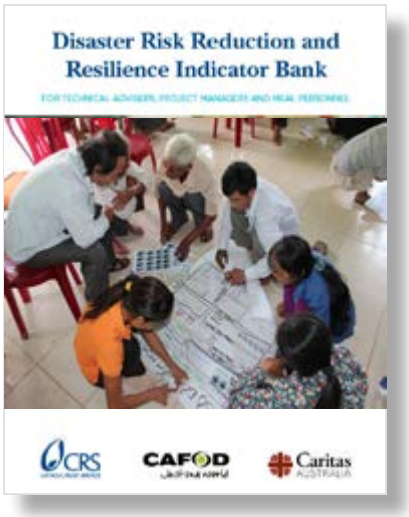
Disaster Risk Reduction and Resilience Indicator Bank

FOR TECHNICAL ADVISERS, PROJECT MANAGERS AND MEAL PERSONNEL

CRS CATHOLIC RELIEF SERVICES

CAFOD Just one world

Caritas AUSTRALIA



COVER PHOTO: Caritas Australia has facilitated workshops in Viet Nam to work with persons with disabilities on disaster risk management planning. The program enables communities to promote safe behaviors through a common understanding of the conditions and needs of the most vulnerable groups. *Photo courtesy of Caritas Australia*

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Acronyms

BBS	Build Back Safer
BRACED	Building Resilience and Adaptation to Climate Extremes and Disasters
CAFOD	Catholic Agency For Overseas Development
CBDRR	community-based disaster risk reduction
CCA	climate change adaptation
CDC	community development committee
CLTS	community-led total sanitation
CRA	community risk assessment
CRS	Catholic Relief Services
DFAT	Department of Foreign Affairs and Trade (Australia)
DFID	Department for International Development (UK)
DRR	disaster risk reduction
DRR/R	disaster risk reduction and resilience
ECHO	European Civil Protection and Humanitarian Aid Operations
EOC	Emergency Operations Centre
EOP	end of project
FGD	focus group discussion
FOG	Field Operations Guide
HH	household
HoP	head of programs
HVA	hazard and vulnerability assessment
IEC	information, education and communication
IO	intermediate output
IPCC	Intergovernmental Panel on Climate Change
IR	intermediate result
KAP	knowledge, attitudes and practices
MEAL	monitoring, evaluation, accountability and learning
OR	operations research
PRA	participatory rural appraisal
PVCA	Participatory Vulnerability and Capacity Assessment
PwD	person with disabilities
SILC	Saving and Internal Lending Community
SMC	school management committee
SO	strategic objective
TOR	terms of reference
USG	United States Government
UNISDR	United Nations Office for Disaster Risk Reduction
USAID	United States Agency for International Development
WASH	water, sanitation and hygiene

Contents

Background

Disaster risk reduction and resilience programming not only contributes to reduced suffering in the event of disasters, but also helps to preserve development gains and reduces the cost of humanitarian action. Both humanitarian and development agencies understand the need to prioritize DRR/resilience programming and supporting local civil society and governments to develop and implement DRR/R programming.

As part of these efforts, CRS, CAFOD and Caritas Australia have committed to a joint initiative, the DRR/Resilience Coordination Group, to strengthen their own capacity and that of their partners in the development and implementation of DRR/R programming. This includes the integration of DRR/R programming into multisectoral development and recovery programming.

In May 2016, CRS, CAFOD and Caritas Australia formally agreed to assist in synthesizing activities involving disaster risk reduction between the three agencies. They have since formed the DRR/R Coordination Group with members representing each of the three. The DRR/R Coordination Group is tasked with:

- Developing tools to benefit DRR/R-related projects
- Promoting partnership among the three agencies, their partners and the greater Caritas network
- Highlighting innovation and learning across DRR and resilience projects

This document, the *Disaster Risk Reduction and Resilience Indicator Bank*, is the first formalized tool developed by the DRR/R Coordination Group and aims to address all the major mandates of the group.

Objective

Why? To share CRS, CAFOD and Caritas Australia experience in disaster risk reduction and resilience programming and to have a common tool that can be distributed among the three agencies and implementing partners during project and program design.

Who is it for? Technical advisors, project managers, MEAL personnel, heads of programs and any others involved in DRR and resilience project design and training for mainstreaming DRR into other sectoral programs.

What is it for? To assist in project design involving DRR or with components of building resilience within communities. This tool is also meant to be used as a resource in DRR mainstreaming trainings developed by CRS, CAFOD and Caritas Australia.

It should be emphasized that the language used throughout the document is meant to serve as an example of statements and indicators that can be used. Essentially, the Indicator Bank presents a menu of options that can be selected and then altered to a specific context. It is understood and acknowledged that DRR and resilience requires a firm understanding of local conditions for solid project and program design.

How is it used? The *DRR and Resilience Indicator Bank* provides a collection of indicators that have been developed for and used in DRR and resilience projects. During training sessions and project design, the Indicator Bank will serve as a resource for developing effective planning, management and monitoring tools that can be utilized alongside assessments and problem analysis to help provide a framework for the change a project is attempting to make. This resource focuses on DRR, but **is NOT ONLY for standalone DRR projects**. Ideally, projects working in any sector can utilize this tool to mainstream (or integrate) DRR concepts across sectors, with the overall focus of building the resilience of target communities. The *DRR and Resilience Indicator Bank* focuses on:

The overall aim is to improve programming that builds resilience of vulnerable communities and uses DRR-related components—such as risk analysis, community engagement and linkages to local government—to integrate these indicators as relevant.

This resource comes in two different forms. This document, in **PDF format** provides a description of the resource, how it can be used and short examples of initiatives based on the indicators that have been conducted by CRS, CAFOD and Caritas Australia, and their partners. This version contains diagrams detailing specific indicator statements and indicators that can be used to measure these statements. Each statement, at the intermediate results/intermediate outcome level is presented on a single page as a means of providing an easy-to-read format, ideal for use during training sessions.

During project design, the Indicator Bank will serve as a resource for developing effective planning, management and monitoring tools that can be utilized alongside assessments and problem analysis to help provide a framework for the change a project is attempting to make.

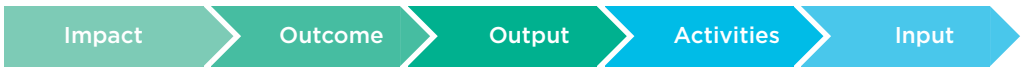
The second version is in a **spreadsheet format** that can be accessed on a shared drive. The spreadsheet was developed as a "living document", to be updated as the DRR/R Coordination Group continues their activities. The spreadsheet version allows for an easier way for the user to change the content for their specific purposes as compared to the PDF version. During training sessions for DRR and DRR mainstreaming, the spreadsheet document will be distributed to participants along with the PDF document.

Where do I start? New users of this resource should familiarize themselves by reading the Objective, Terminology and Approach and Layout sections. Then, you will need to determine your goal in using the resource. If you are looking for common indicators and logic used in various sectors, consult the **Key Indicators** section. If you are looking for donor-related indicators for DRR and resilience, consult the Donor Indicator sections. For users looking to integrate DRR and resilience concepts into a specific sector, consult the corresponding sector section of this resource.

If you are looking for common indicators and logic used in various sectors, consult the Key Indicators section.

Terminology and approach

The template for the Indicator Bank is based on a standard logical framework, which includes:



CAFOD and CRS have developed internal results frameworks designed to streamline their project design stages and to best align with their key institutional donors. The table below defines each step and provides alternative terminology (in parenthesis) that may be more common in one or more of the agencies.

	Goal (Impact)	Strategic Objective (Outcomes)	Intermediate Results (Outcomes)	Output	Activities
Definition	The longer-term, wider development change in people's lives or livelihoods to which the project will contribute; perhaps only in a given region, or perhaps in a nation as a whole.	The significant benefits actually achieved and enjoyed by targeted groups by the end of the project.	A bridge between what a project will provide (outputs) and the purpose (strategic objective) of the project. IRs/ IOs examine the usefulness and appropriateness of activities for participants in response to the successful delivery and reception of outputs.	The goods, services, knowledge, skills, attitudes and enabling environment that are delivered by the project (as a result of the activities undertaken).	The functions to be undertaken and managed in order to deliver the project's outputs to the targeted beneficiaries and participants.
Example statement	Households live in safe and productive communities that are resilient to future disasters.	Households affected by cyclones live in safe, healthy conditions.	Households and community members apply new knowledge about disaster-resilient construction techniques and hygiene-related behavior towards water and sanitation.	Carpenters, masons, plumbers and community members have the knowledge to build disaster-resilient shelters, water points and sanitation facilities.	Train carpenters, masons, plumbers and community members on disaster-resilient construction techniques.
Indicator	X	1. # houses are constructed according to Sphere standards within 12 months. 2. # latrines are constructed according to Sphere standards within # months.	1. % of households utilize at least one disaster-resilient construction technique in the rebuilding of their houses by the end of the project. 2. % of households have changed negative hygiene and health behaviors to positive ones by the end of the project.	1. % of carpenters, masons, plumbers and community members demonstrate understanding of at least # out of # key messages of disaster-resilient construction by the end of month # of the project 2. % of community members demonstrate understanding of at least # out of # negative hygiene and health behaviors by the end of month # of the project	X

The Indicator Bank uses the template below to present statements, indicators and means of verification that can be applied to future projects and programs. The template aligns with the specific areas of intervention or sectors presented below, including disaster management, agriculture and livelihoods, health and WASH, education and shelter. The terminology was derived from past projects implemented across the three agencies in various sectors of humanitarian and development work in regions including Latin America, Africa, the Middle East, Asia and the Pacific. Because the Indicator Bank is meant to serve as a model for DRR and resilience project design, the focus is on ***intermediate results/ intermediate outcomes, outputs*** and ***activities***. Indicators and statements at the strategic objective/outcome and impact/goal level were left out because the statements available in the reviewed projects were often associated with specific project areas and were difficult to summarize into a coherent statement applicable to multiple areas.

Because the Indicator Bank is meant to serve as a model for DRR and resilience project design, the focus is on intermediate results/ intermediate outcomes, outputs and activities.

Outputs and activities are arranged to correspond with the related intermediate results/intermediate outcomes as they would appear in a completed logical framework. "Activities" are not meant to include every action that occurred during the project, but rather the key steps taken to achieve the intermediate result/intermediate outcome. The rationale for excluding the lowest and higher-level statements (as per the five-step logical framework above) and indicators is because input, strategic objective and impact (goal) are typically more project-specific and can be adjusted accordingly during project design. The table below presents the general layout of the Indicator Bank in sector-specific areas of intervention:

IR/IO statement	IR/IO indicator	IR/IO means of verification	Output statement	Output indicator	Output means of verification	Associated activities
Communities develop and implement DRR and resilience plans in collaboration with the government through a participatory process involving the most vulnerable households	# DRR and resilience plans developed | % of the approved activities in DRR and resilience plans are implemented	Focus group discussions and/or community feedback | Midterm counting of facilities | Midterm KAP surveys or specific surveys	Local-level disaster management committees are operational	Committees meet monthly	Ongoing observation | Committee meeting minutes	Committees are formed | Committee trainings are conducted
			Communities develop community risk assessments	# community-level risk assessments developed	Review of community risk assessments	Community-level risk assessment process
			Communities develop contingency plans that include evacuation	Contingency plans developed	Review of contingency plans	Community-level contingency planning and evacuation planning process

The diagrams presented in the written document, pages 11 to 38, provide an interpretation of the full sector tabs that are displayed in the spreadsheet in the Excel file shared on Dropbox.

UNDERSTANDING RESILIENCE

Resilience as a field of study has become more widely followed; donors and researchers alike have begun to identify and refine different aspects of resilience. The table below presents several definitions from leading entities working in the field of resilience:

Organization	Definition
DFID	*The ability of countries, communities and households to manage change, by maintaining or transforming living standards in the face of shocks or stresses – such as earthquakes, drought or violent conflict – without compromising their long-term prospects.*
IPCC	*The ability of a social or ecological system to absorb disturbances while retaining the same basic structure and ways of functioning, the capacity for self-organization and the capacity to adapt to stress and change.*
The Resilience Alliance	*The capacity of a system to absorb disturbance and reorganize while undergoing change.*
UNISDR	*The ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner.*
USAID	*The ability of people, households, communities, countries and systems to mitigate, adapt to, and recover from shocks and stresses in a manner that reduces chronic vulnerability and facilitates inclusive growth.*

GENDER

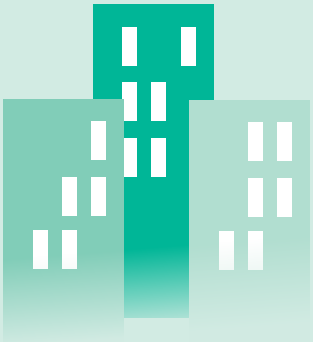
Gender considerations are extremely important in any sector and DRR is no different. Understanding vulnerability and identifying vulnerable groups as direct beneficiaries is critical to building resilience. Therefore, DRR approaches that work with women, women heads of households, girls, boys, the elderly, and people with disabilities, etc. are widely regarded as a best practice among the wider DRR community. Not all of the indicators presented in the table explicitly state "disaggregation by gender". This was intentionally left out of the indicator statements because of the wide variety of considerations based on local conditions and cultural norms. However, we encourage gender disaggregation wherever possible/appropriate based on needs and priorities that arise during the project design phase. Again, this resource is meant to serve as a guide and should be tailored to the specifics of each project.

APPLICATION IN URBAN AREAS

More than half (54%)[2] of the world's population now lives in cities. As the trend for urbanization continues, disasters will also increase in these areas, heightening the need for resilience activities in vulnerable urban communities.

The Indicator Bank draws its content from past projects by CRS, CAFOD and Caritas Australia, the majority of which took place in rural areas. While the Indicator Bank is also applicable to urban areas, approaches may need to be adjusted to meet differing priorities in urban areas, including:

- Land tenure
- Access to basic services such as water, sanitation and adequate housing
- Solid waste management
- Appropriate application of traditional rural livelihood approaches (i.e. crops and livestock) to urban areas, placing more of a focus on urban agriculture innovations due to high-density living environments
- Need for non-farm livelihood-diversification activities (waste picking for solid waste management is a common approach)
- Increased emphasis on issues of protection due to dense areas with little space for privacy, etc.
- Linking with service providers both in development programs and to restore basic needs during emergency response and recovery activities.



2. United Nations Population Division (2014), "World Urbanization Prospects, 2014 Revision". United Nations, New York

Layout

The indicator bank is divided into three main categories:

1. Key indicators
2. Areas of intervention (Sectors)

Disaster management | Agriculture and livelihoods | Health and WASH | Education | Shelter

3. Institutional donor indicators

KEY INDICATORS

This section serves as a reference for those who do not need to delve into the depth of specific sectors. The section compiles indicators (at the intermediate result/intermediate outcome level) from the institutional donors and matches them to corresponding indicators at the output level used in past projects across the three agencies from various areas of intervention (sectors). ***As the total number of statements and indicators used in past projects could be overwhelming, this tab is intended to be the first destination for those designing projects***. A column was designed to reference where the output level indicator can be accessed throughout the rest of the Indicator Bank to see corresponding activities, related intermediate results/intermediate outcomes and other outputs.

As the total number of statements and indicators used in past projects could be overwhelming, the key indicator tab is intended to be the first destination for those designing projects.

The key indicators tab applies language from USAID to identify how each output corresponds to one of the three capacities of resilience. Although some outputs can correspond to multiple resilience capacities, only one capacity type was selected to limit confusion. See above for various definitions of resilience. According to USAID, its definition of resilience requires various capacities, highlighted below:[1]

Strengthening resilience requires an integrated approach and a long-term commitment to improving resilience capacities. A resilience capacity is the ability of people or systems to achieve improved well-being outcomes in the face of shocks and stresses. Resilience capacities are commonly classified as absorptive, adaptive or transformative, as per the definitions included below:

Absorptive capacity: The ability to minimize sensitivity to existing shocks and stresses in the short-term.

Adaptive capacity: The ability to proactively modify conditions and practices in anticipation of or as a reaction to shocks and stresses, to reduce sensitivity and exposure over the medium-term.

Transformative capacity: The ability to create the conditions to facilitate systemic change and create a positive environment in which people are willing and able to invest and innovate while managing risk. This category is focused on formal and informal governance systems and institutions at all scales.

1. USAID and Mercy Corps (2013). *Urban Resilience Measurement: An Approach Guide and Training Curriculum*. Portland Oregon

AREAS OF INTERVENTION (SECTORS)

As DRR and resilience can be comprised of many traditional sectors in both humanitarian and development interventions, the Indicator Bank is divided into five *areas of intervention*, or *sectors* that are each defined below. The resource is not meant to be confined to these five areas and new components can be added as additional indicators are collected.

As DRR and resilience can be comprised of many traditional sectors in both humanitarian and development interventions, the Indicator Bank is divided into five *areas of intervention*, or *sectors.*

Disaster management

Disaster management is a broad term used to describe management related to all phases of the "Disaster Management Cycle" including mitigation, preparedness, response and recovery. Often associated with commonly understood components of DRR programming, disaster management activities include mobilizing communities to identify risk and vulnerability, formulate plans (including early warning) to address this, and reach out to government bodies to strengthen capacity at all levels. This can also include community savings aspects that are focused around investing in strengthening protection for particular assets.

Agriculture and Livelihoods

Disaster risk reduction and resilience applications for agriculture and livelihoods involve mobilizing farmer groups to identify risk and vulnerability to their primary assets (typically crops, livestock and natural resources such as water) and organizing to formulate plans for implementation. Projects also advocate for the protection of natural resources and the use of environmental protection as a means of strengthening communities' overall resilience, both by using natural resources as barriers/buffers against specific hazards and as a means of livelihood diversification. Resilience approaches typically use the same types of techniques to identify risk/vulnerability but are applied in a rural/agricultural context. Instead of traditional disaster management committees, the focus could be centered on farmer groups to develop pilot activities based around livelihoods to diversify income-generating activities and reduce risk to assets.

Health and WASH

The health sector has a wide array of its own resources to strengthen the capacity of hospitals, clinics and staff. However, there are applications to use DRR-related activities to identify risk and vulnerability based around public health issues, such as outbreaks of communicable, water- and vector-borne diseases. Building capacity of health centers and hospitals to prepare for and respond to outbreak events is the significant focus in this sector. Similarly, the WASH sector has many specific indicators. This section aims to integrate DRR concepts into WASH activities, such as risk-proofing WASH-related infrastructure and engaging communities in these decisions.

Education

DRR and resilience activities in schools follow the Comprehensive School Safety Framework which focuses on safer facilities, disaster management within schools and ensuring educational practices for DRR and resilience. Therefore, an emphasis is placed both on protecting against natural disasters and rebuilding the physical structure of schools (as well as access to safe water and toilets with handwashing facilities) to strengthen the capacity of students, teachers and school administrators to plan for and respond to natural disasters. This can be aimed at mitigation, preparedness recovery and response phases and aim to utilize a school as a key resource point for communities to organize around to strengthening their resilience.

Shelter

Following a disaster event, shelter is often the most visibly damaged community asset, so building disaster-resilient shelter is extremely important. Multi-hazard contexts, climate change and urbanization present challenges to building resilient shelter and require careful understanding of local contexts with input from communities. Utilizing input from communities, through the use of DRR tools such as hazard and vulnerability assessments specifically designed for shelter construction, places a priority on directly involving communities in the reconstruction process. Although planning and construction of resilient structures is critical during any shelter activities, this section focuses on post-disaster reconstruction, which offers an opportunity to (re)build shelter to a better standard to resist future disasters, and allows for assessing and gaining a better understanding of overall disaster resilience.

INSTITUTIONAL DONOR RESILIENCE INDICATORS

This section is divided into tabs corresponding with key institutional donors such as USAID, DFID and the European Union. For each tab, there is a collection of higher-level (typically intermediate result/ intermediate outcome) indicators and statements used in various projects relating to resilience. USAID, for example, presents indicators used in the new Food for Peace Strategy (among others). DFID presents indicators used in the BRACED project. Where relevant to resilience and DRR, specific indicators appear in the Key Indicators tab and are matched with corresponding work of the three agencies.

For each tab, there is a collection of higher-level (typically intermediate result/ intermediate outcome) indicators and statements used in various projects relating to resilience.

KEY INDICATORS

Donor Priority Indicator	Related Output Indicator	Sector	Location	Resilience Capacity
% households with access to positive coping strategies	% of trained households implement at least # priority preparedness activities	Disaster Management	14	Adaptive
Government capacity for coordination; local and national effectiveness of local/national EWS	# early warning groups are formed # women are involved in early warning groups as members # discussion forums integrate traditional and scientific knowledge # early warning groups are linked with government sector offices	Disaster Management	14	Absorptive
# communal assets created/rehabilitated by type	# students have access to disaster-safe classrooms by target date # health facilities have easily accessible guidance for communicable or vector-borne disease DRR # functional roads to service institutions	Education	34	Absorptive
Income/livelihood diversity	# HHs implement sustainable alternatives in production systems and livelihoods	Agriculture and Livelihoods	23	Adaptive
Self-perceived coping/adaptive capacity	% of trained farmers are able to explain % of the training topics on crop cultivation techniques promoted in this project	Agriculture and Livelihoods	19	Adaptive
Access to credit	# SILC groups trained # members per group disaggregated by sex # members benefit from IGAs	Disaster Management	16	Absorptive
% of farmers used at least # sustainable agriculture practices and/or technologies in the past # months	# integrated plot management practices or activities are applied # farmers practice # agriculture practices	Agriculture and Livelihoods	19	Adaptive
# hectares are under improved technologies or management practices with USG assistance	# best practices are used to improve farms # improved technologies or management practices are promoted	Agriculture and Livelihoods	20	Adaptive
% of people use climate change information or implement practices/actions to improve resilience to climate change as a result of USG assistance	# HHs understand climate change impacts and identify major threats and define strategies to address them	Agriculture and Livelihoods	23	Adaptive
# NRM and environmental risk management plans, policies, strategies, systems or curricula developed	# NRM groups have developed workplans for the construction of water and soil conservation facilities/structures on their farmlands # NRM groups' work plans are included in higher-level government bodies' plans	Agriculture and Livelihoods	20	Transformative
% of target communities and stakeholders are involved in the development of plans	# village disaster committees have taken up cases with government officials	Disaster Management	13	Transformative
% of locally developed plans implemented	By midterm, at least % of the approved activities in the community and government are implemented	Disaster Management	14	Transformative
% of target communities and stakeholders have implemented local development plans with local resources	% of HHs participate in the monthly meeting to monitor progress of implementing risk reduction action plans	Disaster Management	12	Transformative
# hazard risk reduction plans, policies, strategies, systems, or curricula developed	# community risk assessments and contingency plans developed	Disaster Management	13	Absorptive

Disaster management

Disaster management is a broad term used to describe management related to all different phases of the "disaster management cycle" including mitigation, preparedness, response and recovery. Often associated with commonly understood components of DRR programming, activities involved with disaster management include mobilizing communities to identify risk and vulnerability, formulate plans (including early warning) to address this, and reach out to government bodies to strengthen capacity at all levels. This can also include community savings aspects, which are focused around investing in strengthening protection for particular assets.

Photo courtesy of CRS

Building resilience through community approaches to disaster management

In Mali's capital, Bamako, vulnerable households on the periphery of the city experience an increased risk of flood events triggered by heavy rains and exacerbated by pollution and clogged drainage canals. Understanding that these events will increase as the city continues to develop, CRS, working alongside Caritas Mali and the Direction National de la Protection Civil (DGPC) of Mali, developed a community-based disaster risk reduction approach to address the challenge. Local field agents from the target communities are trained to work with vulnerable groups within these areas to identify their major risks and determine actions needed to appropriately prepare for and respond to flood events. Their actions were developed into government-recognized community-level plans that were shared with the ward-level disaster management committees in Bamako. This community input was integrated into the contingency plans at the ward level in Bamako. By engaging both community and government actors at the outset, greater coordination between the two was possible.

IR/IO 1: Communities develop and implement DRR/resilience plans in collaboration with the government through a participatory process involving the most vulnerable HHs.

IR/IO 2: Disaster Management Plan by local authorities is developed with input and involvement from constituent communities.

IR/IO 3: Vulnerable HHs and communities adopt key preparedness measures to protect lives and livelihood assets.

IR/IO 4: Vulnerabilities of persons with disability (PwD) in target areas related to natural disasters are reduced.

IR/IO 5: Savings and Internal Lending Community (SILC) groups provide financial services to their members for implementation of community and household-level projects.

IR/IO 6: Local government and targeted communities effectively manage mangrove forests.

Intermediate result/intermediate outcome 1

Communities develop and implement DRR/resilience plans in collaboration with the government through a participatory process involving the most vulnerable households (1, 3, 4, 7, 9, 10, 12, 17)*

*These numbers refer to the projects that the IRs/IOs were derived from. The projects are referenced in the Annex.

IR/IO indicator

Number of DRR/resilience plans developed | Percentage of approved activities in DRR/resilience plans that are implemented | Percentage of DRR initiatives identified in DRR/resilience plans that are jointly undertaken by government and communities | Percentage of most vulnerable households that report they have increased collaboration with government

IR/IO means of verification

FGDs and/or community feedback | Review of DRR/resilience plans by implementing agency/partners | Midterm counting of facilities | Midterm KAP surveys or specific surveys monitoring report

Output statement 1

Local-level disaster management committees are operational

Output indicator

Committees are meeting monthly, performing their roles that will be outlined during the formation process

Output means of verification

Ongoing observation | Committee meeting minutes

Associated activities

Committee formation | Committee trainings

Output statement 2

Communities develop community risk assessments

Output indicator

community-level risk assessments developed

Output means of verification

Review of community risk assessments

Associated activities

Community-level risk assessment process

Output statement 3

Communities develop contingency plans that include evacuation, and protection of certain critical facilities

Output indicator

Contingency plans developed

Output means of verification

Review of contingency plans

Associated activities

Community-level contingency planning and evacuation planning process

Output statement 4

Communities hold monthly monitoring meetings to review progress

Output indicator

% of HHs participate in the monthly meeting to monitor progress of implementing risk reduction action plans

Output means of verification

Review of risk reduction action plans | Ongoing monitoring of meeting attendance

Associated activities

Monthly monitoring meetings

Output statement 5

Local government approves DRR/resilience plan submitted by community and links plans to relevant government initiatives

Output indicator

By midterm, at least % of the approved activities in the community and government are implemented

Output means of verification

Review of the DRR plan | Midterm review | Monitoring by partners | # village disaster committees formed | # trainings conducted | # awareness sessions conducted

Associated activities

Village disaster committee formed/revived | Capacity building for village disaster committee | Training of staff on PRA tools | Orientation of community leaders on PRA | Community exercises on resilience and DRR | Support to develop resiliency plans

Output statement 6

Most vulnerable HHs and local authorities participate in mock evacuation drill

Output indicator

One mock drill in each commune is conducted | # people participate in the mock drill

Output means of verification

Community monitoring | KAP survey results | Activity report

Associated activities

Authorities and communities develop evacuation and early warning dissemination plan and implement annual mock drills

Output statement 7

Early warning groups are formed in vulnerable communities

Output indicator

early warning groups formed | # women involved in early warning groups as members

Output means of verification

Early warning group member list | Meeting minutes

Associated activities

Workshops for selection of early warning groups

Output statement 8

Early warning groups are working to develop risk profiles within the communities they serve

Output indicator

early warning groups have developed a community risk map | # community DRR plans are in place for all major risks, including plans for critical community infrastructure

Output means of verification

Community DRR plans | Monitoring report

Associated activities

Use participatory CBDRR tools for risk and vulnerability mapping | Develop risk and vulnerability maps into CBDRR plans

Intermediate result/intermediate outcome 2

Disaster management plan by local authorities is developed with input and involvement from constituent communities (1, 3, 4, 7, 9, 10, 12, 17)*

*These numbers refer to the projects that the IRs/IOs were derived from. The projects are referenced in the Annex.

IR/IO indicator

Disaster management plan developed to meet specifications of national and/or regional government

IR/IO means of verification

Review of disaster management plan

Output statement 1

Members of local disaster management authority have improved knowledge of their functions and responsibilities along with their involvement in the community risk assessment and contingency planning process

Output indicator

% of local disaster management authority members have retained knowledge learned in trainings

Output means of verification

Training pre- and post-test | Survey at midterm review

Associated activities

trainings on national and regional disaster management regulations/plans |
trainings on community risk assessment and contingency planning

Output statement 2

Local disaster management authority develops a community risk assessment and contingency plan that incorporates the ward's community risk assessment and contingency plan

Output indicator

community risk assessment and contingency plans developed

Output means of verification

Review of CRA and contingency plan

Associated activities

Compilation of CRA and contingency plan

Output statement 3

Local officials have improved understanding of advocacy issues affecting the community, namely vulnerable groups

Output indicator

disaster committees have taken up cases with government officials

Output means of verification

Interviews | Half-yearly monitoring | Training report | Photographs | Partner report

Associated activities

Capacity building activity for community leaders |
Local leaders and local officials to advocate for the inclusion of resilience plans into development activities

Output statement 4

Local authorities have improved set of knowledge and skills: how to facilitate the village CBDRR plans, such as steps and methods to conduct the CBDRR planning at the village level, how to create an evacuation plan, how to disseminate early warning messages at all levels

Output indicator

% of the participants retain knowledge throughout the project

Output means of verification

Training pre- and post-test | Random survey | Observation

Associated activities

trainings for local authorities on DRR |
participatory approaches and integration of community CBDRR actions into current government plans

Output statement 5

Authorities have increased knowledge of early warning, first aid, search and rescue, and WASH risks

Output indicator

% of participants retain knowledge of first aid; search and rescue techniques; key DRR WASH approaches, actions and messages; and construction techniques throughout the project | % of participants have participated in training for first aid, search and rescue, key DRR WASH approaches, actions and message; and construction techniques

Output means of verification

Training pre- and post-test | Random survey

Associated activities

Training for district and community authorities on first aid; search and rescue; DRR WASH approaches, actions and messages; and construction techniques

Output statement 6

Authorities have improved knowledge of Sphere standards and humanitarian law

Output indicator

% of participants retain knowledge of Sphere standards throughout the project | % of the participants refer to or use Sphere standards in assessment

Output means of verification

Training pre- and post-test | Random survey | Interview immediately after hazard event (if it occurs)

Associated activities

Training of district and community authorities on Sphere standards

Intermediate result/intermediate outcome 3

Vulnerable HHs and communities adopt key preparedness measures to protect lives and livelihood assets (1, 3,4,7, 9, 10, 12, 17, 18)*

*These numbers refer to the projects that the IRs/IOs were derived from. The projects are referenced in the Annex.

IR/IO indicator

Percentage of activities in the action plans that are implemented

IR/IO means of verification

Review of DRR/resilience plans | HH and KAP survey at baseline, midterm and endline | FGDs | Observation

Output statement 1

Household preparedness activities are implemented

Output indicator

% of trained households implement at least # priority preparedness activities

Output means of verification

Prioritized preparedness activities will be community-defined at the beginning of the project, but could include plinth raising, raised latrines, document safekeeping, livestock care, fodder protection, household savings, and shelter risk reduction techniques | HH survey at baseline and endline | Quarterly FGDs | Ongoing observations of HH preparedness measures | Quarterly HH monitoring

Associated activities

Community-level trainings | HH visits

Output statement 2

Communities build new or strengthen existing infrastructure

Output indicator

community infrastructure projects are planned and implemented

Output means of verification

Ongoing observation (to be recorded in staff meeting minutes)

Associated activities

Community-level risk assessment process

Output statement 3

% of the targeted HHs and community members have increased knowledge and skills in early warning information, search and rescue techniques, DRR WASH approaches and techniques, and key hygiene and health messages

Output indicator

people are trained in early warning information and dissemination, search and rescue techniques and key DRR WASH approaches/construction techniques, and key hygiene and health messages | % of trained individuals retain their knowledge throughout the project | # villages have evacuation and written early warning dissemination plans in place

Output means of verification

Training pre- and post-test reports | Random interviews or focus group discussions | Evacuation plans and early warning dissemination plans

Associated activities

Village and HH training in early warning, search and rescue, first aid and key DRR WASH approaches/construction techniques and hygiene and health messages

Output statement 4

Livelihood strategy is developed

Output indicator

Livelihood strategy document

Output means of verification

Document

Associated activities

Participatory livelihood assessment and strategy development

Output statement 5

Targeted HHs have improved knowledge of livelihood protection measures

Output indicator

% of participant HHs have improved knowledge of livelihood protection measures | % of the trained participants retain knowledge after 3 months of training | # HHs have prioritized their livelihood for protection

Output means of verification

Training pre- and post-test report | Random survey after 3 months | Focus group discussions

Associated activities

Village and HH training on disaster-resilient livelihood techniques

Output statement 6

Livelihood pilots are implemented

Output indicator

% of targeted livelihood pilots are implemented

Output means of verification

Activity report

Associated activities

Project partners facilitate pilot of livelihood protection techniques, document and disseminate to all

Intermediate result/intermediate outcome 4

Vulnerabilities of persons with disability (PwD) in target areas related to natural disasters are reduced (4)*

IR/IO indicator

Number of PwD and their families able to cope with disaster

IR/IO means of verification

Survey

Output statement 1

PwD and their caregiver(s) have improved capacity to cope with natural disasters

Output indicator

PwD and caregivers have a basic knowledge of inclusive DRR and first aid

Output means of verification

KII | Monitoring report

Associated activities

Conduct training in DRR, CCA, preparedness and first aid for PwD and their caregivers | Organize drills in early warning and evacuation for PwD with participation of caregivers and the community

Output statement 2

Living conditions are improved and people have strengthened capacity to cope with disasters

Output indicator

PwD or family are provided with necessary means or their housing conditions are improved

Output means of verification

KII | Monitoring report

Associated activities

Provide emergency kit for PwD (raincoats, life jackets, torches, horn, etc.) | Set up early warning system for PwD so they are more aware of disaster situations

Output statement 3

Capacity of local PwD association is strengthened and developed to deal with disaster

Output indicator

PwD associations supported to set up with strengthened capacity

Output means of verification

KII | Monitoring report

Associated activities

Set up self-managed rescue group in PwD clubs to promote PwD participation in village storm and flood control committee | Provide basic rescue means for self-managed rescue group

Output statement 4

Inclusive DRR approaches are promoted and good experiences shared

Output indicator

communication events organized

Output means of verification

KII | Monitoring report

Associated activities

Carry out community communications events in inclusive DRR on special occasions such as a national days | Organize a workshop sharing inclusive DRR experience | Document and communicate best practice/stories of PwD in DRR

*This number refers to the project that the IRs/IOs were derived from. The projects are referenced in the Annex.

Intermediate result/intermediate outcome 5

Savings and Internal Lending Community (SILC) groups provide financial services to their members for implementation of community- and household-level projects (5)*

*This number refers to the project that the IRs/IOs were derived from. The projects are referenced in the Annex.

IR/IO indicator

Percentage of members who contribute to savings | Percentage of members who have taken out loans | Percentage of loans repaid | Percentage of members who benefit from micro-insurance | Number of community development projects implemented | Percentage of community development projects promoting household level projects

IR/IO means of verification

Monitoring reports

Output statement 1

SILC groups are formed and trained

Output indicator

groups trained |
members per group by sex |
monitoring visits per group per month |
refresher trainings for CMs

Output means of verification

Monitoring reports | Attendance records | Training reports

Associated activities

Provide training of trainers to partner staff and community mobilizers on SILC methodology

Output statement 2

SILC groups are effectively managed

Output indicator

% of groups with a constitution |
% of groups with a management committee |
% of groups able to self-facilitate by the end of the first cycle

Output means of verification

Monitoring reports | Attendance records

Associated activities

Assist each SILC with the development of a constitution and a committee

Output statement 3

SILC group members develop community- and household-level action plans

Output indicator

community development projects created | # household-level action plans created

Output means of verification

Monitoring reports

Associated activities

Convene task forces in plenary to share plans and receive feedback and assist in merging the task force plans into single community plans

Output statement 4

SILC groups develop linkages with key local stakeholders

Output indicator

% of CDCs supported by key local stakeholder in the implementation of their community development plan

Output means of verification

Endline evaluation

Associated activities

Facilitate institutional mapping of key stakeholders in the community, government, and non-governmental spheres

Intermediate result/intermediate outcome 6

Local government and targeted communities effectively manage mangrove forests (19)*

IR/IO indicator

Number of hydro-meteorological policies/procedures modified as a result of the activities to increase preparedness for hydro-meteorological events | Percentage of targeted communities maintaining protective improvement

IR/IO means of verification

Baseline and endline evaluation | Monitoring

Output statement 1

Mangrove management plans in place and under implementation

Output indicator

mangrove management plans developed

Output means of verification

Endline evaluation

Associated activities

Facilitate mangrove management plan development between communities and government | Draft plans | Information dissemination

Output statement 2

Community-based regulations on mangrove forest management endorsed by community leaders

Output indicator

Endorsement by community leaders

Output means of verification

Endline evaluation

Associated activities

Stakeholder meetings on mangrove management plan

*This number refers to the project that the IRs/IOs were derived from. The projects are referenced in the Annex.

Agriculture + Livelihoods

Disaster risk reduction and resilience applications to agriculture and livelihoods involve mobilizing farmer groups to identify risk and vulnerability to their primary assets (typically crops, livestock and natural resources such as water) and organizing to formulate plans for implementation. Additionally, projects involving agriculture and livelihoods also advocate for the protection of natural resources and the use of environmental protection as a means of strengthening communities' overall resilience, both by using natural resources as barriers/buffers against specific hazards and also as a means of livelihood diversification. Resilience approaches typically use the same types of techniques to identify risk/vulnerability but are applied to a rural/agricultural context. Instead of traditional disaster management committees, the focus could be centered on farmer groups to develop pilot activities based around livelihood activities to diversify income-generating activities and reduce risk to assets.

Photo courtesy of CAFOD

Building resilience in agriculture and livelihoods

In Nicaragua, CAFOD partner ASOMUPRO, has been organizing beekeepers' associations for the last 4 years to help support women's economic empowerment and diversify household income, building their economic resilience. The project reaches 160 women directly in the dry corridor of Northern Nicaragua. By strengthening women's collective action through both organizational and technical capacity support to the associations, the project focuses on improving production practices, aggregating volume and linking with market actors. By working with the women to conduct market analysis and develop business plans, the project supports the association to optimize income-generation opportunities through a climate-resilient production practice. By incorporating interventions that support ecosystem services, such as reforestation and environmental campaigns in the community to reduce the use of agrochemicals that harm bees, the project supports a holistic approach that builds the economic, social and ecological sustainability of the communities supported by CAFOD.

IR/IO 1: Households adopt stress-resilient farming practices.

IR/IO 2: Vulnerable households adopt improved soil and water conservation measures.

IR/IO 3: Communities implement best practices for diversified, eco-efficient production systems and livelihood strategies.

IR/IO 4: Communities establish communication and coordination linkages to land-use planning with a disaster and climate risk reduction approach.

IR/IO 5: Community leadership demonstrates increased capacity for assessment of climate change impacts and implementation of adaption strategies for greater resilience.

IR/IO 6: Increased evidence for alternative climate-smart agroforestry systems adopted by small-scale producers.

Intermediate result/intermediate outcome 1

Households adopt stress-resilient farming practices (2, 6, 11, 13, 14, 15)*

*These numbers refer to the projects that the IRs/IOs were derived from. The projects are referenced in the Annex.

IR/IO indicator

Percentage of farmers who have applied stress-resilient cultivation techniques

IR/IO means of verification

Annual review | Quantitative sample survey

Output statement 1

Farmer groups are identified and established

Output indicator

farmer groups have been identified and established in target villages

Output means of verification

Project management information system and monthly report

Associated activities

Monthly meetings with target villages to introduce the project and identify existing farmer groups | Establishment and/or reactivation of farmer groups

Output statement 2

Farmer volunteers are trained to organize and accompany the farmers

Output indicator

volunteer farmers

Output means of verification

Project management information system and monthly report

Associated activities

Identification and training of farmer volunteers

Output statement 3

Members of the farmer groups increase their knowledge and skills in stress-resilient cultivation practices

Output indicator

members of groups know # cultivation practices

Output means of verification

Monitoring tools and project activity analysis report

Associated activities

Technical training of farmers in cultivation; appropriate harvesting methods and post-harvest management; vegetable cultivation; the making of organic fertilizers; pesticides; and water and soil conservation

Output statement 4

Demonstration plots for select crops are developed in the target villages

Output indicator

demonstration plots have been developed in target villages

Output means of verification

Project management information system and monthly report

Associated activities

Identification and selection of best local food crop varieties | Field training of farmers on how to develop demonstration plots

Output statement 5

Appropriate technology crop and seed storage are tested

Output indicator

demonstration plots for seed and crop storage have been constructed in target villages

Output means of verification

Project management information system and monthly report

Associated activities

Facilitate the making of sample storage areas | Accompany and support farmers in the application of storage techniques

Output statement 6

Horizontal and vertical linkage of established farmer groups and demonstration plots with community-based and government institutions

Output indicator

farmer groups and # demonstration plots have been linked with community-based and government institutions

Output means of verification

Project management information system and report on linkage forums

Associated activities

Facilitate linkage of farmer groups and demonstration plots with community-based and government institutions

Intermediate result/intermediate outcome 2

Vulnerable households adopt improved soil and water conservation measures (2, 6, 11, 13, 14, 15)*

IR/IO indicator

Percentage of members of natural resource management (NRM) groups have constructed # systems/structures for water and soil conservation

IR/IO means of verification

FGDs | KIIs | Surveys

Output statement 1

NRM group members have improved their knowledge of and skills in water and soil conservation technologies and practices

Output indicator

% of the trained group members are able to explain # topics on water and soil conservation technologies and practices

Output means of verification

Output monitoring tools and project activity analysis report

Associated activities

Conduct training on designated farming practices; construction of designated farming practices (terrace, etc.) | Training on making of water catchment areas | Construction of water catchment | Farmer groups visit each other's villages to share best practices

Output statement 2

Target NRM groups have developed work plan for implementing their water and soil conservation facilities

Output indicator

NRM groups have developed work plans for the construction of water and soil conservation facilities/ structures on their farmlands

Output means of verification

Project management information system and monthly report

Associated activities

Training on NRM plan and agro-enterprise analysis for farmers | Farmers develop their ideal farmland plan | Organize annual farmer meeting

Output statement 3

NRM groups monitor their work plans for implementing water and soil conservation facilities

Output indicator

# of bi-weekly/monthly meeting to monitor implementation of water and soil water conservation facilities

Output means of verification

Project management information system and monthly report

Associated activities

Technical training of farmers | Facilitate meeting and documentation

*These numbers refer to the projects that the IRs/IOs were derived from. The projects are referenced in the Annex.

Intermediate result/intermediate outcome 3

Communities implement best practices for diversified, eco-efficient production systems and livelihood strategies (2, 6, 11, 13, 14, 15)*

*These numbers refer to the projects that the IRs/IOs were derived from. The projects are referenced in the Annex.

IR/IO indicator

Number of hectares with eco-efficient systems established | Number of women-led diversification activities

IR/IO means of verification

List of participating farmers | Photographs | Testimonies of participants

Output statement 1

Farmers have increased knowledge of diversification options

Output indicator

integrated plot management practices or activities applied

Output means of verification

Field survey | Completed curriculum

Associated activities

Set up demonstration plots to showcase the integration of new species into coffee agroforestry systems | Provide soil fertility improving leguminous and non-leguminous seed to farmers for experimentation | Conduct market feasibility studies for new productive crops | Set up rotating fund to provide incentives to experiment with new agroforestry species

Output statement 2

Eco-efficient production systems are established and operating

Output indicator

water sources have been gauged and prioritized | # soil analyses performed | # technical learning workshops with # farmers on the health and fertility of soil and crops | # farmers apply these systems on # farms

Output means of verification

Farm plans | Technical forms on eco-efficient production systems | Training plan on management and administration of agroforestry systems using sustainable technology

Associated activities

Identify and gauge prioritized water sources in watersheds within the project area | Technical staff work with farmers to develop digital maps | Analyze type and fertility of soil on farms | Interpret, analyze and compare results from soil analysis with farmers' knowledge of their crops | Establish demonstration farms with eco-efficient integrated production systems

Output statement 3

List created of livelihood resources that men and women use locally and that are the most affected by climate change

Output indicator

HHs identify climatic threats and their impacts and define strategies to address them | # communities produce community risk maps | # HHs and % of key stakeholders understand climate change impact and identify major threats | # leaders and representatives of civil society understand resilient livelihoods and climate change and participate in public forum with municipal government

Output means of verification

Personal interviews | Maps produced | Photographs | Participant attendance list | Training methodology | Presentations

Associated activities

Technical staff work with farmers to produce community risk map | Events to share results of the study on perceptions about climate threats/impact | Forum on resilient livelihoods and climate change

Intermediate result/intermediate outcome 4

Communities establish communication and coordination linkages to land-use planning with a disaster and climate risk reduction approach (2, 6, 11, 13, 14, 15)*

*These numbers refer to the projects that the IRs/IOs were derived from. The projects are referenced in the Annex.

IR/IO indicator

Number of roundtables on productive, social, and environmental management DRR/CCA held | Number of initiatives underway to seek resources and strengthen capacity

IR/IO means of verification

Communities establish roundtables among interested parties to influence local and regional planning and land use with a disaster and climate risk reduction approach | List of technical proposals, approved projects

Output statement 1

Community groups organize to identify advocacy strategies and initiatives that promote best practices in soil management, and actively participate in municipal environmental planning

Output indicator

municipal-level advocacy processes on best practices in soil management have been documented | # delegates of community structures join the local environmental management committees | # members trained on rights, responsibilities and community planning

Output means of verification

Guide for advocacy methodologies | Schedule of meetings that were arranged and conducted | List of members of environmental management committee | Participant attendance lists | Methodology

Associated activities

Develop local political advocacy messages on negative impact caused by unsustainable agricultural practices | Incorporate community members in the community planning processes through municipal environmental management units | Training on environmental management, civil protection, and community planning

Output statement 2

Municipal environmental management units and civil protection commissions are established and operating

Output indicator

municipal environmental management and civil protection commissions sworn in and trained in DRR and climate change through # workshops | Training plan on rights and municipal planning developed in collaboration with community | # technicians from municipal environmental management committees trained in local public policies

Output means of verification

List of participants | Photographs | Workshop notes | PowerPoint presentations | Summaries of group work

Associated activities

Develop training plan on rights and responsibilities for the municipal environmental management units | Train technical personnel from municipal environmental management units on the development of public policies at the municipal and regional level with a DRR focus

Output statement 3

Municipal plans have been developed for social, environmental and production management, integrating a DRR and climate change approach

Output indicator

municipal plans have been developed and proposed | # municipal plans are updated with a DRR approach

Output means of verification

Municipal agreement for approval of municipal plan | Educational card | Lists of participants | Land use proposal | Letter of receipt from local government

Associated activities

Review and update municipal plans, including social, environmental, production and risk management planning | Train technical personnel from environmental and civil protection | Develop and present a land-use proposal to local public stakeholders and municipal government

Output statement 4

Local environmental management units are linked to regional and/or national networks, development programs, nongovernmental organizations and initiatives that take a DRR approach

Output indicator

agreements between communities and corresponding municipality are requested, approved, and resources allocated for their implementation | # risk management technical round tables held to define initiatives with DRR focus | # technical documents and municipal government-approved work scheduled

Output means of verification

Official agreement | Memorandum of understanding | List of participants | Photographs | Assessments submitted

Associated activities

Development organizations and programs include DRR approach | Share the results of the assessment of the local social, environmental and production context with local, departmental and national stakeholders | Establish DRR technical round table for municipalities | Develop and implement a work plan for the micro-regional DRR technical roundtable | Coordinate with regional and national structures connected to DRR

Intermediate result/intermediate outcome 5

Community leadership demonstrates increased capacity for assessment of climate change impacts and implementation of adaption strategies for greater resilience (15, 18)*

*These numbers refer to the projects that the IR/IO were derived from. The projects are referenced in the Annex.

IR/IO indicator

Percentage of families that demonstrate increased understanding of climate change impacts and adaptation strategies for greater resilience

IR/IO means of verification

Personal surveys | Focus groups on perception of climate change and resilience

Output statement 1

A baseline study with a DRR focus is developed

Output indicator

Local assessment with DRR lens completed | # focus groups participate in the process of collecting baseline information

Output means of verification

PVCA workshop methodology | PVCA workshop attendance | Training plan | Workshop documentation

Associated activities

Compile key social, productive, environmental and legal information through multi-sector focus groups, including public stakeholders | Develop workshops with men and women farmers to understand the links among their rights, food security, disaster risk and climate change

Output statement 2

Communities, organizations, and other local stakeholders have key information about the state of their natural resources (soil and water) and production systems, based on the climate change risk analysis and DRR

Output indicator

% of participating HHs understand the current state of their resources as associated with production systems and identify their importance | Training plan on climate change and DRR is developed and shared with communities | # farmers train in resilience in field workshop

Output means of verification

List of participants | Technical document | Training methodology | Participant attendance list | Workshop notes

Associated activities

Relevant government ministries continue to provide necessary information, despite changes in the presidency | Training plan on climate change and impacts on rural livelihoods and adaptation strategies | Train leaders from local organizations | Work with farmers to analyze resilience of their production systems and identify sustainable adaptation strategies | Train farmers on financial resources in eco-efficient production systems

Output statement 3

Communities understand and use practical tools and sustainable technology that fosters increased resilience

Output indicator

HHs implement sustainable alternatives in production systems and livelihoods.

Output means of verification

List of best practices in agriculture and livestock production | Attendance lists | List of best agricultural practices adopted

Associated activities

Relevant government ministries continue to provide necessary information, despite changes in the presidency | Train farmers in the best practices in crop and climate management

Intermediate result/intermediate outcome 6

Increased evidence for alternative climate-smart agroforestry systems adopted by small-scale producers (15, 18)*

IR/IO indicator

Number of partnerships developed with local and national stakeholders

IR/IO means of verification

Published study results

Output statement

Farmers integrate best practices into plot management

Output indicator

best practices used to improve farms |
resilience models/frameworks developed

Output means of verification

Extension observation surveys using tablet computers | BAPs checklist

Associated activities

Relevant government ministries continue to track farm practices during field visits | Collect socio-economic and agronomic data from demonstration farms

*These numbers refer to the projects that the IRs/IOs were derived from. The projects are referenced in the Annex.

Health + WASH

The health sector has a wide array of its own resources to strengthen the capacity of hospitals, clinics and staff. However, there are applications to use DRR-related activities to identify risk and vulnerability based around public health issues, such as outbreaks of communicable, water- and vector-borne diseases. Building capacity of health centers and hospitals to prepare for and respond to outbreak events is a significant focus in this sector. Similarly, the WASH sector has many specific indicators. This section aims to integrate DRR concepts in WASH activities, such as risk-proofing WASH-related infrastructure and engaging communities in these decisions.

Photo courtesy of CAFOD

Building DRR into WASH reconstruction

Landslides occur every year in the mountainous areas of Nepal, but following the massive earthquakes in 2015, the land is more fragile, and slides are even more frequent and dangerous. In Rasuwa district, CAFOD, Cordaid and local partner Parivartan Patra are working to rebuild water systems destroyed by the earthquake, and to make them more resilient to natural hazards in the future. They have used cylindrical ferro-cement tanks to replace the square, concrete slab tanks that were badly cracked during the earthquake. The shape and materials used means that these tanks are more flexible during earth movements and are thus less at risk of damage, and can also be repaired easily by applying additional coats of plaster. Local water-user committees are also being trained in water quality testing, hygiene promotion, and operations and maintenance, so that they can continue to provide safe water systems when the project is completed.

IR/IO 1: Integrated communicable, water- and vector-borne disease risk reduction response is established.

IR/IO 2: Health facilities and their community health workers have a pre-planned and coordinated communicable water- and vector-borne disease response to treatment and prevention during the dry and rainy seasons.

IR/IO 3: Integrated communicable, water- and vector-borne disease risk reduction response is established.

IR/IO 4: Lessons learned from communicable, water- or vector-borne disease DRR at the community level are documented and disseminated.

IR/IO 5: Households adhere to waste management practices according to national (or city) standards.

IR/IO 6: Reduced vulnerabilities of target communities through safe and resilient water systems.

Intermediate result/intermediate outcome 1

Integrated communicable, water- and vector-borne disease risk reduction response is established (8)*

*This number refers to the projects that the IRs/IOs were derived from. The projects are referenced in the Annex.

IR/IO indicator

Number of areas integrating specific communicable, water- and vector-borne disease risk response

IR/IO means of verification

Assessment and final evaluation

Output statement 1

Government partners reach consensus on a documented strategy and plan integrating health with WASH interventions for communicable, water- and vector-borne disease DRR

Output indicator

Integrated communicable, water- and vector-borne disease DRR departmental strategy is drafted and finalized | Integrated one-year work plan

Output means of verification

Finalized document | Meeting minutes | Communicable, water- and vector-borne disease DRR strategy document | Monitoring visits and follow-up report

Associated activities

Monthly meetings | Integrated communicable, water- and vector-borne disease DRR strategy development meetings | Departmental one-year work plan | Strategy distributed to hospitals

Output statement 2

Draft communicable, water- and vector-borne disease DRR guidance is developed

Output indicator

Communicable, water- and vector-borne disease DRR guidance is drafted | # hospitals using DRR guidance document | # chemical, physical and bacteriological water samples are sterile and/or acceptable for health structures according to WHO and Sphere standards | # medical waste, incinerator and toilet facilities are acceptable for health structures according to WHO/Sphere standards

Output means of verification

Communicable, water- and vector-borne disease DRR guidance document | Meeting minutes | Monitoring visits | Water samples | Technical visits to medical waste disposal sites | Procedures and sanitation facilities | Guidance document

Associated activities

Key stakeholders implement draft guidance for hospitals | Guidance document shared with hospitals

Intermediate result/intermediate outcome 2

Health facilities and their community health workers have a pre-planned and coordinated communicable water- and vector-borne disease response to treatment and prevention during the dry and rainy seasons (8)*

*This number refers to the projects that the IRs/IOs were derived from. The projects are referenced in the Annex.

IR/IO indicator

Number of health facilities participating in pre-planned and coordinated response to communicable, water- and vector-borne disease treatment during the dry and rainy seasons

IR/IO means of verification

Assessment and final evaluation

Output statement 1

Health facilities have appropriate guidance for DRR

Output indicator

health facilities have easily accessible guidance for communicable, water- and vector-borne disease DRR | Total # of health facilities | # staff have knowledge of communicable, water-and vector-borne diseases | # staff have knowledge of key DRR hygiene and heath promotion approaches and messages in health facility as well as outreach strategies/activities | # staff are listed on DRR hospital contingency plan

Output means of verification

Assessment and final evaluation | Adapted contingency plan at hospital | Document roles and responsibilities of key staff for cholera DRR

Associated activities

Senior hospital staff review and adapt contingency plans to include DRR guidance | Meeting with key staff to disseminate information and roles | Roles and responsibilities are documented and revisited at senior management meetings

Output statement 2

Health facilities follow DRR guidance and contingency plan

Output indicator

health workers are trained in communicable, water- and vector-borne disease DRR | # hospital simulation exercises held | # hospital staff attend simulation exercise | percentage change between pre- and post-test training scores

Output means of verification

Assessment and final evaluation | Monitoring records | Financial records | Finalized report | Pre/post-tests | Attendance sheet

Associated activities

Health care staff and community health workers trained in communicable, water- and vector-borne disease DRR as link between hospital and community | On-site hospital simulation exercise carried out | Report developed on hospital simulation | Follow-up simulation exercise held

Intermediate result/intermediate outcome 3

Communities have improved capacity to prevent the spread of communicable, water- and vector-borne disease throughout the year (8, 16)*

* These numbers refer to the projects that the IRs/IOs were derived from. The projects are referenced in the Annex.

IR/IO indicator

Percentage of heads of households that can describe appropriate hygiene and health behaviors | Percentage of heads of household in two communes that can state appropriate behaviors for prevention of communicable, water- and vector-borne diseases

IR/IO means of verification

Assessment and final evaluation

Output statement 1

Health workers take appropriate DRR action during a rise in communicable, water- or vector-borne disease cases

Output indicator

Report is finalized | # communities around hospitals perceive they are able to respond quickly to prevent additional cases

Output means of verification

Assessment and final evaluation | Meeting notes | Community checklist

Associated activities

Assessment and final evaluation | Simulation pre- and post-tests | First and follow-up training | Hospital-level DRR indicators developed | Community checklist developed for responding to cholera, Ebola, malnutrition, malaria, dengue, Zika and other comunicable, water- or vector-borne disease cases | Meetings to discuss results

Output statement 2

Operations research is carried out on training curriculum and methodology, community-led total sanitation or sanitation marketing or any other approach/methodology to improve access and behavior around safe sanitation and hygiene

Output indicator

communities visited carry out CLTS methodology or other methodology that improves access to sanitation | # CHWs trained | percentage change between pre- and post-test training scores

Output means of verification

CLTS/other methodology or concept note | Final evaluation | Pre/post-test | CHW supervisory quarterly reports | Assessment and final evaluation documents | CHW supervisor reports | Cholera CHW training | Pre- and post-tests | Attendance sheets | Monitoring visits

Associated activities

CLTS/other methodology or concept note developed | Curriculum adapted | Indicators developed| Quarterly update from hospital health worker supervisor including CLTS/ other methodology indicators

Output statement 3

Health workers work with communities to improve their water, sanitation and hygiene conditions

Output indicator

CHWs trained | Percentage change between pre- and post-test training scores | # latrines constructed/rehabilitated with handwashing device and soap in place, and proper fecal sludge management system in place | # bathing facilities with proper drainage in place | % of community members that can explain how their latrine is maintained and what to do when the septic tank is full (fecal sludge management)

Output means of verification

Assessment and final evaluation | CHW supervisor | Attendance sheets | Monitoring visits to community

Associated activities

CHWs trained in CLTS | CHWs train and support communities to carry out CLTS | Communities construct latrines | Communities manage the use and maintenance of latrines

Intermediate result/intermediate outcome 4

Lessons learned from communicable, water- or vector-borne disease DRR at the community level are documented and disseminated (8, 16)*

IR/IO indicator

Lessons learned are documented and disseminated

IR/IO means of verification

Assessment and final evaluation | Meeting notes

Output statement

Assessment, evaluation, documentation and dissemination on the community benefits, resilience and sustainability of the project

Output indicator

senior level staff involved with the review

Output means of verification

Assessment and final evaluation

Associated activities

Final workshop held

*These numbers refer to the projects that the IRs/IOs were derived from. The projects are referenced in the Annex.

Intermediate result/intermediate outcome 5

Reduced vulnerabilities of target communities through safe and resilient water systems (17)

IR/IO indicator

Percentage of households with improved access to safe drinking water

IR/IO means of verification

Water tests | Water system surveys

Output statement

HHs have improved access to safe drinking water, through systems that are less vulnerable to future hazards

Output indicator

drinking water supply systems (including earthquake-resistant water storage tanks) are in place | # HHs have access to safe and clean drinking water | # students and # teachers have access to safe drinking water in schools | # water-user committees are functioning and have awareness of water testing, operation and maintenance, and hygiene promotion issues.

Output means of verification

Water system surveys | Regular (drinking) water tests | Presence of water tanks | Pre- and post-evaluations of trainings | Assessments and reports

Associated activities

Drinking water system improvement and development for # marginalized HHs and # schools (repair/maintenance of water pipe system, storage tanks, safety tank) | # HHs have access to safe and clean drinking water | Support to water-user groups in # wards | Enhancement for better water supply system and water management in the community | # students and # teachers have access to safe drinking water in schools | Construction of # drinking water supply systems | # water-user committees are functioning and have awareness of water testing, operation and maintenance, and hygiene promotion issues | Construction of drinking water system

*This number refers to the projects that the IRs/IOs were derived from. The projects are referenced in the Annex.

Intermediate result/intermediate outcome 6

Communities have improved capacity to prevent the spread of communicable, water- and vector-borne disease throughout the year (8, 16)*

*These numbers refer to the projects that the IRs/IOs were derived from. The projects are referenced in the Annex.

IR/IO indicator

Percentage of heads of households that can describe appropriate hygiene and health behaviors |
Percentage of heads of households in two communes state appropriate behaviors for prevention on communicable, water- and vector-borne diseases

IR/IO means of verification

Assessment and final evaluation

Output statement

Operations research is carried out on training curriculum and methodology, community-led total sanitation or sanitation marketing or any other approach/methodology to improve access and behavior around safe sanitation and hygiene

Output indicator

communities visited use CLTS methodology or other methodology that improves access to sanitation | # CHWs trained | Percentage difference between pre- and post-test training scores

Output means of verification

CLTS/other methodology or concept note | Final evaluation | Pre/post-test | CHW supervisory quarterly reports | Assessment and final evaluation documents | CHW supervisor reports | Cholera CHW training pre- and post-tests | Attendance sheets | Monitoring visits

Associated activities

CLTS/other methodology or concept note developed | Curriculum adapted | Indicators developed | Quarterly update from hospital health worker supervisor including CLTS/ other methodology indicators

Education

DRR and resilience activities in schools focus on protecting against natural disasters and rebuilding the physical structure of schools (as well as access to safe water and toilets with handwashing facilities) and strengthening the capacity of students, teachers and school administrators to plan for and respond to natural disasters. This can be aimed at mitigation, preparedness recovery and response phases and aim to utilize a school as a key resource point for communities to organize around to strengthen their resilience.

Photo courtesy of Caritas Australia

Building resilient capacities of schools

Caritas Australia has facilitated workshops in Solomon Islands to train teachers on disaster risk management planning. The program enables teachers to promote safe behaviors and reduce associated fear of students during times of disaster through popular rhymes. Through these songs, teachers help students to identify the types of risk present in their community, and the warning signs for tsunamis, cyclones, flood and landslides. The songs contain clear messages about who to listen to, what to do, and where to go when disaster strikes.

This partnership between local officials and communities means that emergency procedures can be taught through local languages and customs, and aligns with national policy. Teachers are trained and provided with materials, including nursery rhyme workbooks, and risk management strategies are developed collaboratively. Teacher training and curriculum materials are developed with the knowledge and support of the Ministry of Education and the National Disaster Management Office.

IR/IO 1: Reduction of the vulnerability in schools for school management committees, children, and teachers.

IR/IO 2: Students in disaster-stricken areas have access to safe schools, including adequate WASH facilities.

IR/IO 3: Resilience of schools against the impact of future natural hazards has been improved.

Intermediate result/intermediate outcome 1

Reduction of the vulnerability in schools for school management committees, children, and teachers (1, 20)*

*These numbers refer to the projects that the IRs/IOs were derived from. The projects are referenced in the Annex.

IR/IO indicator

Number of students who have participated in DRR activities in school | Percentage of targeted children that report feeling confident and better protected in the event of a disaster in their school or village

IR/IO means of verification

Project report | Quarterly focus group discussion with school children | Knowledge pre- and post-tests

Output statement 1

School management committees and teachers have increased their knowledge of DRR

Output indicator

SMC members and teachers have completed operations and maintenance trainings | # SMC members and teachers have completed DRR trainings | # schools have operations and maintenance plans in place | # students, teachers and SMC members have participated in evacuation drills

Output means of verification

Operations and maintenance training reports | DRR training reports | Individual operations and maintenance plans

Associated activities

Assess needs for operations and maintenance of school and WASH infrastructure | Develop training curricula for operations and maintenance | Produce operations and maintenance training materials | Conduct trainings with SMCs and teachers | Assess need for DRR in schools | Develop training curricula for DRR | Produce DRR training materials | Conduct trainings with students, teachers and SMC members | Carry out evacuation drills

Output statement 2

Students have improved their understanding of the importance of school attendance

Output indicator

students have attended awareness-raising activities on trafficking, child labor and school non-attendance

Output means of verification

Awareness-raising training | Attendance reports | Awareness-raising training materials in schools

Associated activities

Conduct social assessments | Identify specific issues and vulnerable groups | Develop extra-curricular activities (theatre groups) | Develop training materials on school attendance and human trafficking | Conduct awareness-raising activities on school attendance and human trafficking

Output statement 3

All targeted school children know DRR concepts, root causes of disasters, early warning messages and how to act during an event

Output indicator

% of targeted children know DRR concepts, root causes of disasters, early warning messages and how to act during an event

Output means of verification

School teachers' monitoring report | Random survey | Activities report

Associated activities

Train key teachers from targeted primary schools | Revise the DRR plan | Implement DRR plan in schools | Dissemination workshop

Output statement 4

All targeted teachers have increased knowledge and skills of DRR and how to develop lesson plans for their students on DRR integration guidelines

Output indicator

All teachers trained to use DRR integration curricula in their lessons and curricular activities with more than # students in # schools | % of trained teachers demonstrate increased knowledge of DRR integration guidelines after post-test

Output means of verification

Lessons plan | Regular monitoring data | Observation | Training report | Pre- and post-test report

Associated activities

Train key teachers from targeted primary schools | Revise the DRR guidelines | Implement DRR guidelines in schools | Dissemination workshop

Output statement 5

All participating students can swim, and know first aid and rescue techniques

Output indicator

% of school children demonstrating swimming ability and child-friendly first aid and rescue techniques

Output means of verification

Swimming class photo | First aid training photos

Associated activities

Swimming, child-friendly first aid and rescue training of all students in targeted primary schools

Intermediate result/intermediate outcome 2

Students in disaster-stricken areas have access to safe schools, including adequate WASH facilities (20)*

*This number refers to the projects that the IRs/IOs were derived from. The projects are referenced in the Annex.

IR/IO indicator

Number of students with access to safe schools

IR/IO means of verification

Survey at project beginning and end

Output statement 1

Completely destroyed classrooms have been reconstructed

Output indicator

students have access to disaster-safe classrooms by target date

Output means of verification

Field reports by technical team | Final testing and commissioning report

Associated activities

Develop construction plans | Execute detailed assessments | Select contractor | Construction through contractor | Monitor contractors in cooperation with SMCs and local partner organizations | Hand over schools to SMCs

Output statement 2

Partially destroyed classrooms have been refurbished

Output indicator

students have access to disaster-safe classrooms by target date

Output means of verification

Field reports by technical team | Final testing and commissioning report

Associated activities

Develop construction plans | Execute detailed assessments | Select contractor | Construction through contractor | Monitor contractors in cooperation with SMCs and local partner organizations | Hand over schools to SMCs

Output statement 3

Schools have appropriate latrines and hand-washing facilities

Output indicator

students have access to gender-appropriate and disabled-accessible latrines in the schools | # teachers have access to school latrines

Output means of verification

Field reports by technical team | Final testing and commissioning report

Associated activities

Develop construction plans | Assess social components | Construct latrines through contractors | Monitor contractors in cooperation with SMCs and local partner organizations

Output statement 4

Schools have safe and sufficient drinking water supply

Output indicator

students have access to safe and sufficient water supply by target date | # teachers have access to safe and sufficient water supply

Output means of verification

Field reports by technical team | Testing reports

Associated activities

Assess existing water supply schemes in all schools | Develop approach to rehabilitation of water supply | Rehabilitate existing water supply schemes or provision of new water supply schemes

Output statement 5

Schools are accessible to disabled students

Output indicator

classrooms are accessible to disabled students | # sanitation facilities are accessible to disabled students

Output means of verification

Field reports by social and technical team on needs of students and hardware provision

Associated activities

Assess school sites | Identify needs | Revise construction plans | Monitor contractors together with SMCs and local partner organizations

Intermediate result/intermediate outcome 3

Resilience of schools against the impact of future natural hazards has been improved (20)*

IR/IO indicator

Number of schools implementing preparedness and safety plans to reduce risk

IR/IO means of verification

Monitoring report

Output statement 1

Safety requirements for relevant natural hazards, including evacuation plans, are incorporated into school master plans

Output indicator

students attend schools with adequate safety against relevant natural hazards |
teachers attend schools with adequate safety against relevant natural hazards |
schools have DRR plans in place

Output means of verification

Field reports |
Final testing

Associated activities

Assess school needs | Monitor contractors and local partner organizations

Output statement 2

Schools have safe and easily accessible open space at assembly points in case of natural disaster

Output indicator

schools have designated assembly points as part of their DRR plans

Output means of verification

Field reports |
Final testing

Associated activities

Assess school sites | Identify risk of each school | Designate assembly points | Conduct evacuation drills | Prepare evacuation manuals | Disseminate evacuation manuals

Output statement 3

Schools located in areas of low vulnerability are used as evacuation centres

Output indicator

schools are identified as evacuation centers

Output means of verification

Field reports |
Final testing

Associated activities

Assess school sites | Identify risk of each school | Designate evacuation sites | Conduct evacuation drills | Prepare evacuation manuals | Disseminate evacuation manuals

*This number refers to the projects that the IRs/IOs were derived from. The projects are referenced in the Annex.

Shelter

Following a disaster event, shelter is often the most visibly damaged community asset, so building disaster-resilient shelter is extremely important. Multi-hazard contexts, climate change and urbanization present challenges to building resilient shelter and require careful understanding of local contexts with input from communities. Utilizing input from communities, through the use of DRR tools such as hazard and vulnerability assessments specifically designed for shelter construction, places a priority of directly involving communities in a reconstruction process. Although planning and construction of resilient structures is critical during any shelter activities, this section focus on post-disaster reconstruction, which offers an opportunity to (re)build shelter to a better standard to resist future disasters, and allows for assessing and gaining a better understanding of overall disaster resilience.

Photo courtesy of CRS

"Building Back Better": A resilience approach to shelter

In the Philippines after typhoon Haiyan in 2013, affected families, local authorities and CRS worked together to find solutions that reduced disaster risks. The program reached more than 3,000 families in Tacloban City with transitional shelter. A menu of options was jointly defined, with seven shelter alternatives to help those in build and no-build zones, ranging from cash and rentals to direct-build solutions. Families could access the assistance upon attendance at orientations in shelter, WASH and land tenure. Built shelter units were sized or customized according to household needs while complying with Sphere standards.

Relocation sites were designed according to Sphere standards, and approved by the municipal government. These sites included playgrounds, drainage and retaining walls as feasible. The shelters' structure used coco lumber and bamboo mats for walls, both of which are locally available materials, and easily maintained or repaired by users in case of post-completion damage. Skilled and unskilled labor was engaged, the latter receiving hands-on orientation during construction. The positive empowerment of families and local government fueled a greater understanding of resilience for all.

IR/IO 1: Households live in safe, adequate and durable shelter solutions, built by qualified labor, through sustainable market-based options that have limited impact on the environment.

IR/IO 2: Settlements withstand recurrent hazards by undertaking preventive and mitigation measures.

Intermediate result/intermediate outcome 1

Households live in safe, adequate and durable shelter, built by qualified labor, through sustainable market-based options that have limited impact on the environment (3, 20)*

* These numbers refer to the projects that the IRs/IOs were derived from. The projects are referenced in the Annex.

IR/IO indicator

Number of targeted households receiving shelter | Number of targeted households receiving orientation on safe, adequate and durable shelter | Number of community members receiving training on risk reduction measures for shelter | Percentage of shelter solutions that incorporate risk reduction measures | Number of environmentally friendly options selected to achieve shelter solutions | Percentage of shelter assistance injected into local economy with positive impact

IR/IO means of verification

Project report | Midterm and final evaluation

Output statement 1

Affected households live in safe, adequate and durable shelter

Output indicator

households receive an emergency shelter | # households receive a transitional shelter | # households receive a rental/host shelter solution | % of total affected population in the program area that receive shelter solutions

Output means of verification

Shelter completion reports | Financial transfers reports

Associated activities

Assessment of affected houses | Selection and categorization of HHs | Cash or voucher distribution | Construction of shelters

Output statement 2

Affected households are knowledgeable on safe, adequate and durable construction practices

Output indicator

means put in place to provide technical orientation/assistance to households | % of total households receiving orientation, per mean of orientation | # and % of people retaining knowledge 2 months after training, by sex | # IEC materials produced and disseminated

Output means of verification

Training/Orientation reports | Post-training evaluation

Associated activities

Preparation of orientation sessions (content, modality, time, facilitation guide, IEC materials) | Implementation of orientation for households (i.e. Build Back Safer, etc.)

Output statement 3

Community members, especially skilled and unskilled construction laborers, are knowledgeable on safe, adequate and durable construction practices

Output indicator

unskilled laborers receive training | # skilled laborers receive training | % of laborers demonstrate increased knowledge immediately after training | % of total laborers trained retain knowledge 2 months after training | # of IEC materials produced and disseminated | # of demonstration tools developed (demonstration houses, partial walls, wood joints, etc.)

Output means of verification

Training/Orientation reports | Post-training evaluation | Acknowledgement of receipt of IEC material

Associated activities

Preparation and implementation of training sessions (content, modality, time, facilitation guide, IEC materials) for skilled and unskilled workers | Construction of demonstration houses or tools

Output statement 4

Affected communities are empowered and rebuild in compliance to agreed standards

Output indicator

% of compliance of shelter solutions to standards, such as Sphere, USAID FOG, cluster guidance, etc. | % of households recognizing risk reduction techniques

Output means of verification

Midterm and final evaluation | Post-completion household survey (sample population)

Associated activities

Attendance at cluster coordination meetings and/or working groups | Surveyor and/or evaluation team established | Develop post-test and run pilot

Output statement 5

Shelter solutions have as limited impact on the environment, as possible

Output indicator

% of locally sourced materials compared to imported materials, per shelter | % of direct beneficiaries (laborers, households, etc.) capable of repairing or replacing elements of the shelter | Carbon emissions per total shelter solutions (and complete program)

Output means of verification

Operations report | Final evaluation | Focus group discussions

Associated activities

Shelter design with architect/engineering team

Output statement 6

Shelter solutions have limited impact on the market

Output indicator

% of means of assistance (rental, host, voucher, cash, in-kind, direct-build, technical assistance, etc.) | Variance in market, per means of assistance, material or labor | % of total funding for materials used to buy locally produced materials | Level of satisfaction by goods and service providers

Output means of verification

Shelter completion reports | Market monitoring tools | Focus group discussions | Operations report | Final evaluation

Associated activities

Market monitoring surveys

Intermediate result/intermediate outcome 2

Settlements withstand recurrent hazards by undertaking preventive and mitigation measures (3, 20)*

IR/IO indicator

Number of preventive and mitigation measures/structures implemented

IR/IO means of verification

Project report | Midterm and final evaluation

Output statement 1

Small preventive and mitigation measures/structures are implemented

Output indicator

mitigation measures/structures taken/built | % of total population benefiting from the mitigation measures/structures

Output means of verification

Construction completion reports | Focus group discussions | Key informant interviews

Associated activities

Identification of feasible measures/structures: drainage, declogging, small retention walls, etc. | Coordination meetings and/or approval by local authorities

Output statement 2

Medium and large preventive and mitigation measures/structures are implemented

Output indicator

mitigation measures/structures taken/built | % of total population benefiting from the mitigation measures/structures

Output means of verification

Construction completion reports | Focus group discussions | Key informant interviews

Associated activities

Identification of feasible measures/structures: medium or large retention walls, dredging, dikes, etc. | Coordination meetings and/or approval by local authorities | Bidding process | Execution of construction work

*These numbers refer to the projects that the IRs/IOs were derived from. The projects are referenced in the Annex.

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USAID Resilience Indicators for Chronically Vulnerable Populations in Sahel and Horn of Africa: June 2013		USAID OFDA Humanitarian Assistance Master Indicator List		USAID - Food for Peace Indicators: Sept 2016	
Category	**Measure**	**Category**	**Measure**	**Intermediate Result Statement**	**Measures**
Governance	Government capacity for coordination | Local and national effectiveness of early warning systems	**Capacity building and preparedness planning**	# people trained in disaster preparedness as a result of USG assistance	**Natural resource and environmental risk management capacities increased**	% of people using climate change information or implementing practices/ actions to improve resilience to climate change as a result of USG assistance
Adaptive capacity	Income/livelihood diversity		% of USG missions/ embassies with trained mission disaster relief officers and/or alternates	**On- and off-farm livelihood opportunities and incomes expanded**	% of HHs with viable livelihood/income independence from climate risk
	Self-perceived coping/ adaptive capacity		# hazard risk reduction plans, policies, strategies, systems, or curricula developed	**Natural resource and environmental risk management systems**	# NRM and environmental risk management plans, policies, strategies, systems or curricula developed
	Access to credit				% of target communities and stakeholders involved in the development of plans
	# adopt and apply new technologies/management practices (peoples/HHs, associations/enterprises/ hectares)				% of locally developed plans implemented
					% of target communities and stakeholders who implemented local development plans with local resources

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Illustrative indicators – BRACED program

- Percentage of buildings and/or other assets complying with building regulation codes
- Number of people targeted by emergency radio announcements
- Percentage of agricultural land devoted to the production of drought-resistant crops
- Percentage of the agricultural production irrigated
- Emergency accommodation (i.e. cyclone shelters) in percentage of the population identified as exposed to a specific risk
- Percentage of population with access to banking services

Category	Measure
Local disaster management	# local committees (and/or brigades, following the context) have been established, trained, equipped, are functioning and recognized by rest of the community (or the relevant official body like municipality if it is stated by law).
	At least # communities have developed contingency plans that are validated and tested.
	At the end of the project, an EWS is functioning, appropriate and managed by the community and/or municipality/local authorities.
	At least % of the beneficiaries know and are able to identify the EWS alarm and alert signals and can provide and receive information in an understandable and timely way. If the focus of the results is an EWS intending to reach an effective response to warnings: it is recommended that 4 indicators are used to measure the following elements: • Improvement of monitoring, analysis and forecasting of the hazards • Improvement of knowledge of the risks by exposed communities • Improvement of the communication or dissemination of alerts and warnings • Improvement of local capabilities to respond to the warnings received
Institutional linkages and advocacy	After # months of the project, # municipal committees are established, trained, equipped and operational.
	Municipal committees developed contingency plans that are validated (also at national level) and tested.
	The participating municipalities have assigned % of their next budget year planning disaster preparedness activities (this indicator is possible only in certain contexts).
	The Emergency Operation Centre (EOC) in # municipalities is created, equipped and operational, and each one of the participating members knows their role and responsibilities in the EOC.
Information education and communication	At least # people (or % of the beneficiaries) (adults and children) of the target communities know the risks of the (specified) hazard and know the contingency measures to adopt in case of disaster.
	% of indirect beneficiaries are knowledgeable of community contingency plans.
	% of the schools in the intervention area have school emergency plans (please specify the local language when needed) and these have been validated by the parents, teachers, children and the rest of the community.
Small scale infrastructure and services	At midterm of the project, at least % of the beneficiary communities have identified community infrastructure to be improved and/or constructed, to be used during emergencies, and this has been agreed to by the municipality.
	# shelters have been improved, following internationally accepted standards, to receive # people.
	% of the population better protected by mitigation works implemented.
Constituting stocks of emergency	In the X municipality, an emergency stock (provide details on the specificities of the stocks) is available to cover the immediate needs of at least # people during and in the immediate aftermath an emergency (following Sphere standards) [and has a mechanism for restocking].
	At the end of the project, each municipality has at least one space refurbished and equipped for warehousing and knows how to manage it, and has the capacity to attend to at least % of the most vulnerable population identified.
Livelihood and economic assets protection	At the end of the action # families from # communities have strengthened their knowledge, capacities, skills, experiences and links to protect, preserve and enrich their livelihoods.
	At the end of the project, at least # DRR family plans and # business plans have been prepared, incorporating protection of livelihoods and animal management during emergencies.
	At the end of the project, at least # families have been supported with demonstrative actions for the protection of livelihoods during natural hazard.
	At the end of the project # adequate livelihoods and asset protection infrastructure for flooding periods are available for at least # families, and their demonstrative purposes are confirmed.

ANNEX: REFERENCED PROJECTS

Reference Number	Project Name	Location	Start Date	End Date
1	Disaster Risk Reduction and Community Preparedness	Vietnam	Jul-11	Sep-14
2	National Community Based DRR Program	Indonesia	Jul-11	Sep-14
3	Communities for DRR Program	Bangladesh	Oct-14	Dec-15
4	Communities for DRR Program	Vietnam	Oct-14	Dec-15
5	Communities for DRR Program	Gaza	Oct-14	Dec-15
6	Communities for DRR Program	Kenya	Oct-14	Dec-15
7	Communities for DRR Program	Pacific	Oct-14	Dec-15
8	Water and Sanitation Project for Communities for DRR	Kenya	Jun-14	Dec-15
9	R3 - Response Recovery and Resilience	Bangladesh	Dec-12	May-16
10	MACF - Disaster Risk Reduction Project	India	Dec-12	May-16
11	Sustainable Agriculture and Enhanced Resilience	Indonesia	Dec-12	May-16
12	Together Strengthening Resilience	Vietnam	Dec-12	May-16
13	Disaster Risk Reduction DIPECHO Project	Guatemala	Dec-12	May-16
14	Response, Recovery and Resilience in East and South Asia, Latin America and the Caribbean	Nicaragua	Dec-12	May-16
15	Adaptation to Climate Change	El Salvador	Dec-12	May-16
16	Combat Cholera	Haiti	Dec-12	May-16
17	Sandji Ko Urban DRR	Mali	Jan-16	Dec-17
18	Resilience through Enhanced Adaptation Action-learning and Partnership (REAAP)	Ethiopia	Oct-14	Sep-17
19	Green Shield DRR	Vietnam	Sep-12	Sep-14
20	Build Back Better Schools Initiative	Nepal	Sep-15	Sep-17

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