DRR Integration Certification

Disaster Risk Reduction Integration Certification for Development Projects[1]

Contents

[1] Drafted by C. Kelly, Disaster Management Consultant, Disaster Risk Management Program, UNDP Tajikistan, email: disasterkelly@yahoo.com.

1. Introduction

Disaster risk reduction (DRR) is a cross-cutting policy for UNDP. UNDP Tajikistan has incorporated DRR into the country strategy documents (e.g., **UNDAF** and UNDP Tajikistan County Program). The next step is to incorporate actual DRR activities into UNDP Tajikistan's portfolio of development activities.

This integration process is structured around a certification that projects have incorporated disaster risk reduction into project design and implementation. The DRR certification process described in this document, includes:

- Training on DRR integration into development activities (**Annexes A** and **B**).
- A format guide for completing a **Project-Specific Development Project Disaster Management Plan** (**Annex C**).
- Guidance on conducting risk assessments.
- Guidance on identifying disaster risk issues which can be address through project activities.
- Guidance on developing and using checklists on the integration of disaster risk reduction into field level project activities and engineered works.

2. Levels of Certification

2.1 Levels

There are three levels of DRR Integration Certification: none, partial and full, as explained below.

2.2 Full Certification

Full certification takes place when a project completes the risk assessment process detailed in this document

1. As part of the project design process, and
2. Has integrated risk management measures into project objectives and activities, including the on-going reporting on risk management measures.

In this case, certification would be delivered when the project is approved for submission for funding. It is preferable to conduct the certification process as part of a project design as the effort needed is less than for certification during implementation

2.3 Partial Certification

Partial certification is achieved when an already underway project has conducted a risk assessment and developed a **Development Project Disaster Management Plan**, as detailed in this document. The tasks needed for certification are similar between certification of new and existing projects. However, existing projects provide only minimal opportunities frame project objectives or activities reduce disaster risk. This limited opportunity to reduce risk justifies the partial certification of the integration of disaster risk reduction into an existing project.

2.4 Certification Support and Documentation Requirements

Specialized technical assistance in disaster risk management may be needed to complete the certification process. However, support needs depend on the complexity and nature of the project to be certified. Some necessary expertise may be available from government sources

(e.g., hazard specialists) and risk management projects (e.g., disaster plans and disaster-focused socio-economic assessments).

3. Reference Documents

The certification process has been developed with input from

1. **Tools for Mainstreaming Disaster Risk Reduction: Guidance Notes for Development Organizations**, Twigg, J. and Benson, C. , 2007, ProVention Consortium Secretariat.
2. **Climate and DRR Check: Guidance on how to integrate Climate Change Mitigation/Adaptation and Disaster Risk Reduction into Development Cooperation**, Global Cooperation/Global Programme Climate Change, no date, Swiss Agency for Development and Cooperation SDC Federal Department of Foreign Affairs.
3. **Mainstreaming Disaster Risk Reduction**, LaTrobe, S. and Davis, I., 2005, TearFund.
4. **Operational Framework for Integrating Risk Reduction**, Wamsler, C., 2006, AON Benfield UCL Hazard Research Centre, and Lund University, Housing Development and Management).
5. **Gestion de riego de amenazaz naturals en proyectos de desarrollo: Lista de preguntas to verification ("checklist"),** Keipi, K. Mora Castro S. and Bastidas, P., 2005, Inter-American Development Bank.

4. Hazards Covered by the Certification

The certification focuses on risk associated with natural hazard present in Tajikistan (see box, right). The certification process does not cover social or political risks, although these can be integrated into the certification process using the procedures set out in the certification process.

Hazards Affecting Tajikistan

Hydrological and Meteorological

- ☐ Floods
- ☐ Drought
- ☐ Frosts and Freezing
- ☐ Snowfall
- ☐ Prolonged Winter Weather
- ☐ Heat Wave
- ☐ Rainfall
- ☐ Hail
- ☐ Wind
- ☐ Avalanches
- ☐ High Ground Water

Geological

- ☐ Mudflow
- ☐ Landslide
- ☐ Earthquake
- ☐ Rock fall

Biological

- ☐ Epidemics
- ☐ Epizootic (animal diseases)
- ☐ Epiphytotic (plant diseases)

5. Certification and Recertification

5.1 Actions to Complete Certification

1. *Full Certification*: A project has
   a. Completed the required training,
   b. Completed risk assessments,
   c. Completed a project-specific **Development Project Disaster Management Plan** and,
   d. Demonstrated that risk management is fully incorporated into routine project activities.
2. *Partial Certification*: A project has
   a. Completed the required training,
   b. Completed risk assessments and a
   c. Completed a project-specific **Development Project Disaster Management Plan**.
3. *No Certification*, A project has not met all the criteria for partial certification.

5.2 Approval of Partial Certification

Requests for partial certification for on-going projects are approved by the UNDP Tajikistan Country Office Program Analyst. The certification documentation is submitted with the **Annual Work Plan** or any significant revision of a **Project Document** (**ProDoc**).

A request for certification or recertification should include the following documents:

1. A completed **Certification Checklist** with supporting documentation.
2. A completed **Development Program Disaster Management Plan**.
3. A list of issues identified in the hazard and socio-economic vulnerability assessments and how these issues have been addressed in the project.
4. A process in place for submission and approval of:
    a. **Field Activity-Specific Disaster Risk Review Tables** for all project sites, and.
    b. **Natural Hazard Assessment Reports** for all infrastructure procurements.

Recertification takes place on submission of a new **Annual Work Plan** or when the **ProDoc** is revised. Recertification at the partial level is attained by resubmitting the same documents are listed in 1 to 4 above, with changes made to reflect changes in the project.

5.3 Approval of Full Certification

Requests for full certification are approved by the Country Director at the time a new project is submitted as ready for funding. A request for full certification should include:

1. A completed **Certification Checklist** with supporting documentation.
2. A completed **Development Program Disaster Management Plan**.
3. A list of issues identified in the hazard and socio-economic vulnerability assessments relative to the initial project design, and how these issues have been addressed in the project.
4. Additional objectives, actions, or provisions made in the project to address risks identified in the hazard and socio-economic vulnerability assessment process but not addressed in the initial design.
5. A process in place for submission and approval during the project of:
    a. **Field Activity-Specific Disaster Risk Review Tables** for all project sites, and.
    b. **Natural Hazard Assessment Reports** for all infrastructure procurements.

Recertification takes place on submission of a new **Annual Work Plan** or when the **ProDoc** is revised. Recertification is attained by resubmitting the same documents as listed in 1 to 5 above, with changes made to reflect changes in the project.

6. Development Project Disaster Management Plant

A significant part of the certification results are documented in the **Development Project Disaster Management Plan**. This plan addresses both project outcomes (e.g., actions to achieve results) as well as project operations. In this way, the certification process assures that the impacts of disasters on the project outcomes, and on project operations and personnel, are minimized to the degree possible. An outline for a **Development Project Disaster Management Plan** is provided in **Annex C**, and summarized in **Section 8.6**, below.

The **Development Program Disaster Management Plan** is to be reviewed at least annually to reflect staff and other changes. If this annual revision does not take place, then certification is automatically lost one year after the **Plan** was last updated.

7. Certification Training

Training modules have been developed for the certification process (see **Annex A** and **B**). The training can be provided by a qualified trainer in a workshop format, or individuals can use the training materials for self-training. Completion of the training is a requirement for certification.

8. Actions Required for Certification

8.1 Certification Status Checklist

The **Certification Status Checklist** provided below summarizes the steps needed for certification. The **Checklist** is used to track the certification process and be provided with a certification submission, project amendment or **Annual Work Plan** to indicate the level at which disaster risk reduction has been integrated into an individual project. Documentation indicating certification actions should be provided with the **Certification Status Checklist**.

Certification Status Checklist

Step	Certification Action	Status[2]	Notes and Documentation
1	*DRR Certification Training* completed.		
2	Training on *What is DRR* and *Social Vulnerability and DRR* completed.		
3	Risk assessment conducted (including hazard and socio-economic assessments)		
4	Risk assessment issues (including hazard and socio-economic assessments) addressed.		
5	**Development Project Disaster Management Plan Office Safety Checklist** completed.		
6	Risk issues addressed		
7	**Project-Specific Disaster Management Plan** completed and reviewed.		
8	**Field Level Risk Management Checklists** completed on a routine basis.		
9	**Natural Hazard Assessment Report – Infrastructure Projects** reports completed on a routine basis.		
10	Certification documentation submitted for approval.		
11	Disaster Risk Reduction Certification or Recertification approved.		

8.2 DRR Training Completed

1. All project staff above the Project Assistant level, including advisors and professional support staff (e.g., engineers), have complete the training courses on *What is DRR* and

[2] Enter *Completed, Pending, or Not started*.

Social Vulnerability and DRR, available in **Annex B**. The courses can be completed separately as two four hours courses, or as a single seven hour course.

8.3 Risk Assessment Completed

1. A risk (hazard and socio-economic vulnerability) assessment has been completed for all planned or actual projects activities. This assessment covers hazard impacts on project and outcomes as well as an analysis of socio-economic vulnerability. See **Section 9**, below, for guidance and requirements for risk assessments.

2. The completed risk assessment forms and results are included in the **Development Project Disaster Management Plan** (**Annex C**).

8.4 Risk Issues Identified Addressed in Project Design and Activities

1. Issues identified using the **Hazard Screening – Project Implementation,** and **Hazard Screening – Project Outcomes** forms are addressed. (See **Section 9.5**, **Using Risk Assessment Results**).

Disaster risk issues can be addressed by:

a. Changing specific elements of a project.
b. Expanding elements of a project.
c. Developing new elements of a project.
d. Identifying other projects or activities which can address risk issues identified.
e. Removing specific elements of a project which cause risks which cannot be otherwise reduced.

Information on the risks addressed should be included with the **Certification Status Checklist**.

2. Information on the risk issues addressed are included in the **Development Project Disaster Management Plan**.

8.5 Development Project Disaster Management Plan Office Safety Checklist completed and all issues are resolved.

1. A **Development Project Disaster Management Plan Office Safety Checklist** is completed for each project office. (See **Annex D** for the form.)

2. Issues identified in the **Office Safety Checklist** are resolved, all questions have a “yes” answer and the form is included in the **Development Project Disaster Management Plan**.

8.6 Project-Specific Disaster Management Plan completed.

1. A **Development Project Disaster Management Plan** has been prepared or updated in the last 11 months. (Outline available in **Annex C**.)

The **Plan** is composed largely of information from the project **ProDoc** and other sources (60% of the information needed for the **Plan**) and the results of the risk assessments, **Office Safety Checklist**, and actions to address risks, developed as part of the certification process detailed

above. The standard narrative content for a **Development Project Disaster Management Plan** is available from the **Disaster Risk Management Program**, UNDP Tajikistan.

The **Development Project Disaster Management Plan** should be shared with **OCHA** and **UNDP** security staff when completed.

8.7 Field Level Risk Management Checklists Completed

1. A **Field Level Risk Management Checklist** is completed for each project activity. See **Section 9**, **Field Level Risk Management Checklist Guidance** below for guidance on field level risk management checklists.

2. **Field Level Risk Management Checklists** are approved by the Project Analyst.

8.8 Natural Hazard Assessment Report – UNDP-Supported Infrastructure Activities

1. A **Natural Hazard Assessment Report – UNDP-Supported Infrastructure Activity** form is completed for each infrastructure construction activity. See **Section 10**, **Natural Hazard Assessment Report** below for guidance on completing the report.

2. **Natural Hazard Assessment Report** forms are include with procurement documents for construction activities and reviewed as part of the approval of these procurements.

8.9 Disaster Risk Reduction Certification Approved

1. Risk management documentation and the checklist are submitted to UNDP Tajikistan Country Office Program Analyst for approval.

2. Project is assigned a risk reduction certification of
    a. *Certified as Incorporating Disaster Risk Reduction*, when the certification for a newly designed project.
    b. *Partial Certification as Incorporating Disaster Risk Reduction*, where certification actions 1 to 8 in the **Certification Status Checklist** have been completed.
    c. *Not Certified as Incorporating Disaster Risk Reduction*, where actions 1 to 7 have not been completed.

9. Risk Assessment Guidance

9.1 Overview

The hazard screening process involves:

- Reviewing a list of natural hazards which could affect the implementation of a project, project outcomes, outcome sustainability or project beneficiaries and
- Identifying whether any negative or positive impacts may occur.

Information on each hazards, and how they may affect a project's activities, can be provided by the Committee of Emergency Situations and well as technical experts in the Government and the private sector. UNDP's **Disaster Risk Management Program** can provide advice on securing technical advice if needed.

The socio-economic vulnerability assessment process involves using an assessment matrix and a Delphi process (explained below) to define the impacts of the project on the target population as a whole and on specific sub-groups.

Note that more complex risk assessment procedures and tools are available, and should be used where possible. The risk assessment process set out in this document is intended to provide a minimally adequate identification of hazards and socio-economic vulnerability to these hazards based on available information in a way that can be used to change project goals, objectives and activities to reduce the risk of natural disasters. More elaborate assessment tools will result in more extensive risk reduction.

9.2 Hazard Screening - Project Implementation

A hazard screening should be completed for each discrete project activity. For instance, if a project provides credit for agriculture, training for processing food crops and supports construction of irrigation systems, then each of these activities should be screened separately.

The following table should be used in this screening process be incorporated into the **Development Project Disaster Management Plan** in the section indicated.

Instructions:

1. Each activity set out in the **Annual Work Plan** should be reviewed to identify whether any of the hazards in the first column could have a significant impact on implementation.
2. The answer, yes or no, should be indicated in the second column.
3. For "yes" answers, summarize the impacts in the 3rd column.
4. Summarize measures proposed to address these impacts in the 4th column.

The results of this screening will be incorporated into the **Project-Level Risk Management Options** as described below and in the **Development Project Disaster Management Plan**.

Hazard Screening – Project Implementation			
Program: *add name of project*		**Date Completed:** *add date*	**Person completing form:** add name
Hazard	***Will the hazard have a significant impact the implementation of the project? Yes or No***	***Summarize impacts***	***Summarize measures to address these impacts.***
Flooding			
Drought			
Frosts and freezing			
Heavy Snowfall			
Heavy Rainfall			
Hail			
Prolonged Winter Weather			

High Wind			
Avalanches			
High Ground Water			
Mudflows			

9.3 Hazard Screening - Project Outcomes

A hazard screening should be completed for each expected project outcome – will a hazard event damage or negate the expected outcomes of a project. The form below is used to identify possible negative hazard impacts, identify the expected impact and indentify the mitigation measures.

The instructions for the form are provided below. The completed form should be incorporated into the **Project-Level Risk Management Options** forms, as described below, and in the **Development Project Disaster Management Plan**

Instructions:

1. Each Outcome set out in the **Annual Work Plan** should be reviewed to identify whether any of the hazards in the first column could have a significant impact on expected outcomes.
2. Indicate with an "X" for each hazard if the outcome listed in the first column could be affected by this hazard.
3. For each "X", list the impact by hazard in the "**Impact**" column.
4. For each impact listed, list appropriate **Mitigation Measures** in the last column.
5. Complete for all Outcomes listed in the ProDoc.

Hazard Screening – Project Outcomes																			
Project: *add name of project*																			
Outcome/ Activity (Based on **ProDoc** and **Annual Work Plan**)	**Hazard** (Check if applicable)																	**Impact** (List hazards checked and impacts)	**Mitigation Measures** (List measure/s for each impact) (Use additional pages if needed.)
	Floods	Drought	Frost and freezing	Heavy Snowfall	Heavy Rainfall	Hail	Prolonged Winter Weather	High winds	Heat Wave	Avalanches	High Ground Water	Mudflows	Landslides	Earthquake	Rockfall	Epidemics	Animal Disease	Plant Disease		

Activity 1: *add activity*																				
Add specific outcome																				
Add specific outcome																				
Activity 2: *add activity*																				
Add specific outcome																				

9.4 Social Vulnerability Screening

The screening for social vulnerability is accomplished using the social vulnerability assessment matrix presented in the *Social Vulnerability and DRR* training (see **Annex C**). The training materials should be referred to for information in the development and use of the matrix.

The screening is accomplished through the following steps:

1. A group of seven to 10 individuals familiar with the project and the project area and population is assembled.[3]
2. This group reviews available information about the project area and conditions, including the impact of past disasters and other shocks, and the social vulnerability matrix, and defines the level of social vulnerability for each of the types of capital for the following groups:
    - Project beneficiaries as a whole.
    - Children involved in the project (if any).
    - Separately for women and men impacted by the project.
    - For residents of different climatic zones covered by the project
    - For different livelihoods systems (e.g., farming, livestock, etc.) of project beneficiaries.
    - For different project components, where a project contains diverse elements, including coverage of the topical areas noted above, where appropriate.

The use of base-line reports, project appraisals and implementation reports or background data from other project can significantly facilitate this screening process.

At the least, one form should be completed for all the target population and one for females alone. However, good practice is for forms to be completed for all significant groups (e.g., physically challenges, children, etc) identified in a project area.

The completed form should be incorporated into the **Development Project Disaster Management Plan** as indicated.

Project Activity:				**Date:**	
Capital	**Indicator**	**Level of Capital**			
		1	**2**	**3**	**4**
Human	Level of	No formal	Education up to 5	Education up to 9	University or

[3] Depending on time and resources, this capital rating process can be expanded to include the project beneficiaries themselves using participatory assessment methods. Such results have greater validity over using a select group for the assessment process, but may not be feasible due to time and cost constraints.

	education	education	years	years	professional degree
Social	Contacts with others	Isolated	Limited contact with others	Daily contact with family and friends locally	Local, national and international connections
Financial	Assets to cover needs	Funds available do not cover basic daily needs	Funds cover basic needs	Funds to cover full daily needs	Full daily needs covered; Excess funds to invest
Natural	Access to natural resources	Almost no natural resources	Access meets some needs	Access meets immediate needs	Access exceeds needs
Physical	Physical assets	No regular housing or assets	At least one room; no vehicle, land	Housing/heating, land but no vehicle	Housing/heating, land and vehicle

Where the project beneficiaries, as a whole or as a specific sub-set, have a low level of capital for any indicator, social vulnerability to disasters is considered to be increased (i.e., have a high level of social vulnerability). High levels of social vulnerability can reduce the impact of projects affected by disasters and can also be identified as area where capital should be increased through a project to improve results and reduce disaster impacts.

Specific actions to address high levels of socio-economic vulnerability (low levels of capital) should be included in project activities. Each project is responsible for demonstrating that they have taken measures to address socio-economic vulnerability to the degree possible through project activities.

9.5 Using Risk Assessment Results

The results from the hazard and socio-economic vulnerability assessments are summarized into a **Implementation and Outcome/Activity Level Hazard and Socio-Economic Vulnerability Impact Mitigation Measures** table, as presented below. This table should be inserted in the **Development Project Disaster Management Plan** as indicated and reviewed as part of the certification process.

Implementation and Outcome/Activity Level Hazard or Socio-Economic Impact Mitigation Measures			
Project:		**Completed by:**	**Date:**
Implementation Area or Outcome/Activity (Based on ProDoc and Annual Work Plan)	**Hazard or Socio-Economic Vulnerability**	**Mitigation Measure**	**Measures incorporated into Project Plans or Outputs? (yes/no)**

10. Field Level Risk Management Checklist Guidance

Once a project has begun implementation there is a need to identify and address hazard and social vulnerability issues which should be considered and addressed at the local (field) site. The following table should be completed for each project activity field site based on the hazards present and the nature of the activity.

Where an activity on the list is not being implemented, then the activity can be skipped.

Where the response to the question is “no”, the person completing the form should indicate the measures being taken to address the problem posed by the specific hazard identified. One form, completed for each project site, should be submitted for review by senior project management and kept in project files.

It is the joint responsibility of the field staff and senior project management to ensure the form is completed and that the actions identified are implemented.

Field Activity-Specific Disaster Risk Review Table[4]			
Hazard	**Questions to be answered before implementation**	**Yes (Y), No (N), or Not Applicable (NA)**	**If no, what action has been taken?**
Road Construction (Small Scale)			
Flooding	Are road surfaces above flood levels?		
	Are bridges and culverts designed to resist flood damage?		
Erosion	Are erosion and landslides onto the road minimized?		
	Is vegetation on the sides of the road provided to limit erosion and road damage?		
Disease	Have borrow pits been modified to reduce the potential for health problems (e.g. from standing water)?		
Wells (large and small bore)			
Death/injury	Will above-ground structures be safe for children?		
Disease	Will waste water be drained away safely?		
Lack of water	Is the interior of the well stabilized to prevent collapse?		
	Can the well be used if the pump is not operational?		
Buildings (less than three story)			
Lack of water	Does the building have gutters and water storage capacity?		
	Will the building have water is the local water supply runs dry during part of the year? (For clinic, schools and other public use buildings.)		
Wind damage	Will the roof, walls, doors/windows resist high winds?		
	Is damage to the building from trees which can fall in heavy winds avoided?		
Flood	Is the building outside the flood zone?		
Market Gardens			
Flooding	Is the garden area outside the flood zone?		
Conflict	Is the ownership and rights for use clear to all parties?		
	Are there procedures to resolve conflicts over access and land use?		
Lost production and investment	Is the site protected from damage by wild or free-ranging animals?		

[4] Adapted from **Prepare to Live: Strengthening the Resilience of Communities to Manage Food Insecurity in the Sahel Region**, Tearfund, 2007.

Lack of water	Will water be available to the garden when the normal source is not available?		
	Have draw-down limits been placed on water use to avoid excessive use or reduction in flows to other users?		
Agricultural Inputs			
Fire, drought, flood, insects, etc.	Has the risk of drought, fire, flooding, insect damage, etc. been included in calculations of rate of return on the equipment/inputs provided (if on credit)?		
Credit			
Fire, drought, flooding, insect damage, etc.	Has the risk of drought, food shortages, political disruption, fire, flooding and insect damage been included in calculations on rates of return on the credit provided?		
	Is the borrower insured against likely risks?		
Failure to repay credit	Is collateral provided if a loan is it at risk from drought, fire, flooding, insect damage, disease, etc.?		
Livestock Provision			
Disease	Will the animals provided be at risk of endemic or epidemic diseases? If yes, will they be vaccinated or is this the responsibility of the beneficiary?		
Failure to repay credit	Has the risk of disease or other hazards been included in calculations of rate of return on the animal provided (if on credit)?		
Dam Construction (Small scale)			
Overtopping	Does the dam have adequate spillway capacity to prevent overtopping?		
Flooding	Have downstream structures or communities been protected against excessive flows from the dam?		
	Is there a warning system for high flows from the dam?		
Death	Is there adequate security to prevent drowning?		
Erosion	Is the dam slope protected from erosion and animal damage?		
Disease, erosion	Is access to the reservoir controlled, for instance to prevent livestock from entering the reservoir?		

11. Natural Hazard Assessment Report – Infrastructure Activities

10.1 Introduction

This document provides a report format and instructions for:

- Assessing the threat posed by natural hazards to individual infrastructure construction,
- Identifying actions to manage these threats, and,
- Documenting the actions chosen.

10.2 Natural Hazard Assessment Form and Instructions

The following form is to be completed for each project construction site (e.g., building, road, bridge, irrigation system, embankment, hydroelectric plant, etc.) The form should be completed by the UNDP staff or contracted engineer and government entity responsible for the infrastructure construction. Assessment results should be incorporated into construction designs and documented through a report included in construction design documentation (see below).

The assessment should be reviewed and approval by senior project management (project manager or analyst, depending on the project) before a specific construction begins, and ideally at the point tender documents are reviewed.

Information required for the first part of the form:

1. Project Name: Provide the name of the project under which the infrastructure construction will take place.

2. Activity Name: Provide the specific name of the activity being assessed.

3. Type of Infrastructure: Indicate the type of infrastructure involved, e.g., bridge, road, building, embankment, etc. Note whether several types of infrastructure are covered by the same assessment, for instance, a dam, intake canal and equipment house for a micro-hydroelectric site.

4. Site Name and Location: Specific location of the activity.

5. Person Completing Form: Name of the project staff completing the form.

6. Date: the form is completed.

7. Person Reviewing Form: Name of the project manager or analyst reviewing the form.

8. Date: the form is reviewed.

The remainder of the form is divided into five columns, with four sections for each of the following natural hazards: Flooding, Debris Flow, Drought, Earthquake, Landslide/Rock Fall, Avalanche or Heavy Snowfall, High Wind, High Ground Water, Glacial Lake Outburst, and Dam Failure.

The columns cover:

1. Hazard: The natural hazard being assessed.

2. Return Period: The return period of a specific hazard event of a specific intensity (also referred to as the exceedence rate). The rates listed are once a year (1:1), once in five years (1:5), once in ten years (1:10) and once in 30 years (1:30). The return period

represents the most severe natural hazard event with the greatest damage which can be expected to occur during the number of years indicated.

3. See below under **Note** that the workload for completing the form by selecting only one return period, normally 1:30 (most extreme event in a thirty year period).

4. Impact: For each return period, the person completing the form should indicate the type of damage (impact) which could be expected to occur to the infrastructure item being assessed. This assessment should be based on damage done to similar types of infrastructure in similar locations in the past.

   Reference should be made to CoES and local government disaster reports as well as site-specific design assessments (which should include an indication of hazards present, and hazard impact zones). In the case of complex or large infrastructure construction, it may be necessary to hire experts to complete the assessment form.

5. Mitigation Measures: The measures proposed to address the impacts defined in the previous column. These measures should be noted in sufficient detail that they can be assessed based on a cost-benefit process.

6. Action Taken: For each mitigation measure indicate what action has been taken to incorporate the measure into the construction or management of the infrastructure item. If the hazard threat has been addressed in the construction design, this should be noted.

Note:

- Not all hazard return periods will have five impacts and corresponding mitigation measures and actions.

- One impact may have more than one mitigation measure.

- If a hazard will not affect a site or infrastructure item, this section of the form should be crossed-out and skipped.

- Some hazards (e.g., earthquakes), have relatively long return periods (e.g., 1:30[5] or greater), with limited impact during shorter term return periods (1:1 or 1:5). Return periods where no impact is expected should be crossed-out and skipped. Only the more relevant longer term return periods should be completed.

- The same mitigation measure and action may address the impact of more than one return period.

- A mitigation measure and action for one hazard may also address the impacts for another hazard.

- Where outside experts are commissioned to complete part of all of the assessment form, the reports from the experts should be kept on file and referenced in any design and tender documents.

[5] Note that the expected maximum usable life of any infrastructure is 30 years for planning purposes.

- To reduce the workload in completing the form, a “worse case” approach can be used. In this approach, only the impact of a once-in-thirty-year event is identified and addressed through mitigation measures. Since the worse case in a thirty year period will be addressed, the impact of more frequent events should also be addressed.

  At the same time, addressing a once-in-thirty-year event may be too expensive for the project and not justified by the benefits gained over thirty years. As a result, it may be appropriate to address shorter return period impacts, and this is why they are included in the assessment process.

- **It is strongly recommended** that a cost-benefit approach be used to assess the economic viability of mitigation actions and to understand the trade-offs facing beneficiary populations in terms of underinvestment in reducing the impact of hazards.

10.4 Reporting

A completed and signed assessment form should be submitted for review with the draft tender documents for any infrastructure construction work. The form should be developed by the engineer responsible for the construction activity and any government counterparts, and approved as indicted. The report should be an annex to the tender documents, as well as being provided to the government entity responsible for the infrastructure being constructed.

If identified hazard management measures **are not** incorporated into the tender, these should be indicated on the form (in the **Actions Taken** column as “no action taken”) and in the **Explanation of any “No action taken” decisions** section at the end of the form.

Any end-of-construction or end-of-project should review the assessment forms and performance of the infrastructure to assess whether the initial assessment remains valid.

Natural Hazard Assessment Form for Infrastructure Activities

Project Name
Activity Name
Site Name and Location
Type of Infrastructure
Person Completing Form Date:
Person Reviewing Form Date:

Hazard	Return Period	Impacts	Mitigation Measures	Actions Taken
Flooding	1:1	1.	1.	1.
		2.	2.	2.
		3.	3.	3.
		4.	4.	4.
		5.	5.	5.
	1:5	1.	1.	1.
		2.	2.	2.
		3.	3.	3.
		4.	4.	4.
		5.	5.	5.
	1:10	1.	1.	1.
		2.	2.	2.
		3.	3.	3.
		4.	4.	4.
		5.	5.	5.
	1:30	1.	1.	1.
		2.	2.	2.
		3.	3.	3.
		4.	4.	4.
		5.	5.	5.
Debris Flow	1:1	1.	1.	1.
		2.	2.	2.
		3.	3.	3.
		4.	4.	4.
		5.	5.	5.

	1:5	1.	1.	1.
		2.	2.	2.
		3.	3.	3.
		4.	4.	4.
		5.	5.	5.
	1:10	1.	1.	1.
		2.	2.	2.
		3.	3.	3.
		4.	4.	4.
		5.	5.	5.
	1:30	1.	1.	1.
		2.	2.	2.
		3.	3.	3.
		4.	4.	4.
		5.	5.	5.
	1:1	1.	1.	1.
		2.	2.	2.
		3.	3.	3.
		4.	4.	4.
		5.	5.	5.
	1:5	1.	1.	1.
		2.	2.	2.
		3.	3.	3.
		4.	4.	4.
			5.	5.
Drought	1:10	1.	1.	1.
		2.	2.	2.
		3.	3.	3.
		4.	4.	4.
			5.	5.
	1:30	1.	1.	1.
		2.	2.	2.
		3.	3.	3.
		4.	4.	4.
		5.	5.	5.
	1:1	1.	1.	1.

		2.	2.	2.
		3.	3.	3.
		4.	4.	4.
		5.	5.	5.
	1:5	1.	1.	1.
		2.	2.	2.
		3.	3.	3.
		4.	4.	4.
		5.	5.	5.
	1:10	1.	1.	1.
		2.	2.	2.
		3.	3.	3.
		4.	4.	4.
		5.	5.	5.
	1:30	1.	1.	1.
		2.	2.	2.
		3.	3.	3.
		4.	4.	4.
		5.	5.	5.
	1:1	1.	1.	1.
		2.	2.	2.
		3.	3.	3.
		4.	4.	4.
		5.	5.	5.
	1:5	1.	1.	1.
		2.	2.	2.
Earthquake		3.	3.	3.
		4.	4.	4.
		5.	5.	5.
	1:10	1.	1.	1.
		2.	2.	2.
		3.	3.	3.
		4.	4.	4.
		5.	5.	5.
	1:30	1.	1.	1.
		2.	2.	2.

		3.	3.	3.
		4.	4.	4.
		5.	5.	5.
	1:1	1.	1.	1.
		2.	2.	2.
		3.	3.	3.
		4.	4.	4.
		5.	5.	5.
	1:5	1.	1.	1.
		2.	2.	2.
		3.	3.	3.
		4.	4.	4.
Landslide or Rock fall		5.	5.	5.
	1:10	1.	1.	1.
		2.	2.	2.
		3.	3.	3.
		4.	4.	4.
		5.	5.	5.
	1:30	1.	1.	1.
		2.	2.	2.
		3.	3.	3.
		4.	4.	4.
		5.	5.	5.
	1:1	1.	1.	1.
		2.	2.	2.
		3.	3.	3.
		4.	4.	4.
		5.	5.	5.
Avalanche or Heavy Snowfall	1:5	1.	1.	1.
		2.	2.	2.
		3.	3.	3.
		4.	4.	4.
		5.	5.	5.
	1:10	1.	1.	1.
		2.	2.	2.
		3.	3.	3.

		4.	4.	4.
		5.	5.	5.
	1:30	1.	1.	1.
		2.	2.	2.
		3.	3.	3.
		4.	4.	4.
		5.	5.	5.
	1:1	1.	1.	1.
		2.	2.	2.
		3.	3.	3.
		4.	4.	4.
		5.	5.	5.
	1:5	1.	1.	1.
		2.	2.	2.
		3.	3.	3.
		4.	4.	4.
		5.	5.	5.
High Wind	1:10	1.	1.	1.
		2.	2.	2.
		3.	3.	3.
		4.	4.	4.
		5.	5.	5.
	1:30	1.	1.	1.
		2.	2.	2.
		3.	3.	3.
		4.	4.	4.
		5.	5.	5.
	1:1	1.	1.	1.
		2.	2.	2.
		3.	3.	3.
High Ground Water		4.	4.	4.
		5.	5.	5.
	1:5	1.	1.	1.
		2.	2.	2.
		3.	3.	3.
		4.	4.	4.

		5.	5.	5.
	1:10	1.	1.	1.
		2.	2.	2.
		3.	3.	3.
		4.	4.	4.
		5.	5.	5.
	1:30	1.	1.	1.
		2.	2.	2.
		3.	3.	3.
		4.	4.	4.
		5.	5.	5.
	1:1	1.	1.	1.
		2.	2.	2.
		3.	3.	3.
		4.	4.	4.
		5.	5.	5.
	1:5	1.	1.	1.
		2.	2.	2.
		3.	3.	3.
		4.	4.	4.
Glacial Lake		5.	5.	5.
Outburst	1:10	1.	1.	1.
		2.	2.	2.
		3.	3.	3.
		4.	4.	4.
		5.	5.	5.
	1:30	1.	1.	1.
		2.	2.	2.
		3.	3.	3.
		4.	4.	4.
		5.	5.	5.
	1:1	1.	1.	1.
		2.	2.	2.
Dam Failure		3.	3.	3.
		4.	4.	4.
		5.	5.	5.

1:5	1.	1.	1.
	2.	2.	2.
	3.	3.	3.
	4.	4.	4.
	5.	5.	5.
1:10	1.	1.	1.
	2.	2.	2.
	3.	3.	3.
	4.	4.	4.
	5.	5.	5.
1:30	1.	1.	1.
	2.	2.	2.
	3.	3.	3.
	4.	4.	4.
	5.	5.	5.

Explanation of any "No action taken" decisions:
Should indicate hazard, return period and reasons why no action was taken on the mitigation measure.
(add space as needed)

Annex A - *What is DRR* Trainer's Guide

What is Disaster Risk Reduction Course
Trainer's Guide

The PowerPoint® training materials are available from the Disaster Risk Management Program, UNDP Tajikistan.

Introduction

This **Trainer's Guide** is intended to assist a trainer tasked with presenting the **What is Disaster Risk Reduction?** course as part of efforts to integrate disaster risk reduction (DRR) into development programming in Tajikistan. The **Guide** covers the

- Expected qualifications for the trainer,
- Agenda and scheduling options for the course and presentation and
- Slide-by-presentation slide notes on content and presentation.

Logistics for organizing the course is not included in this **Guide**.

At present, the course presentation is available in PowerPoint® in English and Russian. The trainer should determine in advance whether the course should be presented in English, in English and a second language, or fully in a second language (e.g., Russian or Tajik).

Qualifications

The trainer using this **Guide** is expected to have sufficient practical and theoretical knowledge in training to lead an adult-level training where there is expected to be a considerable amount of discussion and group work. The trainer is

- Not expected to an expert in DRR, development or related fields,
- But should be familiar with the **Guidebook for the Integration of Disaster Risk Reduction into Development Programs** and able to use the material in this document, and in references, as an aid in the training process.

Course Objectives

The core objectives of the course are to

- Explain why is it necessary to do disaster risk reduction from policy and practical perspectives, and
- Enable participants to understand options for incorporating DRR into development activities.

To the extent possible, participants should be called upon to provide their own examples of DRR and how it can be incorporated into the development process.

Course Agenda and Session Summary

The standard course agenda is provided below. The course is designed as a four hour event. The times of sessions can be adjusted to meet local requirements.

Time	Session Topic	Session Summary
0845 – 0900	Opening	Opening message from UNDP management
0900 – 0920	Introductions	Round-robin introductions covering project level work of each participant
0920 -0930	Course Justification and Objectives	• Presentation on learning methods to be used. • Discussion and group work on links

		between disaster and development. • Review of background to project and certification option. • Review of course agenda and outcomes.
0930 -1045	Risk, Hazard and Vulnerability Overview	Presentations and discussions.
1045 -1100	Break	
1100 -1145	Disaster Risk Review – Project Level	Presentations and group work.
1145- 1230	Disaster Risk Review – Activity Level	Presentations and group work.
1230 – 1245	Closing.	

Note that the session times are based on presenting the course in English. The timing will need to be adjusted if another language is used, or dual language presentations are done.

Course Adjustments
The course can be combined with the **DRR and Vulnerability** course into a one day event. In this case the

- Opening sessions of the second course in the series (presumably the **DRR and Vulnerability** course) should be modified to avoid overlapping materials, and
- The discussion of vulnerability in the **What is…** course should be modified so that the concepts of vulnerability presented in the **What is** course, do not fully duplicate similar materials in **DRR and Vulnerability** course.

The course can also be adjusted to reflect the professional experience and skill levels of expected participant. As designed, the course is general for all professionals involved in development. If the course is to be delivered to a specific group of professionals (e.g., engineers, project analysts, agricultural extension agents, etc.) then the examples used in the course materials should be changed to reflect the specific interests of the course participants.

Number of Participants
The course is designed for a maximum of 20 participants and a minimum of 10 participants.

Prerequisites
Course participants are expected to be

- Fluent in written and spoken English (or the language in which the course is presented),
- Familiar with UNDP project design concepts, principals and procedures and
- Familiar with project or project activities in Tajikistan.

Handouts
A set of handouts is used in the course. These can be found at the end of the **Guide ("Handouts - For Printing)**. The handouts should be reviewed before the course to ensure they remain relevant and to ascertain whether they need to be changed to reflect the specific interest or experience level of course participants.

The PowerPoint® presentations can be provided to the participants as handouts. However, a number of the sessions use questions and group work by the participants, with results of these sessions included in the presentation.

If the all the presentations are handed out ahead of the course then the participants will be able to find the “answers” for these sessions in advance and the value of the sessions will be significantly diminished. As a result, it is recommended that the session handouts be provided at the end of each session, as part of the transition to the next session, rather at the beginning or end of the course.

Presentation Notes

Slide 1

This slide is a place holder for the opening slide for the course. It can be adjusted to reflect who is sponsoring the course or who is making the presentation

Slide 2

Use this slide as a place holder for any opening speeches which will be made. It would be ideal to use the opening to also explain the background to the DRR-and-development effort and recognize funding from the UNDP Bureau of Conflict Prevention and Recovery.

Slide 3

Use this slide to cover any administrative or logistical issues. If appropriate, indicate where the exits are in the case of an emergency.

Slide 4

Use this slide to review the course objectives.

One option is to have the participants write down why they came to the course, review theses responses and then compare them to the objectives listed on the slide.

Note on a flip chart if there are any objectives which are noted, but are not covered by the objectives on this slide and review this objective at the end of the course.

Slide 5

- Prepare a set of numbered cards, with each number being on two cards. Determine in advance how may attendees, cards and numbers will be needed.
- Distribute the cards to all the participants.
- Have participants with matching numbers meet and introduce themselves.
- Once the introductions are complete (5-10 minutes), have each person introduce the person they met.
- Encourage the participants to remain standing during this session.

Slide 6

This slide should be used to identify the different way that risks can be addressed. Ask participants to provide examples of each of the ways to address risk based on their own experiences.

It should be noted that the course focused on last two approaches, “development” and “environmental management”.

Slide 7

The four points on this slide should be used to introduce the concepts that

- Disasters and development are linked and

- Disasters can be reduced by good well planned development

Ask the participants for examples of each of the disaster-development points presented on the slide and discuss as time allows. Be ready to provide examples for each of the points, preferably based on local experiences.

Slide 8

- Divide the participants into small groups of 3 to 5 persons. (You can do this by having the participants count off by number (one, two, three, four) and have everyone with the same number being in the same group)
- Ask each group to discuss the meaning of each of the three phrases and to summarize the answers on a flip chart.
- Allow 15-20 minutes for this exercise.

Slide 9

- Ask each group to read-off their definitions.
- Present the materials on the slide, covering the definition of what is risk and details on each element.
- Comment on how close the group definitions are to those on the slide.
- Ask for and discuss any questions or comments.
- Provide the first handout (covering definitions) at the end of the discussion.

Slide 10

- Using the same groups as for Slide 8, have the participants list all the hazards they know of for Tajikistan on a flip chart.
- Remind the participants of the definition of what is a hazard.
- Once each group has at least 7 hazards listed, go to Slide 11.
- Allow 10 minutes for the listing.

Slide 11

- Compare the results on the flip charts with the hazards listed on the slide.
- Note any points listed on the flips charts which are not listed as hazards on the slide and ask the respective group to justify their choice.

The list on the slide is from the **National Disaster Risk Management Strategy** for Tajikistan.

Note that the focus of DRR in this course is on natural hazards, but conflict can also be considered as a hazard and included in DRR work where it exists and can cause harm. Not all conflict should be considered as causing harm, for instance elections can be seen as arising from or causing conflict, but successful elections are often seen as reducing longer term conflict or confrontations arising from conflict.

An alternative to Slide 11 is to use the handout on Hazards Affecting Tajikistan and have the groups brainstorm on ways to address the hazards. The results can be discussed in a plenary session covering both the nature of the hazards listed and actions to address these hazards.

This option will necessitate a change to Slide 11.

Slide 12

Using the same groups, have each discuss and answer the first two questions putting the results on a flip chart. Allow 10 minutes for this process.

Once lists have been developed, use one to lead a discussion on where information on hazards can be secures. Answers include:

- CoEs
- Geology
- Seismic Institute
- Hydrometrology
- Communities which have done hazard assessments
- Projects which have done hazard or risk assessments.

Slide 13

Begin the session discussing the difference between human (social) and structural vulnerability:

- Social/human vulnerability refers to the ways which people can be affected by a disaster, to be explained further in the next slide.
- Structural vulnerability, or sometimes exposure, is the damage which can be done to structures by a hazard.

Use the example of a bridge to discuss what damage might be done by specific hazards (flooding leading to damage of a bridge) and what measures can be used for damage reduction (making the bridge bigger).

Use bridges and earthquakes as another example and have the participants suggest damage reduction measures: building the bridge stronger.

Ask participants to propose a hazard and an item of physical infrastructure which could be affected and then impact reduction measures.

Two points which should be emphasized:

1. Reducing damage to physical structures often involves making them bigger or stronger, but may also be done my moving them from the location of possible damage, as in the case of roads or bridges.
2. Reducing the likelihood of damage to physical structures is often costly and other, non-structural, measures may be less costly or even more effective. An eco-system approach to disaster risk reduction can be used to identify lest costly ways to reduce structural vulnerability.

Slide 14

It is recommended that the trainer is fully familiar with the Livelihoods Apprach before presenting this slide. See the **Sustainable Livelihoods Guidance Sheets,** http://www.eldis.org/vfile/upload/1/document/0901/section1.pdf for more details.

Begin the presentation by reviewing asking if anyone is familiar with the livelihood approach. Use the slide to provide a review of the livelihoods model. After a general review, focus on the Livelihoods Assets section and quickly review each asset/capital type and have the participants provide examples of each.

Slide 15

Use this slide to again review the nature of each of the five capitals, with examples from the participants.

Close the presentation by noting that individuals, households, communities and countries with less capital are more vulnerable than those with more.

Slide 16

Have the participants provide suggestions on how vulnerability for each type of capital can be reduced. Example responses include:

1. Human – training, education, learning
2. Natural – fruit tree planting, improving pasture
3. Financial – increasing wages
4. Social – networking, creating common interest groups
5. Physical – purchasing things, even if they are to be sold to increase financial capital or in response to a disaster.

Note that increasing capitals does not remove vulnerability but increased resilience – to not be affected by a disaster, or to rebound from a disaster more quickly and with less damage.

Slide 17

Placeholder for a break.

Slide 18

Use the questions on this slide to lead a discussion on risk reduction with the key points below to guide the discussions.

It would be useful to have some examples of hazard and vulnerability reduction examples to share to support the discussions.

Question	Discussion Points
Do you reduce hazards or social vulnerability?	Note that hazard impacts are usually more costly to reduce, while reducing social vulnerability can take more time since it often involves changing the way people live. See points below.
Reducing hazard impacts often involves structural measures; costly, need maintenance, have limited life and can lead to catastrophic damage	How do you manage the need for maintenance? Lots of DRR activities in Tajikistan involve recurrent maintenance where this has not been done for years. Is this really DRR?
Reducing social vulnerability involves changes in the way people live, social practices, increased wealth	What are the challenges to increasing social resilience/reducing vulnerability? Are there any examples of success from the participants?
Risk reduction should be balanced to be effective	How can you balance hazard and vulnerability reduction? Do the participants have any examples to share?

Slide 19

This slide introduces a group exercise on identifying how hazards or vulnerability can be reduced. This work can use the same groups as created earlier or create new groups, but the same groups should also be used for the following exercise.

1. Provide **ANNUAL WORK PLAN 2012** document from the **Handouts** section to participants.
2. Review the instructions on the slide:
    a. Each participant should read the work plan.
    b. Identify ways through with the project can reduce hazards or vulnerability in Tajikistan. The hazard which can affect the project are those listed in Slide 11. (It may be necessary to print out copies of these hazards if the participants do not have presentation handouts covering Slide 11.)
    c. The results of the group work should be noted on a flip chart.
3. Allow about 30 minutes for the groups work and then take about 10 minutes to compare the results. Note where:
    a. There are differences in approaches between groups (e.g., one focuses on hazards or the other on vulnerability).
    b. One group may not fully understand the concepts.
    c. If changes to the project are proposed to increase impacts reducing hazards or vulnerability.

Slide 20

This slide shifts discussions from the general project level to specific activities, e.g., training, micro-credit, road repairs, etc..

Hand out several copies of the **Project Activity Risk Reduction** form from the **Handouts** to each group. This form can aid in consolidating discussions before the results are noted on a flip chart (see following slides.)

Instruction	Notes
Pick a project activity – what a project does in the field	It is best to pick a simple activity which all group members are familiar with.
Assume 1. Current socioeconomic conditions 2. Normal project implementation process	The context of the activity should be no different from what is normally done by the participants.
Identify risks 1. How hazards in Tajikistan can affect the activity	Refer participants to Slide 11 or the list of hazard which was distributed.
2. Identify how social vulnerability will be affected by the project	Refer to the different types of capital and how they can be affected (positively or negatively) by the planned activity.
3. Identify how the activity can reduce hazard impact	Refer back to earlier discussions on how to reduce hazard impacts

4. Identify how the activity can reduce social vulnerability	Refer back to earlier discussions on how to reduce vulnerability or increase resilience.

Slide 21

This slide provides the format for the flip chart which should be used by each group to report back on their work. Information from the **Project Activity Risk Reduction** form can be transferred to the flip chart, or the group can just write directly on a flip chart, but use of the form allows for changes and rewording.

Review the format with the participants before they start the assignment.

Allow 20 minutes for group work and another 10 to 15 minutes for discussion of the results.

Slide 22

This slide provides the information which is to be included by each group in the flip chart reporting on their work. The elements included are the same as in the table presented in Slide 21 and described in Slide 22.

Slide 23

This slide should be used to quickly summarize the key points of the course. To be effective as a training tool, each point should be introduced as a question and the answers (provided by the participants) checked against the information provided during the course.

Question	Response
Risk = ?	hazard, vulnerability
Tell me some hazards in Tajikistan?	See slide 11 or handout
What are the 5 types of capital?	Social, natural, financial, physical, human
What makes socio vulnerability?	Poor capital
How can you reduce risk?	Reducing hazard impact or social vulnerability/strengthening resilience
How do you make risk reduction most effective?	Balancing actions to reduce hazard impact, social vulnerability or increasing resilience.

Slide 24

End the course by noting that

- Cost-benefit analysis is a good tool to use in selecting the best risk reduction options.
- It is important to always look for way to increase resilience, and this can be done in three ways:
    - Resist
    - Rebound
    - Avoid
- We need to strive for disaster resilience development – DRD.

Slide 25

Place holder for any official ending.

Slide 26

Add contact information to this slide to enable participants to follow-up if they have questions, comments or need additional information.

Handouts – For Printing

What is DRR Handouts

Disaster Risk Reduction is defined by ISDR as:

"…the concept and practice of reducing disaster risks through systematic efforts to analyse and reduce the causal factors of disasters. Reducing exposure to hazards, lessening vulnerability of people and property, wise management of land and the environment, and improving preparedness for adverse events are all examples of disaster risk reduction" http://www.unisdr.org/who-we-are/what-is-drr.

Specific elements of the risk reduction process include:

1. Collection and analysis of data about hazards and vulnerabilities (risk assessment) to define which elements of risk and thus which risks are of greater or lesser threat to individuals, families and communities. (Most risk reduction is done at the community level.) Consideration should be given to the root causes of risk (often related to socio-economic issues) and the variable scale of hazard events which may occur with different frequencies.

2. Defining specific measures to reduce hazard impact (often physical measures) or vulnerability (often social or economic measures) to hazards.

3. Prioritizing specific measures in terms of costs-to-benefits, with costs-to-benefits defined in social or economic terms.

4. Considering links between different hazard and vulnerability reduction measures, where one intervention may lead the reduction of more than one risk.

Risk reduction can be accomplished through the following mechanisms:

1. Early warning: receiving information in advance of an event which allows time for actions to avoid or reduce the impact of the event. In this case, the impact of the risk in reduced or avoided at least temporarily.

2. Response Preparedness: Being prepared to reduce the social or physical impact of an event once it occurs. This can include early warning as well as measures such as evacuation planning, stockpiling supplies or other planning to take other actions to address a hazard event once it occurs.

Response preparedness can include risk transfer mechanisms such as insurance. While insurance does not prevent damage it enables the policy holder to address the impact of a disaster. Insurance is "response preparedness" since it needs to be purchased before a disaster.

3. Response: Effective response can reduce the impact of a disaster and enhance recovery. While the disaster may not be avoided, the impact of the risk is reduced.

4. Recovery: Efforts to recovery and reconstruct from a disaster can incorporate measures to reduce the risk from disasters in the future. The focus is often on physical measures to address hazards, such as relocating from a flood zone. But measures to reduce vulnerability are of equal

importance, as hazard reduction is never 100% effective. Reliance on physical structures will actually increase risks over time if vulnerability is not also reduced.

5. Environmental Management: All natural hazards arise from the natural environment. Poor management of the environment increases the frequency and often the severity of disasters. Measures to avoid or reduce environmental damage generally reduce the disaster frequency and overall vulnerability. A risk assessment (the “collection and analysis of data about hazards and vulnerabilities” described above) is an essential tool in identifying, defining the relative importance of and means to address environmental issues which threaten lives and livelihoods.

Hazards Affecting Tajikistan

Hazards	Actions to Limit Impact
I. Hydrological and meteorological	
Floods	
Drought	
Frosts and freezing	
Snowfall	
Rainfall	
Hail	
Wind	
Avalanches	
Desertification	
High Ground Water	
II. Geological	
Mudflow	
Landslide	
Earthquake	
Rock fall	
III. Biological/Social	
Epidemic	
Epizootic	
Epiphytotic	
IV. Technological	
Industrial waste	
Hazardous biological waste	
Unplanned chemical releases (air, water, land)	
Hydro-Technical structures accidents : dams, dykes, irrigation system	

collapse, …	
Transport accidents, including rail, road, air and water transport	
Transport accidents during the transportation of dangerous consignments	
Accidents affecting gas and fuel and heating pipelines	
Accidents affecting life support systems	

ANNUAL WORK PLAN 2012

EXPECTED OUTPUTS *And baseline, associated indicators and annual targets*	**PLANNED ACTIVITIES** *List activity results and associated actions*
Objective: Strengthened capacity to use environmental learning and stakeholder involvement as tools to address natural resource management issues as part of poverty reduction (Capacity Environmental Learning).	**Outcome 1. Enhanced legal, policy, institutional and strategic frameworks to support environmental learning & stakeholder involvement as resource management tools.**
Targets: 1. The current State Programme for Environmental Education and Learning reviewed and based on results, a new programme is developed and submitted to the Government for approval.	***Output 1.1****: Adequate legislation, policy and institutional frameworks are in place to implement obligations from the Rio and Aarhus Conventions related to environmental education, environmental learning, stakeholder involvement and access to environmental information*. **Actions:** 1.1.1. Support the update of the State Program for Environmental Education and Learning 2011-2015 through a Task Group, consisting of relevant ministries, agencies, private sector and Public Organizations: • Review and assess the existing state program • Identify actions needed to improve the legal, policy and institutional frameworks as part of the update of the State Program for Environmental Education and Learning • Draft updated State Program; • Support the adoption of the State Program by the Government 1.1.2. Evaluate the need for legal amendments to the Law on Nature Protection and Law on Education and recommend changes to laws and normative documents; 1.1.3. Support the drafting and the adoption by the Government of Tajikistan of a new law on Environmental Learning and Education 1.1.4. Assess status of Aarhus and Rio- Conventions' implication on SI in Tajikistan; identify the SI gaps in the existing national policy, legislation and institutional frameworks; and provide recommendations for integrating all these requirements in these frameworks.
Targets: 2) Support is offered to build capacity of the Institute for Civil Servants Training Environmental Department and capacity of the district level civil servants is strengthened through trainings on environmental education;	**Outcome 2. Improved capacity of government and civil society to integrate environmental learning and stakeholder involvement into programmes and projects.** **Outputs:** *2.1: Enhanced capacity of key Ministries and State Committees to implement the State Program for Environmental Education and Learning to increase stakeholder involvement and to increase public access to environmental information.*

3) Training modules on environmental education developed and approved by the Ministry of Education of Tajikistan and tested in four target Jamoats	**Actions:** 2.1.1. Support Institute of Civil Servant Training to deliver environmental trainings (in areas) for the representatives of district Hukumats and Jamoat offices; 2.1.2. Inclusion of environmental education into the Institute for Civil Servants Training program (development of a program, debate and achieve its adoption by Government) 2.1.3. Initiation of an environmental department at Institute for Civil Servants Training to institutionalize the environmental education into the Civil Servants Training Programs **Output 2.2**: *Material for environmental education, environmental learning, stakeholder involvement and access to information including training material, models, guidelines, codes/standards, best practices and checklists are developed and delivery mechanisms are identified.* **Actions:** 2.2.1. Support Ministry of Education to update, finalize, print out and deliver training guidebooks for all the levels of the subordinate educational institutions; *Output 2.3: Integrated training programmes delivered through training centre for civil servants; training centers for school teachers and other mechanisms through the Ministry of Education; and university programmes.* **Actions:** 2.3.1. Delivery of training sessions on environmental education and learning for secondary schools teachers at the Teacher Retraining Institute, on the basis of the developed training guidebooks by the Ministry of Tajikistan for secondary and higher schools.
Targets: 4. Jamoat offices in the targeted 4 districts are trained on natural resource management, environment protection and climate risk management agenda;	**Outcome 3. Enhanced capacity of local government and community organizations to use community environmental learning and involvement as tools for natural resource management and poverty reduction.** **Outputs:** *Output 3.1: A relevant Community Environmental Learning Action Kit is designed, piloted in four pilot sub-districts (Jamoats) and disseminated to other communities.* **Actions:** 3.1.1. Based on pilot activities conducted in the selected Jamoats, develop a Community Environmental Learning Kit to be integrated into Jamoat Resource Center activities and replicated throughout Tajikistan's Jamoat Resource Centers (Jamoats) *Output 3.2: Enhanced environmental learning capacity of the network of Jamoat Resource Centers.*

	Actions: 3.2.1. Undertake 43 capacity building trainings for target Jamoats on stakeholders involvement, Environmental Learning and Education
	Outcome 4. Effective, efficient, and adaptive project management, monitoring and evaluation. **Outputs**: *Output 4.1: Project well managed including progress reports as per United Nations Development Programme and Global Environment Facility standards.* **Actions:** 4.1.1. Effective, efficient and adaptive project management, monitoring and evaluation. 4.1.2. Day-to-day management and reporting 4.1.3. Preparation and submission of report for the quarter 4.1.4. Prepare and submission of Annual and Final report 4.1.5. Organize 1 Project Steering Comittee meeting 4.1.6. Develop web site and post all project information and publicize existence of web site 4.1.7. Terminal Evaluation; 4.1.8. Audit. *Output 4.2: Lessons learned documented and disseminated in Tajikistan and throughout the region.* **Actions:** 4.2.1. Media materials are posted on the wide- coverage television or radio programs, or newspapers; 4.2.2. Project information/ experience is posted on the State Committee on Environment Protection, Ministry of Education, Tajik Technical University and United Nations Development Programme websites.

Project Activity Risk Reduction

Activity	Source of Risk	Risk Reduction Options	
		Hazards	Social Vulnerability

Annex B - *DRR and Vulnerability* Training

The PowerPoint® training materials are available from the Disaster Risk Management Program, UNDP Tajikistan.

Disaster Risk Reduction and Vulnerability
Trainer's Guide

Introduction

This **Trainer's Guide** is intended to assist a trainer tasked with presenting the **Disaster Risk Reduction and Vulnerability** course as part of efforts to integrate disaster risk reduction (DRR) into development programming in Tajikistan. The **Guide** covers the

- Expected qualifications for the trainer,
- Agenda and scheduling options for the course and presentation and
- Slide-by-presentation slide notes on content and presentation.

Logistics for organizing the course is not included in this **Guide**.

At present, the course presentation is available in PowerPoint® in English and Russian. The trainer should determine in advance whether the course should be presented in English, in English and a second language, or fully in a second language (e.g., Russian or Tajik).

Qualifications

The trainer using this **Guide** is expected to have sufficient practical and theoretical knowledge in training to lead an adult-level training where there is expected to be a considerable amount of discussion and group work. The trainer is

- Not expected to an expert in DRR, development or related fields,
- But should be familiar with the **Guidebook for the Integration of Disaster Risk Reduction into Development Programs** and able to use the material in the **Guidebook** and in references as an aid in the training process.

Course Objectives

The core objectives of the course are to

- Explain what is disaster risk reduction (DRR), and
- Incorporated the reduction of vulnerability into DRR activities.

To the extent possible, participants should be called upon to provide their own examples of DRR and how it can be incorporated into the development process.

Course Agenda and Session Summary

The standard course agenda is provided below. The course is designed as a four hour event. The times of sessions can be adjusted to meet local requirements.

Time	Topic	Activities
1330 – 1340	Opening	Opening message from UNDP management
1340 – 1400	Introductions	Round-robin introductions covering project level work of each participant
1400 – 1420	Course Justification and Objectives	• Presentation on learning methods to be used. • Discussion and group work on links between disaster and development. • Review of background to project and certification

		option. • Review of course agenda and outcomes.
1420 – 1500	Risk, Hazard and Vulnerability Overview	Presentations and discussions.
1500-1515	Break	
1515 - 1545	Focusing on Social Vulnerability	Presentations and discussions
1545-1645	Assessing Social Vulnerability	Presentations and group work.
1645 – 1700	Closing	

Note that the session times are based on presenting the course in English. The timing will need to be adjusted if another language is used, or dual language presentations are done.

Course Adjustments
The course can be combined with the **What is DRR?** course into a one day event. In this case the:

- Opening sessions of the second course in the series (presumably this **DRR and Vulnerability** course) should be modified to avoid overlapping materials, and
- The discussion of vulnerability in the **What is…** course should be modified so that the concepts of vulnerability presented in the **What is** course do not fully duplicate similar materials in **DRR and Vulnerability** course.

The course can also be adjusted to reflect the professional experience and skill levels of expected participant. As designed, the course is general for all professionals involved in development. If the course is to be delivered to a specific group of professionals (e.g., engineers, project analysts, agricultural extension agents, etc.) then the examples used in the course materials should be changed to reflect the specific interests of the course participants.

Specific Preparations
For the social vulnerability assessment exercise which takes place stating with Slide 29, the trainer needs to decide whether

- The role play will involve participants “playing” themselves or
- The participants should be provide paragraphs which describe specific roles (and social vulnerabilities) which they should have.

If roles are to be provided the trainer will need to draft no less than 5 separate paragraphs describing social vulnerability factors, based on the social vulnerability indicators and ranking criteria to be distributed to and used by the participants. While this may involve additional work on the part of the trainer, it allows for a more realistic ranking process, as well as raising different challenges in understanding social vulnerability.

Having participants “play” themselves will likely be less challenging and provides less insight into the nature of social vulnerability than if specific roles are developed to highlight or define specific issues related to vulnerability and risk. The value of specific roles is likely greater for groups of participants who deal with socio-economic issues than for the participant with only a general interest in DRR, social vulnerability and resilience.

Number of Participants
The course is designed for a maximum of 20 participants and a minimum of 10 participants.

Prerequisites

Course participants are expected to be:

- Fluent in written and spoken English (or the language in which the course is presented),
- Familiar with UNDP project design concepts, principals and procedures and
- Familiar with project or project activities in Tajikistan.

Handouts

A set of handouts is used in the course. These can be found at the end of the **Guide ("Handouts - For Printing")**. The handouts should be reviewed before the course to ensure they remain relevant and to ascertain whether they need to be changed to reflect the specific interest or experience level of course participants.

The PowerPoint® presentations can be provided to the participants as handouts. However, a number of the sessions use questions and group work by the participants, with results of these sessions included in the presentation.

If the all the presentations are handed out ahead of the course then the participants will be able to find the "answers" for these sessions in advance and the value of the sessions will be significantly diminished. As a result, it is recommended that the session handouts be provided at the end of each session, as part of the transition to the next session, rather at the beginning or end of the course.

Presentation Notes

Slide 1

This slide is a place holder for the opening slide for the course. It can be adjusted to reflect who is sponsoring the course or who is making the presentation

Slide 2

Use this slide as a place holder for any opening speeches which will be made. It would be ideal to use the opening to also explain the background to the DRR-and-development effort and recognize funding from the UNDP Bureau of Conflict Prevention and Recovery.

Slide 3

Use this slide to cover any administrative or logistical issues. If appropriate, indicate where the exits are in the case of an emergency.

Slide 4

Use this slide to review the course objectives.

One option is to have the participants write down why they came to the course, review theses responses and then compare them to the objectives listed on the slide.

Note on a flip chart if there are any objectives which are noted, but are not covered by the objectives on this slide and review this objective at the end of the course.

Slide 5

- Prepare a set of numbered cards, with each number being on two cards. Determine in advance how may attendees, cards and numbers will be needed.
- Distribute the cards to all the participants.
- Have participants with matching numbers meet and introduce themselves.

- Once the introductions are complete (5-10 minutes), have each person introduce the person they met.
- Encourage the participants to remain standing during this session.

Slide 6

The four points on this slide should be used to introduce the concepts that

- Disasters and development are linked and
- Disasters can be reduced by good well planned development

Ask the participants for examples of each of the disaster-development points presented on the slide and discuss as time allows. Be ready to provide examples for each of the points, preferably based on local experiences.

Slide 7

Open the presentation by asking for quick definitions of what is a disaster.

After a few definitions are expressed, review the characteristics of a disaster on the slide and discuss each. Focus on the “treats of life and livelihoods” and the fact that a disaster can cause hardship and suffering without causing that much physical damage.

Ask how many of the participants have experience with a disaster and how the definition matches their experience.

Slide 8

- Divide the participants into small groups of 3 to 5 persons. (You can do this by having the participants count off by number (one, two, three, four) and have everyone with the same number being in the same group)
- Ask each group to discuss the meaning of each of the three phrases and to summarize the answers on a flip chart.
- Allow 15-20 minutes for this exercise.

Slide 9

Review the definition on the slide and encourage a discussion of what DRR really means. Points to emphasized include the points underlined in the text, including lessening vulnerability and wise management.

Slide 10

This slide should be used to identify the different way that risks can be addressed. Ask participants to provide examples of each of the ways to address risk based on their own experiences.

It should be noted that the course focused on last two approaches, “development” and “environmental management”.

Slide 11

Use this slide to again review the elements of what makes up risk, going into more detail on the real meaning or impact of hazard, the nature of vulnerability and the importance of resilience.

Allow time for discussions of these concepts to ensure the participants understand the overall concept and elements of risk = hazard, vulnerability/resilience.

Slide 12

- Using the same groups as for Slide 8, have the participants list all the hazards they know of for Tajikistan on a flip chart.
- Remind the participants of the definition of what is a hazard.
- Once each group has at least 7 hazards listed, go to Slide 11.
- Allow 10 minutes for the listing.

Slide 13

- Compare the results on the flip charts with the hazards listed on the slide.
- Note any points listed on the flips charts which are not listed as hazards on the slide and ask the respective group to justify their choice.

The list on the slide is from the **National Disaster Risk Management Strategy** for Tajikistan.

Note that the focus of DRR in this course is on natural hazards, but conflict can also be considered as a hazard and included in DRR work where it exists and can cause harm. Not all conflict should be considered as causing harm, for instance elections can be seen as arising from or causing conflict, but successful elections are often seen as reducing longer term conflict or confrontations arising from conflict.

Slide 14

1. Provide the **Hazards Affecting Tajikistan** form.
2. Have the groups brainstorm on ways to address the hazards.
3. Have the groups summarize the results on a flip chart.
4. Take no more than 5 minutes to compare the results.

Slide 15

Begin the session discussing the difference between human (social) and structural vulnerability:

- Social/human vulnerability refers to the ways which people can be affected by a disaster, to be explained further in the next slide.
- Structural vulnerability, or sometimes exposure, is the damage which can be done to structures by a hazard.

Use the example of a bridge to discuss what damage might be done by specific hazards (flooding leading to damage of a bridge) and what measures can be used for damage reduction (making the bridge bigger).

Use bridges and earthquakes as another example and have the participants suggest damage reduction measures: building the bridge stronger.

Ask participants to propose a hazard and an item of physical infrastructure which could be affected and then impact reduction measures.

Two points which should be emphasized:

3. Reducing damage to physical structures often involves making them bigger or stronger, but may also be done my moving them from the location of possible damage, as in the case of roads or bridges.
4. Reducing the likelihood of damage to physical structures is often costly and other, non-structural, measures may be less costly or even more effective. An eco-system

approach to disaster risk reduction can be used to identify lest costly ways to reduce structural vulnerability.

Slide 16

Use the questions on this slide to lead a discussion on risk reduction with the key points below to guide the discussions.

It would be useful to have some examples of hazard and vulnerability reduction to share to support the discussions.

Question	Discussion Points
Do you reduce hazards or social vulnerability?	Note that hazard impacts are usually more costly to reduce, while reducing social vulnerability can take more time since it often involves changing the way people live.
Reducing hazard impacts often involves structural measures; costly, need maintenance, have limited life and can lead to catastrophic damage	See points below. How do you manage the need for maintenance? Lots of DRR activities in Tajikistan involve recurrent maintenance where this has not been done for years. Is this really DRR?
Reducing social vulnerability involves changes in the way people live, social practices, increased wealth	What are the challenges to increasing social resilience/reducing vulnerability? Are there any examples of success from the participants?
Risk reduction should be balanced to be effective	How can you balance hazard and vulnerability reduction? Do the participants have any examples to share?

Slide 17

Placeholder for a break.

Slide 18

This slide should be used after the break to recall the nature of social vulnerability and resilience.

Slide 19

It is recommended that the trainer is fully familiar with the Livelihoods Apprach before presenting this slide. See the **Sustainable Livelihoods Guidance Sheets,** http://www.eldis.org/vfile/upload/1/document/0901/section1.pdf for more details.

Begin the presentation by reviewing asking if anyone is familiar with the livelihood approach. Use the slide to provide a review of the livelihoods model. After a general review, focus on the Livelihoods Assets section and quickly review each asset/capital type and have the participants provide examples of each.

Slide 20

Use this slide to again review the nature of each of the five capitals, with examples from the participants.

Close the presentation by noting that individuals, households, communities and countries with less capital are more vulnerable than those with more.

Slide 21

Let the participants openly brainstorm different impacts of disaster on the different capitals.

Have one participant write the responses on a flip chart.

(Alternatively, this can be done through the working groups, with the groups presenting their results on flip charts. This would be a longer session than an open brainstorming.)

Review the results to identify any impacts which may not be under the correct “capital”.

Slide 22

Have the participants provide suggestions on how vulnerability for each type of capital can be reduced. Example responses include:

6. Human – training, education, learning
7. Natural – fruit tree planting, improving pasture
8. Financial – increasing wages
9. Social – networking, creating common interest groups
10. Physical – purchasing things, even if they are to be sold to increase financial capital or in response to a disaster.

Note that increasing capitals does not remove vulnerability but increased resilience – to not be affected by a disaster, or to rebound from a disaster more quickly and with less damage.

Slide 23

The focus of this slide is on how social vulnerability can differ within a community, or even a family.

The participants should be led in a open discussion why and how different groups have different vulnerabilities. The three major reasons to note include

- Nature of work and livelihoods: for men and women
- Physical strength and mobility: for different genders, ages and health status
- Knowledge: for different ages and sometime genders

Have the participants note any groups which are not listed.

Remind the participants that you need to understand social vulnerability and resilience across all groups to effectively reduce the impact of disasters.

Slide 24

This slide opens an exercise to define the levels of capital among the participants to consider their relative levels of vulnerability.

Review the materials on the slide with the group. (Before this segment of the course be sure to review the remain slides to have an good overall idea of what tasks will be undertaken).

Slide 25

This slide presents

- A listing of capitals,
- Proposed indicators for each type of capital and
- Criteria for deciding which level of capital applies.

The indicators and ranking criteria should be reviewed with and confirmed by the participants.

Allow time to discuss these indicators and criteria and note any comments or suggested changes.

Slide 26

This slide presents a simple rating process for the indicators and ranking criteria presented in the previous slide. The vulnerability ranking results are presented for four persons.

Person 1 has very low ("1") rankings for each type of capital based on the indicators and criteria presented on the previous slide. However, note that the vertical columns should not be added, as the indicators are different. Apples should not be added to oranges.

The different total rankings ("Total" – last column) indicate the relative strength and weakness of capital across the four respondents, in this case, natural capital. This result indicates that assistance to build natural capital would strengthen over resilience and reduce vulnerability.

Slide 27

This slide presents the same results using a spider or radar diagram. This type of presentation can be used for comparing the results of different groups, e.g., families, communities, countries.

Slide 28

Discuss the know-on effects on efforts to increase capital. The core points to emphasize are that knock-on effects

- Can be positive or negative.
- Need to be assessed before a decision is made to strengthen one type of capital or another.

Slide 29

This slide introduces a role play exercise on assessing social vulnerability.

Individuals can be provided a paragraph giving them a role to play or they can "play" themselves". **In the former case, the training should develop 3-5 role descriptions in advance of the course.**

The participants should be pair, and each should ask the other about how they rate for the five capitals according to the rating criteria set out in Slide 25. (This table is available on the **Handouts** – **Social Capital Rating Table**.

Once this rating is done, each member of the team should

- Identify ways to reduce vulnerability and increase resilience by strengthening one, some or all of the capitals.
- Identify any knock on impacts of the proposed actions.

Each participant should complete the form (blank forms in the **Handouts** section) for the person they have rated.

Once the rating work has been completed by the teams, a flip chart should be created with the five capitals listed on the down the left hand side of the page. Horizontal lines should be used to separate the capitals across the page.

The individual rating sheets should be randomly redistributed among the participants. Each participant should then read off the score recorded for each of the five capitals and these scores should be recorded horizontally across the flip under the respective capital.

Once completed, the numbers for each capital can be totaled to identify the strong (higher score) and weak capitals among the groups. Following the totaling, a short discussion can take place on what the results mean and how weaker capitals can be strengthened.

Close this segment noting that a similar exercise can be done to compare households, specific groups, communities and nations. Social vulnerability assessment need not be complicated if it is based on good criteria and indicators.

Slide 30

This slide should be used to quickly summarize the key points of the course. To be effective as a training tool, each point should be introduced as a question and the answers (provided by the participants) checked against the information provided during the course.

Question	Response
Risk = ?	hazard, vulnerability
Tell me some hazards in Tajikistan?	See slide 11 or handout
What are the 5 types of capital?	Social, natural, financial, physical, human
What makes socio vulnerability?	Poor capital
How can you reduce risk?	Reducing hazard impact or social vulnerability/strengthening resilience
How do you make risk reduction most effective?	Balancing actions to reduce hazard impact, social vulnerability or increasing resilience.

Slide 31

End the course by noting that

- Cost-benefit analysis is a good tool to use in selecting the best risk reduction options.
- It is important to always look for way to increase resilience, and this can be done in three ways:
    - Resist
    - Rebound
    - Avoid
- We need to strive for disaster resilience development – DRD.

Slide 32

Place holder for any official ending.

Slide 33

Add contact information to this slide to enable participants to follow-up if they have questions, comments or need additional information.

Handouts – For Printing

Hazards Affecting Tajikistan

Hazards	Actions to Limit Impact
I. Hydrological and meteorological	
Floods	
Drought	
Frosts and freezing	
Snowfall	
Rainfall	
Hail	
Wind	
Avalanches	
Desertification	
High Ground Water	
II. Geological	
Mudflow	
Landslide	
Earthquake	
Rock fall	
III. Biological/Social	
Epidemic	
Epizootic	
Epiphytotic	
IV. Technological	
Industrial waste	
Hazardous biological waste	
Unplanned chemical releases (air, water, land)	

Hydro-Technical structures accidents : dams, dykes, irrigation system collapse, …	
Transport accidents, including rail, road, air and water transport	
Transport accidents during the transportation of dangerous consignments	
Accidents affecting gas and fuel and heating pipelines	
Accidents affecting life support systems	

Social Capital Rating Table					
Capital	**Indicator**	**Score**			
		1	2	3	4
Human	Level of education	No formal education	Education up to 5 years	Education up to 9 years	University or professional degree
Social	Contacts with others	Isolated	Limited contact with others	Daily contact with family and friends locally.	Local, national and international connections
Financial	Assets to cover needs	Funds available do not cover basic daily needs	Funds cover basic needs	Funds to cover full daily needs	Full daily needs covered; Excess funds to invest
Natural	Access to natural resources	Almost no natural resources	Access meets some needs	Access meets immediate needs	Access exceeds needs
Physical	Physical assets	No regular housing or assets	At least one room; no vehicle, land	Housing/heating, land but no vehicle	Housing/heating, land and vehicle

Social Vulnerability Rating Results
Name

Capital	Score
Social	
Natural	
Financial	
Human	
Physical	
Way to reduce vulnerability:	
Knock-on effects:	

Annex C - Development Project Disaster Management Plan Outline

[add project name] Development Project Disaster Management Plan

This Plan covers the following projects:
[list name of projects]

Date Completed:	By
Date Revised:	By
Date Revised:	By
Date Revised:	By

This document is to be reviewed and revised annually.

12. Table to Contents

13. Maps of Project Sites

[add map of project sites]

14. Map of Project Office

[add map of project office]

Summary

This plan is designed to specify procedures for use by UNDP Tajikistan's [add name of project] to manage sudden unexpected situations such as emergencies and disasters. The **Plan** enables [name of project] to reduce the possible consequences of emergencies through specific preventative measures and the preparation of staff to respond to emergency situations in a planned, well prepared manner.

This **Plan** covers the whole disaster management process, and addresses actions before, during and after disasters. The plan is compiled on the basis of a generic plan format including standard operating procedures and best practice which has been expanded to include risk-specific planning for disaster management challenges faced in Tajikistan. The **Plan** includes a description of staff responsibilities for addressing potential emergencies and disasters. The Plan also contains contact lists, maps of the program location and staff locations. The Plan is to be updated regularly and reviewed at least annually.

15. Purpose

Considering that Tajikistan is subject to a range of hazards and frequently experiences disasters (details provided below) the purpose of this **Plan** is to:

1. Reduce the threat to the life and performance of project staff and their families,
2. Reduce the impact and disruption of disasters on program implementation, and
3. Incorporate disaster risk reduction into development programming.

Successful implementation of the **Plan** requires

- Anticipating the types of hazards and disasters which might affect [add name of project],
- Identifying and addressing weaknesses in [add name of project]'s capacities to deal with the possible disasters,
- Identifying critical tasks that must be done before (*preparedness* and *warning*) and following a disaster (*relief* and *recovery*),
- Documenting procedures for all critical tasks,
- Identify primary and backup staff who are responsible for these tasks, and
- Identify opportunities to reduce disaster risk (*hazard impacts* or *social vulnerability*) through program activities.

16. Contacts and Resources

Contacts [include all project staff and counterparts]

Name	Position	Location	Phone Numbers: Direct and (Short Number)	Email

Resource Inventory

Disaster Resource Inventory				
Category	**Specific Resource**	**Specification**	**Location**	**Contact for Use**
Shelter / Housing (indicate location and m²)				
Office Space				
Water				
Sanitation				
Transport (vehicles) (list type and fuel used and location)				
Communications (list by type and use)				
Heavy Equipment (list by type, fuel and location)				
Computers and related equipment[6]				
Specialize Personnel (list names, specialization and contact information)				
Storage Space (indicate size and current capacity)				
Electrical supply/generators				
Fuel supplies				
Other Supplies (list)				

[6] Printers, UPS and routers are listed in **Annex A**.

17. Background

Country Context

[add description of country context from ProDoc and include information on past disasters and existing hazards]

Project Summary[7]

[provide summary from ProDoc]

Project Activity Summary

[provide specific objectives and activities from Annual Work Plan]

Summary of Interagency Contingency Plan Risk Assessment (IACP)

[provide summary from InterAgency Contingency Plan]

[7] **UNDP, Energy and Environment, Projects Overview and Key Achievements**

18. Summary of Program-Specific Risk Assessments

Program Level

[provide risk assessment results from ProDoc]

Implementation Level

The results of the hazard analysis should be included in program and project implementation plans, including the **Annual Work Plan** and activity-specific plans.

Program: Technology Transfer and Market Development for Small-Hydropower in Tajikistan.		**Date Completed:** March 2013
Hazard	***Will the hazard have a significant impact the implementation of the project? Yes or No***	***If yes, will the impact be positive or negative? Summarize impacts.***
Flooding		
Drought		
Frosts and freezing		
Heavy Snowfall		
Heavy Rainfall		
Hail		
Prolonged Winter Weather		
Heat Wave		
High Wind		
Avalanches		
High Ground Water		

Mudflows		
Landslide		
Earthquake		
Rock fall		
Epidemics		

Project: Technology Transfer and Market Development for Small-Hydropower in Tajikistan.																			
Outcome/Activity (Based on ProDoc and 2013 Work Plans)	**Hazard** (Check if applicable)																	**Impact** (List hazards checked and impacts)	**Mitigation Measures** (List measure/s for each impact)
	Floods	Drought	Frost and freezing	Heavy Snowfall	Heavy Rainfall	Hail	Prolonged Winter Weather	High winds	Avalanches	High Ground Water	Mudflows	Landslides	Earthquake	Rockfall	Epidemics	Animal Disease	Plant Disease		
Activity 1:																			
Activity 2:																			
Activity 3:																			

Vulnerability Assessment

Project Activity: --- General Population				**Date:**	
Capital	**Indicator**	**Level of Capital**			
		1	**2**	**3**	**4**
Human	Level of education	No formal education	Education up to 5 years	Education up to 9 years	University or professional degree
Social	Contacts with others	Isolated	Limited contact with others (for winter)	Daily contact with family and friends locally (for summer)	Local, national and international connections
Financial	Assets to cover needs	Funds available do not cover basic daily needs	Funds cover basic needs	Funds to cover full daily needs	Full daily needs covered; Excess funds to invest
Natural	Access to natural resources	Almost no natural resources	Access meets some needs	Access meets immediate needs	Access exceeds needs
Physical	Physical assets	No regular housing or assets	At least one room; no vehicle, land	Housing/heating, land but no vehicle	Housing/heating, land and vehicle
Political	Level of Engagement of Government	No engagement	Engagement sufficient to meet some needs.	Engagement sufficient to meet most needs.	Total engagement

Any change after the project is accomplished?

Project Activity: --- (For Women)				**Date:**	
Capital	**Indicator**	**Level of Capital**			
		1	**2**	**3**	**4**
Human	Level of education	No formal education	Education up to 5 years	Education up to 9 years	University or professional degree

Social	Contacts with others	Isolated	Limited contact with others	Daily contact with family and friends locally	Local, national and international connections
Financial	Assets to cover needs	Funds available do not cover basic daily needs	Funds cover basic needs	Funds to cover full daily needs	Full daily needs covered; Excess funds to invest
Natural	Access to natural resources	Almost no natural resources	Access meets some needs	Access meets immediate needs	Access exceeds needs
Physical	Physical assets	No regular housing or assets	At least one room; no vehicle, land	Housing/heating, land but no vehicle	Housing/heating, land and vehicle
Political	Level of Engagement of Government	No engagement	Engagement sufficient to meet some needs.	Engagement sufficient to meet most needs.	Total engagement

Any change after the project is accomplished:

Office Level Safety Assessment

Cross out items which are not relevant.

Office:

Person Completing Form:

Date:

Safety Question	Yes	No	Actions to be Taken
Is the office VHF radio in the office charged and checked each week?			
Is the office Satphone in the office charges and checked each week?			
Has a hazard assessment been done for the building where you are located?			
Has your building been subject to a seismic upgrade or built to seismic codes updated since 2000?			
Is your office outside a flood zone?			
Is the building in which your office is located outside areas subject to landslides, rock falls or avalanches?			
Have the water pipes in your building been replaced in the last 15 years? (Skip if building is less than 15 years old.)			
Is no more than one extension cord connected to each plug in the office, and only one device connected to each pug available on the cord?			
Is there a fire extinguisher in each major room?			
Has the staff been trained in the use of a fire extinguisher?			
Does the office have a warden?			
Is there an indication of the number of normal occupants in your office posted outside the office?			
Are there two exits from your office (e.g., through a door and through a window)?			
If your office is above the 5th floor, have you identified a way to exit your office if the normal staircase and fire escape are blocked?			
If there are metal grills on your windows, can they be opened from the inside?			
Is the glass in windows covered by anti-blast plastic?			
Do windows have heavy curtains or blinds?			
Are all bookcases, pictures, lights and heavy items secure against seismic shaking?			
Will room and office exits still be usable if heavy items fall in the room(s)?			
Are all staff protected from falling items (e.g., book cases, printers, pictures, etc.)?			
Does the office use a check-in/check-out board or service for travel outside			

Dushanbe?
Do you have a basic first aid kit in the office?
Has the staff been trained in basic first aid?
Are there flashlights or safety lights available in the office?
Are evacuation plans posted in visible locations?
Are office computer files backed up regularly?
Are office computer files saved away from the office?
Comments:
Staff who's driver's licenses should be provided with training in driving project vehicles.

19. Risk Management

Program-Level Risk Management Options

Implementation and Outcome/Activity Level Hazard or Socio-Economic Impact Mitigation Measures			
Project:		**Completed by:**	**Date:**
Implementation Area or Outcome/Activity (Based on ProDoc and Annual Work Plan)	**Hazard or Socio-Economic Vulnerability**	**Mitigation Measure**	**Measures incorporated into Project Plans or Outputs? (yes/no)**

Standard Operating Procedures

The follow tables provide a list of expected actions by sector covering disaster preparedness, warning, response and recovery reflecting the risk management priorities internal to the project. These lists constitute Standard Operating Procedure (SOP) guidance for use at each stage of managing a disaster.

The lists include specific tasks for each stage of the disaster management process as well as space to indicate

1. Who is responsible for a specific task, and
2. What actions have been taken by the project to address the tasks?

Note that a number of the tasks and linked actions are covered by normal project operations, e.g. evacuation plans.

The **Preparedness** SOP should be completed at the same time as the **Plan**. The **Warning** SOP should be updated based on the seasonal nature of disasters (e.g., in the spring for flooding/landslide season and in the fall for the snow and cold weather period). The **Relief** and **Recovery** SOPs should be reviewed once a warning has been issued. The **Recovery** SOP should again be reviewed once a major relief operation has been initiated. Note that the Recovery SOP provides a general summary of recovery-related tasks and would be complemented by specific recovery plans developed using the **REACT Recovery Framework**. All the SOPs should be reviewed at least annually.

For projects working in different locations a separate set of lists will need to be prepared as the persons who will manage specific tasks and the actions to be taken may be different.

Preparedness Stage

Standard Operating Procedures – Preparedness				
Sector	**Task**	**Who is to manage the task?**	**Backstop**	**Action to be Taken**
Coordination	Ensure that all aspects of the disaster response can work effectively and in a coordinated manner.			-
Early Warning	Assure warning systems exist for potential disasters.[8]			-
Office Facilities	Assure office facilities can be used during a disaster.			-
	Assure disaster risk reduction measures are implements for the office and other facilities.			-
	Assure that adequate safety equipment is available and preparedness measures have been established.			-
Evacuation	Ensure that there is a safe evacuation plan and everyone is informed.			-
Shelter/Housing	Ensure that plans have been made for sheltering			-

[8] Note that a staff contact list should be developed as part of this task.

	project staff after a disaster.			
Food and Non-food Items	Ensure that basic food and non-food needs can be met following a disaster.			
Water and Sanitation	Ensure that water for human consumption and other needs and gender and child appropriate sanitation facilities will be available after a disaster.			-
Health	Identify means to provide emergency health care following a disaster.			-
	Ensure all staff have basic first aid training and first aid supplies are available in the office and project vehicles.			
Logistics	Develop plans to ensure project vehicles will be able to operate following a disaster, including the availability fuel and alternative drivers.			-
Education	Ensure basic education needs can be met for children of project staff following a disaster.			-
Social Services	Develop plans to ensure basic social services,			-

	including welfare support and counseling, are available to project staff and their families following a disaster.			
Finance	Define options for expedited expenditures by the project to support relief and recovery operation.			-
Communications	Ensure that emergency communications systems are established and operating as needed.			-

20. Warning Stage

	Standard Operating Procedures – Warning - actions to be taken when a warning has been received			
Sector	**Task**	**Who is to manage the task?**	**Backstop**	**Actions Taken**
Coordination	Ensure that warning systems are operational and that warning-related tasks are completed.			
Early Warning	Disseminate warnings as available.[9]			
Office Facilities	Assure office facilities can be used during a disaster			
	Assure that adequate safety equipment is available and preparedness measures have been established.			
Evacuation	Ensure that the evacuation plan is up to date and everyone is informed.[10]			
Shelter/Housing	Ensure that plans are up to date for sheltering project staff after a disaster.			
Food and Non-food Items	Ensure that basic food and non-food supplies are available based on expected post-disaster needs.			
Water and Sanitation	Ensure that water for human consumption and other needs and gender and child appropriate sanitation facilities will be available as needed.			
Health	Ensure the means to provide emergency health care will be available following a disaster.			
	Ensure all staff have basic first aid training and first aid supplies are available in the office and project vehicles.			
Logistics	Implement plans to ensure project vehicles can operate following a disaster, including the availability fuel and alternative drivers.			
Education	Ensure basic education needs can be met for			

[9] Note that a staff contact list should be developed as part of this task.
[10] Note that a staff contact list should be developed as part of this task.

	children of project staff during and following a disaster.			
Social Services	Verify plans to ensure basic social services, including welfare support and counseling, are available to project staff and their families following a disaster.			
Finance	Verify options for expedited expenditures by project to support relief and recovery operation can be implemented immediately.			
Communications	Ensure that emergency communications systems are operating.			

21. Response Stage

	Standard Operating Procedures – Response – actions to be taken in response to a disaster			
Sector	**Task**	**Who is to manage the task?**	**Backstop**	**Action Taken**
Coordination	Ensure that all aspects of the disaster response can work effectively and in a coordinated manner			
	Identify and coordinate the disaster response activities using project resources.			
	Ensure that all staff are safe, and medical care is provided as needed.			
Office Facilities	Assure office facilities are operational.			
	Assure that adequate safety equipment is available as needed.			
Evacuation	Ensure a safe evacuation is taking place (if needed).			
Shelter/Housing	Ensure that shelter is available to project staff as needed.			
Food and Non-food Items	Ensure that basic food and non-food needs for project staff are met as needed.			
Water and Sanitation	Ensure that water for human consumption and other needs and gender and child appropriate sanitation facilities are available as needed.			
Health	Ensure that emergency health care is available following a disaster as needed.			
	Ensure first aid supplies are available in the office and project vehicles following the disaster.			
Logistics	Ensure project vehicles are able to operate following the disaster, including fuel and alternative drivers if needed.			
Education	Ensure basic education needs are met for children of project staff.			
Social Services	Ensure basic social services, including welfare support and counseling, are available to project staff and their families following a disaster.			
Finance	Ensure procedures for expedited expenditures by project to support relief and recovery operation are operational.			

Communications	Emergency communications systems are operating as needed.			

22. Recovery Stage

Standard Operating Procedures – Recovery – actions to be taken to support disaster recovery **Also see the REACT Recovery Framework -**				
Sector	**Task**	**Who is to manage the task?**	**Backstop**	**Action Taken**
Coordination	Ensure that disaster recovery work is coordinated.			
	Identify and coordinate the disaster recovery activities using project resources.			
Office Facilities	Assure office facilities are functional based on recovery workload.			
	Assure that adequate safety equipment is available.			
Shelter/Housing	Ensure that project staff have adequate shelter.			
Food and Non-food Items	Ensure that basic food and non-food needs of staff and families are met.			
Water and Sanitation	Ensure that water for human consumption and other needs and gender and child appropriate sanitation facilities are available.			
Health	Ensure that staff and families have adequate access to appropriate health care during the recovery period.			
Logistics	Ensure project vehicles operate at levels necessary to support recovery, including the availability of fuel and alternative drivers.			
Education	Ensure basic education needs are met for children of project staff.			
Social Services	Ensure basic social services, including welfare support and counseling, are available to project staff and their families during recovery.			
Finance	Expedite expenditures by the project to support recovery operation.			
Communications	Ensure that normal communications systems operating as needed.			

Annex D - Development Project Disaster Management Plan Office Safety Checklist

Instructions:

1. Fill in the name of the office.
2. Fill in the name of the person completing the form.
3. Fill in the date the form is completed.
4. Answer each questions with a check in the “yes” or “no” column.
5. When the answer is not known, check “no”.
6. If the question is not applicable, the write “not applicable” in the last column.
7. For each “no” answer, indicate the actions to be taken to resolve the issue in the last column (“Actions to be Taken).
8. Revise the form as issues are addressed.
9. Add any comments on the issues identified or actions to be taken at the end of the form.

Office:
Person completing form:
Date:

Safety Questions	Yes	No	Actions to be Taken
Is there a VHF radio in the office charged and checked each week?			
Is there a Satphone in the office charges and checked each week?			
Has a hazard assessment been done for the building where the office is located?			
Has the building been subject to a seismic upgrade or built to seismic codes updated since 2000?			
Is the office outside a flood zone?			
Is the building in which your office is located outside areas subject to landslides, rock falls or avalanches?			
Have the water pipes in the building been replaced in the last 15 years? (Skip if building is less than 15 years old.)			
Is no more than one extension cord connected to each plug in the office, and only one device connected to each pug available on the extension cord?			
Is there a fire extinguisher in each major room?			
Has the staff been trained in the use of a fire extinguisher?			
Does the office have a warden?			
Is there an indication of the number of normal occupants in your office posted outside the office?			
Are there two exits from the office (e.g., through a door and through a			

window)?
If the office is located above the 5th floor, have ways been identified to exit the office if the normal staircase and fire escape are blocked?
If there are metal grills on your windows, can they be opened from the inside?
Is the glass in windows covered by anti-blast plastic?
Do windows have heavy curtains or blinds?
Are all bookcases, pictures, lights and heavy items secure against seismic shaking?
Will room and office exits still be usable if heavy items fall in the room(s)?
Are all staff protected from falling items (e.g., book cases, printers, pictures, etc.)?
Does the office use a check-in/check-out board or service for travel outside Dushanbe?
Do you have a basic first aid kit in the office?
Have staff been trained in basic first aid?
Are there flashlights or safety lights available in the office?
Are evacuation plans posted in visible locations?
Are office computer files backed up regularly?
Are office computer files saved away from the physical location of the office?
Comments:

1.
2.
3.
4.
5.