Logical and Results-Based Frameworks

Guidance Note 6

Tools for Mainstreaming Disaster Risk Reduction *is a series of 14 guidance notes for use by development organisations in adapting programming, project appraisal and evaluation tools to mainstream disaster risk reduction into their development work in hazard-prone countries. The series is also of relevance to stakeholders involved in climate change adaptation.*

This guidance note addresses the topic of logical and results-based frameworks, providing guidance on the systematic consideration of disaster-related issues in the application of these tools to the design, implementation and evaluation of all projects in hazard-prone areas, including both disaster risk reduction and other development projects. It encourages consideration of the potential disaster risks faced by a project and appropriate mitigation measures, and of the potential impact of a project on vulnerability to natural hazards. This guidance note is intended for use by development organisation project preparation teams and implementing officers.

1. Introduction

Logical framework, or logframe, analysis is a popular tool for project design and management. Originally developed for military planning purposes, it was introduced for use in development projects by the United States Agency for International Development (USAID) in 1969 and is now widely employed by many multilateral and bilateral development organisations and non-governmental organisations (NGOs). Logframe analysis provides a structured logical approach to the determination of project priorities, design and budget and to the identification of related results and performance targets. It also provides an iterative management tool for project implementation, monitoring and evaluation. Logframe analysis begins with problem analysis followed by the determination of objectives, before moving on to identify project activities, related performance indicators and key assumptions and risks that could influence the project's success.

Results-based management is a related, more recently developed tool that some development organisations have introduced since the 1990s.[1] Results-based management is more heavily focused on the performance, achievement and sustainability of outputs, outcomes and impacts, rather than the management of project activities. It begins with the strategic objective of a project and works down to determine what intermediary results and thus what activities, processes and resources are needed to achieve that objective. As with logframe analysis, it is based on an internal logic relating to cause and effect relationships between inputs, activities and results. It includes the development of a results-based framework, basically comprising a simplified logframe table focusing on objectives and intermediate results against which the project's progress is tracked during implementation and any required adjustments in project design and activities accordingly made. This framework is linked, among other things, with a risk analysis of factors potentially threatening the project's success. Results-based management may be used for the design, implementation and evaluation of individual projects, programmes and strategies.

Both logframe analysis and results-based management provide natural tools for use in considering potential disaster risks faced by proposed development projects because analysis of risks and assumptions forms an integral part of each tool. In addition, they include an analysis of alternatives, facilitating the exploration of ways of addressing disaster risk and strengthening a project's hazard resilience and sustainability, in the context of both disaster risk reduction and more general development projects. The performance-based emphasis of results-based management

1 Managing for Development Results (MfDR) is a further related, even more recently developed and still-evolving tool. In the words of OECD-DAC (2006): *"Although results-based management is nearly synonymous with MfDR as we currently understand it, some approaches to results-based management have focused only on accountability. MfDR goes further, incorporating newer ideas about collaboration, partnership, country ownership, harmonization, and alignment. MfDR provides a higher management standard because it asks all stakeholders to focus continuously on country outcome performance, rather than on short-term results."*

can be particularly valuable in ensuring that project activities and objectives are appropriately modified to take account of the impact of any disasters occurring during project implementation. Logical frameworks are also living documents, providing a framework through which to examine such impacts. Finally, both are participatory tools, providing a structure for consulting and integrating various stakeholder interests and concerns, including those relating to disaster risk, into design.

Current state of the art

In practice, the potential value of logframe and results-based management tools in analysing and addressing disaster risk within the context of general development projects appears to have gone largely unutilised. Rather than entailing an in-depth analysis over a period of months or even years, application of the tools often boils down to an 11th hour box-filling exercise to satisfy bureaucratic requirements in preparing final project documentation for approval by development organisation boards or external funding bodies. As such, early windows of opportunity to adapt the design of a project to mitigate or manage the potential impacts of disaster and other risks are largely lost and the analysis and related treatment of risks are often superficial. For instance, in agricultural projects it is not uncommon to see an assumption along the lines of favourable climatic conditions included at all levels of a logframe matrix but no explicit measures included to ensure that the project's success is not jeopardised by climatic extremes. Disaster risk may even be deliberately ignored if there is no way of adequately addressing the risk at such a late stage in project development or where it could jeopardise the securing of third-party funding.

Advocated good practice

Three essential practices are required in applying logframe analysis and results-based management tools to ensure that disaster-related issues are adequately assessed and managed in hazard-prone countries:

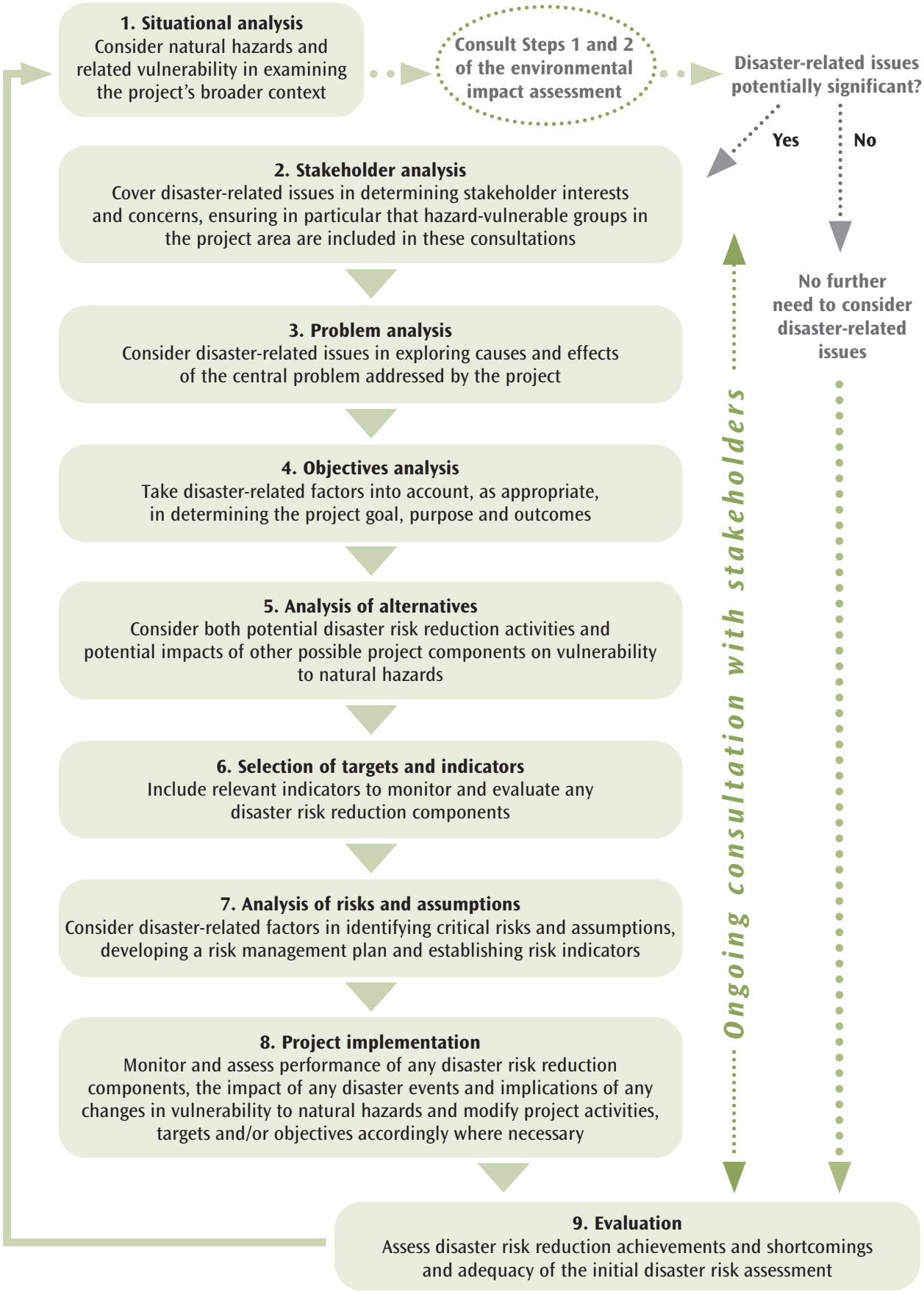
- Application of the tools should begin very early on in the preparation of a project to maximise their potential value in ensuring that disaster-related issues are properly identified, analysed and addressed.
- Disaster-related concerns should be considered at every stage of the analysis, not just in the assessment of risks and assumptions.
- Logframe matrices and results-based frameworks should be carefully reviewed in the event of a disaster to explore whether any adjustments are required to project goals and activities to ensure that envisaged achievements remain realistic and sustainable.

2. Basic steps in merging disaster risk considerations into logical and results-based frameworks

Measures required to ensure that disaster risk and related opportunities for reducing and managing vulnerability are adequately and systematically considered at each step in the application of logframe and results-based management tools are outlined below. There are slight variations in the form and order of steps undertaken by different development organisations, particularly between those employing logframe analysis and results-based management. However, the basic generic steps – as covered below and summarised in Figure 1 – are broadly similar. Key divergences between logframe analysis and results-based management are indicated.

This guidance note is intended to supplement existing guidelines on logframe analysis and results-based management tools, focusing specifically on where and how to take disaster risk concerns into account rather than providing full, comprehensive guidance on all aspects of the tools.

Figure 1 Integration of disaster risk concerns into logframe analysis and results-based management in hazard-prone countries



Disaster risk management checklists are also useful tools in helping to guide logframe analysis and results-based management. The Inter-American Development Bank (IDB) has devised such a checklist, specifying a wide-ranging series of questions to be asked during project preparation (**see Guidance Note 5**, Box 2).

Step 1. Situational analysis

Consider natural hazards and related vulnerability in undertaking an initial background exploration of the wider context and influences of all projects in hazard-prone countries (**see also Guidance Note 2** and **Guidance Note 7**, Steps 1 and 2). If disaster-related issues are likely to be of direct relevance to the success and outcome of a particular development project they should be considered at all stages of the logframe or results-based management analysis. If they are considered to be only of indirect relevance, they should be re-visited at Step 7 (Analysis of risks and assumptions). If no potentially significant disaster-related issues are identified, there is no further need to consider them until Step 9 (Evaluation).

All of the steps outlined below are relevant in preparing, managing and evaluating disaster risk reduction projects.

Step 2. Stakeholder analysis

Include disaster-related issues in undertaking an early analysis to determine stakeholder interests and concerns and to begin to determine realistic project targets and objectives for both disaster risk reduction and other development projects in hazard-prone areas. Relevant technical knowledge and expertise should also be sought.

It is particularly important to give local communities a voice to explain any impacts of disaster-related issues on their living and working environments, their perceptions of risk, behavioural responses and priorities in strengthening resilience and to comment on the vulnerability-related implications of proposed interventions (e.g., the impact of a coastal fisheries project on the exposure of farmers to sea surges). Hazard-vulnerable groups located in the project area should be included in this process, even where they have not been identified as a key beneficiary group.

A careful definition of project beneficiaries in terms of their vulnerability to natural hazards may, in fact, help define the scope even of a more general development project. For instance, beneficiary groups could be categorised as highly hazard-prone as well as, say, poor and food insecure, implying that a project aimed at poverty reduction should perhaps explicitly address disaster risk in striving towards its overall goal.

Further stakeholder consultations should occur at subsequent steps in the application of logframe analysis and results-based management tools. These consultations should build on the initial analysis to ensure that stakeholder interests and concerns, including those relating to natural hazards, are integrated into the design of the project, reflected in its objectives and activities and taken into account in any subsequent adjustments during implementation.

Step 3. Problem analysis (or situational and cause-and-effect analysis)

In undertaking logframe analysis, consider disaster-related issues in identifying the central problem the project seeks to address, exploring its causes and effects and identifying those affected.

The role of past disasters and continuing disaster risk, including the related impact on behaviour (e.g., via the selection of crops for production), should be taken into account in analysing underlying causes of the problem. Any impact or effect of the central problem on vulnerability to natural hazards should also be explored (e.g., the vulnerability-related implications of environmental degradation). In the case of disaster risk reduction projects, vulnerability to natural hazards itself is the central problem to be analysed.

Step 4. Objectives analysis

Take disaster-related factors into account in determining the strategic objective, goal or impact of a project, its project development objective, purpose or outcome and intermediate objectives or outputs. In the case of logframe analysis, these objectives are determined by translating the effects identified in the problems analysis (Step 3) into positive statements or objectives (e.g., an increase in crop yields in years of lower rainfall), using causes to determine means–end relationships (that is, how to move from the root causes of a problem to the achievement of objectives) and, if necessary, balancing out objectives. In results-based management, the strategic objectives are identified first, building down through the sequence of cause–effect relationships to determine lower-level objectives and, thus, project activities.

Project strategic objectives are increasingly aligned with country programming goals (which, in turn, are linked to poverty reduction strategies and Millennium Development Goals). Given the large range of problems facing many developing countries, disaster risk reduction is unlikely to feature often as a strategic objective except in small economies recovering from recent catastrophic events and under programmes of more specialised NGOs, such as those focusing on food and livelihoods security (**see Guidance Note 4**). However, in hazard-prone countries disaster risk reduction could directly contribute towards the achievement of other strategic objectives such as sustained economic growth, improved lives and protection of vulnerable groups, increased incomes of small-scale farmers or the establishment of a managed system of protected, productive and sustainable natural resources. As such, a disaster risk reduction project could be decided upon to help achieve these other strategic objectives. Such a project would have a specific disaster-related development objective (see Box 1).

In other development projects, disaster risk reduction could be selected as an intermediate objective directly contributing towards achievement of the project development objective. In more hazard-prone countries, inclusion of disaster risk reduction components could be particularly important in ensuring the sustainability of a project's benefits and achievements. For instance, a project to improve housing conditions could include intermediate objectives relating to strengthened building codes and land use regulations to support enhanced hazard resilience. Alternatively, disaster risk reduction elements could be included as key assumptions relating to planned activities to be undertaken by partner agencies or, where they are important but beyond the realistic or direct scope of the project, rephrased as project risks (see Step 7). Any disaster risk reduction intermediate objectives or outputs should be precisely defined, verifiable (see Step 6) and feasible within available project resources.

Step 5. Analysis of alternatives

Include potential disaster risk reduction activities as relevant in determining and appraising possible project components for achieving the project's intermediate objectives or outputs and selecting the optimal project strategy. Causal links between project activities and intermediate objectives or outputs should be clear.

The positive and negative impacts of other possible project components on vulnerability to natural hazards (e.g., via their environmental impact – **see Guidance Note 7**) and the impact of potential future hazard events on the success and sustainability of possible project components should also be considered and any required adjustments accordingly made (e.g., hazard-proofing building design (**see Guidance Note 12**)). In hazard-prone countries, this is important even in cases where the project itself does not include any explicit disaster risk reduction components or where hazard-related issues were not identified as a cause or effect of the problem being tackled. (**See also Guidance Note 8** on analysis of project alternatives and **Guidance Notes 7, 8, 11 and 12** on project appraisal more generally from economic, environmental, social and technical perspectives.)

The implications of a project for vulnerability to natural hazards of non-beneficiaries should also be considered in the analysis of alternatives, as arising both intentionally (e.g., in the case of deliberate diversion of floodwaters) and unintentionally (e.g., where construction of infrastructure would block drainage of water – **see Guidance Note 7**, Box 1).

Step 6. Selection of targets and indicators

Determine relevant indicators to monitor and evaluate project performance and success, including a few indicators for each disaster-related project development objective and intermediate objective, and specify base and target values. Indicators should signify the level of success needed in order to accomplish expected achievements at the next level of the logframe matrix or results-based framework. Indicators should be specific and tangible, measurable in quantity or quality, time and location; easy and cheap to collect; relevant and informative for decision-making purposes; and reliable. Related targets should be realistic. Indicators are not required for strategic objectives as these are beyond the responsibility of individual projects and thus are not monitored within a project context.

Measuring the performance and achievements of disaster risk reduction measures poses certain challenges relating to the fact that the design hazard event[2] may not occur over the life of the project and thus the benefits and impact of related disaster risk reduction activities may not be directly measurable. Such challenges concern in particular those measures intended to strengthen resilience against geophysical hazards, such as earthquakes, volcanic eruptions and tsunamis. In such cases, leading or process indicators are required that will at least provide some sign of progress towards the achievement of project objectives (e.g., the number of schools constructed to withstand

2 The specified magnitude of a particular type of hazard against which the disaster risk reduction measure is intended to strengthen resilience. The measure may provide little or no protection against greater events and even, in some circumstances, exacerbate such losses (**see Guidance Note 8**).

earthquakes). Leading or process indicators are also required in situations where the full benefits of a project will only become apparent after its completion (e.g., by measuring the progress of a mangrove planting scheme intended to provide protection against sea surges in terms of rates of growth and survival of the trees).

Box 1

The Asian Development Bank's Hunan Flood Management Sector Project, China: Defining project impacts, outcomes, outputs and related indicators

Project impact	Sustainable and inclusive socio-economic growth in flood-prone areas of Hunan Province ***Indicators*** ■ Number of newly established industrial and commercial enterprises in the project areas increases compared with base year 2006 ■ Land values for commercial and industrial purposes in project areas increases by at least 20% over 2005 levels by 2012 ■ Urban poverty incidence in the project areas is reduced compared with 2003 incidence of 6.7%
Outcome	Flood protection for strategic and priority flood-prone areas in the upper reaches of the four main river basins in Hunan Province is improved ***Indicators*** ■ Annualized flood damage and disaster relief costs reduced in participating cities as a result of increased standards for flood protection works and improved flood emergency preparedness ■ Direct economic losses from floods and waterlogging reduced compared with current average losses
Outputs	**1** Non-structural flood management systems: operational flood warning and management systems for up to 35 municipalities and counties linked to the provincial flood warning and management system ***Indicators*** ■ Increased warning time against potential floods in project area (current warning time is a few hours to one day) ■ Forecasting and warning data more frequently accurate **2** Structural flood protection, resettlement, and environment management: flood protection works are completed in priority locations as part of Hunan's River Basin Flood Control Plan and the 11th Hunan Provincial Five-Year Plan and in compliance with PRC [People's Republic of China] regulations and Asian Development Bank (ADB) safeguard policies ***Indicators*** ■ Flood-control level of county-level cities improved to 1 in 20-year return flood from below 1 in 5-year return flood recurrence by end of project ■ Flood-control level of municipal cities improved to 1 in 50- or 100-year return flood by end of project ■ Satisfaction level of the 20,133 relocated persons restored to pre-resettlement levels in terms of income and livelihood ■ Percentage of environment management plan (EMP) monitoring targets achieved **3** Project management and capacity building: operational and strengthened project management and monitoring systems ***Indicators*** ■ Timely and informative reporting of local project management offices (LPMOs) that reflects accurate and on-time project implementation in line with agreed assurances ■ Domestic systems-based project management and monitoring system, including Project Performance Management System (PPMS) operationalized **4** Flood management sector planning: selected sector assessments and planning to support development of integrated flood management plans (grant financed through the advisory technical assistance) ***Indicators*** ■ Basin-wide flood warning system development needs assessed; flood insurance appraised with support from advisory technical assistance (TA); next actions for inclusion in future flood management plan agreed upon by key provincial authorities by Year 2008

Source: Excerpt from ADB, *Proposed Loan and Technical Assistance Grant People's Republic of China: Hunan Flood Management Sector Project – Report and Recommendation of the President to the Board of Directors.* Project Number 37641. Manila: Asian Development Bank, 2006.

Use of proxies and alternative indicators may also assist measurement. For instance, in a project aimed at strengthening the drought-resilience of poor households, fluctuations in livestock sales or school enrolment will be easier and cheaper to monitor than movements in household income.

Considerable care is required in thinking through the implications of the achievement of possible indicators and ensuring that appropriate, and collectively fully informative, indicators are selected. The consequences of reliance on particular indicators also require careful thought. For instance, a rise in flood-plain land prices may help capture the benefits of a flood control project. However, rising land prices could also imply that poorer households are forced away into other marginal areas and thus that a second indicator measuring population movements by income group or occupation in and out of the project area might also be required.

In cases where it proves difficult to identify a relevant disaster risk reduction indicator, it may be because the related intermediate objective or output has been defined too broadly or ambitiously and needs to be more closely defined. The magnitude of the hazard event itself may need careful definition to support identification of appropriate indicators, e.g., protection against a 1 in 25-year flood event rather than protection against flooding.

Case examples of performance indicators are presented in Boxes 1 and 2. Further guidance on the selection of indicators and methods and techniques for collection of related data (including the establishment of baseline data where necessary) is provided in **Guidance Note 13**. **Guidance Note 9** also contains useful information on methods and techniques for collection of data, while **Guidance Note 4** (Box 2) discusses various disaster risk indices that have been developed to measure national and sub-national risk, in part for monitoring and evaluation purposes.

Box 2

Monitoring objectives: Project development objectives and related performance indicators

Pan American Health Organization's Emergency Preparedness and Disaster Relief project in the Americas
Project development objective: To lessen the impact of disasters on the population of the Americas by improving the ability of the health sector to prepare for and respond to all types of emergencies and reduce risk to disasters
Related performance indicators:
- The Ministry of Health plays a leading role in the coordination and implementation of a national disaster reduction programme
- Countries (NGOs, governments and the private sector) demonstrate a commitment to reducing the vulnerability of the health sector by taking actions that develop a 'culture' of disaster risk reduction
- The number of health ministries that have invested their own or other national resources in disaster management and reduction

ActionAid's Disaster Risk Reduction through Schools project in seven countries
Project development objective: To make schools in high-risk disaster areas safer, enabling them to act as a locus for disaster risk reduction, institutionalising implementation of the Hyogo Framework within education systems
Related performance indicators:
- Strengthened disaster preparedness for effective response at all levels
- Substantial reduction in losses of lives and property in disasters
- Disaster preparedness and risk reduction mainstreamed in education curriculum
- Schools recognised as focal points in disaster risk reduction and involved in community education and advocacy programmes
- Reduction in underlying risk factors

Practical Action's Mainstreaming Livelihood-Centred Approaches to Disaster Management project in Bangladesh, Peru, Zimbabwe and other countries (to be determined)
Project development objective: National and local development and disaster plans are more responsive and effective in enabling poor communities to reduce disaster risks that threaten their livelihoods
Related performance indicators:
- Local- and national-level support institutions incorporate disaster risk reduction plans into their development practices in project countries
- Poor communities in project locations reduce losses of livelihood assets due to disasters
- Poor communities and local organisations represented in disaster management decisions and planning

Step 7. Analysis of risks and assumptions

Consider disaster-related factors in identifying the set of critical assumptions on which the success and sustainability of the project's overall objectives and individual components will depend, assess and rank related risks, develop a risk management plan and establish risk indicators.[3] All stakeholders should be involved in this analysis.

The internal logic of both logframe analysis and results-based management is particularly valuable in exploring the implications of potential disaster risk as it facilitates careful analysis of causal relationships (i.e., the assumptions that must hold in order for the provision of inputs to lead to activities, for the activities to produce outputs and so on).

Critical assumptions may relate to possible risks identified under Step 1 but only considered of indirect relevance to the project; to disaster risk reduction objectives that were considered but not selected under Step 4; or to the successful implementation of disaster risk reduction activities planned by partner agencies. Where project assumptions include steps to be undertaken by others, the various parties' actions should be carefully harmonised.

Hazard-related assumptions should be stated as precisely as possible, specifying orders of magnitude and, if relevant, areas affected (for instance, 'April-October rainfall exceeds 25 cm every year over the life of the project in the project province' rather than 'no drought'), because more minor events may pose little risk to the project and also because more precisely defined assumptions are easier to monitor.

The risk of assumptions not holding should then be assessed in terms of both probability and impact. Both the direct impacts of disasters and their indirect implications for other key assumptions should be considered (see Box 3).

Box 3 Disaster risks to development projects

Natural hazard events could pose potential risks to a development project at any level of a logframe matrix of results-based framework. They could restrict:

- inputs from leading to activities (e.g., if a disaster weakens a government's administrative capacity to manage the project);
- activities from creating outputs or intermediate objectives (e.g., by destroying infrastructure built or crops grown under a project; by implying that volunteers for a training programme are no longer able to attend a course due to disaster-created demands on their time; or by disrupting efforts to strengthen management systems as attention is diverted to relief and reconstruction efforts);
- outputs from achieving the development objective, purpose or outcome of a project (e.g., by destroying infrastructure needed to transport and market project outputs, implying that target increases in rural income are not met; by resulting in the withdrawal of children from school to generate additional family income, limiting achievements of an education project aimed at increasing literacy rates; or by implying that households are no longer able to afford the health-care services provided by a particular project); and/or
- achievement of the project development objective from contributing towards the achievement of the strategic objective, goal or impact (e.g., where disaster-related deaths undermine the achievement of a health project in contributing towards a reduction in rates of mortality and ill-health).

Project inputs could also be affected by a disaster – for instance, if project funding is reallocated to disaster relief and reconstruction efforts or if costs of certain project inputs (e.g., construction materials) rise significantly post disaster. Such preconditions for project implementation do not appear within the logical or results-based management framework but should nevertheless be borne in mind in designing, implementing and evaluating projects in hazard-prone areas.

Similarly, assumptions relating to anticipated activities of partner agencies could be undermined by the direct or indirect impacts of a disaster – e.g., due to the reallocation of financial or other resources.

3 In logframe analysis, critical assumptions are recorded in the right-hand column of the logframe matrix and used to verify its vertical logic. In results-based management, a separate critical risks matrix is developed.

Having determined levels of risk, appropriate disaster risk management options must then be selected. This will in part depend on available project resources, as well as on the severity of the risk and the perceived ability of others to manage a disaster event (see Box 4). Risks can be:

- accepted (appropriate where risks, or remaining risks after other measures are taken, are low and unlikely to endanger achievement of project objectives);
- avoided (e.g., by not continuing with that activity or component of a project or even entirely redesigning a project because the risk is too great and measures to deal with it too expensive and difficult – so-called 'killer assumptions');
- mitigated or reduced in likelihood by amending the project design (e.g., using an alternative building design or a different variety of crop), by adding additional features (e.g., an irrigation component) or even initiating a separate disaster risk reduction project; and/or
- transferred (e.g., by insuring the project against disaster risk).

Project objectives could also require adjusting (e.g., by setting a lower crop yield target). Performance indicators should then be specified for remaining risks, particularly those with high ratings, and the risks should be carefully monitored during project implementation.

Box 4 **Managing risk – an example from Bangladesh**

Significant disaster risk does not necessarily mean that a project should be dropped, as illustrated by a risk analysis undertaken for a UK Department for International Development (DFID) Chars Livelihoods Programme in Bangladesh. This analysis identified seven risks, the first of which was that "environmental change or natural disasters may undermine programme progress".[4] However, the analysis continued on to state that:

"…although the probability associated with this risk is high, associated impact [on the DFID Chars Livelihoods Programme] is judged as low, on the basis that previous floods have demonstrated that government, NGOs and development partners are relatively effective and efficient at mobilising resources to deal with the immediate crisis. It is likely that the agencies involved in disaster management would be the same agencies which are partnered with the programme, again reducing the likelihood that programme activities would be seriously disrupted.

In addition, the programme itself has a significant component concerned with improving disaster preparedness and disaster management… This is planned to begin from programme inception, and will itself contribute to improving the efficiency and effectiveness of disaster management operations should the need arise.

Despite the comfort that may be drawn from these factors, it remains true that if a disastrous flood were to occur in the first three years of the programme, it would constitute a severe setback to programme activities which would require reconsideration of the overall programme timetable."

Source: DFID. *Chars Livelihoods Programme – Annex 9: Risk Analysis*. London: Department for International Development (UK), 2002. Available at: http://www.dfid.gov.uk/pubs/files/chars-livelihoods-prog.pdf

Step 8. Project implementation

Monitor the performance of disaster risk reduction project components during implementation using the selected performance and risk indicators and make any appropriate adjustments in inputs, activities, targets and objectives.

In the aftermath of any disaster, all projects under implementation in the affected area should be carefully assessed and objectives, targets and assumptions revised as necessary to take account of any direct or indirect impacts on the project and to reflect any perceived or actual changes in the form and nature of vulnerability to future hazard events. Major changes in vulnerability to natural hazards over the life of the project (e.g., due to deforestation) should also be carefully monitored and any necessary adjustments undertaken to ensure that project outcomes remain sustainable, particularly in highly hazard-prone areas. Unintended impacts of the project itself on vulnerability to natural hazards should also be closely watched. Participatory approaches, involving stakeholders in the monitoring process, can be particularly valuable in determining any changes in vulnerability and making necessary adjustments.

4 'Natural disasters' is DFID's term. The other six risks related to the governance environment, ability to reach the poor, agreement on roles and partnerships, the identification of sufficient suitable partners, resistance from elites and the receptiveness of policy-makers.

Step 9. Evaluation

With the benefit of hindsight, use the logframe or results-based framework to explore:

- whether disaster risks and related assumptions were accurately assessed during project design;
- whether disaster risk was appropriately and cost-effectively addressed by the project;
- the benefits and achievements of any disaster risk reduction-related components;
- whether selected disaster risk-related performance and risk indicators were sufficiently relevant and informative;
- how the direct and indirect impacts of any disasters occurring over the course of the project affected its outcome and achievements;
- whether the impacts of those disasters were handled appropriately within the context of the project; and
- whether the sustainability of the project's achievements are potentially threatened by future hazard events.

Lessons learned from the evaluation should be integrated into future projects.

3. Critical factors for success

- *Understanding of vulnerability and opportunities for disaster risk reduction.* In some quarters, disasters are still viewed as 'acts of god'. Efforts are required to enhance knowledge and understanding of the fact that disasters are not, in fact, unpredictable, unavoidable events to be dealt with by emergency specialists. Instead, if recognised at an early stage in project design, there may be considerable scope for managing disaster risk and enhancing resilience. Better understanding of vulnerability is particularly important in view of the fact that development initiatives themselves can unwittingly create new forms of vulnerability or exacerbate existing ones, sometimes with tragic consequences.
- *Additional assessment of risk*. Disaster risk analyses undertaken as part of logframe analysis and results-based management typically entail a rapid qualitative assessment in order to categorise risks as low, medium or high. In certain cases, however, further analysis may be necessary, possibly within the context of particular appraisal tools (e.g., economic (**see Guidance Note 8**), environmental (**see Guidance Note 7**) or engineering (**see Guidance Note 12**)). The implications of disaster risk for higher-level risks, such as risk to the development organisation's reputation (reputational risk), should also be explored.
- *Treatment of low-probability, high-impact risks*. Climatological hazards are most likely to be identified as potential risks, reflecting their shorter return periods and thus higher probability that they will occur over the life of a project. Drought, in particular, is likely to be identified as a risk factor in projects dependent on water inputs to be undertaken in drought-prone areas. In contrast, risks emanating from earthquakes and volcanic hazards, with much longer return periods, may be discounted. However, it is important to ensure that such risks are adequately considered from a safety perspective, taking rights to safety and protection into account (**see Guidance Note 12**).
- *Development organisation priorities.* The particular emphasis of logical framework and results-based management analysis will in part reflect a development organisation's policies and priorities. In the absence of specific directives to consider disaster-related issues, only limited consideration may be paid to them, even in highly hazard-prone areas.
- *Adjusting project scope and objectives.* The flexibility inherent in logframe and results-based management tools should be fully exploited, treating related frameworks as living documents and constantly revisiting and, when necessary, revising them as project circumstances change.
- *Performance indicators.* Further work is required to support the development of indicators for monitoring and measuring the performance of disaster risk reduction activities (**see Guidance Note 13**).

Box 5 Hazard and disaster terminology

It is widely acknowledged within the disaster community that hazard and disaster terminology are used inconsistently across the sector, reflecting the involvement of practitioners and researchers from a wide range of disciplines. Key terms are used as follows for the purpose of this guidance note series:

A *natural hazard* is a geophysical, atmospheric or hydrological event (e.g., earthquake, landslide, tsunami, windstorm, wave or surge, flood or drought) that has the potential to cause harm or loss.

Vulnerability is the potential to suffer harm or loss, related to the capacity to anticipate a hazard, cope with it, resist it and recover from its impact. Both vulnerability and its antithesis, *resilience*, are determined by physical, environmental, social, economic, political, cultural and institutional factors.

A *disaster* is the occurrence of an extreme hazard event that impacts on vulnerable communities causing substantial damage, disruption and possible casualties, and leaving the affected communities unable to function normally without outside assistance.

Disaster risk is a function of the characteristics and frequency of hazards experienced in a specified location, the nature of the elements at risk and their inherent degree of vulnerability or resilience.[5]

Mitigation is any structural (physical) and non-structural (e.g., land use planning, public education) measure undertaken to minimise the adverse impact of potential natural hazard events.

Preparedness is activities and measures taken before hazard events occur to forecast and warn against them, evacuate people and property when they threaten and ensure effective response (e.g., stockpiling food supplies).

Relief, rehabilitation and *reconstruction* are any measures undertaken in the aftermath of a disaster to, respectively, save lives and address immediate humanitarian needs; restore normal activities; and restore physical infrastructure and services.

Climate change is a statistically significant change in measurements of either the mean state or the variability of the climate for a place or region over an extended period of time, either directly or indirectly due to the impact of human activity on the composition of the global atmosphere or due to natural variability.

Further reading

ADB. *Guidelines for Preparing a Design and Monitoring Framework*. Manila: Asian Development Bank, 2006. Available at: http://www.adb.org/Documents/Guidelines/guidelines-preparing-dmf/guidelines-preparing-dmf.pdf

AusAID. *The Logical Framework Approach*. AusGuideline 3.3. Australian Agency for International Development, 2005. Available at: http://www.ausaid.gov.au/ausguide/pdf/ausguideline3.3.pdf

CIDA. *Results-based Management in CIDA: An Introductory Guide to the Concepts and Principles.* Ottawa: Canadian International Development Agency, 1999. Available at: http://www.acdi-cida.gc.ca/CIDAWEB/acdicida.nsf/En/EMA-218132656-PPK

CIDA. *RBM Handbook on Developing Results Chains: The Basics of RBM as Applied to 100 Project Examples.* Ottawa: Canadian International Development Agency, Results-Based Management Division, 2000. Available at: http://www.acdi-cida.gc.ca/INET/IMAGES.NSF/vLUImages/Performancereview6/$file/Full_report.pdf

DFID. 'Logical Frameworks'. In *Tools for Development.* London: Department for International Development (UK), 2002. Available at: http://www.dfid.gov.uk/pubs/files/toolsfordevelopment.pdf

OECD-DAC. *Managing for Development Results – Principles in Action: Sourcebook on Emerging Good Practices.* Paris: Organisation for Economic Co-operation and Development, Development Assistance Committee, 2006. Available at: http://www.mfdr.org/sourcebook/MfDRSourcebook-Feb-16-2006.pdf

Sida. *The Logical Framework Approach: A Summary of the Theory Behind the Method.* Stockholm: Swedish International Development Cooperation Agency, 2004. Available at: http://www.sida.se/shared/jsp/download.jsp?f=SIDA1489en_web.pdf&a=2379

UNDP. *Knowing the What and the How – RBM in UNDP: Technical Note.* New York: United Nations Development Programme, undated. Available at: http://www.undp.org/eo/documents/methodology/rbm/RBM-technical-note.doc

USAID. *Performance Monitoring and Evaluation TIPS: Building a Results Framework.* No 13. Washington, DC: United States Agency for International Development, 2000. Available at: http://pdf.dec.org/pdf_docs/pnaca947.pdf

5 The term 'disaster risk' is used in place of the more accurate term 'hazard risk' in this series of guidance notes because 'disaster risk' is the term favoured by the disaster reduction community.

This guidance note was written by Charlotte Benson. The author would like to thank Andrea Iffland (Asian Development Bank), Sergio Mora (Inter-American Development Bank) and Edith Paredes (Inter-American Development Bank), members of the Project Advisory Group and the ProVention Consortium Secretariat for their invaluable advice and comments. Financial support from the Canadian International Development Agency (CIDA), the United Kingdom's Department for International Development (DFID), the Royal Ministry of Foreign Affairs, Norway and the Swedish International Development Cooperation Agency (Sida) is gratefully acknowledged. The opinions expressed are those of the author and do not necessarily represent the views of the reviewers or funding bodies.

Tools for Mainstreaming Disaster Risk Reduction is a series of 14 guidance notes produced by the ProVention Consortium for use by development organisations in adapting project appraisal and evaluation tools to mainstream disaster risk reduction into their development work in hazard-prone countries. The series covers the following subjects: (1) Introduction; (2) Collecting and using information on natural hazards; (3) Poverty reduction strategies; (4) Country programming; (5) Project cycle management; (6) Logical and results-based frameworks; (7) Environmental assessment; (8) Economic analysis; (9) Vulnerability and capacity analysis; (10) Sustainable livelihoods approaches; (11) Social impact assessment; (12) Construction design, building standards and site selection; (13) Evaluating disaster risk reduction initiatives; and (14) Budget support. The full series, together with a background scoping study by Charlotte Benson and John Twigg on *Measuring Mitigation: Methodologies for assessing natural hazard risks and the net benefits of mitigation*, is available at http://www.proventionconsortium.org/mainstreaming_tools

PROVENTION
CONSORTIUM

ProVention Consortium Secretariat
PO Box 372, 1211 Geneva 19, Switzerland
E-mail: provention@ifrc.org
Website: www.proventionconsortium.org