&R programme is unique and context specific approaches have been taken to address challenges. For example, after the 2004 Indian Ocean tsunami, the R&R programme was managed through an existing institutional set-up in India, while in Indonesia, a new agency, the BRR, was set-up to manage R&R. In the case of the 2001 Gujarat, India earthquake, the Gujarat State Disaster Management Authority (GSDMA) was established. R&R for the 2006 Yogyakarta, Indonesia earthquake was managed through existing institutions.

The challenges faced during R&R have common elements, and thus past programmes offer valuable lessons for current and future R&R managers.

Based on the legacy and lessons learned from the 2004 Indian Ocean tsunami, as well as from recent large-scale disasters in Asia, this Handbook attempts to provide a set of options for what may work and what actions can be taken in response to a disaster of similar scale and type.

TARGET AUDIENCE

R&R involves a variety of stakeholders, including government, development partners and communities. These actors are involved in planning and implementation of R&R at various levels. The scale of programmes range from large to small, primarily influenced by the impact and scale the disaster, which in turn influences the engagement and role of different actors in R&R programmes.

This Handbook is primarily targeted at central-level government agents, engaged in response to large-scale disasters. Different policies and legal instruments unambiguously determine R&R efforts; consequently, governments of affected countries need to lead such processes.

At the same time, the Handbook also acts as a reference for practitioners supporting the government focal agency for R&R, and provides guidance on how to balance the need for urgent action with the principles of 'Build Back Better'.

APPROACH AND CONTENT OF THE HANDBOOK

This Handbook's underlying purpose is to foster a long-term vision towards sustainable development. The guiding principles and cross-cutting issues for R&R are articulated and applied to different elements of recovery, such as institutional set up, policy, planning and implementation, communication, monitoring and evaluation, and linkages of R&R efforts to long-term development.

While the considerations highlighted in this handbook are to guide actions in post-disaster recovery scenarios, it is recognised that broader, longer-term development issues impose the biggest constraints on the affected countries. Decision makers and practitioners involved in R&R need to address underlying problems, rather than symptoms exacerbated by disasters.

The aim of the handbook remains to offer guidance on how to "do it better in the future".[4]

SOURCES

1 **UNISDR,** *UNISDR Terminology on Disaster Risk Reduction*, Geneva, 2009; *United Nations International Strategy for Disaster Reduction*, 2009. Available at: http://www.unisdr.org/we/inform/publications/7817
2 **Ibid.**
3 **TGLL,** *The Tsunami Legacy – Innovation, Breakthroughs and Change. Tsunami Global Lessons Learned Project Steering Committee,* 2009. Available at: http://reliefweb.int/sites/reliefweb.int/files/resources/TGLLP_2009_TS_legacy.pdf
4 **Ibid.**

1

INSTITUTIONAL SET-UP

KEY CONSIDERATIONS

1 Government-led Institutional Set-up
2 Decentralised Approach for Delivery
3 Choosing the Best-suited Model for Delivery
4 Embracing Partnership
5 Adopting Evolutionary and Adaptive Structures
6 Choosing a Credible Leader
7 Establishing a Strong Team
8 A Mission-mode Approach for Delivery
9 Sufficient Political Leverage and Legal Basis
10 Flexibility in Decision-making and Functioning
11 Limitations of an Interim Focal Agency
12 The Principles of 'Build Back Better'
13 Pre-disaster Institutional set-up
14 Development Partners in Institutional Set-up

CHAPTER 1

In the aftermath of a large-scale disaster, decision makers are tasked with identifying and/or establishing institutional set-ups for undertaking sustainable R&R. Institutional set-ups are crucial for coordinating the overall programme and implementing some of the R&R activities. The decision makers must determine the extent of involvement of different levels of government, choose the appropriate model for institutional set-up, create the mandate of the focal agency, and select credible leaders to steer the process.

Based on experiences with institutional mechanisms established in affected countries after the 2004 Indian Ocean tsunami as well as experiences from other countries in the Asian region which have suffered large-scale disasters in recent years, this chapter provides guidance on key considerations for setting up effective institutional mechanism for R&R.

1 GOVERNMENT-LED INSTITUTIONAL SET-UP FOR R&R

The institutional set-up for coordinating and executing Recovery & Reconstruction requires leadership by the government.

The government has the primary responsibility of responding to disasters occurring within its territory and of leading the process of R&R. This responsibility is usually described in the national legislation on Disaster Risk Reduction (DRR). For example, the National Policy on Disaster Management, 2009, Government of India, states, "Reconstruction programmes will be within the confines and the qualitative specifications laid down by the Government".

Having the government in the driver's seat from the beginning will gain the trust of partners involved in supporting R&R by ensuring accountability and sustainability.

Global and regional instruments also articulate the leadership role of the state in a post-disaster situation. For example, Article 3 of the ASEAN Agreement on Disaster Management and Emergency Response (AADMER) states, "Affected party (member state) shall have the primary responsibility to respond to disasters occurring within its territory and external assistance or offers of assistance shall only be provided upon the request or with the consent of the affected party".

While R&R should be led by the government of the affected country, engagement of civil society and other partners in the R&R process is also important. The role of development partners becomes particularly crucial when and where the affected government has limited capacity to respond. The role of partners should be both to assist in and help building the capacity of the government to lead recovery efforts. For example, in the case of Haiti's recovery, the UN fund supported training programmes for 2,700 personnel in the country's civil service and placed national and international experts at the disposal of departments on the Haitian Government to assist in recovery and capacity building.[1]

2 DECENTRALISED APPROACH TO DELIVERY

The institutional set-up for R&R should be decentralised as much as possible, with a centralised agency responsible for the formulation of R&R policies, coordination with partners, mobilisation of resources, and monitoring of progress, and with local entities responsible for ground-level implementation.

The roles and responsibilities of the Badan Rehabilitasi dan Rekonstruksi (BRR), the Aceh-Nias R&R agency, included formulating operational strategies and policies, preparing work plans and budgets, coordinating between the central and local governments, and ensuring transparent financial management. Since the agency was also involved in execution at the local level, the responsibilities extended to rehabilitation, reconstruction activities and procurement.

Apart from coordination, the roles and responsibilities of the Gujarat State Disaster Management Authority (GSDMA) in the 2001 Gujarat, India earthquake recovery process included maintaining quality in implementation, establishing mechanisms for accountability and transparency in decision making, mobilising resources, managing and administering the Gujarat Earthquake R&R Fund, and sowing the seeds of disaster resilience by preparing and implementing disaster management plans at taluka (sub-district), district and state levels.

Effective decentralised delivery of R&R requires a focal agency with the appropriate legal mandate for R&R and the power to innovate and reform procedures of normal bureaucratic systems while remaining part of the government structure.

In Tamil Nadu, a state-level body for Relief and Rehabilitation was set up in the wake of the tsunami, but under the authority of the supervision the overall administrative support of the Commissioner of Revenue and Administration/Relief Commissioner, thus strengthening an existing structure by forming a new dedicated body under its control. The body had the statutory powers to issue official government orders.

If the government is not already decentralised, the disaster recovery period may not be the most appropriate time to decentralise authority (this should not prevent local officials from playing other key roles).[2] The capacity of the local government may have already been less than adequate, when affected by the disaster. However, considering the local government's role in development planning and potential contributions to long-term sustainable recovery and increased disaster resilience, empowering it through capacity building is crucial.

In Aceh and Nias, the BRR was tasked with the coordination and execution of post-tsunami R&R. The BRR embraced the goal of capacity building with regional government bodies that were professional, transparent, accountable, and met the standards of good governance.[3]

The R&R focal agency must have a presence in the disaster affected areas in order to remain connected with the ground realities of implementation. This presence and visibility also helps promote grassroots consultations and involvement.

BRR Headquarters were located in Banda Aceh, the provincial capital, and not in Jakarta, the national capital. Bringing the central government to the scene of R&R worked extremely well in Aceh. BRR adopted a regional management approach in 2006 and moved authority to six field offices across the province to move decision-making closer to affected communities.

After the Bam Earthquake in 2003 in Kerman Province, Iran, a Provincial Reconstruction Focal Point Branch was established in the Province, under the supervision of an intergovernmental steering committee. Similarly, in India, GSDMA adopted a decentralised approach by delegating authority to the district level, including line departments. Also, ERRA in Pakistan was represented either directly or through its affiliates in all affected areas to ensure that the Agency was able to plan and design projects that meet ground needs, support implementation and carry out effective monitoring.

3 CHOOSING THE BEST-SUITED MODEL FOR DELIVERY

With each R&R process being unique, different response models have been followed in Asian countries for the institutional set-up of R&R. The models can be broadly divided into the following three categories[4]: existing government institutions, recovery task force special commission, a new interim or permanent focal agency *(see table on right)*.

Each model has advantages and disadvantages. In a case where there are strong DRR (or disaster management) institutional mechanisms with prior experience in handling R&R in the administrative unit, activities can be coordinated and implemented through these existing government institutions. However, if the scale of the disaster exceeds capacities and set-ups, it is advisable to create a new, dedicated focal agency with a clear mandate and authority. In both cases, empowering the local authorities involved in ground implementation is crucial.

4 EMBRACING PARTNERSHIP

While government ownership of R&R is crucial to set vision and steer implementation, it is also important that the institutional set-up is prepared to embrace partnership with a wide range of development organisations, who will help in negotiating goals, modalities and conditions of collaboration. They are also key in initiating the post-disaster needs assessment.[9]

MODEL 1

EXISTING GOVERNMENT INSTITUTIONS:

In this model, R&R is coordinated by existing ministries and departments. This model has some inherent strengths, such as aligning with existing local governments, promoting local ownership, and ensuring the return of staff to routine work with enhanced capacity including on R&R.

EXAMPLE

The 2004 Indian Ocean tsunami recovery of Tamil Nadu, India, was coordinated and implemented by existing administrative arrangements and by devolving significant authority to local administrators[5]. Complete and unquestioned operational freedom and support was provided to the District Collectors within the broader framework of the State Government. Temporary but dedicated posts were created at district level to support the Collector.

KEY CONSIDERATIONS

The following aspects should be carefully considered before selecting this model:

- Past experience of the administrative unit in handling post-disaster recovery and/or existence of well-grounded systems for disaster management is necessary. Preliminary planning and well-practiced administrative and operational procedures is needed, such as additional capacity in government departments to cope with the surge in demands during recovery, which may stretch over a considerable time period.
- Capacity of local authority and line agencies to coordinate with partners, including familiarity with the policies and procedures of international development partners, needs to be already developed.

MODEL 2

RECOVERY TASK FORCE OR SPECIAL COMMISSION:

This model typically includes a task force with representatives from existing ministries or government agencies, led by a senior government official. The task force model can provide greater scope for participation by civil organizations, as task forces tend to be more flexible than permanent government structures. Also, in this model, staff return to parent organizations with enhanced capacity. This model is often developed first, but the scale and complexity of R&R can overwhelm the functionality of the model, and the task force or commission may evolve into a new organization.

EXAMPLES

To manage recovery after the 2003 Bam, Iran earthquake, a steering committee was formed to include the ministries of Housing and Urban Development, Finance, the Interior Judiciary, and of Islamic Culture and Guidance; as well as heads of the Management and Programming Organization, the Cultural Heritage and Tourism Organization, the Iranian Red Crescent Society, the Kerman Housing Foundation, the Kerman Governorship, and the Kerman provincial authorities. The committee was given significant autonomy and its decisions were at par with those of the President and Cabinet.

In the aftermath of the Latur, Maharashtra, India Earthquake of 2011, the Government of Maharashtra constituted a three-tier institutional framework to effectively implement this programme. The three tiers were at the state, district and village levels.

At state level, the Cabinet Sub-Committee under the chairmanship of the Chief Minister was formed to provide programme policy and guidance alongside a Central Implementation Group under the chairmanship of the Chief Secretary that was established for monitoring and facilitation.

At district level, a committee under the chairmanship of the District Minister was created for programme guidance and coordinated with a District Level Executive Committee under the chairmanship of the District Collector that was constituted to implement, monitor and coordinate various agencies. The Village Level Committee was constituted under the chairmanship of a person elected by the Committee for programme implementation, monitoring and coordination.[6]

The model was also used in the R&R programme following the 1991 Philippines volcanic eruption and in Sri Lanka after the 2004 Indian Ocean tsunami. In the cases of the Philippines and Sri Lanka, the taskforces established to respond to these disasters later became permanent organizations. So too, the National Development and Reform Commission of the Chinese Government took the initiative to plan for the 2008 Wenchuan, China earthquake R&R by establishing a drafting group of 40 ministries, provincial governments, and specialised state institutes for the preparation of the recovery plan.[7]

KEY CONSIDERATIONS

The following aspects should be carefully considered before selecting this model:

- Required expertise of line agencies to coordinate R&R
- The potential political authority, or lack thereof, of an impermanent task force

MODEL 3

A NEW INTERIM OR PERMANENT AGENCY:

In this model, an interim (with a defined time period) or a permanent dedicated agency is created to provide oversight, act as single point of coordination for partners, and, in some cases, be involved in direct implementation of R&R projects. In most cases, the agency is formed through law or decree. It is best placed at the apex of political power and authority but with strong representation from the implementing ministries. It typically has presence at the central or provincial level (where the disaster has taken place). As a central point of coordination, it brings in a single voice of command and communication as well as reduces the transaction costs. This model provides a unified approach to R&R efforts, and since the agency has dedicated R&R functions, it is able to act more effectively.

EXAMPLES

In the 2004 Indian Ocean tsunami recovery in Indonesia, the BRR was created by Law No. 10/2005 of the Government of Indonesia as an interim agency with a Presidential mandate to coordinate rehabilitation and reconstruction activities in Aceh and Nias over a fixed time frame from April 2005 to April 2009. In 2006, it also took up some of the implementation activities. The BRR initially established an office in Aceh and requested the UN to create a counterpart office, UNORC, as a way of coordinating international agency activities in line with the BRR's mandate and operation as well as international standards and norms, and principles of 'Build Back Better'. After a year, district level offices were opened to support implementation. Having the BRR as the nodal point of interaction 900 agencies involved in supporting recovery improved the delivery and minimised risks of overlap between sectors and organizations.

In Orissa, India, immediately after the Super-Cyclone in 1999, the Orissa State Disaster Mitigation Authority (OSDMA) was set up by the Government of Orissa as an autonomous organization. It was registered under the Societies Registration Act, 1860 as a non-profit making & charitable institution and had jurisdiction over the whole State.

In the case of the 2001 Gujarat earthquake, the GSMDA was set-up via Notification No. DMA-1003-1488-B and was mandated as a permanent body to coordinate R&R programmes. The district administration, headed by the District Collector, was responsible for the implementation of R&R. An advisory committee, headed by the in-charge Minister of the District, guided the district administration in programme implementation.

Similarly, after the 2005 Pakistan earthquake, ERRA was set up with a specific mandate to handle early R&R, and all other agencies channelled their efforts through ERRA. This approach was designed to ensure coordination and efficiency and allow the optimal use of resources, thereby resulting in an effective response[8].

KEY CONSIDERATIONS

The following aspects should be carefully considered before selecting this model:

- Availability of support from other ministries or departments.
- Strategies for increasing local ownership. In case of an interim agency, defining the exit strategy.

After the 2004 Indian Ocean tsunami, there were 148 registered donor agencies in Aceh and Nias from within and outside the country, channelling aid through 130 partner agencies. Besides international partners and NGOs, BRR also coordinated intensely with various relevant government agencies.

In Tamil Nadu, after the 2004 Indian Ocean Tsunami, the South Indian Federation of Fisherman Societies (SIFFS) and Social Need Education and Human Awareness (SNEHA) initiated the NGO Coordination and Resource Centre (NCRC) to improve coordination of local NGOs involved in R&R. (*see Chapter 4/7, page 109)*

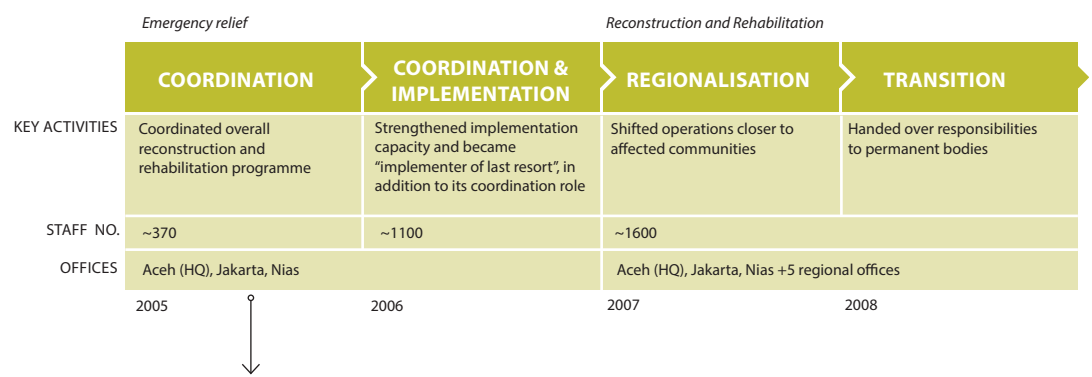
4/7

5 ADOPTING EVOLUTIONARY AND ADAPTIVE STRUCTURES

The structure of the institutional set-up should evolve alongside the R&R process, and it should be quick to adapt to the changing environment.

After the 2004 Indian Ocean tsunami, the Centre for National Operation in Sri Lanka initially responded to the tsunami impacts. It was later dissolved and replaced by the Task Force for Rebuilding the Nation, which was finally followed by the Reconstruction and Development Agency (RADA) for R&R. Similarly, the organisational structure of the BRR in Indonesia changed every 6 to 12 months, with revised mandates for its main roles.

ORG ANISATIONAL STRUCTURE OF BRR, INDONESIA



On August 15, 2005, in Helsinki, Finland, representatives of the Indonesian government and the Free Aceh Movement (Gerakan Aceh Merdeka, GAM) signed a Memorandum of Understanding (MoU) aiming to end the conflict in Aceh, Indonesia's westernmost province and the site of an armed insurgency that had operated at varying levels of intensity since 1976. The conflict ended just as the negotiating parties promised and peace has brought hope and possibilities for new life for the Acehnese. During the negotiations trust and confidence was gained, little by little.

The MoU mentions that the parties are deeply convinced that only the peaceful settlement of the conflict will enable the succesful rebuilding of Aceh after the tsunami disaster on 26 December 2004. It is essential to reiterate the intimate link that exists between reconstruction and the peace process: without security and political stability the continued rebuilding of the Acehnese society and economy would be very difficult *(see Chapter 2/6, page 48)*. *(Abstracts from the Helsinki MoU and Conflict Management Initiative website)*

2/6

(SOURCE: BRR. 10 Management Lessons for Host Governments Coordinating Post-disaster Reconstruction, 2009)

6 CHOOSING A CREDIBLE LEADER

The chaos of R&R, especially in the initial phase, requires reliance on formal as well as informal networks to effectively work with key decision-makers and development partners. In this regard, leadership plays a crucial role and defines the organisational culture of the newly established R&R agency. The government leader should be able to embrace partnerships, consult widely, mediate between competing interests of different stakeholders, explain the rationale for major decisions, understand local conditions and needs, guide achievement of set goals, and see the 'endgame' clearly.

The Indonesian government considered several candidates to lead the BRR before choosing Dr. Kuntoro Mangkusubroto, who had served as a minister, had been in academia, and had a wealth of public and private sector experience. He, in turn, selected highly qualified deputies from both the private and public sectors in Aceh and other provinces. The Government of Tamil Nadu, India included 'focused leadership at political/administrative levels along with constant monitoring' in its prioritised 10 strategies for comprehensive post-tsunami rehabilitation.

7 ESTABLISHING A STRONG TEAM

During R&R, human resources are scarce as demand for the best professionals is high. It is necessary to ensure that the staffing process attracts the most capable professionals, from both within and outside the government. Reconstruction necessarily takes place in confusing and often chaotic conditions and there is frequently a "poaching" of staff. When assembling an R&R team, it is necessary to ensure experts in DRR are included so that the process of speedy recovery does not neglect risk reduction principles or create new risks.

To put in place a dedicated, effective, and competent team, the BRR in Indonesia hired the best available staff from the public and private sectors, attracting them with competitive compensation. It accepted offers of technical assistance and professional secondments from other agencies to build its own knowledge and skill base. The BRR required that technical assistance staff report to the BRR rather than the parent agency, so that the staff's mind sets were oriented towards the best interests of the BRR's programme. Eventually the team at the BRR consisted of personnel from government institutions, the private sector, and international organisations.

8 A MISSION-MODE APPROACH FOR DELIVERY

A sense of urgency and flexibility among government agencies, donors, and NGOs must be institutionalised and sustained throughout the entire R&R period. The R&R agencies need to have a bias for action and for continually learning from and adjusting to mistakes and changed circumstances.

 In Pakistan, the ERRA was able to create special dispensations for accelerating procurement and recruitment. The key message was "to institutionalise urgency".

 Similarly, the BRR was established with a clear four-year mandate from April 2005 to April 2009. Setting the exit date was key in instilling the sense of urgency.

9 SUFFICIENT POLITICAL LEVERAGE AND LEGAL BASIS

Political leverage and legal authority are required to make key decisions for speedy implementation with medium to long-term implications. R&R being not business as usual, the agency requires special power and authority to execute huge tasks in a limited duration.

 The BRR was established through government regulation, ratified by law and at equal footing line with ministries. It also had special powers, such as authorisation of visa recommendation for members of international organizations on humanitarian missions.[10]

 After the 2003 Bam, Iran earthquake, the provincial inter-governmental Steering Committee was charged with establishing basic reconstruction policies and given significant autonomy. All decisions made by the Steering Committee had the same legal weight as those made by the President and the Cabinet.

 In case of GSDMA, the decisions taken by the Governing Body were treated at par with State Cabinet decisions to speed up the R&R activities.[11] For 2008 Cyclone Nargis Recovery in Myanmar, a Tripartite Core Group, comprising of the Government of Myanmar, ASEAN and the United Nations, facilitated various activities such as access, visas and the delivery of humanitarian aid.[12]

10 FLEXIBILITY IN DECISION-MAKING AND FUNCTIONING

R&R is not business-as-usual and hence government procedures that may be appropriate under normal circumstances need to be redesigned to take account of the urgency.

In Sri Lanka, the Reconstruction and Development Agency (RADA) was initially responsible for coordinating the overall R&R activities, but with time handed over sectoral responsibilities to relevant agencies, coordinating only housing and livelihood related programmes.

The BRR in Indonesia accelerated decision-making by organising weekly workshops for fast-track project approvals and established a dedicated treasury office at the Ministry of Finance to expedite fund disbursement.

The GSDMA in Gujarat, India was registered as a society under the Societies Registration Act, which gave it autonomy and flexibility to implement a highly complex reconstruction programme.

11 LIMITATIONS OF AN INTERIM FOCAL AGENCY

The exit strategy of the focal agency should be defined from the very beginning. The strategy can vary depending on available resources, political commitment, R&R policy, and disaster risk in the operating areas. (*see Chapter 6)*

6

12 THE PRINCIPLES OF 'BUILD BACK BETTER'

The vision of the institutional set-up should include principles of 'Build Back Better' and concepts of risk reduction, so that bias for speedy recovery, limited resources, and lack of DRR knowledge do not unwittingly create any new form of risk.

13 PRE-DISASTER INSTITUTIONAL SET-UP

The overall coordinating body for R&R should be identified in governmental policy instruments in the pre-disaster phase.

 In the case of Gujarat, India, the Disaster Management Policy identified the Gujarat State Disaster Management Authority (GSDMA) to oversee R&R work and to monitor reconstruction activities carried out by various implementation agencies.

 In the case of Sri Lanka, the National Council for Disaster Management will facilitate emergency response, recovery, relief, rehabilitation and reconstruction in the event of any disaster *(Sri Lanka Disaster Management Act, No. 13 of 2005).*

As part of the pre-disaster phase, a roster should be created of interested and capable institutions and individuals, including government officials, who can be mobilised in post-disaster R&R responses. Capacity building on R&R at the central as well as local levels, designed to undertake R&R, should be done at periodic intervals.

14 DEVELOPMENT PARTNERS IN INSTITUTIONAL SET-UP

UN agencies, the International Federation of the Red Cross and Red Crescent (IFRC) and other civil society partners bring technical expertise, reach vulnerable groups through existing networks, mobilise resources, and assist in coordination. The lead R&R agency should harness the expertise of the UN agencies, the Red Cross and other civil society partners for effective and efficient R&R.

The UN, IFRC and other civil society partners have their own coordination mechanisms (*details in Chapter 4*), of which the R&R agency should be aware.

4

In the case of Sri Lanka, the National Council on Disaster Management may, whenever it considers it necessary and appropriate, obtain the assistance of any non-governmental organisation *(Sri Lanka Disaster Management Act, No. 13 of 2005).*

Key Take-away Points

- Leadership of the government in R&R is paramount and nonnegotiable but civil society partners need to be inlcuded in the process.

- Institutional set-up at central and field level is required to coordinate R&R.

- A single agency should be designated as the focal point for coordinating R&R and empowered with decision making capacities.

- Having a visionary leader, supported by a competent team, is a key element for success of R&R programmes.

- Each R&R response is unique, hence breakthrough and innovation are important in setting up and operating institutions.

- In the pre-disaster phase, the agency in charge for overall R&R coordination should be identified and capacity should be built.

- Institutional set-up for R&R should be 'credible' and it should set up transparent systems to gain trust of all parties involved in R&R.

4/8 6/1 (*see Chapter 4/8, page 112 and Chapter 6/1, page 148)*

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SUZUKI
TRAVEL
SINAR

2

PLANNING AND IMPLEMENTATION

KEY CONSIDERATIONS

1 Post-disaster Needs Assessment
2 Formulating the R&R Policy
3 Formulating the R&R Plan
4 Selecting Beneficiaries Across sectors
5 Ensuring Evenness
6 Working in Conflict Situations
7 Environmental Considerations
8 Sector-specific Considerations
9 Capacity Building as an R&R Component
10 Climate Change Considerations
11 Pre-disaster Planning
12 Development Partners

CHAPTER 2

Planning and implementation of R&R programmes is challenging as it requires detailed preparation despite limited information available in the post-disaster situation. Implementation may require adjustments and mid-course corrections due to the dynamic nature of R&R. Hence, it is important to have a detailed as well as flexible R&R programme. Based on past lessons, this chapter provides key considerations for planning and implementation of the R&R programme.

1 POST-DISASTER NEEDS ASSESSMENT

Undertaking the post-disaster needs assessment is the first step towards articulating the R&R plan and guiding implementation. Undertaking the assessment helps to:

- Estimate the overall impact of the disaster at the personal and household level (such as impact on personal income, livelihood, etc.) as well as consequences of the disaster on the functioning of the overall economy of the affected area or country (such as the impact on performance of GDP, the balance of payments and the fiscal sector etc.).
- Define the short-, medium-, and long-term need (both public and private) for R&R and identify resources required for implementation. Prioritise the most affected sectors of the economy, geographical areas of the country, and population groups to be addressed
- Articulate the need for long-term risk reduction initiatives in the country and trigger the initiation of priority activities.

When to undertake post-disaster needs assessment

- The assessment should not be started until the humanitarian assistance stage is completed or well underway, so that it does not interfere with activities of response and relief.
- The assessment should not be unnecessarily delayed as there may be an urgent need to elicit support from the international community for the R&R process.
- Typically, the assessment will take from **2 to 4 weeks.**

What methodology to follow for undertaking post-disaster needs assessments

- Typically after a large-scale disaster, all affected sectors of the government and development organisations undertake needs assessments. It is suggested to use only one standardised methodology led by the government to produce results that are comparable and can better help support a comprehensive R&R framework.
- The Post-Disaster Needs Assessment (PDNA) methodology is increasingly being used. The methodology comprises two complementary methodologies: the Damage and Loss Assessment (DALA)[1] methodology, which analyses damages to infrastructure, the stock market and losses suffered because of change in economic flow, to provide a quantitative estimation of the damages and losses caused by the disaster, and the Human Recovery Needs Assessment (HRNA)[2] methodology, a qualitative tool focusing on human development and the social impacts of the disaster, which brings in the affected communities' perspectives.
- The methodology requires detailed baseline (pre-disaster) data for each affected sector of the economy as well as post-disaster performance of the sectors and the most affected population groups.

- Based on the availability of data and the specific needs of the disaster situation, the methodology needs to be adapted in many cases.

(for detailed assessment methodology, visit www.gfdrr.org)

Guiding principles of undertaking post-disaster needs assessment

- The assessment process should be led by the affected government but have joint ownership between the government and development partners.
- Involving various government agencies from the national to the local level as well as development partners and by understanding the needs of the most affected indivuduals and communities through rapid humanitarian assessment is as important as following a robust, standardised methodology.
- The assessment results should:
  - Guide the formulation of the R&R framework and identify specific needs for long-term risk reduction.
  - Capture the needs specific to the most affected population and vulnerable groups such as women, elderly, and children by capturing gender- and other vulnerable group-specific data.
  - Break down the R&R needs of both public and private sectors.

The final output of post-disaster needs assessment

- The net study of a disaster results are available to decision-making levels of government.
- The aggregation of R&R needs through a policy dialogue between the government and development partners helps in leveraging financial resources for R&R, identifying post-disaster coordination and financing mechanisms, and ensuring external assistance provided by development partners is aligned with country priorities.

The specific importance of post-disaster needs assessment for long-term risk reduction

- Assessment reports should contain specific sections on needs for DRR in the country, so that the assessment can be used as a tool to review existing DRR frameworks and suggest improvements.
- The findings of the sectoral assessments can also trigger actions around long-term risk reduction. For example, large-scale housing damage because of poor construction standards and insufficient enforcement of regulations can trigger the need for reviewing building codes to include hazard-resilience standards. Similarly, the long-term needs identified by the assessment can include components of mainstreaming DRR in sectoral policies, plans and practices.
- The gender- and other vulnerable group-specific information from the PDNA helps in the planning, implementation and monitoring of the specific recovery needs of vulnerable groups.

Factors for successfully undertaking post-disaster needs assessment for long-term DRR

- Leadership by the government and joint ownership by development partners and communities.
- Methodology available and suitably adapted in the socio-economic context of the country, capacity of the government, and the recurrent disaster risk faced by the country.
- Availability of baseline (pre-disaster) data on the performance of each sector of the economy and for basic services delivery. This data should be available for the affected area and, as much as possible, disaggregated as much as possible by relevant groups such as by ownership (public and private), gender and socio-economic factors. Using information technology to obtain pre-disaster images, especially for sectors such as housing and agriculture, can be of great help in the assessment process.
- Capacity of government officials to undertake the assessment in partnership with development partners.
- Existing systems in the country to undertake such assessment; including institutional capacity, methodology, and guidelines.

2 FORMULATING THE R&R POLICY

The R&R policy sets out objectives, timelines, the role of stakeholders, the implementation approach, financial provisions, and an exit strategy. The policy should be guided by the recommendations of the post-disaster needs assessment and supported by relevant executive orders.

2.1 DEFINING THE SCOPE OF R&R POLICY

The R&R policy will differ depending on a number of factors, including the type and scale of the disaster, areas affected, sectors affected, and existing legal and institutional systems for DRR; however, the policy document typically covers the following issues:

Objective and key principles of R&R, including transparency and accountability:

2004 Indian Ocean tsunami Indonesian R&R (master plan)

- Community orientation and community participation supporting holistic, sustainable development.
- Integration of the disaster response with the local community
- Efficiency, transparency and accountability.
- Effective monitoring and evaluation.

2011 Great Japan earthquake and tsunami recovery (building towards reconstruction)

- Community-focused reconstruction, supported by the government through general guidelines and institutional design.
- Complete R&R that taps into the region's latent strengths and leads to technology innovation.
- Disaster-resilient, safe, and secure communities.
- Rebuilding disaster-affected areas in order to restore the economy.

2001 Gujarat, India earthquake recovery (R&R policy)

- Include people and representative institutions in decision-making processes.
- Strengthen civil institutions such as NGOs and community-based organisations.
- Equity and empowerment.
- Ensure that the voices of the disenfranchised are heard.
- Beneficiaries and stakeholders make informed choices regarding their habitat.
- Participation of the private sector, NGOs and expert institutions.
- Higher levels of transparency and accountability in the programme implementation.

Roles and responsibilities of stakeholders: The R&R policy should identify the roles and responsibilities of the focal agency, line agencies, local government, and development partners involved in supporting the affected communities. The policy should clearly define the responsibilities in regard to inter-agency coordination and implementation at various levels and in different sectors.

The Gujarat Earthquake Reconstruction and Rehabilitation Policy called for setting up an Authority with autonomy, power, and flexibility to implement the complex R&R programme. The line departments were identified as the implementing agencies for sectoral projects and Area Development Authorities were set up in the most affected towns to develop and upgrade urban infrastructure and to enforce development regulations.

 The framework for R&R developed in the aftermath of the 2011 Great East Japan earthquake recommended 'municipality-led reconstruction', acknowledging that residents are closest to their communities and understand local characteristics best. The framework identified the role of the national government as setting the overall policy for reconstruction, including the vision, ideals, and types of assistance, and as making efforts to maximise the capabilities of municipalities as the main actors in reconstruction.

2.2 SYSTEMS FOR CONSISTENT COORDINATION AND COMMUNICATION

Scalable and flexible organisational structure for coordinating recovery assistance: Sector-wide R&R strategy and implementation in light of existing land use, development, and investment plans.

 The R&R plan should be informed by the existing land use plan. For example, Sri Lanka has developed the National Physical Planning Policy and Plan of Sri Lanka, a strategic document that outlines a vision to promote and regulate integrated planning of economic, social, physical, and environmental aspects of land through 2030. It identifies principles and strategies that act as tools to achieve this vision, which are organised under the six objectives of protecting the environment, reducing disaster vulnerability, human settlement development, infrastructure facilities, water development, and economic development.

Risk management including DRR and environmental and social risk

 In the case of the 2004 Indian Ocean tsunami R&R in Indonesia, the 'Build Back Better' programme improved four major areas in affected regions, physical infrastructure, community-led programmes, empowerment of marginalised constituents, and resilience to future disasters.

 In the 2011 Great East Japan Earthquake Reconstruction Framework, the 'disaster reduction' concept was paramount.

 In the Post-Nargis Recovery and Preparedness Plan prepared in the aftermath of Cyclone Nargis, 2008, Myanmar gave full consideration to DRR across all sectors. Also, a number of the hospitals and schools reconstructed were multi-purpose, i.e. functioning as schools or hospitals as well as evacuation centers during disasters.

The 2001 Gujarat, India earthquake recovery policy stated the objective to 'build, retrofit, repay and strengthen houses for the people and public buildings affected by the earthquake through application of earthquake-resistant technology'. The reconstructed houses were multi-hazard resistant and a strong monitoring mechanism was put in place to ensure compliance.

The early recovery framework developed in the aftermath of the 2005 Pakistan earthquake also identified 'reduced disaster risk' as a key principle. It mentioned that the rebuilding efforts would aim to produce housing and infrastructure that were resilient to future earthquakes and other natural hazards. It also mentioned that beyond physical structures, rehabilitation and reconstruction would include DRR and preparedness at the community and government levels.

2.3 RESOURCE MOBILISATION *(see Chapter 3)*

3

2.4 MONITORING AND EVALUATION *(see Chapter 5)*

5

2.5 EXIT STRATEGY FOR TRANSITION BACK TO NORMAL*(see Chapter 6)*

6

'Towards Reconstruction: Hope beyond the disaster' prepared in the aftermath of the 2011 Great East Japan earthquake has four chapters:

- Chapter 1: A new concept for rebuilding the region, which includes types of regions and measures for reconstruction, challenges related to land use, actors in reconstruction, and assistance measures.
- Chapter 2: Restore life and livelihood, which includes sector-specific information such as on fisheries, tourism, agriculture and forestry.
- Chapter 3: Work towards reconstruction in nuclear accident-affected areas.
- Chapter 4: Open reconstruction, which includes reconstruction open to the world and linkages and mutual support.

Similarly, the 'Gujarat Earthquake Reconstruction and Rehabilitation Policy' formulated in the aftermath of the 2001 Gujarat, India earthquake included eight chapters:

- Chapter 1: Reconstruction and rehabilitation policy framework.
- Chapter 2 to 7: Housing, livelihood, infrastructure, social and community development, community participation, and long-term disaster preparedness.
- Chapter 8: Institutional arrangements for project implementation.

When to develop the R&R policy

In most cases, R&R policy is drafted in post-disaster situation. However, in some countries or provinces, pre-disaster recovery planning policies and/or frameworks have been developed as part of DRR initiatives in a pre-disaster setting. The development of the policy instrument can be conducted in two phases, defining the over-arching R&R policy and/or framework in the pre-disaster phase, and detailing specific guidelines and instructions in the post-disaster situation.

 The Government of Gujarat, India issued the Gujarat Earthquake Reconstruction and Rehabilitation Policy in the aftermath of the 2001 earthquake, which was followed by a Project Implementation Plan.

 The government of Indonesia drafted and issued the 'Master Plan for the Rehabilitation and Reconstruction of the Regions and Communities of the Province of Nanggroe Aceh Darussalam, and the islands of Nias, Province of North Sumatra' in April 2005 in the aftermath of the 2004 Indian Ocean tsunami.

Who develops the R&R policy

The drafting of R&R policy can be assigned to the focal disaster management agency in the country or province or to a committee/working group.

 'Towards Reconstruction: Hope beyond the Disaster', the advisory framework for formulating government guidelines on reconstruction in regions affected by the 2011 Great East Japan Earthquake, was developed by the 19-member Reconstruction Design Council comprising government, the private sector, universities and professional institutions.

 In the case of Indonesia, a master plan was prepared by the Ministry of National Development Planning/BAPPENAS after the 2004 Indian Ocean tsunami, in partnership with other ministries and institutions at the national level and with the regional governments of Aceh, Nias and Northern Sumatra, universities, donors, NGOs and other parties.

 Similarly, in Nepal, the formulation of national policies regarding relief works, including rehabilitation of victims of natural disaster and reconstruction in the affected areas, has been vested with the Central Disaster Relief Committee (CDRC) of the Government of Nepal, which is chaired by the Home Minister.

 Recovery planning should be a participatory process as it involves socio-economic recovery alongside the recovery of infrastructure. Participatory planning processes were considered vital in the Kobe, Japan earthquake recovery effort.

In India's case, the R&R policy is developed by the State Government. For example, the Government of Gujarat prepared the 'Gujarat Earthquake Reconstruction and Rehabilitation Policy' in the aftermath of the earthquake in 2001.[3]

3 FORMULATING THE R&R PLAN

The R&R plan should align with the government's overarching R&R policy or framework, if one exists. In some cases, the policy and plan are prepared together and are captured within the same document while in other cases, each are separate documents.

Indonesia's master plan after the 2004 Indian Ocean tsunami was comprehensive and included policies, institutions and funding, divided into 11 chapters:

- Introduction
- Disaster Impact and Mitigation Efforts
- Basic Principles and General Policy
- Sectoral Policy and Strategy
- Spatial Structuring
- Cross-sector Issues
- Public and Private Sector Participation
- Funding
- Application of Good Governance Principles and Supervision over Implementation
- Institutions
- Conclusion

In the 2001, Gujarat, India earthquake R&R, the Project Implementation Plan (PIP) was prepared in line with existing R&R policy.

In Sri Lanka, the 'Post-Tsunami Recovery and Reconstruction Strategy' included strategy and implementation plans and consisted of 7 sections:

- Background
- The Damage and Needs Assessment
- Recovery and Reconstruction Strategy
- Sector Strategies
- Implementation Mechanism
- Implementation Issues and Recommendations
- District Implementation Plan and Strategy

It also included guidelines for a recovery plan.

The R&R plan should include maintenance related considerations *(see Chapter 6)*.

6

4 SELECTING BENEFICIARIES ACROSS SECTORS

The identification and selection of beneficiaries has always been a challenge in R&R programmes, as issues of equity, equality, gender, economic status, type of damage, and risk have implications, especially when limited resources are available. Past R&R programmes used different criteria to identify and select beneficiaries and have varied across sectors. It is important to segregate data by gender and vulnerable groups in surveys and assessments in the early stages of R&R so that strategies and programmes are responsive and so that there can be effective and efficient monitoring and evaluation.

The identification of beneficiaries is mainly undertaken in sectors such as housing, health, education, water/sanitation and livelihoods, and each sector has its own set of criteria for identification of beneficiaries.

 In Indonesia, after the 2004 Indian Ocean tsunami, assistance to affected houses was uniform: repairable houses were compensated with IDR 20 million (USD 2,000) while houses which required reconstruction were provided IDR 42 million (USD 4,200).

 In the aftermath of the 2001 Gujarat, India earthquake, government assistance to affected people varied based on certain criteria. For example, in seismic zones IV and V, assistant to small shop owners (cabin owners) was Rs 3,000 (USD 70) while to shop owners Rs 6,000 (USD 140). Similarly, in seismic zones IV and V, for repair and reconstruction of tiny-, small-, medium-, and large-scale industries, assistance was 60 percent of the cost of repair and reconstruction with a limit of Rs 6 million (USD 140,000). For other areas it was limited to Rs 3 million (USD 70,000).

 In the aftermath of the 2004 Indian Ocean tsunami, Sri Lanka adopted a uniform assistance policy for partially damaged houses and one for fully destroyed houses.

 In case of the 1999 Orissa, India cyclone, affected people living below the poverty line were provided free houses while others were provided loans.

 In the 2001 Gujarat, India earthquake R&R, housing rights of the landless and of tenants were recognised and were included in the beneficiary process.

5 ENSURING EVENNESS

Disasters impact unevenly the most vulnerable population including women, children, the elderly, the poor, the disabled and minorities. The unevenness of the impact of disasters is often highly visible due to media attention but the unevenness in recovery processes is often less visible (World Bank). For example, more than 90 percent of the 140,000 total deaths in the 1991 Bangladesh cyclone were women. In the 2004 Indian Ocean tsunami, the death of Indian women was three times more than that of men. The limited mobility and social status of women increased their vulnerability to these disasters. Similarly, in Thailand, the 2004 Indian Ocean tsunami aggravated the already precarious legal and socio-economic position of many thousands of migrants from Myanmar who worked in agriculture, aquaculture, and construction along Thailand's shoreline. Because of their status, many did not come forward for assistance (IOM).

It is important to identify the vulnerable groups in R&R programme designs and implementation to meet the specific and special needs of each group. There are key considerations for ensuring evenness:

- In situations where the affected population must move into temporary shelters, the design of the settlements and related services need to consider security issues. For example, appropriate lighting is required and access routes to sanitation facilities should be secure.
- Pregnant women in temporary settlements are at a high risk due to psychological and physical strains. Medical facilities should be established specifically for pregnant women, lactating mothers, and infants.
- Orphans and children separated from their families are at high risk of abuse and abduction. Physical security and legal protection for them should be a priority, as well as family reunification.
- Loss of income and productive assets can cause poor households to get trapped in a cycle of chronic poverty. In the initial period of post disaster, it is important to protect the income and productive assets of households.
- The loss of housing to many people, including women, working in the informal sector means a loss of workplace, tools, supplies and markets. It is important to consider informal work spaces in the R&R programme under livelihoods and other sectoral support strategies and plans.
- The traditional post-disaster R&R schemes may not be able to reach some vulnerable groups due to their designs. For example, in some of the housing R&R programmes, assistance was provided on the basis of property rights and land title. Squatters, tenants, widows, certain ethnic groups, and orphans are excluded by these criteria. It is important to assess the socio-cultural context of property rights and land titles, and the housing assistance programme should be aware of these realities in order to maintain equity and inclusiveness.

- Traditional housing assistance programmes have some limitations. For example, housing assistance is generally provided in instalments, which are linked to physical progress. However, assistance may be difficult to access for vulnerable groups, as physical progress may not be achieved. Similarly, the core/basic (25 to 45 sq. metres) houses reconstructed in R&R may not be able to accommodate the previous number of tenants.
- Remittance from family members is an important source of income in some disaster-affected areas and becomes critical in a post-disaster situation. Delays in receiving remittance affect mostly women, children, and the elderly. For example, in Sri Lanka, the net private remittance grew by more than 28 percent between 2004 and 2005 and topped USD 1.7 billion. Hence, interventions to ensure access to remittances in a post-disaster situation are critical.
- Sometimes, the R&R programme focuses mainly on physical progress, which is more visible, and social, cultural and power dynamics are not analysed. It is important to engage the community, including through target groups, in a R&R programme to ensure the programme is socially appropriate and equitable.

6 WORKING IN CONFLICT SITUATIONS

R&R in conflict situations poses some key challenges:

- Conflict affected areas tend to have a high level of poverty.
- There is weak governance and limited capacity (further eroded by disaster).
- Recovery programmes are mostly time-bound (short- to medium-term), while transitions in conflict situations may require one or more generations.
- Political processes and lack of security in conflict situations can undermine recovery processes.
- Leadership at the national level in disaster-affected countries may be contested in conflict situations and citizens' trust in their leaders may be low.
- Disaster can open new societal rifts or widen already existing ones.

The following five approaches for R&R in conflict situations should be considered:

An 'inclusive approach' at national as well as local level is key. The state cannot address complex violent challenges alone. An interdisciplinary assessment should address not only the impact of a natural disaster but also the causes and consequences of underlying violence. This process may take time, but humanitarian and development agencies need to be aware of it. For example, a Tripartite Core Group (TCG) of the government of Myanmar, the UN, and ASEAN was constituted for coordinating R&R after Cyclone Nargis in Myanmar in 2008.

To restore confidence, some early, tangible results need to be delivered. For example, in Indonesia after the 2004 Indian Ocean tsunami, the BRR prioritised three pressing basic needs: filling gaps in the supply chain, building a coordination operations center, and getting community's input into reconstruction priorities. Also, the BRR Head advised delivery partners in the first weeks that it was better to show results quickly (do-think-do) than make disaster victims wait for the perfect plan (think-do-think). The target of building 139,000 new houses over four years in an area without roads or sea delivery routes was achieved one house at a time. Hitting specific milestones created a way for the agency to celebrate interim successes.

Security, justice institution reform and employment generation need to be prioritised. The R&R needs to generate jobs to compensate for the loss of livelihood from violence and disaster. Labour-intensive public works are common in post-disaster situations, but they have short durations. It is important to support self-employment and small businesses to create jobs and income in the medium- and long-term. Youth unemployment is cited as a motive for joining rebel groups and urban gangs.

Pragmatic best-fit approaches need to be adapted to the local political context rather than one-size-fits-all technical solutions. One of the 10 key principles identified by the World Bank is that each R&R is unique.

The task of transforming institutions and governance for sustained resilience to violence is slow. No country has transformed its institutions in less than a generation (World Development Report, 2011). It is always important to invest in DRR and more so in conflict regions to build resilience. R&R in conflict situations requires an enabling environment.

7 ENVIRONMENTAL CONSIDERATIONS

Natural hazards such as floods, cyclones, and tsunamis can become even greater disasters if the environment is degraded. For example, in the 2010 Pakistan floods, environmental degradation was a key factor. Deforestation in the upper parts of the river valleys increased the run-off rate, while buildings located close to the river increased social vulnerability. In addition, intensive irrigation development on the Indus Basin over the past decades had withdrawn the great bulk of the annual flow, so that the branches often do not reach the sea. Consequently, the river lacks sufficient flow to carry away sediment, resulting in build-up steadily reducing the river's capacity to handle large flows. Moreover, the monsoon season coincided with snow melt in the Himalayan and Karakorum mountains, while poor catchment management increased the severity of the flood's impact.

Similarly, the R&R process can create enormous pressure on the environment, sometimes beyond administrative borders, thus leading to further degradation. For example, the demand or reconstruction materials in one country can lead to deforestation in other countries.

Thus, environmental consideration during R&R can reduce the risk of future disasters, and sound environmental practices reduce the impact of natural hazards. For example, the role of mangroves as wind-breakers was well documented after the 2004 Indian Ocean tsunami.

The following are key environmental considerations related to the R&R process:

- Coordination of information from early assessments and prompt response to environmental impacts likely to have major consequences for human lives, safety, and health, including disposal of medical waste and hazardous waste.
- Selection of the location of relief camps.
- Materials for construction of the camps.
- Management of sanitation, water supply, and solid waste at camps.
- Provision of cooking fuel as this is related to air pollution.
- Disposal of debris.
- Excessive water abstraction from shallow wells.
- Excessive extraction of aggregates and wood for reconstruction.
- Reconstruction sites of houses.
- Contamination from polluted water resources.
- Support to strengthen traditional practices and use of local materials.

Successful and unsuccessful interventions for environmentally sustainable recovery:

 In Marmara, Turkey, over 90 percent of the original 35 million cubic meters of rubble could have been recycled, but due to weak initial planning, the debris became commingled, requiring expensive secondary sorting.

 After the 2010 Sichuan, China earthquake, sustainable environmental practices were embedded. The affected communities were moved to a large, centralised camp, which ensured that water supply, sewage, and solid waste could be professionally managed in a centralised fashion. Also, clear guidelines were given for where to rebuild, and thus reconstruction activities did not take place in environmentally sensitive areas.

 The Post Nargis Recovery and Preparedness Plan, the three-year recovery plan of Myanmar after the 2008 Nargis cyclone, had environment as a separate section as well as mainstreamed into other sectors, such as livelihood, water and sanitation, and shelter.

 In the aftermath of the 2004 Indian Ocean tsunami, a number of affected countries invested in restoring or establishing mangrove forests as coastal 'green belts'.

8 SECTOR-SPECIFIC CONSIDERATIONS

With impacts and resultant needs of a disaster being different for each sector, the R&R process needs to consider sector-specific issues during planning and implementation:

8.1 HOUSING AND SHELTER SECTOR

The housing sector is one of the most challenging sectors in R&R due to various issues, including ownership of property, land entitlement, and selection of beneficiaries.

Typically, elements of the housing R&R process include:

- Adopting a transparent approach for selecting beneficiaries.
- Spatial planning and land availability.
- Technical and financial support, and basic facilities.
- Implementation of the housing R&R activities.
- M&E and grievance-redress, mechanisms.

Following are some key considerations for each of the above-mentioned elements:

Selection of beneficiary

- The selection of beneficiaries for housing assistance is an important first step which determines the effectiveness and efficiency of the next stages. The scope of survey may vary, but broadly it collects information on the number of families affected, ownership, details of affected house, and other details. In case of Tamil Nadu, India after the 2004 Indian Ocean tsunami, the survey was conducted covering all families (affected and non-affected) who lived within 1,000 meters from the coast. The survey aimed to ascertain the number of affected families in each zone, the type of construction and ownership of the home, and the number of family members.
- Sometimes the survey requires time, hence the affected administrative units/areas should be announced as it segregates the affected and non-affected administrative units/areas. Also, the deadline for collection of data should be widely announced in affected communities, so that the list of beneficiaries can be finalised.
- The selection of beneficiaries should involve community input as in many cases the legal documents regarding ownership of affected houses or land entitlement might be missing. In the case of the 2001 Gujarat, India earthquake, the housing beneficiary survey was conducted by a three-member team comprising of an administrative officer, an engineer, and a community-level representative. It is also important to consult with women. In Tamil Nadu, India after the 2004 Indian Ocean tsunami, approximately 50 families of a nomadic tribe lost everything. The group had no proof of residence

or identity certificates and was likely to be excluded from the R&R scope. The district administration took the bold step of including this vulnerable group in the housing reconstruction programme, using the over-arching tenet of making the vulnerable safe and providing housing with the help of NGOs. The district helped this nomadic group to have a permanent house, an identity, and acceptance in the local society. This can be applied in cases of tenants, squatters, and all the others. who need protection and shelter, but have no land or property.

- It is important to be flexible. In the case of the 2004 Indian Ocean tsunami recovery in Indonesia, the housing assistance was provided later to other needy community members who were not directly affected by the tsunami in order to achieve the wider goal of recovery and reconstruction.
- All assistance policies should be based on sound social analysis.

Spatial planning and land availability

- The planning process should be comprehensive, cover land use, physical, and strategic planning and addres all issues related to R&R and DRR. For example, in the case of the 2001 Gujarat, India earthquake R&R, the village councils undertook physical planning for rural housing, while for four severely affected urban areas, detailed land use planning and physical assessment exercises led to development plans at the city level, as well as town planning at micro levels. In densely populated areas, neighbourhoods were reconfigured where buildings had collapsed, creating a safer street network and built environment.
- Community participation is important in all steps of planning, from data collection to assistance formulation.
- Land entitlement is important, especially for vulnerable groups, and should be considered as an integral part of R&R planning. In Indonesia during the 2004 Indian Ocean tsunami R&R, a Joint Land Titling mechanism for land certification was set up – in other words, land was titled in the name of both husband and wife, which had not been the case previously.
- Relocation should be avoided. If it is essential, a detailed participatory assessment of the environmental, social, and economic risks (including livelihood) of relocation and of potential risk mitigation should be undertaken. The community should be involved in the decision-making process for relocation sites and other related issues. For example, in Nagapattinam, Tamil Nadu, India during the 2004 Indian Ocean tsunami R&R, the local administration searched geographically demarcated areas for appropriate land; however, no agreement could be finalised until it received community approval. During R&R in Indonesia, the BRR formed a special team, the Relocation Center Team, to facilitate the provision of land in the interest of relocation.
- Considering resources and time constraints, modern technology and tools such as GIS, GPS, aerial photography, and satellite imagery can be used for planning. These tools were used in Indonesia's 2004 R&R to develop the land use and physical planning maps. Also, the web-based housing GIS system provided an illustration of housing distribution with information on geo coordinates, type of aid, provider, house owner's name, and status of occupancy, as well as a photo of the front of the house. (*see Chapter 5*)

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The details of DRR inclusion into the land use planning have been covered in the accompanying *Guidance on Land Use Planning.*

Technical and financial support and basic facilities

- It is important to consider public facilities and basic infrastructures such as roads, drainage systems, potable water, sanitation systems and power, along with housing. Infrastructure development, including community facilities, should be closely coordinated with the housing reconstruction.
- The use of infrastructure development funds should first go to relocation areas and a mechanism for 'filling the gap' should be in place. Where external partners are not able to complete the work, the government should step in. If the government has difficulty reaching certain sections or there is a delay due to procedural aspects, external agencies should contribute. The overarching principle should be to reach all the needy.
- Infrastructure development usually takes longer than housing reconstruction. For example, after the 2001 Gujarat, India earthquake, the development of infrastructure in four severely affected urban areas was originally expected to take three years, but was extended to six years due to the scope of work.

Local government and local technical resources should be utilised.

- The principle of 'Build Back Better', which includes environmental and climate change considerations, should be taken into account. For example, in the 2008 Wenchuan, China earthquake R&R, the concept of a circular economy was proposed, in which all resources, including debris from the earthquake, were used for reconstruction. It also translated into a focus on rebuilding industries that could contribute to a circular economy in the long term.
- Multi-hazard-resistant technology should be promoted to avoid recreating risk. Also, traditional construction methods that perform better in the case of disasters should be promoted. For example, during the 2005 Pakistan earthquake, two traditional building techniques, taq and dhajji dewari, proved more resilient than modern technologies. ERRA, the nodal R&R agency, promoted those techniques during rural housing reconstruction.
- The cost of building materials can skyrocket during R&R, as demand is high. For example, in Sri Lanka during R&R after the 2004 Indian Ocean tsunami, the government housing assistance of USD 2,500 for reconstruction and USD 1,000 for repair proved to be inadequate, as the cost of skilled labour, building materials, and land tripled from pre-disaster costs. In order to meet these challenges, innovative interventions are required. In Sri Lanka, NGOs were called on to provide additional support either through top-up payments or in-kind assistance to compensate households for price increases. In Indonesia, pre-fabricated steel frames were promoted as an alternative to wood. They were not only earthquake resistant, but also fire and weather resistant. Similarly, in Gujarat, India after the 2001 earthquake, 'material banks' were set up to provide steel and cement at administered cost.

- Financial and in-kind assistance for housing should be defined and communicated. For cash assistance it is important to ensure the accessibility of recipients and security for those delivering and receiving it. Cash assistance will only be helpful if supply chains and markets are functioning.
- R&R requires a large number of engineers, masons and other skilled labourers for a limited duration. Capacity building is important for successful R&R. The training should use simple messages and demonstration techniques so that builders without formal training can understand the content delivered. A "demonstration building" should use techniques and materials directly related to the approved construction methods and should be affordable and warranted with the funding available. For example, in the 2005 Pakistan earthquake R&R, a wooden frame building was constructed as a demonstration unit and was later used as an information center.
- Raising awareness in the community on multi-hazard resistant construction is important and should be prioritised. Tools such as manuals and guidelines for different target groups, videos, slogans, street play, and other awareness generation tools may be used. For example, UNDP organised "shake-table" demonstrations in the 2003 Iran earthquake R&R to demonstrate earthquake-resistant technologies. Similarly, in the 2001 Gujarat, India earthquake R&R, simple tips for earthquake-resistant construction were displayed on public transportation.

Implementation of housing R&R activities

- There are different approaches for housing R&R that can be broadly categorised into the following:

· **Cash approach**: The support for repair and reconstruction of affected house is provided exclusively by unconditional financial assistance. This approach is suitable for disasters that have a relatively limited impact.

· **Owner-driven reconstruction**: A combination of cash, in-kind support, and technical assistance is provided to those whose houses have been affected. It is considered to be the most empowering and dignified approach and is viable for both house and apartment owners (through condominiums or society associations). It should be used wherever the conditions are right, i.e. where the government is capable of enforcing the standards, technical assistance is available, financial assistance is tied with progress and quality of construction, and mechanisms for regulating the building materials price are in place.

For example, during the 2005 Pakistan earthquake R&R, the government promoted owner-driven reconstruction, under which 400,000 houses were re-built. A decentralised team was mobilised to provide technical up-dates and on-site training to the scattered beneficiaries.

The 2008 Kosi floods affected three million people in Bihar, India. UNDP, in partnership with the Government of Bihar, supported recovery processes in the aftermath of the floods, including settlement and habitat planning to reduce disaster risk. An owner driven reconstruction pilot was undertaken which was scaled up across flood-affected districts in the State.[4]

· **Community-driven reconstruction**: This approach entails varied degrees of organised community involvement in the project cycle, generally complemented by the assistance of an agency. The success of this approach depends on the involvement of the community.

In the reconstruction following the 2006 Yogyakarta earthquake, the community-driven approach was used to reconstruct 275,000 houses. The community facilitation system included recruitment, training, and deployment of community facilitators.

· **Agency-driven reconstruction**: In this approach, a governmental or non-governmental agency hires a contractor(s) to design and build the houses in-situ or at a relocation site. In this approach, the community has limited involvement. It is mainly used by public agencies to reconstruct government-owned houses, and should be avoided in rural areas and in places where the built environment and natural habitat are significantly intact.

Final Comment: Use an owner-driven approach wherever possible. When simple repair of damaged houses is warranted, the cash assistance approach is adequate. The community-driven approach should be used when community life and/or the local economy is disrupted by the disaster, when relocation is required, or both. If agency-driven reconstruction is an absolute necessity, ensure community participation.

Monitoring and Evaluation (M&E) and grievance-redressing mechanisms

- The M&E in housing R&R should be given high priority despite the complexities involved. Also consider Impact Evaluation should use qualitative methods alongside quantitative methods. For example, in 2008 Cyclone Nargis R&R in Myanmar, Social Impact Monitoring (SIM) was used alongside from the period reviews, which were quantitative in nature.
- R&R provides an opportunity to reduce risk. For example, in the case of the 2001 Gujarat, India earthquake R&R, a third party, BMTPC, was engaged to audit the quality of reconstructed houses. Incentives for quality compliance should be built-in. In Gujarat, financial assistance was tied to compliance.
- A pro-active approach to minimise corruption by assessing corruption risks early in reconstruction planning is important. A code of conduct for staff should be considered. For example, after the 2004 Nargis cyclone in Myanmar, the Anti-Corruption Agency took action to mitigate corruption threats, vetting disbursing and executing agencies involved in the National Disaster Aid Fund. Similarly, the BRR in Indonesia also ensured zero tolerance to corruption.

- The housing R&R programme should embed a grievance redress system, especially for large-scale programmes involving multiple actors. These mechanisms help reduce the risk of error or manipulation. The mechanisms can be a combination of telephone hotlines, civil society monitoring, ombudsmen offices, village-level monitoring forums, and more.
- Wide dissemination of the housing R&R policy and procedures helps beneficiaries to be aware of their entitlements and reduces corruption. For example, in the R&R for the 2003 Iran earthquake, the 2001 Gujarat, India earthquake, and other events, beneficiary entitlements were displayed in government buildings in affected areas as well as in kiosks.

The approaches and details for mainstreaming DRR into housing sector recovery have been covered in the accompanying *Guidance on Housing*.

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8.2 INFRASTRUCTURE

Damage to infrastructure affects trade and commerce, health, education, tourism, and above all, basic quality of life issues. Also, the pace of reconstruction of damaged infrastructure can influence the R&R of other sectors. The following are key considerations for infrastructure R&R:

Prioritisation of sub-sectors within infrastructure: The infrastructure sector covers a number of sub-sectors ranging from roads and bridges to power and water supplies. As simultaneous reconstruction of all sub-sectors is not always possible, it is therefore important to prioritise some sub-sectors. There should be further prioritisation within sub-sectors. Prioritisation depends on a number of factors such as region, economy, and type and scale of disaster.

In Indonesia after the 2004 Indian Ocean tsunami, reconstruction of all affected infrastructure was very difficult. Therefore, its priorities were set based on the considerations of the national blueprint, local governments' suggestions, and conditions in the field. These considerations resulted in the 2005 programmes such as the R&R of Banda Aceh's drainage system, of the Calang-Lamno road, and of public facilities such as schools, markets, drinking water, and city roads. Donors were invited to help with R&R as they saw fit.

In the case of the 2001 Gujarat, India earthquake R&R, roads and bridges were prioritised in two phases. Phase I focused on restoring roads and bridges to their pre-earthquake condition and strengthening them to withstand increased loads caused by the heavy traffic engaged in R&R work. Phase II focused on upgrading the road network to include earthquake- and cyclone-resistant features.

DRR is an integral part of infrastructure reconstruction: The new infrastructure should embrace multi-hazard resistant features and avoid recreating risk. Also, the latest risk map and information, which accounts for future risk, should be used.

The 2004 Indian Ocean tsunami disrupted the Maldives' plan to further increase the reach of mobile and internet communication across the island chain, but a drive for disaster-resistant telecommunication emerged, which was lacking prior to the tsunami. The telecommunications infrastructure R&R included a number of measures for disaster-proof communication which included:

· One satellite phone in each of the inhabited islands.
· HF radio transceivers in each of the inhabited islands.
· VSAT-based communication as a back-up communication network.

Similarly, after the 1993 Maharashtra, India earthquake, a VSAT-based communication network was established across the State.

In the 2001 Gujarat, India earthquake, the Bhuj Hospital was completely destroyed. A new hospital was reconstructed with base-isolation technology, making it earthquake resistant.

R&R of damaged infrastructure provides an opportunity to upgrade as well as enhance the capacity of infrastructure:

After the 2004 Indian Ocean tsunami, 363 bridges were constructed in Indonesia compared to 119 destroyed bridges, 23 ports were constructed compared to 22 destroyed ports, 13 airports or airstrips compared to 8 destroyed airports and airstrips and 3,696 km of roads were compared to 2,618 km of destroyed roads.

In Gujarat, India, a development plan was implemented in the four worst affected urban centers where no planning had been done prior to the 2001 earthquake. The development plan considered the 20-year growth prospective, decongested the inner part of the city, and created more green spaces.

In Sri Lanka, the cost estimates of infrastructure reconstruction were not based on equal replacement costs of what was damaged in the 2004 Indian Ocean tsunami, but rather on the cost of upgrading infrastructure to meet modern standards and increasing resilience to future hazard risk.

It is important to ensure close coordination between R&R of infrastructure and of other sectors, including housing, to achieve the 'Build Back Better' objective. In addition to coordination with other sectors, coordination between the sub-sectors of infrastructure such as roads, bridges, ports, and energy/electricity, is also important.

In Sri Lanka, the timing of housing reconstruction and infrastructure R&R was coordinated. Habitat for Humanity Sri Lanka (HFHSL) began the construction of 196 houses in September 2005. The first 96 families moved in February 2006, although infrastructure (energy/electricity, piped water, public transport) was not completed yet. The lack of infrastructure presented challenges to the families as well as to the construction crews. As an interim measure, HFHSL negotiated with other NGOs to provide these facilities. Three years later these services were formally put in place.

Involvement of leaders: Infrastructure reconstruction during the limited duration of R&R often poses tremendous challenges, especially with regards to the acquisition of land for airports, ports, and roads, which can delay the R&R. The involvement of leaders is crucial in expediting and solving these issues.

During the Indonesian R&R, the NAD governor and vice mayor of Banda Aceh were personally involved in expediting the acquisition of land for the SIM Airport and the Banda Aceh-Meulaboh road. All parties realised that the R&R was not BRR's task alone but also that of the regional leaders.

Breakthroughs and innovations: Reconstruction of infrastructure is not business-as-usual. Breakthroughs and innovations are keys to meeting the extraordinary demand of R&R in a limited time frame. Out-of-the-box thinking can make a big difference.

In the 2008 Wenchuan, China earthquake R&R, a 'twinning' programme, which paired cities of different economic status, was used. Shandong Province and Shanghai Municipality were paired and the latter provided funds for the construction of schools and hospitals, and deployed staff to the newly built institutions to provide on-the-job guidance.

After the 2004 Indian Ocean tsunami, there was a need to build as many ports as possible along the west coast of Aceh, Indonesia, as air transport was extremely costly, and over use of the harbour pier slowed down the transportation of materials to the construction area. A solution was found using old containers as piers. These containers were placed at sufficient depth and then filled with sand to weigh them down, pouring concrete on top of them. The innovative piers helped reconstruction work move fast, and they could be used for at least two years.

8.3 LIVELIHOOD

Livelihood includes the capabilities, assets (including material and social resources), and activities required for a means of living. Livelihood is sustainable when it can cope with and recover from stress and shocks, and maintain or enhance capabilities and assets, without undermining the natural resource base. The importance of taking into account the livelihoods of disaster-affected populations and, where possible, protecting and developing them, has been increasingly recognised and addressed by key actors within R&R processes. The following are some of the key considerations in livelihood R&R.

Access to cash and capital

After the 2008 Nargis cyclone in Myanmar, Save the Children initiated a 'cash grant for livelihood recovery' programme. In line with the needs identified by affected communities, the programme aimed to help cyclone-affected households to begin to realise their right to livelihoods and to reduce dependence on food assistance through rapid replacement of essential livelihood assets. The assets supplied included boats, nets, livestock, items to start small businesses, and fertilisers. The programme supplied cash grants directly to households and facilitated the procurement of assets.

Understanding roles and frameworks of actors

After the 2004 Indian Ocean tsunami, agriculture fields were left saline. According to village elders, rains had to leach the saline from the top layer. The 255 families of farmers and farm labour in Kandakkad, Tamil Nadu would thus lose a few cropping seasons. However, a plan was prepared with support of NGOs and with technical advice from the local office of the Department of Agriculture. Seven bore wells were installed on fields under community ownership, with the state government providing power. The water pumped from bore wells desalinated and reclaimed 200 acres within a short period of time. An NGO funded the bore wells and pumps, pipelines were funded with contributions from the community, and participating farmers provided maintenance funds.

Gender-responsive livelihood recovery

After the 2004 Indian Ocean tsunami, the BRR made special efforts towards empowering women in Indonesia. The BRR held trainings for women entrepreneurs and businesswomen active in various districts and cities in Aceh. During the first stage, the training equipped these women with new perspectives, the ability to conduct social analyses, and with business skills. Many women had run their business in a traditional manner and lacked capital, management skills, production capacities, technology, innovation, and financing. Further, limited market access made it difficult for these women's businesses to develop. In an effort to encourage the post-disaster revival of the economic sector, the BRR, through its Directorate of Women and Children, facilitated the growth of productive business.

The role of the private sector in the livelihoods recovery process

In the 2006 Yogyakarta, Indonesia earthquake R&R, Gadjah Mada University and its partner Exxon Mobil developed the Post-Earthquake Revitalisation of Kotagede Crafts programme. It focused on ways to support low-income silversmith families that were victims of the earthquake. The programme was essentially a product-based ordering system targeting silversmiths with some background in market-based products. The programme was implemented in two phases:

Phase I: Reviving small industries and promoting the best products of small industry through a partnership programme.
Phase II: Marketing and promoting the best products of small industry.

Sustainable livelihoods approaches:

One of the lessons learned from the tsunami recovery in Tamil Nadu, India, was the recognition of the value of a holistic and sustainable approach towards livelihoods.

As the fishing industry was hit hard by the 2004 Indian Ocean tsunami, NGOs were working to distribute livelihood assets, mostly boats and engines, for the fishermen to rebuild better ones in the first few weeks. The expectation was such that every fisherman hoped to get a boat and engine and every NGO hoped to distribute boats and engines. It looked quite impressive, but the South Indian Federation of Fishermen Societies (SIFFS) came out against what they called a "discriminating distribution of fishing assets". Eyebrows were raised as a fishermen organisation argued against distribution of boats and when the news spread in the fishing villages, people got furious.

"This is a zero sum game", said an SIFFS representative. SIFFS people argued in a meeting held at the district headquarters that NGOs were trying to translate the farming logic of 'land to the tiller' to fishery. He said that there was a need to understand that the sea was a common property resource. Even before the tsunami, too many boats were chasing too few fish. The previously existing fleet was barely sustainable. If the fleet size increases through the rehabilitation programme, he argued, it would make fishing economically unviable and ecologically unsustainable. "NGOs have to understand how fishing works. Each boat is operated by three to five people, hence what is the need for every fisherman to own a boat?" asked SIFFS. "The fishing people have survived the tsunami. I am afraid they may not survive the rehabilitation", said Mr. Vivekanandan, then chief executive of SIFFS.

But there were few takers for their argument. SIFFS further mentioned that the argument is for fishing to survive as a livelihood option for the fishing communities. The organisation suggested to repair the damaged units and replace the lost ones but not to increase the fleet size. "I admit that we lost this battle, and the coastline is flooded with boats", Vivekanandan reminisced.

Interventions that create decent jobs and income-generating activities

In Tamil Nadu, ILO's intervention was aimed at reducing dependency on single sectors, such as fishery. Market surveys were conducted to assess the employment demand across various sectors and communities also assessed their own wage and employment opportunities.

A two-pronged strategy was adopted, which provided intensive training and improved entrepreneurship efforts. The training was followed up with support and job placements.

Key sectors and services throughout the market chains

In Sri Lanka, rope and twine, doormats, brooms and geo-textiles production were badly impacted by the 2004 Indian Ocean tsunami. 75 percent of the workforce in this sector consists of women and Sri Lanka is the world's largest supplier of coir or coconut fiber. Oxfam intervened to help women restore their income as well as assist in improving the supply chain. It helped on all fronts: supporting the women organising self-help groups and later forming an umbrella federation, providing training on how to create value-added products and run small businesses, and developing and distributing mechanised equipment to help the women boost production and ensure greater consistency in their products.

Livelihood interdependence among groups and sectors

 In Tamil Nadu, R&R gave HIV/AIDS workers the opportunity to increase the reach of awareness programmes though interactions with trade unions and women self-help groups involved in ILO's programmes. Similarly, environmental workers took up the role of assessing the impacts of trawling on artisan fishermen.

Aligning and coordinating livelihood recovery activities with central and local government priorities and capacities

 In the provinces of Phukhet and Phang-Nga in Thailand, many coastal industries, especially tourism and fisheries, were affected by the 2004 Indian Ocean tsunami. GIZ, using its past experience, launched the RESTART project, establishing business centers in partnership with the Ministry of Industry. Centers were staffed with local ministry and business consultants. As a first step, GIZ started a counselling programme to help entrepreneurs develop goals for restarting their businesses. Also, beneficiaries were assisted through developing business plans. The project worked closely with several local banks to link business development services with potential loans for the participating small-scale enterprises.

Other key considerations

- Livelihoods recovery interventions should explicitly aim at reducing vulnerability to external shocks and trends (including climate-related) and at integrating risk reduction and adaptation measures at each stage of the project cycle.
- Livelihoods recovery initiatives should be informed by livelihoods assessments that allow understanding the situation in a context of vulnerability.
- R&R should go beyond the "phased" approach to recovery and use integrated plans that allow for starting livelihoods recovery from the earliest possible moment after a disaster.
- Policy and advocacy work should address the policies, institutions, and processes that enable sustainable livelihood outcomes.
- Recovery strategies should ensure economic and environmental sustainability.

The approach and guidance for mainstreaming DRR into livelihood recovery has been covered in the accompanying *Guidance on Livelihood.*

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8.4 HEALTH

Health is a critical sector and needs to be restored as soon as possible as delay can lead to a secondary disaster. Here are some key considerations for undertaking health sector recovery.

Health facilities and services are critical, and it is important to set priorities. A phased approach will help in addressing critical needs. The priority should be to ensure access to essential health care services so as to reduce vulnerabilities and save lives. Broader health issues, such as the quality of health services, should be addressed in the subsequent phase.

 In the 2005 Pakistan earthquake R&R, health sector reconstruction was designed as two over-lapping phases. The short-term (3-12 months) phase focused on ensuring the revitalisation and availability of basic health services and core public health programmes. The medium to long-term (12-36 months) phase included the reconstruction of seismically safe facilities and outlined options for addressing key issues in the sector, including low utilisation and quality of services.

 Similarly, in R&R after the 2004 Indian Ocean tsunami, Indonesia focused on establishing and supporting basic service delivery, including through health satellite posts, which were temporary facilities to address basic health needs for communities in internally displaced persons camps and surrounding areas. Efforts to build permanent health facilities followed these activities.

R&R also provides an opportunity to strengthen health services in terms of human resources, facilities, and quality of services. It is important to avoid redundancy, and maintenance issues should also be kept in mind.

 In Indonesia, 517 health facilities were destroyed during the 2004 Indian Ocean tsunami, leaving less than one hospital per 100,000 people in Aceh, which was far from adequate. During R&R, 1,115 health facilities were constructed. Also, initiatives were taken to standardise the health services at local health centers and a standardised guide was developed and distributed to all centers.

It is important to avoid recreating risk, especially by constructing health facilities without multi-hazard resistant features. Damage to health facilities in a disaster has multiple effects.

 In the 2001 Gujarat, India earthquake, the Bhuj Hospital, the biggest health facility in town, was completely destroyed. The reconstructed Bhuj Hospital now features multi-hazard resistant features, including base isolation technology, and state-of-the art facilities. Also non-structural concerns were considered.

Vulnerable groups – women, children, people with disabilities, and others – have special needs that require special attention. It is important that disability considerations are included in all reconstruction projects, especially for public buildings including health facilities.

In Tamil Nadu, India, the government, with technical support from the WHO, initiated the implementation of adolescent-friendly health services, which strengthened healthcare facilities and organised training for health care providers. Further, three primary health centers (PHCs) were selected and their facilities were upgraded to address higher levels of neonatal care. In the PHCs, doctors, staff nurses and all village health nurses received special training on newborn care.

It is important to coordinate within as well as across health sectors to maximise impact.

In Indonesia, 55 satellite health posts were created to meet basic health needs. The Department of Health recruited doctors and nurses, the BRR provided salaries, the NGO AmeriCares provided medical and non-medical equipment, and other agencies, including IOM and AusAID, supported the programme.

In Tamil Nadu, a large number of people were injured, and most of the population received some form of medical treatment. While many injuries were treated in government hospitals, the larger portion (60.2 percent) received medical treatment from private institutions. These numbers highlight the importance of and need for a coordinated effort together with private health service providers.

Improving hygiene and sanitation facilities

In the 2004 Indian Ocean tsunami, hygiene and sanitation facilities in Indonesia were badly affected. The BRR built sanitation facilities in 400 villages and also provided field lab examination tools to test water quality.

Laying the foundation for long-term disaster preparedness and response

In India, "health action in crisis and emergency" was included in the nursing curriculum after the 2004 Indian Ocean tsunami. Furthermore the Indian Nursing Council developed a one-year programme for specialist nurses, providing a post-basic diploma in emergency and disaster nursing. The WHO supported the development of the training module "Reaching out: Nursing care in emergency", which also provided training in a number of nursing faculties.

8.5 EDUCATION

Education is one of the most important sectors in R&R as children are the future of any society. It is important to note that the delay in recovery of the education sector may lead to loss of the entire academic year. Hence it is important to restart school as early as possible. School can restart in temporary shelters until permanent reconstruction is complete. The National Disaster Management Authority, Pakistan, prepared 'Guidelines for Provision of Temporary Schools/Learning Spaces in Emergencies and Early Recovery'. It is worth noting that drop out rates among girls in the aftermath of the disaster were higher compared to boys and it is important to plan for special measures to address this type of disparity.

Better and additional educational facilities

In Indonesia, 1,759 schools were constructed and additional facilities were built after the 2004 Indian Ocean tsunami. Prior to the disaster, many elementary schools only had three classrooms, but post-disaster elementary schools in Aceh had six classrooms as well as rooms for teachers and principals, a meeting room, and even a residential post for the school guard. Also, school libraries, science and computer labs were created, and there was an increase in the number of children reading after the creation of public libraries.

In 2001 Gujarat, India earthquake R&R, 1,114 additional classrooms for primary education were created. All the schools reconstructed were provided with better facilities than before the earthquake. The facilities include sanitation complexes, drinking water facilities, compound walls, areas for child-friendly activities, furniture and other equipment. In this way, facilities become more conducive to learning.

Competency of teaching staff and improved quality of education

In 2004 Indian Ocean tsunami R&R in Indonesia, the competency of teaching staff was enhanced so they would be able to run science labs and improve mathematics courses. Also, the Teachers' Competency Certification programme was launched to equip teaching candidates with an educational base, skills to plan, manage and evaluate the learning process, as well as basic teaching methodologies.

The BRR also launched an internship programme in which both junior and senior high school principals spent one month in Banda Aceh learning methods of school management. Teachers were also trained in information and communication technology, improving their computer skills, such as working with email and using the internet for information.

Activity-based learning, as part of the Quality Education Package, was introduced in government schools in three affected districts in Tamil Nadu after the 2004 Indian Ocean tsunami. Teachers were trained to address specific issues faced by schools with low matriculation.

DRR and other features in reconstructed schools

After the 2001 Gujarat, India earthquake, the reconstructed school buildings were earthquake and cyclone-resistant and had improved facilities, such as desalination plants, rain water harvesting, efficient non-conventional energy sources, and internal fiber-optic cabling for communication. New furniture, books, and other assets were also provided to these institutions.

The education sector requires out-of-the-box thinking

In 2004, when the tsunami struck Aceh, the National Final Examination for senior high school students was just a few months away. It was a challenge to prepare the children of Aceh for the test. The BRR took various approaches; one of them was to provide pre-exam study sessions at all senior high schools. Additional classes were held to prepare students in senior high schools in the period running up to the National Final Exams.

Micro-teaching became a part of the Teachers Meeting on School Subjects, a professional forum of subject matter on teachers located in certain districts, cities or sub- districts. The participants included teachers at state or private junior and senior high schools.

Supporting and strengthening existing institutions

In 2003, accreditation became a requirement for universities under a programme intended to foster long-term development. Accreditation, issued by the Board of National Accreditation of Higher Education, became a condition for university graduates to apply for jobs and for the university to participate in the Competitive Grant Programme.

Commitment from the universities of Aceh was low and there was a lack of financial support in preparing the documents for accreditation. Therefore, university graduates and the universities themselves were limited in their competitiveness at national level. During tsunami R&R, the BRR allocated funds for reinforcing accreditation of study programmes and university institutions.

9 CAPACITY BUILDING AS AN R&R COMPONENT

R&R after large-scale disasters require overwhelming resources in terms of human resources, materials and money. In order to meet the specific demands of the R&R period, it is important to build capacity in all aspects, ranging from technical capacity for implementing sectoral activities to mainstreaming DRR into development. For example, after the 2001 Gujarat, India earthquake, more than 5,000 engineers and more than 50,000 masons were trained to meet the need for multi-hazard resistant construction. The R&R policy and plan should identify the need for capacity building and accordingly integrate necessary components in all sectoral programmes. It is important to undertake capacity-building activities in the pre-disaster phase, so that skills and talents can be mobilised in post-disaster R&R.

It is also important to develop partnerships during R&R to expand capacities. Some examples of post-disaster partnerships are as follows:

- In the aftermath of the 2006 Java, Indonesia earthquake, Gadjah Mada University played a key role in R&R. It provided technical support and training on constructing earthquake-resistant housing.

- After the 2008 Sichuan, China earthquake, severely affected counties and cities were twinned with other Chinese provinces and municipalities which assisted the affected areas with resources, personnel, and moral support.

- In Gujarat, India after the 2001 earthquake, the National Institute of Fashion Technology partnered with local handicraft groups of the affected region for improving the design of the products and also for providing better market linkages.

- Universities and other academic institutions in Sri Lanka helped local rope-makers expand their market through product diversification.

Capacities built during one R&R programme can be utilised during other R&R programmes

- In the aftermath of the 2008 Cyclone Nargis, in Myanmar, the health teams from Yogyakarta, Indonesia were among the first agencies to set up emergency health facilities.

10 CLIMATE CHANGE CONSIDERATIONS

Climate change is a reality. The governments of many countries include respective considerations in their development planning and implementation. It is important to tap the opportunity provided in R&R; thus, climate change issues should be incorporated into sectoral recovery – especially in infrastructure, agriculture, livelihood, land use planning, and health. Recovery planning should be informed by both DRR, and climate change risks.

Climate change risks should be considered in the post-disaster needs assessment as well as throughout recovery and reconstruction policy and implementation.

The city of Pune, India has a population of approximately 5 million people and is highly prone to floods. Anticipating an increased frequency of floods owing to climate change and in order to reduce its carbon footprint, city authorities have developed a comprehensive climate change adaptation and mitigation plan. The first step was to assess the flood risks by analysing hourly rainfall intensity and examining the likely changes in impacts in low-lying areas and places where natural drainage was blocked by construction of houses or by roads without adequate bridges. The plan introduced structural and planning measures for restoring natural drainage, widening streams, extending bridges and applying natural soil infiltration methodologies.

11 PRE-DISASTER PLANNING

A number of measures can be taken in the pre-disaster phase for recovery planning and implementation, which will result in faster, more systematic, and better R&R.

A standardised post-disaster needs assessment methodology led by the government should be developed to better design a comprehensive recovery and reconstruction plan. Also, capacity building on the use of the methodology should be undertaken.

The overarching R&R policy or framework should be developed in the pre-disaster phase. Details can be worked out in the aftermath of a disaster, based on the post-disaster needs assessment report. Some countries have also developed a recovery framework in the pre-disaster phase.

- The Disaster Management Act of Gujarat, India has laid out key reconstruction and rehabilitation issues in its Disaster Management Policy, with a thrust on speedy return to normality and mitigation of long-term consequences of the disaster. The policy mentions a number of tasks to be carried out in the pre-disaster phase as well as post-disaster R&R. The policy foresees that the Gujarat State Disaster Management Authority (GSDMA) will monitor the progress and outcome of reconstruction and rehabilitation efforts.

- Similarly, in Indonesia, the responsibility for providing guidelines and directions on rehabilitation and reconstruction has been vested with the National Disaster Management Agency.

- In the United States, a draft National Disaster Recovery Framework (NDRF) has been developed, which builds on scalable, flexible, and adaptable coordinating structures to align key roles and responsibilities, linking local, state, tribal, and federal governments, the private sector, and other organizations that play vital roles in recovery.

Capacity-building activities to meet the needs of R&R should be undertaken in the pre-disaster phase. These include training on management of R&R, multi-hazard resistant construction, information management and more. The trained manpower will also be useful for DRR in other developmental interventions.

- The National Institute of Disaster Management, India conducts training on reconstruction and rehabilitation of disaster-affected areas to build capacity of R&R management.

It is important to be aware of international laws and other policy instruments related to disaster response and recovery. For example, the IFRC's Guidelines for Domestic Facilitation and Regulation of International Disaster Relief and Initial Recovery Assistance, 2007 or 'IDRL Guidelines' are designed to help governments legally prepare for large-scale disasters. The IDRL Guidelines are a set of recommendations to governments on how to prepare their laws and plans for common regulatory problems when receiving international assistance during the emergency and early recovery period. They advise governments with regards to the minimal quality standards they should insist upon for humanitarian assistance as well as the kinds of legal facilities aid providers require to do their work effectively. Based on existing international legal instruments, the respond to the IFRC Guidelines common problems faced in current international humanitarian response operations (*IFRC Notes*).

12 DEVELOPMENT PARTNERS

It is important to specify roles as well as expectations from UN agencies, the IFRC and civil society partners in R&R policy and implementation, as the efforts of these agencies can significantly complement government effects.

The government can ease processing of logistical issues such as visas, tax exemption, and access to affected areas for external agencies.

> The BRR facilitated the issue of visa and tax exemption for the members of international organizations working on humanitarian missions after the 2004 Indian Ocean tsunami (*see Chapter 1/9, page 27*).

1/9

R&R requires a lot of resources and technical expertise. UN agencies, banks, the IFRC and civil society partners can mobilise resources, which can greatly supplement the resources mobilised by the government for R&R (*see Chapter 3*).

3

It is important to be aware of the cluster approach of the Inter-Agency Standing Committee (IASC), which operates at both the global and country level to improve the effectiveness of humanitarian response through improving the predictability and accountability of humanitarian actions. The Commitee aims to address identified gaps in response and enhance the quality of humanitarian actions by strengthening partnerships between UN agencies, the IFRC, international organizations, and NGOs as well as through enhanced coordination of response (*see Chapter 4*).

4

Key Take-away Points

- Adopting a common methodology and joint partnership between government and development partners in undertaking post-disaster needs assessments is essential for caging the foundation for R&R planning and implementation.

- Implementation of R&R requires strong policy guidance in terms of defining a vision, laying out principles, outlining roles and responsibilities, and identifying cross-cutting issues.

- R&R should factor in special considerations to meet the needs as well as acknowledge the contributions of vulnerable populations such as women, children, the elders, the disabled, and the disadvantaged.

- The physical planning aspect of R&R plan should be guided by existing land use and investment plans and include risk information as an integral part of decision making.

- R&R in conflict situations requires an inclusive approach, setting tangible targets for each transition period, ensuring programme suitability at local level, seeking comprehensiveness through reform of security and justice, and being patient.

- Disaster and environmental degradation can form a vicious cycle. R&R needs to be environmentally sensitive.

- R&R in different sectors requires different approaches yet close coordination because of the inter-relatedness between sectors. It is also important to use recovery as an opportunity to improve pre-disaster facilities and to outline long-term DRR.

- Implementation of an R&R programme requires trained human resources in large numbers for a short to medium term duration. A strong capacity-building component therefore needs to be an integral part of the plan.

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SHARP

3

MOBILISING AND MANAGING FINANCIAL RESOURCES

KEY CONSIDERATIONS

1 Strategy for Management of Financial Resources
2 Exploring Sources for Resource Mobilisation
3 Different Forms of External Resources
4 Different Channels for Allocating External Funds
5 Choosing the Disbursement Agency
6 Choosing Effective Channels for Disbursement
7 Effective Management of Financial Resources
8 Arranging Trust Funds in the Pre-disaster Phase

CHAPTER 3

Financial resources are critical for meeting the needs of R&R. However, managing the resources in a transparent manner and ensuring their optimal and efficient use is as important as mobilising resources on time. Based on experiences of mobilising and managing financial resources after the 2004 Indian Ocean tsunami and lessons learned from other recent large scale disasters in Asia, this chapter highlights the key considerations for financial resources, ranging from detailing a strategy for mobilisation and management to outlining potential sources and ensuring effective management.

1 STRATEGY FOR MANAGEMENT OF FINANCIAL RECOURCES

At the onset of recovery planning, the government is required to put in place an effective strategy for the management of financial resources as part of the overall strategy for R&R.

This strategy should include:

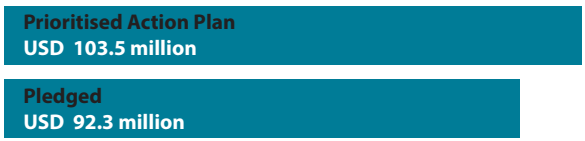
- Devising plans for mobilising financial resources from within and outside the country.
- Identifying a central agency to be responsible for allocating, disbursing, and monitoring financial resources.
- Selecting approaches for good public financial management practices in order to manage funds with coordination among various sources and proper administration of receipts, distribution of funds, and tracking of resources.

Several actions need to be undertaken for mobilising financial resources from within and outside the country, including:

- Articulating financial needs is based on the results of a post-disaster needs assessment (*described in Chapter 2 of this handbook*). Financial needs must be broken down along public and private sectors as well as for subsectors and administrative units (e.g. districts, provinces) affected by the disaster.
- Organising donor conferences that act as a venue for mobilising official international assistance. Outcomes from the donor conference should include pledges to specific sectors for R&R.

2

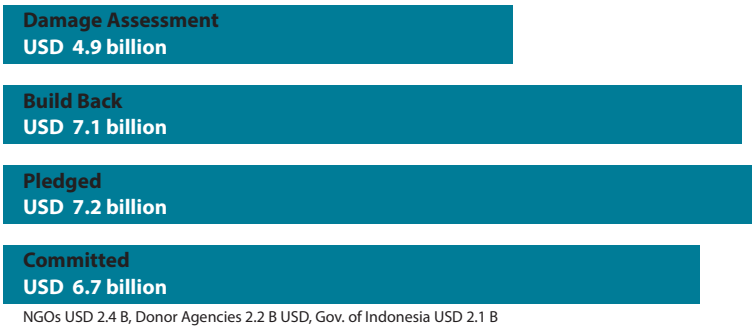
To mobilise financial resources during R&R after the 2008 Cyclone Nargis in Myanmar, the Post-Nargis and Regional Partnership Conference was organised in November 2009. The primary aim of the conference was to raise funds to address the critical needs of the continuing reconstruction in Cyclone-affected areas, to take stock of the first 18 months of post-Nargis efforts, and to share lessons learned from the response. More than 160 participants attended the conference, including representatives of ASEAN member states, UN agencies, national and international NGOs, and heads of diplomatic missions. The donor community promised tremendous support for the post-Nargis recovery effort and approximately USD 88 million – over 85 percent of the USD 103 million appeal – was confirmed at the Conference.



SOURCE: A Humanitarian Call, The ASEAN Response to Cyclone nargis, 2010

Ensuring that pledges are converted to commitments remains a challenge in most disasters, but donors must be confident that money will be used effectively and accountably.

During the 2004 Indian Ocean tsunami recovery, an international conference on promoting financial accountability in managing funds related to the tsunami was held in April 2005 in Indonesia. "I have declared my commitment in fighting against corruption as a national movement in December 2004," said Indonesian President Susilo Bambang Yudhoyono. "We will press on as hard as we can in the fight against corruption. We have registered encouraging progress in dealing with corruption in this country. We are strongly determined and committed to ensure that there will be no corrupt practices in the spending of these R&R funds".[1] The figure below shows the amount and type of finances committed to the Aceh and Nias recovery.



NGOs USD 2.4 B, Donor Agencies 2.2 B USD, Gov. of Indonesia USD 2.1 B

Highlighting past experiences of a government's work with specific donors may help towards receiving commitment.

After the 2001 Gujarat, India earthquake, loan packages with the World Bank and the Asian Development Bank were signed within a month – a record for the two Banks. The time frame was possible because the Banks had established relationships with Gujarat and were comfortable with the State's financial accountability.[2]

Experience has shown that donors are more likely to make commitments to sector strategies or clearly defined project proposals.

In the case of 2004 Indian Ocean tsunami recovery, the National R&R Plan (NRRP) of the Maldives estimated the total cost of reconstruction (other than tourism) at USD 375 million. During August 2005 and June 2006, this figure was revised to reflect the changing costs and needs. The revised figure was USD 393 million. Based on these estimates, the funding gap in mid-November 2006 was USD 70 million, down from a gap of USD 236 million in 2005. However, despite fund raising progress, some sectors, such as transportation, energy, and housing, still faced critical funding shortages.

SOURCE: Development Assistance Database, Ministry of Finance and Treasury – December 2006.

In Sri Lanka, against the pledges of USD 2.8 billion following the 2004 Indian Ocean tsunami, commitment was made for USD 2.1 billion.[3]

Innovative partnership strategies can secure additional funding, in the case of a funding gap:

The Maldives launched the "Adopt-An-Island" initiative after the 2004 Indian Ocean tsunami. Implemented by UNDP, the initiative emerged as a particularly powerful marketing tool through which donor support could be matched directly to a specific project. By mid-2006, 44 percent of the USD 41 million that UNDP had raised was mobilised through Adopt-An-Island.[4]

Setting up an information system will help in tracking resources and allow allocations to match real needs on the ground (*see Chapter 5*).

5

2 EXPLORING SOURCES FOR RESOURCE MOBILISATION

The scale and visibility of a disaster usually defines the various sources of assistance available for R&R, ranging from the national government to bilateral and multilateral donors, NGOs and the private sector. Below are examples from various recent disasters where different sources of assistance have played an important role.

National government: The government can contribute a very important portion of financial resources, not only in terms of amount, but also for demonstrating the country's commitment in leading the process of R&R. However, mobilising national resources will generally involve a budget reallocation process. This reallocation primarily diverts resources from planned development projects and is an ad-hoc process.

 After the 2004 Indian Ocean tsunami, a major portion of R&R costs in Thailand were borne by the government. The overall budget for tsunami R&R was nearly USD 1.7 billion, out of which the government set aside USD 112 million for immediate relief, USD 73 million for rehabilitation measures, and initially USD 8.3 million for public infrastructure reconstruction. The country agreed to receive assistance from foreign governments only in the form of technical assistance, which amounted to around 10 percent of Thailand's recovery-related budget.[5]

 Similarly, following the 2008 Sichuan, China earthquake, the government implemented a strategy to provide additional resources to affected populations throughout the relief and recovery phases. The strategy, called twinning, linked several badly impacted counties and cities with other Chinese provinces and municipalities. These partnerships aimed to assist affected areas with resources, personnel, and moral support for recovery. Teams of doctors, public health professionals, and sanitation and disease control experts were immediately dispatched to the affected partner county; a reported 1–3 percent of the annual gross domestic product of the sponsor provinces was pledged towards long-term recovery efforts in the affected county for at least three years. For example, Wenchuan County, the epicenter of the earthquake, was paired with wealthy Guangdong Province for long-term reconstruction assistance, including medical personnel to replace staff lost in the earthquake and training Wenchuan- based staff in teaching hospitals in Guangdong[6].

Bilateral donors and multilateral agencies: Bilateral donors will include the governments of partner countries and multilateral agencies will include UN agencies and international financial institutions (IFIs), such as the World Bank and the Asian Development Bank. IFIs usually fund grants and new loans after disasters. In some cases, they also reprogramme existing projects. Experience has shown that bilateral/ multilateral donors typically provide the largest contributions, surpassing amounts committed by national agencies and NGOs.

- In the case of Aceh and Nias R&R, of the USD 6.7 billion funds committed, USD 4.6 billion came from various bilateral and multilateral donors, international NGOs, and communities.[7]

- In the case of Sri Lanka, out of a total USD 2.15 billion for R&R, around 31 percent came from bilateral donors, 29 percent from multilateral agencies, and the remaining 40 percent from NGOs and INGOs.[8]

NGOs: In most cases funds mobilised by national and international NGOs form a large portion of the total R&R funds.

Private sector: In many cases, the private sector can play a crucial role in mobilising resources for R&R.

- In the case of the 2004 Indian Ocen tsunami recovery in Thailand, the corporate sector provided a big share of donations, estimated at USD 50-60 million in 2005, a substantial amount when compared with international assistance.[9]

Charity: Depending on the scale and visibility of the disaster event, charity can account for a huge portion of total assistance.

- In the case of Aceh and Nias R&R, grass roots donations for victims of the tsunami broke all fundraising records for an international humanitarian crisis.[10]

- In the case of recovery in Sri Lanka, donations and flow of remittances from Sri Lankans living abroad sharply increased in the months immediately after the tsunami. Figures show donations received through banking channels by 30 June 2005 were LKR 15.3 billion (USD 153 million). This included LKR 2.3 billion (USD 23 million) by the government, mainly through the Central Bank of Sri Lanka and two state commercial banks. People donated generously and all major banks set up special arrangements to receive remittances.[11]

3 FORMS OF EXTERNAL RESOURCES

Resources from development partners can be in form of grants, new loans, in-kind donations, technical assistance, reprogramming of existing projects or even debt swaps.

 After the 2001 Gujarat, India earthquake, funding was provided through a combination of domestic and international governments, grants and loans from bilateral agencies, payments from insurance companies, loans from multilateral development banks, and grants from NGOs and the private sector.[12] In this case, the majority of the funds came from loans rather than grants. In 2001, the World Bank and the Asian Development Bank both loaned large sums to the state government of Gujarat (USD 400 million and USD 500 million, respectively) followed by similar packages in 2002.[13] These loans became part of a fund for R&R efforts and were dispersed by the Gujarat State Disaster Management Authority.

The resources available can be earmarked or un-earmarked.

 In the case of Aceh and Nias, more than half the funds from the UN appeal were given as un-earmarked money.

4 CHANNELS FOR ALLOCATING EXTERNAL FUNDS

During R&R, different modalities can be used for allocating external funds, be it via implementing partners or through trust funds.

 In the case of 2009 Cyclone Nargis recovery in Myanmar, of the total donor funds released to implementing partners, about 40 percent of USD 187.77 million was released to INGOs, 22 percent or USD 10.91 million released to UN agencies, 19 percent or USD 9.67 million released to the government, and 16 percent or USD 8.09 million were implemented directly by donors. Moreover, three trust funds received funding, the Livelihoods and Food Security Trust Fund (LIFT), Health PONREPP and World Bank GFDRR.[14]

 In the case of Aceh and Nias recovery, roughly half of all donors' aid was channelled through NGOs, many of which operated as both implementing and funding organisations that also supported smaller NGOs with funding.[15]

5 CHOOSING THE DISBURSEMENT AGENCY

The agency chosen for disbursement of the funds can be the nodal agency responsible for R&R (*see Chapter 1*). The relationship between disbursement agency and nodal agency must be well established. The responsible agency should also have clear relationships with the national agency responsible for normal governmental financial management.

1

In the case of Sri Lanka, fund disbursement was undertaken by TAFREN and later on by the Reconstruction and Development Agency (RADA).

In the case of the 2001 Gujarat, India earthquake R&R, GSDMA was effectively used by the Gujarat State government as the main coordinating agency to ensure funds were distributed appropriately and non-governmental organisations were properly coordinated. It allocated the rights to implement projects to only one agency per village in order to avoid redundancy. These villages did not get to choose the agency; however, their agreement to the partnership was a stipulation of implementation. If the partnership was not welcome, villagers had the option to decline the assignment and request another agency. In conjunction, if an NGO did not meet their contractual obligations in a community, other villages were less likely to agree to work with them. This created accountability and gave the villages leverage during negotiations, especially in terms of collective decisions on projects to be implemented in the community[16].

6 CHOOSING EFFECTIVE CHANNELS FOR DISBURSEMENT

In R&R, time is essential. It is not enough to have committed financial resources, they must also be disbursed quickly in order to meet the ground needs. Since these resources are from different sources, experience has shown there is a need to create different modalities for channelling resources. In each case, the modality should be as flexible as possible in order to meet diverse needs: at the same time, it should have a clear system by which it can be tracked. Development partners can choose whichever channel suits them best depending on their strategy, capability and development agenda.

In the case of Aceh and Nias recovery from the 2004 Indian Ocean tsunami, three types of financing options were established by the BRR in recognition of the considerable diversity among donors in Aceh and Nias.[17] These options are briefly described below.

On budget/on treasury: In this option, funds are channeled through the government budget by signing a grant or loan agreement. Disbursement follows the government budgetary system and regulations.

Advantages: On-budget mechanisms promote ownership, alignment, managing for results, and mutual accountability of aid funds by allowing the affected government to formulate and implement its own reconstruction or development plans, and using its own methods of prioritising, planning, and implementation. It also implies that projects are accountable under the national budgetary system.

Disadvantages: National budget-related regulatory processes could be slow to respond to reconstruction needs.

Partners who chose this option: Multilateral donors such as the World Bank and ADB, both being essentially Banks with no direct implementing capacity, as well as some of the large bilateral donors, chose this modality.

On budget/off treasury: In this option, projects are carried out by the respective implementing agencies and disbursement of funds is done outside the treasury. Under this mechanism, funds are not initially legalised in the budget document. Disbursement is made directly from a donor's account into government account in a specific bank. From there, payments are channelled to implementing agencies. After the procurement of goods or services is completed, the disbursed funds are given budget legalisation.

Advantages: The donor has its own implementing capacity, which helps relieve the burden of implementation from the partner government, whose resources are typically spread thin across sectors and regions affected by the disaster.

Disadvantages: While the projects are still accounted for in the national budgetary system, the reconstruction authority lacks the full authority to influence the allocation and implementation process. Donor agencies usually arrive with preconceived notions on the types of project to be funded and the way these projects should be implemented.

Partners who chose this option: In the case of Aceh and Nias, this mechanism was primarily used by bilateral donors such as the Governments of Japan and Germany.

Off budget/off treasury: In this option the implementation mechanism is directly on the ground and the fund is accordingly channelled.

Advantages: Since it does not require passing through the budgetary process, disbursement is faster and better able to meet some urgent needs such as support for those with trauma, getting children back to school, and providing shelter.

Disadvantages: Since the process is legally not accountable to the government, it makes it difficult to monitor and evaluate the contribution. Further, each donor will have its own accounting, financial management, and procurement arrangements, resulting in fragmented recovery efforts.

Partners who chose this option: This option is generally followed by UN agencies, NGOs, and the private sector.

Other modalities: Pooling resources through a **multi-donor fund** reduces transaction costs and increases harmonisation between programmes and projects that are funded. This mechanism also allows assembling funds for programmes whose scale exceeds the capacities of a single donor.

In the case of Aceh and Nias recovery, the Government of Indonesia and donors formed the Multi-Donor Fund (MDF) to pool donor contributions. The fund was co-chaired by the BRR as the Government of Indonesia representative, the World Bank as the trustee, and the European Commission as the largest donor. It provided an opportunity to simplify coordination, information flow, and administrative and access costs associated with the reconstruction effort. For donors, the MDF created a forum for their voices. The nearly USD 700 million in the MDF, which amounted to about 10 percent of the total funds, had a relatively lower degree of constraints and therefore could also be utilised to help bridge gaps between funds and sector needs.[18]

Special funds for a speedy response to programme needs: In some cases special funds, such as trust funds, will need to be created with a high degree of flexibility in execution and a focus on speedy response to programme needs.

After the 2004 Indian Ocean tsunami, the Aceh and Nias Trust Fund was created to accommodate non-traditional and smaller donors, both public and private. The trust fund included open funds, to be allocated by the BRR to the most pressing programme needs, and closed funds, earmarked by donors for particular projects. The BRR had oversight of programme and fund allocation, while the Trust Fund was was in charge of the oversight of the programme and the fund allocation for all aspects of financial management including accounting and fund administration services.[19]

Typical disbursement challenges to be addressed during large-scale R&R include:

- For projects that are funded through on-budget mechanisms, there needs to be greater flexibility in switching allocations as needed in the field, since the budget details that were valid during the planning stages might turn out to be inappropriate during implementation, possibly due to gaps and/or overlaps. Thus a block-allocation process is preferred over line-item allocations to individual projects. A mechanism needs to be in place to allow carrying over unspent budgets while still receiving a full budget each following year. This is especially valid for early years of recovery when the planning stage might take longer (often many months of the annual budget cycle) to assess actual needs.

- Government procurement procedures must be simplified to meet the necessary speed for R&R. There must be a legal basis for tax-exemptions on foreign grant funded goods and services procured by NGOs.

Direct funding to community: Direct funding to the affected community is one of the channels used by development partners in R&R. Post-tsunami R&R in Indonesia used this direct funding to empower many community organisations to actively participate in the longer-term development of Aceh and Nias. The Asian Development Bank channelled over USD 40 million of the Earthquake and Tsunami Emergency Support Project funds in six components - agriculture, fisheries, irrigation, housing rural water supply and sanitation, and education directly to communities via traditional community organisations such as farmer and fisher groups, and traditional Acehnese associations.[20]

7 EFFECTIVE MANAGEMENT OF FINANCIAL RESOURCES

It is extremely important to set up an effective system for managing financial resources in order to ensure that available resources are reaching the most needy, as well as for a certain donor trust being maintained. The following actions can help in setting up effective management systems:

Tracking system: Tracking financial flow in R&R is very complex because of the various sources of funding as well as various channels through which funds are allocated. However, it is extremely important to set up a tracking system very soon after the disaster. The tracking system should capture not only aid flows at the macro-economic level (monitoring donor activities by economic sectors or administrative units) but also at individual project level, in order to reduce duplication of effort and under-financing. For setting up such systems, the existing local government financial management system should be adopted or developed (if not pre-existing) with similar capabilities to the national tracking system, so that information can be aggregated.

After the 2004 Indian Ocean tsunami, the governments of Thailand, the Maldives, Sri Lanka, and Indonesia had established aid management platforms to provide an online vehicle for a comprehensive inventory of projects, financial commitments, and disbursement. Such databases can play a crucial role in filling the gaps in accurate financial tracking.[21]

Specific to Indonesia, the BRR authorised the country office of the World Bank to manage a system developed to track the financial progress of R&R programmes. Inputs to the system included a comprehensive needs assessment, project concept notes for all projects, detailed financial needs as well as indicators on outcomes and anti-corruption measures, the reconstruction agency's budget, derived from the national master plan for reconstruction, and regularly updated information on all R&R projects run by donors and the top 20 NGOs. It was recognised that while it is important to try to capture every project, whether implemented by government, NGOs, or other donors, it is even more crucial to focus on top players that execute the bulk of the projects. In Aceh and Nias, for example, the top 20 implementing agencies were responsible for 85 percent of reconstruction projects by value. The system's regular output included four key charts that proved highly useful, especially amongst the donor community, in showing financial progress.[22].

In case of Cyclone Nargis recovery in Myanmar, the coordination office of the ASEAN Humanitarian Task Force established a delivery unit. The unit was headed by a monitoring and evaluation officer and supported by four data analysts. The delivery unit had seven main functions[23]:

1. Track pledges from donors: Identify funding status, sector allocation, disbursements, and delivery channels for each donor.
2. Monitor project activities of implementing partners: monitor implementation progress (outputs/deliverables) of each implementing partner.
3. Track projects in the field: Monitor progress of projects in the field, provide updates on the status of implementation and identify specific locations for each project.
4. Develop the Recovery Information, and Accountability System (RIAS) database: Design of a database that provides detailed information, from funding status to project delivery.
5. Issue monthly delivery updates to stakeholders.
6. Synchronise with the existing tracking system: Work closely with existing available resources to synchronise and complement information and data.
7. Provide analysis for actions: Provide regular or situational updates and analysis on the progress of delivery for high-level decisions and actions.

There must be a venue for **exchanging information** between government and donors, and among donors themselves.

A system for **reporting on the use of funds** will provide concrete data showing how beneficiaries are benefiting from donor contributions.

A system for the **regular review of all programme**s funded by bilateral and multilateral agencies will ensure consistency with the recovery plan and evolving priorities.

Transparency and accountability in disaster recovery is very important as experiences in many post-disaster recovery processes, such as in Aceh and Nias after the Indian Ocean Tsunami in 2004, indicate that there is a strong correlation between the level in trust and governance of the coordination and implementation structure that will manage the overall R&R in the affected country and the magnitude of international community support.[24]

In the case of Indonesian Tsunami R&R, a Recovery of Aceh-Nias (RAN) Database was developed, which provided photographic documentation and GPS coordinates for all houses and assets rebuilt during the reconstruction. The Database was public and available to anyone, thus it put pressure on agencies to be transparent and accountable (*see Chapter 5*).

5

Financial contingency: R&R is implemented over years and it is important to consider financial contingencies due to factors such as inflation, exchange rate fluctuation in case of external funding and other risks. Planning and budgeting should naturally take into account contingencies. In any environment, there is a certain level of volatility and extra care should be taken to ensure that financial resources are secure and adequate to meet financial obligations. This includes using future prices of commodities where necessary and taking into account inflation during the budgeting stage. In regards to losses on foreign exchange, limiting the number of non-CHF pledges/income would be the first step to reduce this risk. However fluctuations in exchange rates cannot be predicted and therefore contingencies cannot be accurately planned.

Liabilities must also be factored into the budget, as they are projected and deemed necessary.

8 ARRANGING TRUST FUNDS IN THE PRE-DISASTER PHASE

Considering the level of exposure and vulnerability and increasing intensity and frequency of hazards, disasters cannot be avoided in toto. Hence, to manage upcoming disasters, it is important to have preparedness systems in place including financial mechanism for funding recovery and reconstruction. Though a relatively new theme, preparedness procedures are gaining importance.

- To manage disasters more effectively, it is important to have robust preparedness procedures, including financial mechanisms for funding recovery and reconstruction. Although still relatively new, these procedures and mechanisms are growing in importance. GFDRR has established the Standby Recovery Financing Facility (SRFF), also known as Track III in 2008, to support sustainable recovery in high risk, low-and middle-income countries at federal, provincial and local levels. SRFF assists country governments with reliable and internationally acceptable damage, loss and needs assessments. It provides technical assistance for subsequent post-disaster recovery and reconstruction planning and financing, and accelerated recovery through needs-based and speedy recovery programmes in extreme situations. The ex-post activities of SRFF are disaster-specific while the ex-ante capacity building initiatives are programmatic.[25]

- The Indonesia Multi-Partner Fund Facility for Disaster Recovery (IMDFF-DR) has been established as a standing mechanism to help fund implementation of the Government of Indonesia's Rehabilitation and Reconstruction Action Plans (RENAKSI) that are formulated following disasters required international support. RENAKSI are based on government-led post-disaster needs assessments conducted with the support of the United Nations and the World Bank and provide the foundation for priority setting for the Facility.

To ensure national ownership, all projects funded by the Facility are in support of, and strictly aligned with the Government of Indonesia's Damage and Loss Assessment (DALA), Early Recovery Plan, and RENAKSI or post-disaster Action Plans. The IMDFF-DR is intended to complement government-funded recovery activities, bring strategic value in developing capacity and promoting sustainability.[26]

Key Take-away Points

- R&R strategies should pay attention to aspects related to the management of financial resources.

- Actions must be taken to mobilise financial resources from various sources and in various forms.

- The right agency and appropriate mix of channels for disbursing financial resources ensures the timely reach of resources to the most needy.

- An effective system to track the use of financial resources helps to find gaps, minimise overlap and demonstrate transparency.

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4

COORDINATION AND COMMUNICATION

KEY CONSIDERATIONS

1 Coordination
2 A strategic Approach to Coordination
3 Coordination with and within Line Ministries
4 Other Coordination Mechanisms
5 Prioritising Communications
6 Developing a Communication Plan
7 Basic Steps to Design a Communication Plan
8 Pre-disaster Coordination and Communication
9 Development Partners and Coordination

CHAPTER 4

Coordination and communication are key for a successful R&R programme. They facilitate project-based activities, mostly driven by the government in collaboration with a variety of stakeholders, including affected communities. **Coordination** is the unification, integration and synchronisation of efforts so as to provide unity of action in the pursuit of common goals. In case of R&R, coordination is very important as a high number of agencies (in the case of Indonesia's R&R in the aftermath of the tsunami 2004, more than 900 agencies were engaged) work for a common goal. This chapter presents coordination models and key considerations for inter- and intra-agency operations used in earlier R&R programmes. **Communication** is the importing or exchanging of information by speaking, writing, or using some other medium. In the context of R&R, it is of strategic importance because recovery goes beyond 'business as usual'. In the following, a model is given to explain how to best approach communication in R&R. The chapter presents key considerations and options on how to coordinate and communicate during post-disaster R&R.

1 COORDINATION

It is almost impossible for a single agency to undertake a successful time-bound R&R programme, which involves multiple sectors and beneficiary groups, wide geographical areas, and huge resources. The involvement of a range of agencies including government, line ministries, UN agencies, donors, banks, regional agencies, the IFRC, and NGOs, is essential as they bring toghether a wide range of expertise and coordinate services. Coordination brings synergy between various actors as well as sectors of R&R and helps avoid overlap and competition. While coordination takes place at various levels; however, there should be one main coordinating agency, which is responsible for overall achievements.

The BRR was established as a coordinating agency to ensure transparency, accountability and speed in the reconstruction of Aceh and Nias after the 2004 Indian Ocean tsunami.

In the case of R&R after the 2001 Gujarat, India earthquake, one of the key responsibilities of the GSDMA was to coordinate and implement the R&R programmes, including for housing, infrastructure, economic and social rehabilitation, and other related programmes.

In the case of R&R after the 2004 Indian Ocean tsunami, in Tamil Nadu, the district governments were given responsibility for coordination of reconstruction with significant financial and technical support from the state.

2 A STRATEGIC APPROACH TO COORDINATION

A strategic approach to coordination needs to be part of R&R planning and policy documents. If the country or province has a pre-disaster recovery planning framework, it should include an overall coordination mechanism and specific protocols that can be issued in the post-disaster situation.

In Indonesia, the Master Plan for post-tsunami R&R highlighted the need for coordination and indicated the scale of coordination based on the scope of duties and authorities of the institutions/agencies concerned. It focused on vertical as well as horizontal coordination which included: Coordination between central and regional governments as well as related agencies; technical departments and ministries coordinating with implementing agencies; and central and regional governments as well as related agencies fully supporting the implementing agency.

■ In Japan, the Inter-Ministerial Committee for Reconstruction was constituted to ensure integrated reconstruction measures with multi-sectoral collaboration in the aftermath of the 1995 Great Hanshin-Awaji earthquake. Also, after the 2004 Niigata-ken-Chuetsu earthquake, inter-ministerial R&R committees were established for better coordination.

■ The Pre-disaster National Disaster Recovery framework of the U.S. identifies a federal recovery coordinator for facilitating federal assistance and coordination and collaboration with the local government and others. The framework also identifies the appointment of tribal and state recovery coordinators.

3 COORDINATION WITH AND WITHIN LINE MINISTRIES

The implementation of an R&R programme is mostly led by line agencies. Horizontal coordination is important at the central as well as field level:

In Indonesia, the BRR had a mandate to coordinate the R&R activities of line agencies and others at the central level after the 2004 Indian Ocean tsunami.

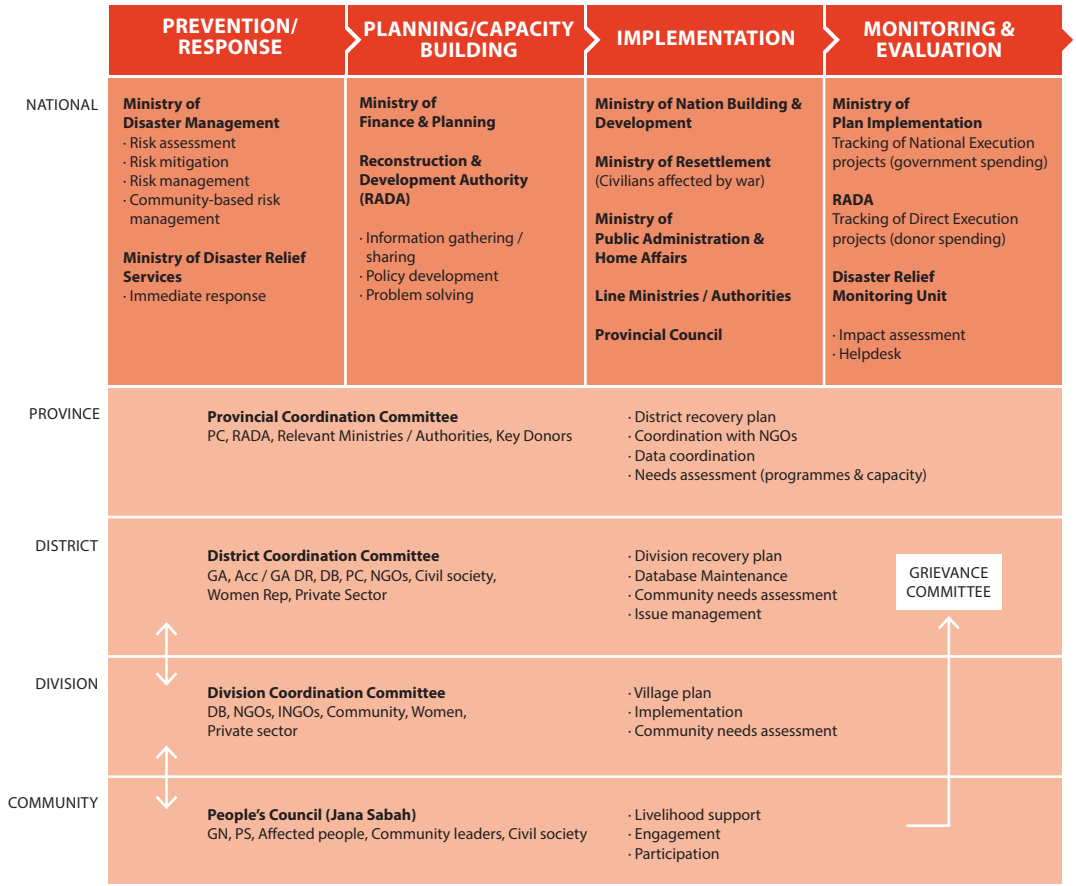
In the 2001 Gujarat, India earthquake R&R, the GSDMA coordinated R&R activities of sectoral departments at a central level while the district administration coordinated field-level activities.

For R&R after the 2005 Pakistan earthquake, the following units were created at sub-national levels:

- A district reconstruction unit, with representatives from all relevant line departments and an elected official, in all affected districts.
- At the provincial and state levels, the Provincial Earthquake Reconstruction and Rehabilitation Agency and State Earthquake Reconstruction and Rehabilitation Agency were created, with representation from all the relevant line departments.

For the 2004 Indian Ocean tsunami R&R in Tamil Nadu, a unit was created at the state level to coordinate R&R activities while field-level activities were coordinated by district administration.

Sri Lanka set up a multi-level horizontal as well as vertical coordination mechanism for R&R after the 2004 Indian Ocean tsunami (*see figure on the next page*).



4 OTHER COORDINATION MECHANISMS

UN agencies, the IFRC, donors and other civil society partners play an important role in R&R, and the nodal agency for R&R needs to coordinate with them. It is important to be aware of of the coordination mechanism of the following agencies *(see Chapter 4/7)*.

4/7

- IASC
- UN Agency
- IFRC
- Regional agencies
- NGOs and CBOs
- Donors
- Private sectors

5 PRIORITISING COMMUNICATIONS

The first few months after a disaster is a period of high expectations, great media interest, and yet less visible R&R progress. Survivors want to return to their homes and livelihood, and donors and partners are under pressure from their constituents to see results, especially in the wake of media reports. Publicising and explaining the less visible steps of planning, procurement and restoration is important.

An emergency or disaster is a highly disruptive and stressful event for affected people. Access to quality information before, during, and after an emergency can have a profoundly beneficial effect on the resilience and recovery of individuals and the community (Australian Red Cross, 2010).

Communication should precede intervention projects and must be continuous throughout project implementation. Communications have been given priority in most R&R programmes.

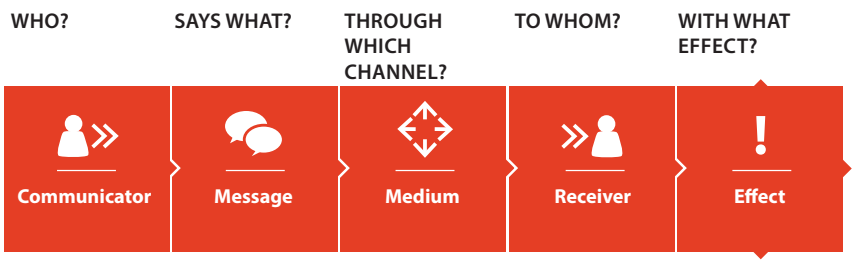
 In the 2005 Pakistan earthquake R&R, the ERRA conducted communication-based assessments (CBA) with support from communication specialists. It also established a media cell.

 In the 2004 Indian Ocean tsunami R&R, the BRR in Indonesia established a communications team staffed with experienced communications professionals, some brought in from donor agencies. In addition, for its first year of operation, BRR hired a professional communications firm.

Communication in R&R should be a mutual dialogue to understand the context and influences of stakeholders involved. It can then lead to developing messages that respond to concerns. These messages must be disseminated using appropriate means and must increase community knowledge about R&R interventions. It is essential to keep in mind that access to media may be very limited for an affected community at this stage, and innovative ways may be needed to reach people. Communication should also focus on enhancing the credibility and public perception of interventions.

6 DEVELOPING A COMMUNICATION PLAN

Communication in R&R requires appropriate and systematic planning. It can be designed using a simple model that answers the following questions:



It is critical that all answers be determined based on feedback (dialogue with stakeholders). An understanding of stakeholder perceptions is crucial to designing a communications strategy, since these perceptions influence behaviour.

An emergency usually generates a number of possible effects on those involved. These include shock, high arousal, narrowing of focus, disbelief and confusion about what has happened or is currently happening. It is essential to consult the community and other stakeholders involved in the process and ask how they want to receive information to increase effectiveness and community participation in the recovery.

6.1 WHO

In R&R, it is best that a single coordinating agency takes the responsibility for communication. Chapter 1 discussed in detail the need for a coordinating agency for R&R. The "Who" must be credible and trustworthy. These two characteristics are intertwined: credibility leads to trust and vice versa. But, depending on the campaign, sometimes credibility is more important and sometimes trustworthiness is. In most countries, the agency is an arm of the government, but professional media and other consultants may be partners in communications:

The BRR in Indonesia was in charge of communication on R&R overall and engaged a professional communication agency.

In the 2005 Pakistan earthquake R&R, the ERRA also engaged communication experts.

The World Bank (2010) lists recommendations on the communications activities desirable from the lead agency, which include:

- The government should decide on the lead agency to develop and coordinate the post-disaster communications strategy and assign staff to carry it out.
- The lead communications agency should decide with the lead disaster agency whether there is a need for technical assistance or institutional strengthening in communications, how the communications strategy will be financed, and whether and how to mobilise additional resources.
- The lead communications agency should decide with the lead disaster agency whether communications should be included as an element of the initial post-disaster assessment.
- The lead communications agency should decide which assessments will be done before defining the communications strategy.
- The lead communications agency should confer with key stakeholders to agree on the role of the community, local governments, NGOs and the private sector in defining and carrying out the communications strategy.

6.2 SAYS WHAT

The most important categories of information for affected people are:

- What is happening with the recovery process.
- What support is available.
- What they need to do to qualify for support.
- What they can do if they have questions, concerns or complaints.

The information disseminated must be:

- Clear – easily understood
- Credible – believable and true
- Complete – the receiver should not have to look for more information
- Concise – without beating about the bush
- Consistent – say the same thing when asked
- Cohesive – when a flow of different messages takes place, they must add up
- Courteous – compatible with socio-cultural norms

The same message may have different versions to fit different socio-economic and stakeholder segments. Taking the target audience's views when defining the communication is important. A communication-based assessment (CBA), concurrent with the situation analysis, usually seeks contextual issues, and community perceptions and inhibitions (which presents risks to / which jeopardizes the successful. implementation of a project), using a mix of communication techniques. Hidden and unknown communication needs may surface during the CBA. A CBA is usually done by a communications expert recruited
by the lead agency:

 After the 2005 Pakistan earthquake, a CBA was undertaken and previously unseen need discovered. The communities affected by the North Pakistan earthquake were spread over 20,000 km^2 of mountainous and rough terrain. Most communication infrastructure, including radios and televisions, was damaged or destroyed. Within weeks, the ERRA and the donor community realised that a large-scale communication effort was necessary to start an efficient, owner-driven, rural housing reconstruction project. The CBA concluded that people would need to be motivated to rebuild their lives and would have to be sensitised to new and safer methods of building homes in this disaster prone area. Survivors were rooted in a very traditional and conservative lifestyle. Traumatised by high levels of mortality and destruction, people feared that their value system was also threatened. The reconstruction strategy therefore had to address prejudices and fears related to the "new ways".

The content of the message and the language/design should be relevant to and representative of the target group. Clarity should be assured (in communication jargon: noise should be reduced).

After an emergency, people often have trouble remembering information. They look for information to assist their specific needs at a specific time, and ignore everything else. What may be irrelevant in week three may be relevant in week five. Information must be re-communicated periodically during the recovery process. An effective system of receiving feedback from the community will help to know when to repeat the information.

6.3 THROUGH WHICH CHANNEL

Most people are compelled to use mass media as the vehicle (channel) to disseminate messages, but very little attention is paid as to whether the target audience has access to these media. Affected people would have very limited access to newspapers, radio, or TV. Even stakeholders and partners in R&R may not have time to access these channels.

Buying time or space in mass media channels is expensive. However, limited use may be necessary to build public empathy. Once the target audiences are known through research, they must be profiled for media access. Answers must be found to "What channel is best? Where? When?":

 In the 2001 Gujarat, India earthquake R&R, a number of communication channels were used, including community-based communication. The Kutch Nav Nirman Abhiyan, a coalition of 14 NGOs, worked in 600 earthquake-affected villages and towns and encouraged the formation of village committees. The committees disseminated information on reconstruction packages and policies from government agencies to villagers to ensure equity in reconstruction policy and implementation. Earthquake rehabilitation support centers (also known as *setus*) were set up, which are village-level information and coordination units. The grievance platform of the *setus* was instrumental in ensuring non-discrimination and protection of the marginalised in socially stratified villages.

 In Indonesia, the Mukim (heads of villages) and local authorities met with people at the sub-district level and issues were communicated directly. The meetings were coordinated by the regional offices of the BRR and UNORC.

Mass media channels include pamphlets, flyers, brochures, fact sheets, printed newsletters, notice boards, posters, billboards, local newspapers and radio. Partnering with multipliers by plugging into existing systems and networks that can reach out to large numbers of people quickly and cheaply will help the dissemination of messages.

Depending on the social context, SMS, websites, blogs, and other social media such as *Twitter* and *Facebook* may be of relevance. Access to these media must be checked first the verification of sources becomes critical. For reaching the general public with information and requests for donations during the response stage, social media is very useful.

 In the 2010 Haiti earthquake R&R, the American Red Cross set up a mobile fund-raising mechanism that let people donate USD 10 (or any other amount they wished) from their phone by texting "HAITI" to 90999. 100 percent of donations went directly to disaster relief, and the Red Cross collected more than USD 32 million. A cash transfer through mobile phones programme also was undertaken by the government of Haiti and the UNDP, which used these funds to purchase construction materials such as cement, iron, and wood at selected, project-certified stores. In Haiti, nearly two-thirds of the population has access to a mobile phone, but only 10 percent have bank accounts.[2]

Volunteer-based social media can overcome barriers such as the lack of access to internet and of computer literacy among survivors.

 In the 2003 Iran earthquake R&R, UNDP supported a communications initiative to empower affected communities through participation and enhanced access to information by employing information and communications technologies (ICT). Information on government policies and activities, updated damage reports, entitlements, land status, and rehabilitation schemes were made available online in Persian. They were also distributed in print and through electronic information products, and at ICT-based kiosks and information boards located throughout the affected areas. The project produced and published a bi-weekly newsletter with the help of local volunteers trained as journalists.

6.4 TO WHOM

There are a number of different audiences in a post-disaster environment, all of whom need information. Target audiences include affected individuals, the affected community, the broader general public, community leaders, donors, the private sector, the media, government representatives and agencies, non-government agencies and emergency services organisations, and other recovery-programme implementing partners. Many sectors will be involved in R&R and stakeholder profiles may be different from sector to sector; thus messages will be heterogeneous. Without taking this into account, a communication strategy will not succeed.

 In the 2005 Pakistan earthquake R&R, the ERRA developed a communication strategy for housing reconstruction to meet the needs of the many different stakeholders. The strategy included identifying the audience, type, and purpose of information:

- Modern seismic construction techniques had to be explained to artisans and self-builders.
- Traditional building techniques had to be communicated to the engineering community.
- The inspection team of the army had to be trained to assess the compliance of reconstructed houses with established rules.
- Authorities had to be convinced that rules had to fit local potential for compliance.
- The public at large had to be made aware that earthquake resistant building solutions did exist.
- International donors had to be reassured that their financial support was used to ensure safe and sustainable construction methods.

6.5 WITH WHAT EFFECT?

Seeking answers to the following questions will assist in evaluating the success the communication strategy:

- Were the messages able to bring about the level of change desired?
- Were the target audiences reached with relevant information about the recovery process?
- Was the information accepted and did it help to clear any existing confusion?
- Were community voices listened to and project implementation adjusted in response?
- Did all the affected populations receive information about support available?
- Were there people who could not receive appropriate benefits?
- Were people's grievances met?
- Was community capacity enhanced for safer behaviour in future events?

In the 2004 Indian Ocean tsunami R&R, the Sri Lankan government declared a 100m buffer zone (no-build zone) for the western and southern coasts and a 200m buffer zone for the northern and eastern coasts. However, due to the scarcity of land outside the buffer zone areas for implementing different housing reconstruction strategies and the emergence of public and donor criticism, the Secretary Ministry of Urban Development requested the Coast Conservation Advisory Council to reduce the set-back, and the Advisory Committee decided to revert to the stipulated set-back areas of the 1997 Coastal Zone Management Plan. Although the decision to slash the 100m and 200m buffer zones was first announced in October 2005, the government did not provide detailed information to the public about how the new regulations would be applied. This created much confusion and uproar. In January 2006, the Coast Conservation Department sent out a comprehensive advisory to district secretaries and other officials detailing how far the buffer zone would extend into their respective areas.

It is important to note that recovery requires communication teams to be regularly in touch with the community to understand the dynamics of needs in the recovery period, which is of a shorter duration than normal development. This may require communication teams reaching out to the community rather than the community approaching the recovery agency.

In the 2004 Indian Ocean Tsunami R&R in Aceh, individual partner agencies communicated to beneficiaries in their own capacity but beneficiaries saw these agencies as representatives of BRR. When agencies fell short on their housing commitment, for example, due to inflation pushing up the cost of building and construction taking longer than expected, the beneficiaries blamed BRR. The beneficiaries had not been well informed about delays and the agency had not gathered feedback about their grievances. Regionalisation of BRR offices helped, as BRR was able to establish more direct communication channels with local governments and communities.[3]

7 BASIC STEPS TO A COMMUNICATION PLAN

7.1 SITUATION ANALYSIS

The following questions should guide appropriate information gathering through effective methods:

- Who needs the communication?
- What do they need to know?
- When can they be reached?
- How might they respond?
- What fears and inhibitions are there?
- What channels should be used to deliver the information?
- How can the message be made culturally appropriate?

Key considerations while carrying out the analysis include:

- The project planners will be under pressure to yield tangible results quickly and may want to do away with fact finding.
- The project team can get carried away with what they think needs to get done and feel that dialogue is not a priority.
- Affected people may not be very cooperative in providing feedback, due to trauma.
- A team of experienced communication experts with understanding of R&R should conduct the situation analysis. They will know which communication technique to use to gather feedback necessary for project design and implementation.
- The team of communication specialists should draft and design the campaign in cooperation with project managers and local counterparts.
- Communication is only one part of the reconstruction work. The lead agency must put in place a coordination mechanism with all stakeholders to serve various needs during the reconstruction project period.

7.2 AUDIENCE SEGMENTATION

Informed decisions on primary and secondary stakeholders/audiences should be based on situational analysis. Usually the primary audience is composed of the beneficiaries of the project. Others involved in supporting the project comprise a secondary target group that may also need specific information.

In Sri Lanka, the housing beneficiaries (audience) after the 2004 Indian Ocean tsumani were split into four sub-categories.

7.3 IDENTIFY DESIRED CHANGES IN THE AUDIENCE

- Some examples of communication issues for tsunami-affected communities:

IDENTIFIED PROBLEM	PROBLEM RELATED TO
Affected people are not aware of the benefits they are entitled to	Awareness / knowledge
Affected fisher folk are reluctant to shift away from the shore line	Attitude
When governments representatives discuss interventions, they express anger and do not collaborate	Behaviour
Affected community members refuse to participate as volunteers in the building process	Mobilisation / collaboration
Members belonging to different castes (social strata) refuse to be neighbours	Social structure
Affected people need to know when to go, where to go, and how to go in the case of a future tsunami	Skills and practice

7.4 DEFINE AND FORMULATE SMART OBJECTIVES

The objectives should be specific, measurable, achievable, realistic, and time-bound (SMART).

7.5 SELECT THE APPROPRIATE CHANNELS

Mass media such as TV, radio, and newspapers are often considered for the dissemination of information, but in R&R these may be inaccessible to many. Situation analysis should determine the best way to reach the different audiences with the messages they need:

- For the displaced, without access to entertainment, folk drama with a message can be very attractive and effective possibly followed by discussions with project implementers after the performance.
- Where literacy is high, posters and pamphlets may succeed.
- Regular announcements at temporary shelters may also work.
- Mass media may be useful to build public empathy for projects.
- Social media may also become useful, but the thirst for information about the disaster may wane off by the time the reconstruction phase is reached, and the enthusiasm of citizen journalists may fade.

Different media and communication channels complement and reinforce each other. Strategic planning to select a combination of media should be used in order to determine how to deliver which messages to whom.

7.6 DESIGN KEY CONTENTS / MESSAGES

The effectiveness of a communication strategy largely depends on whether or not messages are catching the attention of and are understood by the target audience. Therefore, messages must be designed to suit the specific characteristics, educational backgrounds, and aspirations of each group of intended beneficiaries. Also the format of media selected should fit the audience.

It is strongly advised to hire skilled professionals to team up with the R&R nodal agency to design the media products to suit the mode of delivery.

7.7 IMPLEMENTATION OF THE COMMUNICATION CAMPAIGN

The implementation of a multi-media communications strategy requires a detailed timetable and an information management system that provides rapid feedback on important strategy activities and thus helps to readjust or change the strategy as necessary. A monitoring and evaluation mechanism must be built in as a mandatory requirement.

In Indonesia, the BRR convened annual forums of all partners and donors in each of the four years of the recovery programme in Aceh to assess overall progress and set priorities and plans for the next phase of reconstruction. The Coordinating Forum for Aceh–Nias (CFAN) met annually. During the course of CFAN 1, following the first year of reconstruction, the BRR recognised that coordination was problematic and changed its role from project manager to portfolio manager, meaning that it became more proactive in seeking agencies' commitment to serve some unmet needs.

7.8 APPOINT A MEDIA SPOKESPERSON

It is important to deal with media reporting to ensure correct and consistent information delivery to journalists and the mass media on project implementation progress and concerns.

This is best done through arranged press conferences on a regular basis.

8 PRE-DISASTER COORDINATION AND COMMUNICATION

Coordination mechanisms require time to be established. Hence, if the coordination system for R&R exists prior to the disaster, it can be implemented more effectively and quicker. The following steps can be taken:

- Planning for surge capacity
- Protocol and operating procedures for coordination
- Capacity building for coordination

Further, the communication plan for R&R should be prepared in the pre-disaster phase.

9 DEVELOPMENT PARTNERS AND COORDINATION

8.1 IASC COORDINATION MECHANISMS

The Inter-Agency Standing Committee (IASC) is a unique inter-agency forum for coordination, policy development, and decision making, involving the key UN and non-humanitarian partners. Along with the UN Executive Committee for Humanitarian Affairs (UNECHA), the IASC forms the key strategic coordination mechanism among major humanitarian actors in disaster situations.

The IASC cluster leads are as follows:

- Camp coordination/management: UNHCR (conflict situation) and IOM (disaster situation)
- Early recovery: UNDP
- Emergency shelter: UNHCR (conflict situation) and IFRC (disaster)
- Emergency Telecommunication: OCHA/UNICEF/WFP
- Health: WHO
- Logistics: WFP
- Nutrition: UNICEF
- Protection: UNHCR (conflict) and UNHCR/OHCHR/ UNICEF (disaster)
- WASH: UNICEF

In Myanmar in the aftermath of the 2008 Cyclone Nargis, the cluster coordination mechanism was activated. It has been considered as one of the strengths of R&R.

8.2 UN COORDINATION MECHANISMS

The UN supports R&R through a range of agencies including UNDP, UNOCHA, UNICEF, UN-Habitat, and the WHO, and coordination is extremely important during all phases.

In Indonesian R&R after the 2004 Indian Ocean tsunami, some 900 agencies were involved. The UN Office of the Recovery Coordinator (UNORC) was established at the request of the BRR, and played a key role in the coordination of UN activities. It served as single point of contact between the BRR and the UN. UNORC was geographically organised into six field offices and 25 district facilitation teams. Its 'One UN' approach sought to harmonise the UN's contribution to maximise its impact in supporting governments and communities in recovery, reconstruction and reintegration efforts. UNORC's establishment and work is recognised as good practice.

8.3 IFRC COORDINATION MECHANISM

IFRC and various Red Cross/Red Crescent societies are all involved in R&R and hence coordination is important among these societies.

In Indonesia's recovery programme, more than 20 national Red Cross and Red Crescent societies were active. IFRC had a staff member at the BRR to coordinate its member country activities.

8.4 REGIONAL COORDINATION MECHANISMS

Regional mechanisms such as the South Asian Association for Regional Cooperation and the Association of Southeast Asian Nations Centre for Disaster Management are emerging as key players in disaster management. For example, the SAARC Disaster Management Framework, approved by the SAARC Council of Ministers aims to "create a regional response mechanism dedicated to preparedness, emergency relief and rehabilitation to ensure immediate response". The ASEAN Agreement on Disaster Management and Emergency Response (AADMER), ratified by all member countries, also identifies regional cooperation on R&R as a key task.

In Myanmar in the aftermath of the 2008 Cyclone Nargis, ASEAN-led TCG acted as the go-between for governmental and non-governmental R&R work. The government of Myanmar and the UN were partners in the TCG.

8.5 DONOR COORDINATION

A number of donors support R&R programme.

In Myanmar in the aftermath of the 2008 Cyclone Nargis, the Livelihood and Food Security Trust Fund was launched as a USD 100-million multi-donor trust fund governed by a donor consortium and managed by UNOPS. It targeted the most vulnerable people of Myanmar and aligned with the Post-Nargis Recovery and Preparedness Plan.

In the 2004 Indian Ocean tsunami recovery programme, USD 692 million were mobilised in Indonesia. In order to coordinate donors, a Multi-Donor Fund (MDF) pooled resources from 15 donors and was managed by the World Bank. The MDF was co-chaired by heads of the BRR, the delegation of the European Commission and by the Country Director of the World Bank. One key aspect of this arrangement was to ensure that the government (represented by the BRR) had an equal in say in how Fund priorities were set and allocated, while avoiding bureaucratic complexity and the delays of having donations flow through the government budget.

8.6 COORDINATING AND ENGAGING THE PRIVATE SECTOR

In the aftermath of the tsunami, The Coca-Cola Company (TCCC) pledged USD 10 million to relief agencies and worked with them to provide victims with safe drinking water, food, medical supplies, clothing, blankets, and temporary shelters. To catalyse the transition from the relief to the reconstruction phase, the United Nations Foundation (UNF) matched a TCCC contribution of USD 1 million and took a sustainable community-based approach to providing access to water and sanitation services for meeting redevelopment needs in selected tsunami hit areas. In addition, the UNF committed to matching Coca-Cola employee contributions of up to USD 250,000.

8.7 COORDINATION WITH CIVIL SOCIETY ORGANISATIONS

Civil society organisations (CSOs), including INGOs, NGOs, and CBOs, are important players in recovery for their understanding of and good relations with communities, in additio to their technical, human, and financial resources. It is important to set the ground rules for engagement of CSOs for a planned and systematic recovery approach.

After the 2003 Bam, Iran earthquake, the government turned to UNOCHA and UNDP to coordinate the work of NGOs, in an effort to more equitably allocate support between rural and urban areas.

In some situations CSOs organise themselves. This was the case with Kutch Nav Nirman Abhiyan, a group of 14 grass-root NGOs, whose work was widely praised for its role in post-disaster R&R in the aftermath of the 2001 Gujarat, India earthquake.

After the 2004 Indian Ocean Tsunami, the South Indian Federation of Fisherman Societies and Social Need Education and Human Awareness Group initiated an NGO Coordination and Resource Centre (NCRC) to improve coordination of local NGOs involved in R&R. The government partnered with NCRC to facilitate coordination and information exchange between the government, affected communities, and other recovery actors.

After the 2003 Sri Lanka floods and landslides, successful CSO coordination took place at the national as well as district level. Government and CSO members were represented at monthly coordination meetings, where information on different programmes and activities was shared and updated, helping to identifying gaps and needs of affected communities.

Marginalised groups, such as which are mainly women, children, the urban and rural poor, and ethnic minorities are sometimes left out of on the recovery process. Under the R&R policy boundaries, it is sometimes difficult to meet the special needs of marginalised groups. Local institutions are better placed to address these issues in partnership with the authorities.

After the 2004 Indian Ocean tsunami in Sri Lanka, the Women's Coalition for Disaster Management played an important role in addressing gender issues in tsunami recovery.

Key Take-away Points

- In R&R, line ministries and departments, the local government, regional institutions, the UN, INGOs, the IFRC, CBOs, and donors are involved. To reap the maximum benefit, coordination is key at central as well as field levels.

- Coordination should start in the planning stage, and it is important to leverage existing coordination mechanisms. However, new mechanisms for coordinating R&R activities should be set up if required.

- Communication in R&R should be inclusive, especially of the affected community.

- Communication should be part of R&R from the beginning and should continue until programme completion.

- Existing communication modes should be adapted to address public demand, support changes and recognise champions.

- An enabling environment should be created through raising awareness to support the policy, legal, regulatory, technological, and financial aspects of the proposed intervention.

- In the pre-disaster phase, the overall coordination mechanism for R&R should be identified and capacity building for coordination should be undertaken. Also, the communication plan for R&R should be prepared.

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3 **BRR,** *10 Management Lessons for Host Governments Coordinating Post-disaster Reconstruction,* Executing Agency of Rehabilitation and Reconstruction (BRR) of Aceh and Nias, Banda Aceh, 2009. Available at: http://www.recoveryplatform.org/countries_and_disasters/country/6/indonesia

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INFORMATION MANAGEMENT, MONITORING AND EVALUATION

KEY CONSIDERATIONS

1 The Need for Monitoring and Evaluation in R&R
2 Considerations for Developing M&E Systems
3 Developing an M&E System
4 Implementing of M&E Systems
5 Undertaking Evaluation
6 Selecting Methods for Data Collection
7 How to Present Results and Findings
8 Designing Pre-disaster Systems for M&E

CHAPTER 5

The basic principles of **Monitoring and Evaluation (M&E)** in post-disaster systems work in the same way as under normal circumstances. However, the application of tools and use of resources may require flexibility and adaptation, depending on the circumstances encountered post-disaster. This chapter provides guidance to recovery practitioners on how to plan and implement M&E activities for post-disaster R&R. For example, the 'Pakistan 2005 Earthquake: Early Recovery Framework' mentions that an M&E mechanism will ensure effective multi-stakeholder monitoring of activities and will foster accountability and transparency in the use of resources. Monitoring activities will include on-site surveillance, regular reporting and financial expenditure tracking. The following pages will outline key considerations for effective Monitoring and Evaluation in post-disaster R&R.

1 THE NEED FOR MONITORING AND EVALUATION IN R&R

After any crisis, decision makers rely on rapidly acquired information to analyse impacts, set priorities, identify gaps, plan responses, mobilise resources, and engage in advocacy.

M&E systems are essential elements of good project/programme implementation, providing decision makers with critical information.

M&E systems provide data to decision makers on programme progress and effectiveness:

The Afghan Reconstruction Trust Fund (ARTF) is an established monitoring system, which provided timely information on project performance. ARTF was used to mobilise funds from a wide range of donors in support of the government of Afghanistan's efforts to continuously provide key public services across the country. The World Bank established a monitoring agent to provide monthly review reports , conduct verification of eligible expenditures and assess the performance of related accounting, payroll, procurement, and payment systems. The monthly reports were issues-focused, while more detailed quarterly reports provided analysis of expenditure execution problems and recommended corrective measures. This information was used by the World Bank and the government to discuss issues and findings.

M&E systems improve decision making by providing critical information that allows for programme/project adjustments to be made:

In Indonesia during the 2004 Indian Ocean tsunami R&R, the BRR established the Recovery Aceh Nias Database, which became the central coordinating database for tsunami recovery data in Indonesia, tracking 1,700 projects and a total of USD 3.7 billion in commitments. It featured sector-specific Key Performance Indicators (KPIs) for measuring the progress of reconstruction at various levels, including at the project and sector levels. It also provided a tool to analyse trends of KPIs against baseline and target values, as well as financial and other project data.

M&E systems support transparency and improve accountability to all stakeholders (the public, leaders, and funders):

During R&R in Aceh, Indonesia, the BRR and UNDP kept careful records of families that had lost homes. Based on these records, the agencies were able to catch abuses of the system when a few families tried to claim the loss of the same house twice.

M&E systems allow lessons to be captured that improve future programme/ project implementation:

In the 2008 Cyclone Nargis, Myanmar R&R, the Post-Nargis Joint Assessment (PONJA) was undertaken to determine the magnitude of damage as well as its impact on affected populations and their immediate-, medium-, and long-term needs. Following PONJA, a series of periodic reviews (PR) were conducted to gauge the status of R&R and the evolving needs of the cyclone-affected population. The PR-I benefited from the lessons learned through the PONJA analyses were further refined for PR-I. PR-II, III and IV summarised a lessons learned in the processes of preceding PRs.

Remember, the establishment of M&E systems are often be given a low priority as the project managers are often under intense scrutiny to deliver services and begin reconstruction activities.

2 CONSIDERATIONS FOR DEVELOPING M&E SYSTEMS

The key considerations recovery managers need to keep in mind when developing M&E systems include:

- Capacity constraints
- ICT and power constraints
- Environmental impacts of a disaster
- Impacts on vulnerable populations

2.1 CAPACITY CONSTRAINTS

The scale and severity of a disaster has obvious implications for the capacity available to conduct M&E activities. Catastrophic disasters, like the 2004 Indian Ocean tsunami, leave thousands of government workers dead and infrastructure in ruins, as in the Indonesian province of Aceh. After 2004, the Government of Indonesia and the international community were required to mobilise people from outside the area to provide assistance. This type of 'surge capacity' is something that governments are now starting to give priority to as part of their disaster management preparation activities.

Other capacity challenges include:

- The number of people available to conduct monitoring activities
- Their level of training and skills
- How much time staff have allocated for M&E activities versus other responsibilities
- Availability of standard operating procedures
- Availability of standardised forms and methods for data collection
- Access to appropriate information management systems
- Geographic scope of the area that needs to be covered
- Field conditions (damaged or non-existent roads, hazards endangering staff safety, etc.)

2.2 ICT AND POWER CONSTRAINTS

Disasters can destroy ICT infrastructure and disrupt power supply, and their impact affects rescue operations and determines priorities for reconstruction. The scale and location of disasters influence the probability of encountering connectivity and power issues. Many remote rural areas in Asia are poorly serviced in terms of access to power and ICT services. Addressing 'connectivity issues' is often one of the highest priorities during recovery phases since the provision of these services enables other activities. Disasters provide an opportunity to 'Build Back Better' by introducing new technologies that better support disaster management and disaster risk reduction activities in the future.

Challenges: ICT systems deployed in the field after a disaster must function in an environment of weak communications infrastructure and low bandwidth.

SOURCE: Global Facility for Disaster Risk Reduction

M&E systems dependent on ICT technologies may face a number of challenges post-disaster. These can include:

- Low or no bandwidth
- Intermittent access to power
- Varying capacities of field staff to use/apply the technologies
- Lack of inter-operability between systems used by agencies involved in recovery and reconstruction activities

Further, even in pre-disaster conditions many remote rural areas are poorly serviced from both a power and ICT perspective.

In other words, electronic systems require back up power supplies and should be supplemented by paper-based systems.

The Japan 2011 earthquake and tsunami disabled power grids and destroyed ICT infrastructure.

In case of Indonesia R&R in the aftermath of the 2004 tsunami, BRR encouraged many NGOs that were not yet online to send staff to local internet cafes with a CD-ROM and transmit their information. BRR then uploaded it for them and organizations were thus linked to RAN (Database). Later, the management capacity of agencies was boosted and an Outreach Team was established in Banda Aceh, which was available for troubleshooting and teaching RAN (Database) to organizations' staff.

2.3 ENVIRONMENTAL IMPACTS

In Post-disaster situations, significant resources are devoted to saving lives and reconstructing damaged infrastructure yet assessments of environmental impacts is often missing. UNEP (2008) notes that timely information on post-disaster environmental impacts can be used to identify possible risks to health, livelihood, the environment, and ecosystem services. Environmental Needs Assessments in Post-Disaster Situations (UNEP 2008) provides a useful list of environmental impacts by disaster type.

Many environmental impacts take time to materialise and become observable. For instance, contamination of soil and water from chemical spills may take months or even longer to accumulate in fisheries and crops.

When designing any M&E system, it is important to try to anticipate and account for these impacts as they relate to the programme or project being undertaken. For instance, while it may only take a few months to repair water and sanitation systems, risks of contamination from groundwater can take much longer to become apparent and addressed. Monitoring systems would need to be established in a way that account for these varying time lines.

2.4 IMPACTS ON VULNERABLE POPULATIONS

Disasters have particularly negative consequences for vulnerable groups, including the poor, women, children, elderly, disabled, and migrant workers. According to the World Bank, 'Empirical evidence from all regions of the world shows that disasters produce measurable declines in income, consumption, and human development indicators, and that these effects are disproportionately concentrated in poor households and communities'. Impacts are particularly severe on productivity, health, and education.

For instance, in some of the R&R cases, the eligibility for special loans to be used for repairing homes was based on the capacity to pay back the loan rather than on the vulnerability of people whose homes had been destroyed. In addition, only the head of each household was eligible to receive payments and assistance from the government. In a patriarchal society heads of households are usually men, unless the woman has been widowed. Monitoring results demonstrated that increased consumption of alcohol by men led to misuse of funds allocated for reconstruction purposes.

Consequently, M&E systems will need to select appropriate disaggregated indicators to ensure gender-equitable targets are met.

3 DEVELOPING AN M&E SYSTEM

3.1 WHERE TO BEGIN

Within hours of a disaster, emergency needs assessments are undertaken to evaluate immediate humanitarian needs. Later, assessments such as post-disaster needs assessments (PDNA) and environmental impact assessments (EIA) focus on identifying ongoing R&R needs.

These frameworks play an important role in the design and implementation of national-, sectoral- and programme-level monitoring activities. The link between assessment and R&R activities cannot be overstated. Information management systems for monitoring funds and activities during R&R phases are still not well developed, especially at macro and sectoral levels.

- The Indonesian R&R Master Plan mentions that the Implementing Agency prepares and delivers the report on implementation of the rehabilitation and reconstruction for the region and people of the provinces of Nanggroe Aceh Darussalam and Nias Islands-North Sumatra. The Implementing Agency must prepare Quarterly and Annual Reports to be submitted to the President, Governor and others.

- The Sri Lanka Post-Tsunami R&R mentions that the performance monitoring and accounts monitoring systems will be put in place to oversee all levels of management and implementation.

Shown below are the five multi-sectoral systems that have been recently deployed at different levels by various countries around the world. Of all of these, the Development Assistance Database (DAD) has probably been used the most.

TYPES OF TRACKING SYSTEMS AND COUNTRY APPLICATION

Monitoring System	Countries	Main Focus
Development Assistance Database (DAD)	Indonesia, Thailand, Sri Lanka, the Maldives, Pakistan, Afghanistan, Viet Nam, Iraq, Lebanon	Reconstruction aid and management
Aid management platform	Ethiopia, Bolivia	Aid management and coordination
Aid management information system	Fiji, Syria, Egypt	General aid projects
Council of Development of Cambodia (CDC) Official Development Assistance (ODA) disbursement system	Cambodia	ODA disbursement
Bulgarian Development Cooperation Information System	Bulgaria	General aid projects

DAD allows multiple stakeholders to monitor the flow of aid post-disaster and during reconstruction. In addition to tracking donor assistance, DAD can be used to track financial flows and project progress, and can be adapted to track financial flows and reconstruction progress down to the lowest sub-national government level. Historically, however, DAD has been used to track the flow of aid at a macro-economic level (sectoral level) and did not often identify individual beneficiaries.

A number of DAD systems have been developed around the world including Sri Lanka, Pakistan, Viet Nam, and Indonesia (RAN database). There are now several systems that have built upon DAD.

At the project level there are numerous construction management software systems that allow managers to track and evaluate the progress of a wide range of different sectors.

> In the 2008 Cyclone Nargis, Myanmar R&R, the Recovery Information and Accountability System (RIAS) was set up to provide the Myanmar government, donors, and implementing partners with comprehensive up-to-date information on the delivery and the status of projects that received funding.

3.2 LEVELS OF M&E

M&E systems can be established at many different levels, depending on which organization is seeking the information. Four levels for reconstruction activities in the housing sector have been identified:

- National reconstruction programme (multi-sectoral)
- Sectoral level (housing and community, industry, etc.)
- Programme or project level (i.e. for a specific reconstruction project)
- Household level

The lead disaster agency has a key role in deciding how M&E will be carried out during reconstruction

- The **lead disaster agency** should decide how M&E will be carried out within the reconstruction programme.
- The **lead disaster agency**, in consultation with **agencies involved in reconstruction**, should decide how information on expenditures and progress at the project level will be tracked and reported, in order to facilitate consolidation.
- **Agencies involved in reconstruction** should jointly define protocols for collecting and consolidating sector information, in the absence of government guidance.
- **Agencies involved in reconstruction** should decide how they can involve affected communities in M&E activities.
- **Agencies involved in reconstruction** should decide how the results of M&E activities will be shared with the affected community and the general public.
- **Affected communities** should demand that M&E provides objective project results, which may imply contracting third-party evaluators to conduct them.

3.3 PROJECT PLANNING – THE LOG FRAMEWORK

The development of an M&E plan is an essential step in the development of a programme or project document. M&E systems can be established to assess different aspects of a project including external risks, project performance and impact *(see Chapter 5/3.4)*.

5/3.4

A key step to developing M&E systems is the design of a project's log frame (LFA). There are many ways to develop an LFA[1]. The table below presents one approach that shows the logical flow:

Objectives	Inputs	Objectively Verifiable Indicators	Assumptions
Objective 1: Determine suitable location for re-settlement			
Task 1: Conduct EIA	Team hired	Approved EIA	
Task 2: Review land tenure	Deeds collected	Site Plan	

Objectives that support the project's overall goal are identified. For each objective, a set of activities is identified. Each activity may require a number of inputs (costs) and will result in immediate outputs that help achieve the stated objective.

- **Objectively verifiable indicators** are identified at this stage. These can include a broad range of indicators that focus on both the project's performance and progress (planning indicators) as well as its impact (outcome indicators). *Section 3.4* of this Chapter examines the selection of indicators in more detail.

5/3.4

- **Sources of verification** (SoV) or **means of verification** (MoV) identify where and how to collect information. The indicators and the SoVs or MoVs are the basis for developing a project or programme's M&E system. *Consideration 4* of this Chapter describes how to design the implementation of M&E activities in more detail.

5/4

FOR R&R MALDIVES IN THE AFTERMATH OF THE 2004 TSUNAMI, THE FOLLOWING FRAMEWORK WAS DEVELOPED[2]

Programme Areas	Intended Outcomes	Indicators of Outcomes or Purposes	Outputs
Education	Restoration and rehabilitation of schools and students facilities	Number of schools constructed Student enrollment ratios Number of teachers trained on psychological support	Schools rehabilitated to pre-tsunami levels Teaching and learning materials available Psycho-social support provided
Housing	Address the shelter needs of families in the islands affected by the Tsunami	Number of housing units reconstructed Number of repaired houses	Permanent housing units for the homeless and affected population provided

3.4 SCOPING AND SELECTING INDICATORS

Indicators provide the basis for monitoring the progress of a specific project activity. They help project managers determine whether or not an activity is having the intended impact. Indicators are usually numerical but contain qualitative discriptive data.

It is always desirable to use quantitative indicators. However qualitative description of phenomena also takes has an important place. Frequently, both quantitative and qualitative approaches are used to complement each other.

It is also useful to think of selecting indicators that measure different aspects of a programme/project's performance:[3] For large construction projects, where millions of dollars are being invested, a great deal of attention is placed on monitoring and evaluating project performance. M&E activities are designed to answer the following questions:

- Is the project being completed on time?
- Is it within budget?
- Are the outputs meeting quality standards?
- Is the project free from misuse of funds and corruption?

To answer the above questions, systems will need to be developed that (I) track costs, quantities, and quality of inputs and outputs; (II) determine whether schedules are being adhered to; and (III) compare planned with actual activities.

The following table summarises the various types of indicators that are used to assess project performance.

TYPES OF INDICATORS AND THEIR APPLICATION

Type of Indicator	Application
Risk-enabling indicators	These measure the influence of external factors that potentially have an impact on the projects' success. These might be developed when identifying assumptions in the LFA.
Input indicators	These indicators measure the means by which the project is implemented. In building a bridge, this could include construction materials, machinery, workers, etc. If you are conducting training, they might include books bought in support of training activities, number of trainers hired, etc.

Process indicators	Process indicators help analyse how a project/programme operates. They help troubleshoot problems in service delivery.
Output indicators	Output indicators measure the immediate results of project activities. For instance if people are trained, the number of people trained would be considered.
Impact/outcome indicators	These indicators measure whether or not the project has achieved its goal and objectives. Results based management places a high value on these types of indicators. Impact indicators linked to training would indicate whether or not performance has improved as a result of the training.

Considering the wide range of activities and issues that can be monitored during R&R, the above indicators are broad.
It is important that indicators are SMART – Specific, Measurable, Achievable, Relevant, and Time-bound.

After the 2004 Indian Ocean tsunami, WHO developed the Tsunami Recovery Impact Assessment and Monitoring System (TRIAMS). TRIAMS is based on selected indicators collected on a routine basis by a large number of ministries and government authorities in the affected countries. A number of challenges were encountered in analysing this data, including:

- Unknown methods for data collection
- Unknown samples sizes
- Unknown time periods
- Definitions of indicators were unclear

4 IMPLEMENTATION OF M&E SYSTEMS

4.1 SETTING M&E OBJECTIVES

An M&E strategy can be developed by answering the following questions:[4]

- How should the information be collected, e.g. through sample surveys, administrative records, national statistics (census), workshops or focus groups, observation, PRA or rapid rural appraisal techniques?
- What information source is most appropriate? For example, who should be interviewed? Does the bureau of statistics already collect the required information? Is the source reliable?
- Who should do it, extension staff, supervisors, an independent team, etc.?

- When and how often should the information be collected, analysed, and reported? For instance, monthly, annually, or according to other relevant schedules such as seasonal cropping cycles?
- What formats are required to record the data being collected?

When developing answers to these questions, one of the main issues to keep in mind is the resource and capacity constraints that will be faced by those responsible for collecting the information.

An M&E plan will lay out staffing and resource needs, work plans, schedules, and budget considerations:

> In Indonesia's R&R, UNDP deployed a number of teams that covered different parts of Aceh to monitor R&R activities. Staffing was done using international experts and national resource people from other parts of Indonesia. Five offices were established with vehicles, laptops, walkie-talkies, printers, backup generators, and, where necessary, dormitories for staff to live in. Monitoring responsibilities were divided up geographically, with work plan schedules drawn up by team leaders in consultation with NGO partners responsible for reconstruction. Budgets were managed by UNDP in Banda Aceh and Jakarta. Information generated by monitoring activities was considered critical to determining the effectiveness of R&R activities

4.2 ESTABLISHING A BASELINE

Monitoring activities are only meaningful if they can establish progress against a given situation at the time of project implementation.
The post disaster assessments are a particularly important source of baseline data. For instance DALA assessments are used to determine the value of damaged and lost assets and determine reconstruction requirements. Reconstruction priorities are set on a geographic basis by sector. The importance of **spatial information** systems in providing this information is growing rapidly.

The following three ICT systems are important:

1. Remote sensing takes advantage of satellites to provide high-resolution information on the impacts of a disaster. When integrated with GIS systems that have socio-economic, hazard, and other geo-referenced data one can make a rapid assessment of damage.
2. Field based assessments are required to verify remote sensing data. GPS devices and mobile phones are increasingly being used to collect and transmit information to central databases. A range of other automated environmental monitoring systems can collect, store, and transmit data on a range of different variables.

3. Information from both sources is used by geographic information systems (GIS). These systems integrate spatial information with statistical and analytical processes to derive spatial patterns. Resulting trends and spatial relationships are displayed on maps where one can more easily visualise the information. Post-R&R GIS systems are often used to identify hazards and guide reconstruction activities.

Groups that are further developing spatial information systems for use during reconstruction include:

- Global Facility for Disaster Reduction and Recovery (GFDRR)
- World Bank Spatial Team
- The United Nations Geographical Information Working Group

> The Namibia Flood Pilot Project integrated results from remote sensing into flood- and water-related disease modeling, monitoring, early warning, and decision support systems. The system focuses on local user needs and is based on a regional, trans-boundary approach, with capacity development and institutional strengthening in Namibia to ensure its ongoing use.[5]

Needs assessments and post-disaster surveys will only provide some of the data a project needs. For this reason, one of the first activities a project should undertake is a survey to establish baseline data. Depending on the country and the location, some of the data required may already be available from a number of sources. Depending on the sector these sources can include:[6]

- Land use plans
- Building inventories
- Safety and environmental standards and building codes
- Property ownership records (cadastres)
- Social, demographic, and economic data from previous studies in the area
- Hazard maps and vulnerability data

In addition, baseline data can be supplemented by other sources during the recovery phases. For instance:

- Project managers should network with each other to find out what types of monitoring activities other initiatives are planning. Where there is overlap, a chance to share information presents itself and thereby monitoring costs can be reduced.

- Volunteer technology communities (VTCs) are groups of specialists that can work online to bring expertise in GIS, database development, and social media to assist in disaster management and recovery activities. During reconstruction phases VTCs can use

online tools like Onestreetmap to create hazard maps of areas. According to the Global Facility for Disaster Risk Reduction and Recovery, thousands of technologists responded to earthquakes in Haiti and Chile, and to flooding in Pakistan using online tools like Onestreetmap and Ushahidi. These tools are also potentially useful sources of baseline data *(see www.ecapra.org for more information).*

4.3 ESTABLISHING INFORMATION MANAGEMENT SYSTEMS

Collecting, analysing, and reporting data should be thought of as a single process. Determining how to collect and compile information has potentially significant consequences for how long it takes to analyse data and report findings. These considerations are at the heart of developing an **information management system** that supports M&E activities.

- **System set-up**: If laptops are available, survey forms can be developed in Excel spreadsheets or on specialised software packages. Information can be entered directly onto forms that process data and provide instant summaries of findings. Even before going out into the field, monitoring specialists should visualise how they are going collect, analyse, and present data. Mock data can be entered into electronic survey forms to see how well these process information and what kind of results they provide.

- **Trial surveys**: It is often desirable to conduct a trial survey to assess how well an information management system performs. A trial forces one into identifying practical considerations such as whether or not there will be power available in the field to charge sampling equipment. Extensive time in the field might mean that monitoring specialists need to go equipped with back-up batteries. There are also solar-powered power sources for computers that have potentially useful applications for fieldwork.

- **Integrating findings at sectoral and national levels**: Depending on the size and/or complexity of the disaster, bringing data together from a wide range of sources can be a challenge. It is important to consult PDNA frameworks – if they have been developed – when developing monitoring strategy.

Challenges

1. Sectoral approaches to governance can impede the sharing and exchange of information between agencies due to information sensitivity and resource competition. This can present a significant problem during recovery phases when disasters have had widespread impacts across society.

2. In some cases the flow of information between central and local governments can be limited or nonexistent.

5 UNDERTAKING EVALUATION

5.1 KEY CONSIDERATIONS WHILE DESIGNING EVALUATIONS

The recovery manager should ask the following questions when designing evaluations:

- Why is the evaluation being done; what should be to decided as a result of the evaluation?
- Who will be reading the evaluation (e.g., government authorities, politicians, the public, donors)?
- What kinds of information will the audience need to know, and more critically, what kinds of information are required to inform the programme?
- Where will the information come from (e.g. villagers, local government officials, specialists)?
- How can that information be collected (e.g., questionnaires, interviews, existing monitoring reports)?
- What resources are available to collect the information?
- When should the information be collected and when is the report needed?

PROGRAMME / PROJECT IMPACT

Evaluation objectives	Outcome indicators
Reaching the Target Group	■ Number of beneficiaries living permanently and lawfully in settlements provided or assisted by programme ■ Returnees and IDP's have access to essential services ■ Returnees secure their livelihood ■ Employment and income generating activities created, which will outlast the duration of the programme/project. ■ Managerial and technical capacity enhanced in revenue collection, cost recovery, and other post-disaster related areas ■ Women have a sense of ownership over the resettlement and post-disaster rehabilitation process, over identification of problems, and the search for solutions.

OPERATIONAL LEVEL EFFECTIVENESS

Evaluation objectives	Outcome Indicators
Achieve Financial Soundness in Project Management and Provision of Support	■ Overheads generated through the programme can meet administrative costs in full ■ Budget allocations allow for flexibility indispensable in the execution of post-conflict rehabilitation programmes/projects ■ Overheads generated through programme contribute adequately to overall costs of organisation
Promote Co-operation with other Partners	■ Programme contributes to coordinating bodies ■ Funds obtained from variety of donors ■ Number and volume of subcontracts entrusted to other partners
Proportion of Outputs Produced	■ Percentage of stated outputs reached within a given time frame ■ Outputs produced, which had not been planned for in project design
Degree of Compliance with Delivery Schedule	■ Timeliness of delivery per item ■ Equity of delivery among components reached
Adequacy of Original Budget and Schedule	■ Original budget allows for timely procurement, whether international or national ■ Original budget and its allocation are commensurate with the requirements and contingency situations

5.2 SELECTING INDICATORS

The basic approach to identifying and selecting indicators for evaluations is the same as for monitoring strategies (*see Chapter 5/3.4).* However, since the focus of evaluations can sometimes go beyond of what a project manager worries about on a day-to-day basis, indicators chosen for outcome evaluations can have a much broader scope.

5/3.4

The United Nations Centre for Human Settlements (UN-Habitat) has developed an excellent series of generic indicators that can be used for most post-disaster programmes and projects. They have been grouped into: outcomes, programme level (performance), operational level (effectiveness), efficiency, and programme/project impact. Interested readers are encouraged to consult UN-Habitat's Guidelines for the Evaluation of Post-Disaster Programmes.

5.3 TYPES OF EVALUATION

The types of evaluation include:

- **Process-based evaluations**

These types of evaluations are used to determine how a programme works. Process evaluations are sometimes referred to as formative evaluations. They are conducted early during a project/programme implementation in order to make any course corrections required. They are often employed on long-term projects that deliver services to a particular set of stakeholders over time. They can be used to identify inefficiencies in service delivery. Questions asked include: (i) How were the services identified in the first place? (ii) Were employees trained to deliver these services? (iii) How well received were the products/services by intended recipients? A great example of a process-based monitoring and evaluation system is the Afghan Reconstruction Fund (ARTF) project. (*see Chapter 5/1*)

5/1

- **Outcome-based evaluations**

Outcome-based evaluations focus on the results a programme intended to achieve. For instance, training can be conducted to improve skills, but the question remains whether these skills have improved effectively. Have the skills actually been improved? These evaluations can be conducted at any point in a project's/programme's implementation after the planned outcome is anticipated.

- **Goal-based evaluations**

Goal-based evaluations are undertaken to determine whether or not the project has achieved its goal and/or its objectives. They are sometimes referred to as summative evaluations. Questions asked during these evaluations include:

· How were the goals determined?
· Have they been achieved?
· Was adequate time allowed to achieve these goals?
· Were adequate resources allocated to support staff?

The Earthquake Reconstruction and Rehabilitation Authority (ERRA) published a comprehensive monitoring and evaluation report in April 2008 on its reconstruction work in Pakistan. For each sector, targets and achievements were outlined using process/output indicators. The report also drew a distinction between the assessment of performance (as measured by relevance, efficiency, and effectiveness) and the assessment of impact and sustainability. The criteria were based on the original development assistance criteria (DAC) principles for the evaluation of development programmes. This case study illustrates an example that combines all three types of evaluations for a large multi-sectoral reconstruction initiative.

6 SELECTING METHODS FOR DATA COLLECTION

Credible evaluations use multiple data sources, linking the results of the overall evaluation to the project investments being evaluated (*CIDA 2002*). Regardless of what type of evaluation one is conducting there are general categories of data collection methods that can be used:

- Questionnaires are lists of closed- or open-ended questions. They can be posed by an interviewer or anonymously by mail/online. The objective of questionnaires is to establish statistically significant trends by interviewing enough people.
- Surveys are detailed inspections of an indicator. For instance, land surveys are conducted to determine the boundaries, area, or elevations of the earths' surface. Unlike questionnaires, people may not be the target of inquiry, and as such different techniques are used for collecting data.
- Document reviews can be conducted on a project/programme. They have the advantage of not interrupting a programme or its stakeholders. Depending on the purpose of the evaluation, reviewed documents can include project proposals/plans, monitoring reports, finances, and meeting minutes.
- Case studies are an opportunity to develop an in-depth understanding of how a particular programme or project works. They can be used as part of an evaluation and are sometimes a by-product of document reviews.
- Observation is perhaps the most straightforward technique, as one simply visits the field to view how the project is operating.
- Focus groups can be used to explore a topic related to a projects' evaluation in-depth. Focus groups can comprise a range of stakeholders who are asked about their experiences, complaints, etc.

The decision to select a particular method depends on time lines, budget, desired accuracy of result, etc.:

> Often evaluations use a combination of methods to achieve their objectives, such as for the WATSAN component of the UN-Habitat shelter and resettlement programme in Iraq. Investigations were conducted based on a study of the available project documentation; interviews with UN-Habitat staff involved with programme implementation; discussions with other UN field staff operating in the area; field visits to project sites; and focus group discussions with selected families among the affected communities.

It is interesting to note that one of the major limitations noted by the evaluators was the lack of relevant indicators in the original programme design. This experience underscores the importance of anticipating evaluation metrics during the project design stage, so that monitoring is undertaken to provide information for future evaluations.

When designing the evaluation methodology and selecting one or more of the above data collection methods, it is critical to make the case for attribution. In other words, to what degree would stated objectives have been realised without the project? This requires looking at other activities and programmes being implemented by the government and other projects aimed at the same target populations.

7 HOW TO PRESENT RESULTS AND FINDINGS

It is important to understand how results are going to be used. Who are the stakeholders? What are their information needs? What is the best way to communicate this information? Internal stakeholders will be interested in how the project worked, while external stakeholder will be more interested in the project's ultimate impact. Developing a communication plan for your evaluation entails identifying:

- Stakeholders
- Their information needs
- What format is best used to present information to them, i.e., printed reports, executive summaries, *PowerPoint* presentations, newspaper articles or oral reports
- How results can best be summarised (charts, graphs, photographs)

Normally, evaluation reports can be the source of a number of other communication pieces. The basic format for presenting evaluation information is shown below.

GUIDELINES FOR HOW TO FORMAT AN EVALUATION

Section	Purpose
Executive summary	A clear, concise summary of the evaluation and its findings
Introduction	The goals of the project/programme and the objectives of the evaluation
Project profile (optional)	Provides a summary of the project, why it was developed, who it intends to help, and what the desired outcomes are
Methods	The methods and sources used for collecting information
Results	Results of the evaluation are presented using figures, graphs, tables and descriptive text
Discussion (optional)	Reflection on results in the context of current theory. It can also be used to evaluate the validity of the evaluation should external data be available that raises this as an issue
Conclusions	Recommendations, addressing the main questions posed by the evaluation. It can also be used to identify lessons learned

8 DESIGNING PRE-DISASTER SYSTEMS FOR M&E

- **Surge capacity**: Large-scale disasters do not happen frequently enough to have hundreds of staff on standby. However, it is important to have the right provisions in advance and to ensure that surge capacity can be mobilised quickly to respond to disaster situations without overtaxing the capacity of local authorities.

- **Capacity building** on M&E with a focus on R&R programmes is important so that trained resources can be deployed.

- **The M&E tool,** including the system, should be developed in the pre-disaster phase, so it can be quickly deployed in post-disaster R&R.

Key Take-away Points

- M&E is an essential tool for successful R&R; however, it may not get priority as recovery managers may be under pressure to deliver.

- The severity of a disaster affects the M&E strategy.

- Consider capacity constraints, ICT and power constraints, environmental impacts of a disaster, and impacts on vulnerable populations while designing M&E.

- Setting up M&E calls for establishing objectives and indicators, identifying the right methodology, levels, and tools and determining a baseline.

- Surge capacity, system set-up, and capacity building on M&E in the context of R&R should be carried out in the pre-disaster phase.

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6

FROM RECOVERY TO DEVELOPMENT

KEY CONSIDERATIONS

1 Strategic Transition of Institutions
2 Transition and Completion of Projects
3 Transfer of Tangible and Intangible Assets
4 Financing Mechanism for Uncompleted Projects
5 Assessing the Impact of R&R
6 Preserving the Lessons Learned and Taking Next Steps
7 Foundation for Long-term DRR

CHAPTER 6

The time line for R&R does not have defined boundaries. It usually begins in the early days of emergency relief efforts and continues in the form of development programmes. The aim is to have a smooth transition over to regular development programmes in order to sustain gains. Such a transition includes the transfer of assets, closing or handing over of projects, and drawing up of key lessons for future use. However, a transition often remains a complex task as the process of R&R involves programmes across sectors, support from multiple sources of funding, involvement of a wide range of implementing agencies, and creation of a large number of assets over a short duration of time.

Hence, it is important to have an exit strategy or a systematic plan of action to withdraw formal recovery assistance from the government's recovery agency and transition to business as usual that allows the community to continue their own recovery processes. Key participants in this decision making are national authorities, local politicians, the private sector, and civil society.[1]

Based on the experiences from the 2004 Indian Ocean tsunami R&R and other recent disasters in Asia, the following key considerations are provided as guidance for ensuring a smooth transition from recovery to development.

1 STRATEGIC TRANSITION OF INSTITUTIONS

The institutions designated to manage R&R programmes have fallen broadly into three categories: existing government institutional set-up, recovery task force or special commission, or a new permanent or interim agency *(see Chapter 1 for details)*. The exit strategy of the interim institution managing R&R is very important.

Key issues in the transition and exit of institutions engaged in R&R include:

Timing: The interim agency is given specific tasks and time frames. In cases where the achievement is close to meeting its target(s), the interim agency can exit as per the set time frame. The continued engagement of the agency in the programme beyond the R&R phase can take a toll in terms of ownership by the local government:

- In Indonesia, the BRR was closed after four years of operation, in line with the time frame set at its conception. More than 90 percent of the targets were achieved.

Successor: In order to finish the remaining work, it is important to designate (a) successor(s) to coordinate and implement follow-through:

- The Government of Indonesia identified relevant line ministries and local governments for implementing tasks, while the National Development Planning Board was responsible for coordination.

- In case of R&R after the 2008 Cyclone Nargis in Myanmar, the Recovery Coordination Center developed the transition plan six months in advance and activities were handed over to the Ministry of Social Welfare, Relief and Resettlement, and the nodal ministry for DRR in Myanmar.

Phased exit: The transition and exit should be steered in a phased manner in order to ensure a smooth transition:

- The BRR followed a three-phase exit, including a preparatory phase, a soft-closing phase in which things were put in order, and a grand-closing phase under which it was formally closed.

Transition duration: The duration of transition depends on various factors such as progress achieved, the number of agencies and sectors involved, the type of funding mechanisms, and the readiness of successor agencies:

- In the case of the BRR, the transition phase took more than six months.

2 TRANSITION AND COMPLETION OF PROJECTS

The status of R&R projects at the time of transition and exit of the R&R nodal agency falls into two categories: completed and not-yet completed projects. Projects under both categories require a smooth transfer:

In Aceh-Nias recovery, the BRR used a comprehensive strategy for the transfer of projects. The overall management and implementation of government programmes was to be delivered by line ministries and the local government on the BRR's exit as per the regulations governing it. Line ministries were responsible for the national infrastructure, such as national-level roads, while the local government was responsible for regional infrastructure such as local level roads. Also, the transition was guided by regulations for external state loans and funds, which stated that all foreign aid must be channelled through the central government administration before being transferred to the local government through on-granting and on-lending mechanisms. The above-mentioned regulations were applied to the transfer of all projects, and these principles were applied to all projects channelled through the government. Some adjustments were made for off-budget/off-treasury projects *(see Chapter 3 for more details)* implemented directly by the UN, the IFRC, and NGOs. The table below shows an example of donor transition in Aceh-Nias recovery.

3

Donors	Fund Channeling	Role of BRR	Recipients of finished project	Successors of unfinished projects
MDF, ADB, GOI	On-budget/ on treasury	· Execute · Transfer the asset	· Local Government · Line Ministries	· Local Government for Rupiah funding · Line Ministries for external funding
Germany (KFW), Japan(JICS)	On-budget/ off treasury	· Approve the projects · Records in the Government Budget after project completed · Clearing House for the asset	· Local Government · Line Ministries	· Local Government for Rupiah funding · Line Ministries for external funding
UN, Red Cross, NGO	Off budget/ off treasury	· Approve the projects · Clearing House for the asset	· Local Government · Line Ministries	· Remain with the agency or implementing partners

3 TRANSFER OF TANGIBLE AND INTANGIBLE ASSETS

R&R programmes create a number of new assets, apart from the replacement of affected assets. The transfer of assets to beneficiaries requires documentation and acknowledgement of the provider and donor. Certain guidelines and procedures exist in countries for the management, maintenance, and transfer of state-owned assets.

> In the case of the Aceh-Nias recovery, the following processes were observed: all assets created under the auspices of the BRR, whether from on-budget (government, loan, etc.) or off-budget (UN, NGOs) funds, were considered national assets to be managed by the Ministry of Finance. The Ministry of Finance issued regulations for the BRR's management of state-owned assets. As a first step to compliance, the BRR implemented measures for the identification of assets and verification of their existence. The inventory included the cost of construction, source of funding, and user of the facility. The optimisation of the usage of the assets by relevant government agencies was also ensured. The district administration was the first-choice recipient of assets and provincial governments were the second choice. In cases where the assets were not transferred to either agency, the appropriate line ministry was the default recipient. In the case of assets created by international and national NGOs, an official handover letter was submitted to the BRR. In turn, the BRR provided recipients of the assets with an official handover letter. Some assets that had national strategic importance, such as ports and airports, were transferred directly to line ministries. The assets created under on-budget sources were reconciled through the Ministry of Finance accounting system, while assets created under off-budget sources were reconciled through the BRR's RAN (Database), project concept note, and other documents. Data reconciliation was challenging, given the diverse funding sources. An asset management and information system was developed to support the transfer of assets to local governments. The system coupled the asset record with satellite imagery, a geo-spatial map, and textual information. A key challenge was to reconcile on- budget and off-budget items, as when the BRR's data system was constructed it had not envisaged the need for a discrete database that could record both on-budget and off-budget items.

Apart from physical assets, it is important to preserve access to the experience of employees who previously worked in R&R. Teams that work on R&R develop invaluable capacities that can be utilised in the development process as well as in future recovery programmes. It is important to create a roster of the staff for future reference (*also see Chapter 6/6 and 6/7*).

6/6 6/7

4 FINANCING MECHANISMS FOR UNCOMPLETED PROJECTS

In most R&R programmes, some projects' duration will be longer than the tenure of the interim R&R institution. These projects can be large infrastructure projects of strategic importance, which will require new financing mechanisms to be completed beyond the lifespan of the interim R&R institution:

In the case of Aceh-Nias R&R, the programme had some projects that were not completed due to their scale and multi-year duration at the time of completion the BRR in April 2009. These multi-year projects were funded from various sources including the Government of Indonesia, MDF (managed by the World Bank), ADB, AFD and JBIC, which required new mechanisms to complete the project after the exit of the BRR. To complete these projects, the Government of Indonesia funded them for the transition period through the following three channels:

- The BRR: for general and administrative expenses and project winding up
- Local government: for project continuation sourced from the Government of Indonesia
- Line ministries: for project continuation sourced from grants and loans

Also, the BRR entered into an agreement with the Multi-Donor Fund (MDF) to co-finance the building of large infrastructure and strategic assets through two modalities, the Infrastructure Reconstruction Financing Facility (IRFF) programme, financed by MDF and administered by the World Bank; and an infrastructure reconstruction enabling project which supported the IRFF with an emphasis on capacity building at local levels. Similarly, discrete strategies for dealing with the ADB and other donors for multi-year projects were prepared. The Ministry of Public Works was the executing agency for the majority of the projects.

5 ASSESSING THE IMPACT OF R&R

The impact of R&R programmes go beyond immediate outputs, as investments made in infrastructure and capacity building can lead to long-term development and yield ongoing results over the years. Furthermore, it helps to gain the trust of the funding agencies and the general public, including the disaster affected community at large. An impact assessment can guide future investment and development decisions for the area recovering from disaster.

In the case of the BRR in Indonesia, the agency implemented additional non-mandatory accountability for performance, which was linked to outputs and outcomes, focusing on results.

The GSDMA in India engaged KPMG, a consulting firm, to develop and undertake a benefit monitoring system to track the benefits accrued by the affected communities in different sectors. The final assessment focused on the impacts of R&R investments for future growth.

In the 2008 Cyclone Nargis R&R in Myanmar, social impact monitoring was conducted to gauge the impact of R&R programmes on social issues.

6 PRESERVING LESSONS LEARNED AND TAKING NEXT STEPS

Each R&R programme is unique, and during its implementation a number of challenges emerge and breakthroughs are made. It is important to document and share these lessons for future R&R decision-makers and managers. Documentation should capture outputs as well as outcomes. It is also important to use the lessons and knowledge in future development planning and implementation.

ERRA of Pakistan established a cell to manage knowledge by systematically processing and documenting information, experiences, lessons, and events.

TCG, one of the key coordinating agencies for R&R in Myanmar after Cyclone Nargis, undertook a number of initiatives for documenting the processes and outputs across sectors such as shelter, education, and health, as well as for cross-cutting issues such as gender, DRR and protection.

The GSDMA in India published a number of documents on the Gujarat earthquake R&R and organised a number of workshops to share the lessons.

The BRR made a documentary and published a series of documents capturing specific issues in its R&R programmes. The agency published a periodic newsletter during implementation, capturing progress and key lessons.

The government of Aceh, through MDF and UNDP support, has initiated the 'Making Aceh Safer Through Disaster Risk Reduction in Development' programme. Developed under the programme, the Aceh Disaster Risk Map is a pioneering effort in development planning. Aceh will be the only province in Indonesia basing its development planning on this risk map. Therefore, the completion of ADRM has wide implications for the preparedness and safety of the Aceh community. The development of the risk map was informed by maps developed during the 2004 Indian Ocean tsunami R&R.[2]

Japan's 'Towards Reconstruction: Hope beyond the Disaster' document mentions that Japan should record and preserve the lessons of what it has learned from the earthquake, tsunami and nuclear disasters by creating a core facility and then establishing solid links between that facility and entities such as local governments and universities. Furthermore, a structure for preservation and disclosure of records should be developed, utilising public-private consortiums.

7 FOUNDATION FOR LONG-TERM DRR

Disasters often provide an opportunity to lay foundations for long-term DRR due to the high level of commitment and momentum of a post-disaster period, better availability of resources, including DRR experts, and the lessons from the impact of the disaster as well as post-disaster interventions.

The Gujarat government, India took a number of measures for long-term DRR during the implementation of the 2001 earthquake R&R programme, which included drafting a disaster management policy, revising building codes, setting up the Gujarat Institute of Disaster Management, community-based DRR activities, school-level preparation and mitigation measures, and the strengthening of fire services.

Myanmar's government, during the 2008 Cyclone Nargis R&R programme, prepared a multi-hazard DRR action plan, revised the standing order on disaster management, began drafting a disaster management law, planned a disaster management school, and revised disaster management plans. It also incorporated DRR into school curricula.

The Sri Lankan government set up a disaster management center under the Ministry of Disaster Management in the aftermath of the 2004 Indian Ocean tsunami. It also developed a national DRR action plan.

The Indonesian government took a number of measures for DRR after the 2004 tsunami, which included drafting a disaster management act, creating the BNPB, the nodal agency of disaster management in Indonesia, and setting up the BRR Insitute for long-term R&R and DRR research. It also played an important role in the development of the AADMER, in setting up the AHA Center, and in DRR capacity building.

The key measures taken by the Thai government included the drafting of the disaster management law, playing a key role in setting up a regional early warning center, and initiating a number of community-level preparedness programmes after the 2004 Indian Ocean tsunami.

Key Take-away Points

- Plan in advance and implement in phases the transition and exit of the interim institution managing R&R. It is important to identify a successor, possibly one of the line ministries or permanent agencies, to complete the unfinished components of the programme.

- The transition and exit of R&R programmes require the transfer of completed as well as non-completed projects. Line ministries and local governments should be given first priority as recipients.

- Long-duration projects under R&R require innovative financing mechanisms for completion during the transition phase from R&R to long-term development.

- It is important to create a roster of the team that worked on R&R for future reference.

- The documentation of processes as well as outputs/outcomes in R&R programmes is of immense importance.

- R&R offers an opportunity to reduce disaster risks and lay the foundation for long-term DRR.

- Documentation of assets from the beginning is very important.

- Recovery is not 'business as usual' and the exit is unlikely to be smooth.

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EPILOGUE

The 'Considerations for Recovery Practitioners' in the handbook are based on large-scale R&R programmes, primarily from Asia, which are complete or in their final phases in 2013. Unfortunately, the world has been confronted with disasters of unprecedented scale and complexity during the last few years including the 2010 Haiti earthquake, the 2010 Pakistan floods, the 2011 Japan Great East earthquake, the 2013 cyclone Phailin in India and the 2013 Typhoon Haiyan in Phillipines. On completion of the R&R programmes related to these disasters, a new set of considerations may emerge. Some initial reflections from the on-going R&R programmes are as follows:

- The response of the district, province and national governments in India to cyclone Phailin of 2013 made it very clear that while dealing with the devastating impacts of mega-disasters, preparedness is key. Compared to a similar cyclone in 1999 when thousands of people had perished, there was almost negligible loss of human life to report during cyclone Phailin. The National and State Disaster Management Agencies deserve appreciation for internalizing lessons learned, educating the population, and preparing the ground for massive disaster risk reduction when it mattered the most

- On 11 March 2011, Japan was hit with an earthquake followed by a tsunami and the impact was unprecedented, leading to 23,000 people dead or missing. It also caused nuclear accidents at three reactors, which led to the evacuation of residents within a 20km radius of the Fukushima Daiichi Nuclear Plant. The World Bank estimated the economic cost to the tune of USD 235 billion, the costliest disaster in history.

  As per 'Towards Reconstruction', the report submitted to the Prime Minister by the Reconstruction Design Council in the aftermath of the earthquake, the concept of disaster reduction will be paramount for rebuilding the region. Reconstruction is based on the premise that a large-scale natural disaster cannot be completely contained but the damage can be minimised.

Another key feature of this case is the entanglement of the natural hazard induced disaster and the nuclear accident. The earthquake and tsunami R&R programme will be very much influenced by the external environment. The R&R programme for the 2011 Great East earthquake in Japan will provide many more new lessons due to the scale and complexity of the disaster.

- On 12 January 2010, Haiti was impacted by an earthquake with a magnitude of 7.0 Mw, which affected three million people, with an estimated 316,000 casualties. The on- going R&R programme is a herculean task, as Haiti is one of the world's poorest countries. There were massive casualties, multiple catastrophes, the decimation of the nation's civil service, reams of critical records destroyed, and staggering damage to the country's critical infrastructure. On top of it there have been delays in pledged aid.1

  As per the 'Action Plan for National Reconstruction and Development of Haiti' the R&R programme is being seen an opportunity to build the country, and the long-term vision is to make Haiti an emerging country by 2030. The framework for reconstruction focuses on four main areas: territorial rebuilding, economic rebuilding, social rebuilding, and institutional rebuilding. Considering the context, this R&R will also offer a number of lessons for future R&R practitioners.

- In 2010, Pakistan was hit by massive floods, resulting from a heavy monsoon, affecting approximately 20 percent of Pakistan's total land area and approximately 20 million people, and death of approximately 2,000 people. It was considered to be the worst disaster in the history of Pakistan. The R&R programme is under implementation. In mid-August 2011 heavy monsoon rains led to extensive flooding and it affected approximately 5.8 million people and close to 1.8 million displaced individuals. The 2011 floods followed the 2010 floods, when thousands of families were still recovering.2 The R&R programme is very challenging and will provide a number of lessons, which can be 'considerations' for the future.

  Lastly, any R&R programme will throw new challenges at practitioners, and the key considerations drawn from past R&R are intended to provide guidance to manage the challenges.

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