

knowledgeXchange Unit

MANUAL No. 08



INDICATORS RELATED TO **STRENGTHENING RESILIENCE**

Practical guidance for project planners
Examples of outcome and output indicators

November 2014

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1 INTRODUCTION

The term ‘resilience’ is used by the disaster risk reduction community since 2005 (UN-ISDR Hyogo Framework for Action). Subsequently, it was applied more and more within the context of the food security challenges. The EU has made ‘resilience’ one of its main policy priorities (EU Resilience Action Plan, 2013), which particularly endeavours to improve and advance co-ordination and collaboration between its development and humanitarian branches. The Organisation for Economic Cooperation and Development (OECD) strongly advocates to embed resilience into donor processes. Humanitarian actors such as the UN Office for the Coordination of Humanitarian Affairs (OCHA) are deeply engaged in the discussion.

Strengthening resilience of individuals, local communities, civil society actors and governmental institutions is ranking highly in the current international debates and post 2015 negotiations (SDGs, HFA, UNFCCC). The concept claims to offer a new and different way of thinking about both humanitarian aid and development cooperation. The concept also suggests to approach the challenges and risks we face in the context of fragility, protracted crises and violent conflicts as well as during periods of recovery and in countries that are particularly exposed to natural hazards and the effects of climate change.

The widespread use of the term often obscures the fact that there is little understanding and few concrete experiences on how resilience actually works. There might, for example, be projects that are already very successful in strengthening resilience – without knowing and without having that particular label attached. On the other side, it seems that many projects today just add the ‘resilience label’ to their title without having analysed what is necessary in a particular context to strengthen resilience.

Resilience is defined as “the ability of people and institutions ... to cope with and quickly recover from shocks ..., and to adapt to chronic stress or transform their means of living without compromising their medium and longer-term prospects” (BMZ RLI 2014).

Strengthening resilience has become the main guiding principle for planning and implementing actions at the interface of humanitarian aid and development cooperation meeting the challenge to achieve sustainable impacts. For strengthening resilience, it is essential to build bridges between different stakeholders and sectors and create links to different levels of governmental institutions and civil society actors aligning external interventions with (sub)national strategies. There will be no resilience without local ownership and responsibility.

As a multi-mandate organization Welthungerhilfe, based on the concept of Linking Relief, Rehabilitation and Development (LRRD), connects immediate humanitarian aid, medium-term transitional actions and long-term development cooperation.

To facilitate project planning and to better understand how to operationalize the concept of strengthening resilience in the whole project cycle, Welthungerhilfe, based on practical experiences and requirements, makes a set of indicators related to interventions focused on strengthening resilience available to project planners, proposal writers, project managers and field staff of Welthungerhilfe as well as partner organisations. The definition of outcomes and outputs as well as the wording of the indicators correspond to the WHH “Guidelines Outcome and Impact Orientation” and the criteria for SMART – Indicators, applicable for LogFrames.

Due to the intention to support practitioners mainly during project planning and proposal writing, this Indicator Set is not overloaded with theoretical inputs. For more information related to the concepts of strengthening resilience as well as outcome orientation see the sources mentioned in annex 2.

This document has to be understood as a ‘work in progress’. The current strategies are not carved in stone. They have to be adapted, adjusted and replenished. Deepening and specifying the understanding of resilience is an ongoing process.

2 INDICATORS FOR PROJECT PLANNING AND MONITORING & EVALUATION

Since the international community committed itself to achieve common development goals within the framework of the “Paris Declaration 2005”, impact orientation has played an increasingly important international role in development cooperation. In 2008, Welthungerhilfe draw up its guideline “Outcome and Impact Orientation” defining its understanding of an impact oriented project cycle management. Different development cooperation organisations use different definitions of key terms. Welthungerhilfe follows the OECD/DAC terminology. This Indicator Set refers to the two levels of ‘outcome’ and ‘output’.

Outcome (objective, purpose): Short and medium-term change for the beneficiaries. The outcome is the direct result of the proper use and utilization of the project outputs by the beneficiaries. The acting subjects are the beneficiaries. Therefore, achieving the use of outputs and the outcomes are hypothetical, it is not immediately controllable by the project team (Welthungerhilfe or partner organization).

Outputs (expected results): Products and services as well as social processes, which are needed to achieve the outcome, created and initiated by the use and utilization of the inputs (project activities). The responsible unit for achieving the outputs is the project team (Welthungerhilfe or partner organization).

An **indicator**, to be established in logical frameworks, according to OECD/DAC, is: "A quantitative or qualitative factor or variable that provides a simple and reliable means to measure achievement, to reflect changes connected to an intervention, or to help assess the performance of a development actor". Outcome and output indicators are expected to become "SMART" (Specific, Measurable, Achievable/Acceptable/Applicable/Appropriate/Attainable, Relevant/Realistic/Reliable, Time-bound).

The contexts and conditions Welthungerhilfe and its partner organizations are operating in show many different facets. The definitions of outcomes and outputs as well as the indicators exposed in this document are only examples addressing different socio-political conditions and requirements. To use them during a concrete project planning, it is indispensable to specify and quantify them according to the specific situation. They should be developed together with the project team of WHH and/or its partner organisation as well as target group representatives.

3 CHALLENGES FOR MEASURING THE SUCCESS OF ACTIONS TO STRENGTHEN RESILIENCE

From a civil society perspective, an intervention designed to strengthen resilience must be based on the following principles:

- Right based: Actions to strengthen resilience consistent with legal obligations to respect, protect and fulfil universal human rights. This requires actions across rights holders and duty bearers to address structural inequalities, exclusions and injustices that marginalize certain groups and reinforce differential vulnerability – for example ensuring that people can participate in political decision making processes and have access to the necessary natural, economic and social resources.
- Equity: Strengthening resilience, associated with notions of justice and inclusion, for all people regardless of ethnicity, religion, gender, geography, disability or other social-economic status.
- People-centred: Project logic based on local wisdom, realities, real experiences, needs, , concerns, and solutions of at-risk populations;
- Environmental integrity: Social-economic development in balance with the carrying capacities of the natural environment, in order to maintain biodiversity and sustain healthy ecosystems for people’s well-being and security.

Strengthening resilience comprises multiple disciplines and actors as well as parallel development actions. Addressing the challenge of planning actions focused on strengthening resilience, it is essential that the composition of all elements creates local capacities and responsibilities securing that the initiated processes will continue in the long run without external assistance.

Identifying options for actions to strengthen resilience in determined circumstances requires first the answers to four key scoping questions:

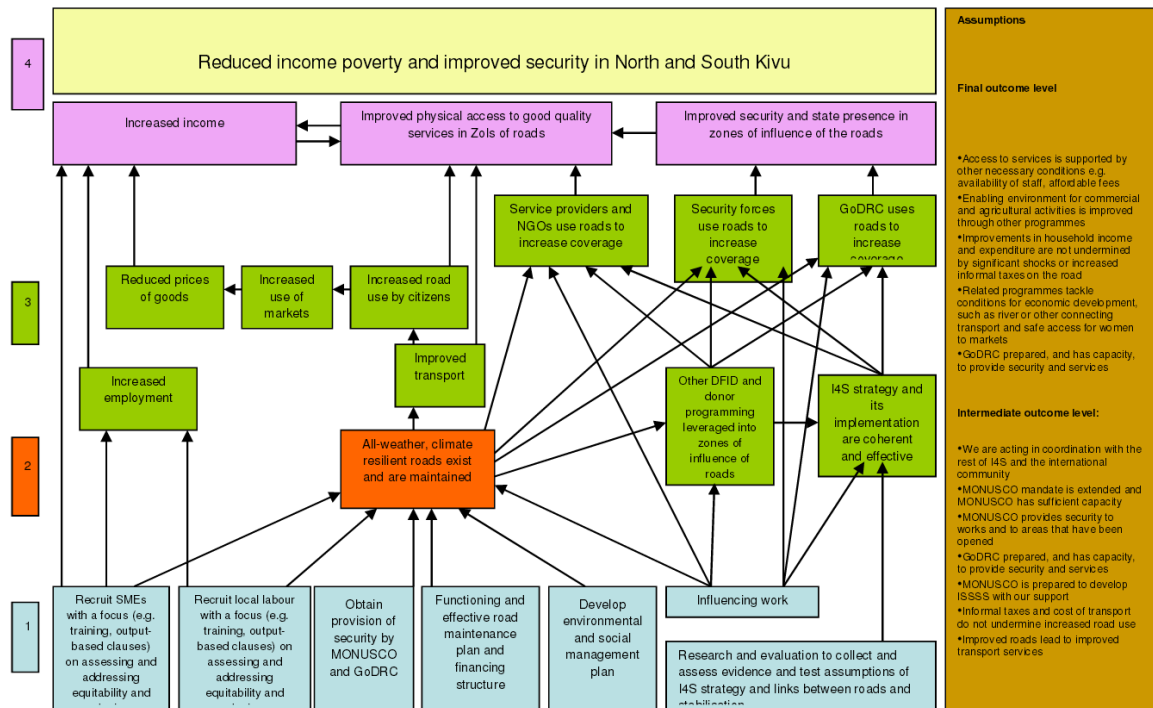
- Resilience of what kind of system? (livelihood system, socio-political system, ecosystem)
- Resilience to what kind of shock/stress/hazard? (existing and prognosticated)
- Resilience for whom and where? (layers, actors, people)
- Resilience over what timeframe? (short, medium and/or long term perspective)

Strengthening resilience as applied to humanitarian aid and development cooperation is a process that aims to enhance the combined coping (or absorptive), adaptive and transformative capacities of households, communities and nations, whilst assuring that the well-being and living standards of groups of people and individuals impacted directly and indirectly by this actions are not compromised (according to the Do-no-harm principle).

Absorptive Capacity	Indicated for instance by: Coping behaviour, disaster risk management, conflict mitigation, household livelihood, human security
Adaptive Capacity	Indicated for instance by: psychosocial strength, adapted use of assets and information, livelihood diversification, strengthening infrastructure, management of land and natural resources

Transformative Capacities	Indicated for instance by: Governance mechanisms, empowerment of civil society, protection and peace building, policies and regulations
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Most donors still require a LogFrame for summarizing a proposed action. Besides, taking into consideration the outcome and impact orientation approach, project planers might develop a result framework visualising the respective “Theory of Change”.



Example: Result Framework (source: DFID)

Taking into consideration the definition of resilience, in humanitarian aid and development actions with a duration of only a few years, it might not be possible to proof the ability of people and institutions to cope with shocks or stress when no crises or extreme natural events occur during the implementation phase. For monitoring and evaluating the success of the action, indicators are needed which permit to approximate or be representative for the ability and reflect the ‘characteristics of resilient communities’ (proxy indicators).

ANALYTICAL FRAMEWORK FOR STRENGTHENING RESILIENCE

	Initial Indicators for			Output indicators for		Outcome indicators for	
Baseline / Context analysis (vulnerability and capacity assessment)	Governance	Extreme events, shocks and stresses (hazard assessment)	Frequency, duration and intensity of	Actions for strengthening resilience	End-line Basis conditions and well-being	Governance	
	Civil society participation		Events / shocks / stresses			<u>Absorptive capacity</u> Coping behaviour Early warning systems Preparedness / Disaster risk management Conflict mitigation Household livelihood Human security	Civil society participation
	Access to information and services		<ul style="list-style-type: none"> - Extreme weathers - Climate change - Earthquakes - Volcano eruptions - Epidemics - Natural resource conflicts - Political / social crisis - Trade shocks 			<u>Adaptive capacity</u> Inclusion of all social groups Adapted use of assets Livelihood diversification Strengthening infrastructure Land use management Natural resource management Ecosystem based adaptation	Access to information and services
Access to productive resources		Idiosyncratic consequences / impacts			Access to productive resources		
Assets		<ul style="list-style-type: none"> - Illness, injuries, death - Crop failure - Loss of livestock - Loss of agricultural land - Damages of infrastructure - Damages of ecosystems - Loss of civil rights - Collapse of governmental system - Collapse of local economy - Violence 			Assets		
Food security					Food security		
Nutrition and health					Nutrition and health		
Income					Income		
Local economy / value chains					Local economy / value chains		
Infrastructure					Infrastructure		
Environment / Ecosystem services					Environment / Ecosystem services		
Psychosocial situation					Psychosocial situation		
Security situation					Security situation		
Risk Assessment ▶			Intervention to address structural vulnerability ▶			Resilient Community	

4 THE RESILIENCE INDICATOR SET STRUCTURE

Strengthening resilience in humanitarian aid, transitional development assistance and development cooperation requires multi-sectorial actions

- to enhance civil society participation in socio-political processes and local governance capabilities;
- to understand natural and socio-political hazards and reduce the existing accumulation of risks;
- to enhance disaster preparedness including disaster management capacities and systemize learning from disasters;
- to reduce the creation of new and emerging risk by tackling the underlying risk factors and addressing the drivers of inequality.

Understanding strengthening resilience as a cross cutting issue, the overall or development goal as well as the specific outcome (project purpose) should reflect the impacts of a multi-sectorial intervention.

On the other hand, short-term interventions might be related only to specific aspects. Therefore, the users of this set find outcome and output indicators for different “indicator families” related to the overarching categories “Empowerment of local actors” and “Risk assessment”, to the category “Early Warning and Preparedness for Effective Response” as well as to specific sectors of development cooperation (reducing the underlying risk drivers) according to the Welthungerhilfe sector portfolio.

Part A of this set will concentrate, in a further step, on only a few key impact indicators, in accordance to the upcoming project management software (Profi+). Due to the multi-faceted reality Welthungerhilfe is operating in, the Indicator Set users will find in Part B examples for outcome and output definitions and indicators according to different approaches and options for action.

All definitions and indicators are pre-formulated in a way that allows for an effortless adjustment to the specific conditions and circumstances (for instance: type and number of stakeholders, locations, time, output quantifications and specifications) while planning projects and establishing logical frameworks.

This document is considered as a “work in progress”. There are ongoing processes in order to identify how to operationalize strengthening resilience. Consequently, there will be more experiences available in the near future. This document is updated frequently.

5 OUTCOME AND OUTPUT INDICATORS FOR STRENGTHENING RESILIENCE

PART II SPECIFIC AND DETAILED INDICATORS

FAMILY 1: EMPOWERMENT OF LOCAL ACTORS

Outcome Definitions	Outcome Indicators
<p>[Local population, community leaders, CSO, NRO] in [area] articulate their perceptions and needs with regard to [climate change and natural hazards; social, political, economic and environmental hazards] within local and [sub-] national development processes.</p> <p>Civil society actors in [area] participate in the designing and implementation of [sub-] national policies for strengthening resilience.</p> <p>[Local population, community leaders, CSO, NGO, national / sub-national governments] in [area] [implement, support] joint actions to strengthen resilience.</p>	<p>By [time indicator], [#of] vulnerable [households, families] implement measures to protect their livelihood system and the surrounding ecosystems.</p> <p>By [time indicator], [#of] civil society organizations [to be specified] participate in [local, sub-national, national] dialogue fora promoting a culture of resilient communities.</p> <p>By [time indicator], [communities, CSO, NGO] and [local, sub-national, national] governments have signed [#of] agreements for joint implementation of activities to strengthen resilience.</p> <p>By [time indicator], [#of] civil society organizations [to be specified] participate in the elaboration of [local, sub-national] resilience strategy papers.</p> <p>By [time indicator], [#of] civil society organizations [to be specified] elaborate proposals for [local, sub-national] actions to strengthen resilience.</p> <p>By [time indicator], [line ministries, local governments] include strategies for strengthening resilience into their [agenda, strategies, development plans, management instruments, budgets, etc.] considering the participation of civil society actors.</p> <p>By [time indicator], [line ministries, local governments] [mobilize (amount of funds), increase (in at least #%)] public investment in actions for strengthening resilience.</p> <p>By [time indicator], private initiatives mobilize funds for the implementation of actions for strengthening resilience.</p> <p>By [time indicator], [#of] [communities, CSO, NRO] have gained access to public financial resources for the implementation of actions to strengthen resilience.</p> <p>By [time indicator], all social groups living in the involved communities have equal access to local organizations, information and social services.</p>

Family 1.1 Civil Society Participation	
Output Definitions	Output Indicators
<p>Local actors in [area] are able to participate in [sub-national / national] decision-making processes.</p> <p>Local actors in [area] have enhanced knowledge about natural, social, political, economic and environmental hazards.</p> <p>Local actors in [area] understand the interrelation between natural hazards, climate change, ecosystem, and livelihood.</p> <p>Local actors in [area] are able to develop and implement own actions for strengthening resilience.</p> <p>Local actors in [area] know how to look after social cohesiveness.</p>	<p>By [time indicator], [#of] local resilience strategy papers have been elaborated linking development plans, poverty reduction strategies, DRR strategies and CCA plans including the perceptions of specific vulnerabilities and capacities of all population groups (<i>men, women, children, elderly, disabled, people living with chronic diseases, indigenous people, social minorities</i>).</p> <p>By [time indicator], action for strengthening resilience have been integrated in [#of] community development and land-use plans, based on identified risks recovering ancestral know-how and techniques to protect their livelihoods.</p> <p>By [time indicator], a local ‘resilience dialogue forum’ is operative, with participation of public, private and civil society organization.</p> <p>By [time indicator], [#of] members of [communities, CSO, NGO, national / sub-national governments] know how to implement resilience awareness campaigns (at least % women).</p>

Family 1.2 Networks and Cooperation	
Output Definitions	Output Indicators
<p>Actors operating in [area] are connected to networks on strengthening resilience.</p>	<p>By [time indicator], the project team has identified strategic partners for strengthening resilience.</p> <p>By [time indicator], a local network on strengthening resilience [formed by: to be specified] is operative (<i>to strengthen mutual trust of local actors</i>).</p> <p>By [time indicator], [local, sub-national, national] [CSO, NGO, institutes, private business, platforms] have signed an agreement for resilience related information exchange and joint actions.</p> <p>By [time indicator], [#of] local actors (to be specified) have joint existing networks on strengthening resilience.</p> <p>By [time indicators], [local, sub-national] [CSO, NGO, governments] have signed [#of] agreements on joint [investigations, praxis oriented research] with research institutes (to be specified).</p> <p>By [time indicator], [#of] research institutes have published [#of] [studies, reports] related to joint investigations.</p>

Family 1.3 Dissemination	
Output Definitions	Output Indicators
Resilient relevant information and project documentation are available.	<p>By [time indicator], the project team has disseminated at least [#of] resilience related [information flyers, posters, reports, presentations, videos] on [local, sub-national, national, international] levels, including national and international [events, conferences] using print media and ICT, reaching [#of] people.</p> <p>By [time indicator], the project team has organized [#of] [local, sub-national, national] [workshops, conferences] for participants of civil society, governmental organizations, research institutes and the private sector.</p> <p>By [time indicator], the project team has deployed [#of] exposition boards in strategic locations (market places, public buildings, community centres, schools, health care facilities, etc.).</p> <p>By [time indicator], the project team has supplied in [#of] strategic places (market places, public buildings, community centres, schools, health care facilities, etc.) resilience related information materials.</p> <p>By [time indicator], the project team has disseminated a document on the perception of risks taking into consideration the different perspectives of all social groups.</p> <p>By [time indicators], local radio stations have broadcasted [#of] radio spots related to resilience prepared by [project team, CSO, NGO, national / sub-national governments].</p> <p>By [time indicator], the project team communicate periodically experiences and findings of the project implementation to local stakeholders [beneficiaries, community leaders, CSO, NRO, local / sub-national / national government, line ministries, etc.].</p> <p>By [the end of the project], the project team has shared analysed information on the project process (<i>technologies, tools, methodologies / lessons learnt</i>) with at least [# of] local stakeholders (beneficiaries, community leaders, CSO, NRO, local / sub-national / national government, line ministries, etc.).</p>

FAMILY 2: RISK ASSESSMENT

Outcome Definitions	Outcome Indicators
<p>[Responsible entities, local governments, NRO, CSO, local population] in [area] use risk data for future planning.</p>	<p>By [the end of the project], the livelihood of [#of] endangered [people, households, families] is protected.</p> <p>By [the end of the project], [the responsible entity] has updated the initial risk data (hazard data & vulnerability and capacity data).</p> <p>By [the end of the project], [the responsible entity] takes into consideration the identified risk data for proper [preparedness plans, development plans, poverty reduction strategies, land use plans, CCA plans].</p> <p>By [the end of the project], [#of] the involved population understands the hazards of climate change, hydro-meteorological and geophysical events (regarding their livelihoods, social cohesion, infrastructure and ecosystems).</p>

Output Definitions	Output Indicators
Vulnerability and Capacity Assessment	
<p>Vulnerability and capacity data for [area] are available.</p>	<p>By [time indicator], [#of] members of [the responsible entities, local authorities, community groups], at least [%] women, know how to carry out a participatory vulnerability and capacity assessments.</p> <p>By [time indicator], the vulnerability of local assets has been identified (in a participatory way).</p> <p>By [time indicator], the vulnerability and capacity of the population has been identified (in a participatory way) considering the specific vulnerabilities of the different social groups (men, women, children, elderly, disabled, people living with chronic diseases, indigenous people, social minorities).</p> <p>By [time indicator], vulnerability and capacity data have been documented (in a participatory way).</p>
Assessment of Natural Hazards	
<p>Data related to natural hazards for [area] are available.</p>	<p>By [time indicator], [#of] members of [the responsible entities, local authorities, community groups], at least [%] women, know how to carry out a participatory assessment of natural hazards.</p> <p>By [time indicator], the natural hazards [climate change, hydro-meteorological and geophysical events] have been identified (in a participatory way).</p> <p>By [the end of the project], a [hydro-meteorological, geophysical] study has been conducted by [to be specified: project team, national institute, external consultant].</p> <p>By [time indicator], [focal points, local entities, communities] have identified the areas commonly affected by natural hazards (in a participatory way).</p>

	<p>By [time indicator], the thresholds for the endangered zones have been identified (in a participatory way).</p> <p>By [time indicator], natural hazard data have been documented (in a participatory way).</p>
Assessment of socio-political and economic hazards	
Data related to political and social [crisis, conflicts] in [area] are available.	

FAMILY 3: EARLY WARNING AND PREPAREDNESS FOR EFFECTIVE RESPONSE

Outcome Definitions	Outcome Indicators
Disaster Management Committees (DMC) and local population in [area] protect lives and assets.	<p>By [time indicator], [#of] [local DMC, local EWS teams] operate EWS for [floods, landslides, tropical storms, droughts].</p> <p>By [time indicator], [#of] [local DMC, local EWS teams], in case of an (announced) extreme event, transmit alert level in the established way.</p> <p>By [time indicator], [#of] local DMC operate according to national guidelines.</p> <p>By [time indicator], local DMC operate [#of] [emergency operation centres, emergency shelters, etc.], with a capacity to attend up to [#of] people at the same time.</p> <p>By [the end of the project], [#of] local governments involved include activities and funds in their development plans and budgets (<i>to guarantee the sustainability of the established systems and initiated processes</i>).</p> <p>[During simulation exercises, after an extreme event occurred], the responsible organizations act in a coordinated manner responding to the established emergency plan (<i>making use of the established information and coordination systems and emergency plans</i>).</p> <p>[During simulation exercises, after an extreme event occurred], [#%] of the involved population respond adequately.</p>

Family 3.1 Early Warning System and Weather Forecasting	
Output Definitions	Output Indicators
Early warning systems	
Disaster Management Committees in [area] have access to external EWS.	By [time indicator], external EWS related to [relevant hazards: droughts, heavy rains, tropical storms, tsunamis, volcano eruptions] have been identified and communication mechanisms (tailored to local context) are operative.

<p>Local EWS and communication channels are implemented in [area].</p> <p>Hydro-meteorological data are available for monitoring and alert communication in [area].</p> <p>Disaster Management Committees are able to understand hydro-meteorological data and to react in an adequate manner.</p> <p>Local population in [area] knows how to react in a proper way according to the information given by EWS.</p>	<p>By [time indicator], [#of] members of local DMC (at least #% women) understand the information disseminated by national and international EWS.</p> <p>By [time indicator], [#of] [<i>specific units</i>: rainfall gauges, hydro-meteorological stations, weather monitoring mechanism] are operative.</p> <p>By [time indicator], [#of] radio communication systems between local and national disaster management teams are operative.</p> <p>By [time indicator], all local EWS have been inserted into the national EWS.</p> <p>By [time indicator], community members know how to operate the established systems: [#] for the radio communication systems [at least #% women]; [#] for the rainfall gauges [at least #% women], [#] for the hydro-meteorological stations [at least #% women], [#] for the weather monitoring mechanism [at least #% women].</p> <p>By [time indicator], all community members know the established alert levels, evacuation routes and adequate behaviour in case of a disaster.</p>
<p>Weather forecasting</p>	
<p>Local population in [area] is able to understand weather data.</p>	<p>By [time indicator], [#of] [families, households, community leaders] [at least #% women] know how to react properly based on transmitted weather forecasting.</p>

<p>Family 3.2 Rules and Regulations</p>	
<p>Output Definitions</p>	<p>Output Indicators</p>
<p>Local actors in [area] know the national disaster management rules and regulations.</p>	<p>By [time indicator], [#of] [local, sub-national] governments have adapted the [guidelines, coordination mechanisms, technical tools] established by national disaster management legislation, combining actions and sharing experiences with other organizations.</p> <p>By [time indicator], [#of] community inhabitants (at least #% women) have participated in the elaboration of local contingency plans and disaster management coordination mechanisms.</p>

<p>Family 3.3 Preparedness Capacities</p>	
<p>Output Definitions</p>	<p>Output Indicators</p>
<p>Local actors in [area] have the technical and administrative capacities to execute disaster preparedness actions.</p>	<p>By [time indicator], [#of] local [Disaster Management Committees (DMCs), disaster management centres] are operative.</p> <p>By [time indicator], a system for gathering, generating and sharing disaster management information, established by the project team, together with the DMCs, is operative.</p>

<p>Endangered population in [area] has access to disaster preparedness facilities.</p> <p>Local actors in [area] are able to respond to disasters caused by natural events.</p>	<p>By [time indicator], [#of] DMCs have developed emergency plans [in accordance to national regulations] including specific indications how to attend disabled and elderly persons as well as social minorities during emergency events, and shared with local population.</p> <p>By [time indicator], [#of] DMCs have [defined, established, improved] evacuation routes in [#of] communities for [#of] people.</p> <p>By [time indicator], DMCs have [identified, built, improved, equipped] [#of] community emergency shelters, with a capacity to attend [#of] people at the same time.</p> <p>By [time indicator], DMCs have secured and protected [#of] evacuation routes [<i>with improved flood protection walls, reinforced pedestrian bridges, stabilized paths, etc.</i>].</p> <p>By [time indicator], local actors have signed agreements related to the maintenance of local preparedness facilities.</p> <p>By [time indicator], [#of] members of local DMCs [at least #% women] know how to [maintain evacuation routes, manage emergency shelters, operate disaster management centres].</p> <p>By [time indicator], [#of] women know specific personal protection and survival skills [first aid, evacuation, swimming, security].</p> <p>By [time indicator], [#of] community based rescue teams with all-together [#of] members [at least #% women] are operative (<i>to act in cases of emergency events in an adequate manner</i>).</p> <p>By [time indicators], sources for purchasing relief items have been identified and included in preparedness mechanisms.</p> <p>By [time indicator], local DMCs have incorporated in local preparedness mechanisms sources for purchasing relief items and distribution points.</p>
<p>Disaster Management Committees in [area] are able to carry out [loss and damage assessments / needs assessment].</p> <p>Disaster Management Committees in [area] are able to manage humanitarian aid operations.</p>	<p>By [time indicator], [#of] [local DMC members] [at least #% women] know how to carry out loss and damage assessments [death, injuries, illnesses, disabilities, damaged infrastructure, environmental losses, expected food shortage] immediately after an extreme natural event occurred.</p> <p>By [time indicator], [#of] [local DMC members] [at least #% women] know how to report losses and damages to [sub-national, national, international] levels immediately after the assessments.</p> <p>By [time indicator], [#of] [local DMC members] [at least #% women] know how to manage emergency aid operations.</p> <p>By [time indicator], [#of] [local DMC members] [at least #% women] know how to establish [recovery, rehabilitation, reconstruction, reactivation] plans.</p>

FAMILY 4: FOOD AND NUTRITION SECURITY

See: Indicators related to Sustainable Food and Nutrition Security, Welthungerhilfe, knowledgeXchange Unit, Manual No. 07, 2014

In addition indicators focused on availability of food (securing food production).

For 'Access to food': see families "Infrastructure" and "Local Economic Development"

For 'Use and utilization': see families "Empowerment" and "Infrastructure"

For 'Stability': see also "Empowerment" (and concept of sustainability)

Family 4.1 Availability of food	
Outcome Definitions	Outcome Indicators
Availability of food in [area] is guaranteed.	<p>By [time indicator], [#of] farmers implement land use plans based on risk assessments.</p> <p>By [time indicator], [#of] farmers apply sustainable land-use management techniques in [#%] of their agricultural land.</p> <p>By [time indicator], [#of] farmers have [secured the level of agricultural productivity (<i>comparing with baseline data</i>); incremented the agricultural productivity by #% (<i>comparing with baseline data or comparing with other farmers in the same area, who do not apply the same methods</i>)].</p> <p>By [time indicator], [#of] [families, households] report better livelihoods and diets in terms of diversity, quantity, and quality (due to secured availability of and access to food).</p> <p>By [time indicator], [#of] [farmers, families, households] conserve [crops, seeds] in a way that avoids storage losses due to effects of weather and climate change.</p>

Family 4.1 Availability of food: Access to resources	
Output Definitions	Output Indicators
Farmers in [area] have secured access to productive resources.	<p>By [time indicator], [#of] farmers (at least #% women) have got legal land right documents (<i>as a precondition for food stability and investments in soil conservation</i>).</p> <p>By [time indicator], [#of] farmers (at least #% women) have save [physical, social, economic] access and control over productive resources (land, seed, livestock, fishing grounds, agricultural inputs, water for irrigation and livestock, storing facilities, processing facilities, knowledge).</p>

Family 4.2 Protection of productive resources	
Output Definitions	Output Indicators
Natural resources	
Farmers in [area] are able to [protect, conserve] their natural resources.	<p>By [time indicator], [#of] farmers (at least #% women) know how to carry out [land use planning based on risk assessment, sustainable agriculture (plant and animal production) adapted to extreme weathers and climate change, water efficient irrigation, energy efficient devices, etc.].</p> <p>By [time indicator], [#of] farmers (at least #% women) have protected at least [#of] hectares [arable land, pasture] against [erosion, landslides, floods, etc.].</p>
Productive infrastructure	
[Farmers, cooperatives] in [area] are able to [reinforce, protect] their productive infrastructure.	<p>By [time indicator], [#of] [farmers (at least #% women), cooperatives] know how to carry out [protection, reinforcement] of [storage facilities, irrigation systems, green houses, processing facilities, stables, etc.].</p> <p>By [time indicator], [#of] [farmers (at least #% women), cooperatives] have [protected, reinforced] their [storage facilities, irrigation systems, green houses, processing facilities, stables, etc.] against [storm, heavy rains, floods, landslides, etc.].</p>

Family 4.3 Adapted agricultural methods	
Output Definitions	Output Indicators
Farmers in [area] are able to adapt [agriculture, animal husbandry, fishery] to extreme weathers and climate change.	<p>By [time indicator], [#of] farmers (at least #% women) know how to practise risk management of their property regarding extreme weathers and climate change.</p> <p>By [time indicator], [#of] farmers (at least #% women) have introduced adapted agricultural methods [slope protection, soil conservation, grassland conservation, agro-forestry, fodder production, cropping schedule, seed selection, eco-friendly fertilization and disease control, animal hygiene, upcoming plant and animal disease, etc.] in [#of] hectares of [agricultural land, pastures].</p> <p>By [time indicator], [project team, local veterinarian service] have carried out a livestock vaccination campaign.</p> <p>By [time indicator], [project team, local veterinarian service] have vaccinated [#of] head of animals against upcoming diseases due to climate change.</p>

Family 4.4 Harvest, post-harvest management and conservation	
Output Definitions	Output Indicators
[Farmers, community inhabitants] in [area] are able to reduce post-harvest losses.	<p>By [time indicator], [#of] [farmers, community inhabitants (at least %# women) know how to practise [proper harvesting, food and seed storage, food conservation, management of decentralized food warehouses, etc.] considering identified weather and climate hazards.</p> <p>By [time indicator], hazard resistant storage and conservation facilities [to be specified: e.g. #of containers / warehouses with a storage capacity #of tons or m³ each, #of salting / drying facilities with a productive capacity of #/year], established by [the project team, subcontractors, the beneficiaries], are operative.</p> <p>By [time indicator], [#of] community inhabitants (at least %# women) know how to use and maintain the established storage and conservation facilities.</p>

FAMILY 5: INFRASTRUCTURE

Outcome Definitions	Outcome Indicators
<p>The risk of loss and damages on infrastructure in [area] is reduced.</p> <p>Public infrastructures in [area] are accessible after extreme natural events.</p>	<p>By [time indicator], [local governments, private investors, families] take into consideration land use plans and building codes in [#%] of new constructions (<i>safe location, safe construction, and safe access</i>).</p> <p>By [time indicator], [#%] of community members have safe and protected access to public infrastructure (schools, health post, community centres, WASH facilities, market places, etc.) (<i>even after extreme natural events</i>).</p>

Family 5.1 Rules and regulations	
Output Definitions	Output Indicators
Preconditions to protect and reinforce infrastructures in [area] are established.	<p>By [time indicator], the project team has prepared the documentation for land use planning in [#%] communities based on risk assessments.</p> <p>By [time indicator], the number of land and building owners who hold legal property documentation (<i>as preconditions for investments to reinforce private buildings</i>) has increased by [#%].</p> <p>By [time indicator], the project team has disseminated established building codes (<i>for hurricane, flood or earthquake proofed construction</i>).</p> <p>By [time indicator], [#of] local [architects, builders, construction workers] know how to apply building codes, protection of infrastructure, and hazard resistant constructions.</p>

	By [time indicator], [#of] members of local market committees (at least #% women) [local governments, local market committees] have established a hygiene control mechanism for local markets.
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Family 5.2 Public infrastructure	
Output Definitions	Output Indicators
Public infrastructure in [flood, storm, earthquake] prone locations in [area] is [protected, reinforced].	<p>By [time indicator], [project team, beneficiaries, sub-contractors] has/have [protected, reinforced] [#of] public buildings [schools, health posts, community centres, market places, etc.].</p> <p>By [time indicator], [project team, beneficiaries, sub-contractor] has/have built [# meters of] contention walls for stabilization of [slopes, riverbanks, ponds, coastlines, etc.].</p> <p>By [time indicator], [project team, beneficiaries, sub-contractors] has/have [protected, reinforced] [# km of] roads and [#of] bridges [total longitude # meters] to be passable after [heavy rains, floods].</p> <p>By [time indicator], [project team, beneficiaries, sub-contractors] has/have [protected, reinforced] infrastructure facilities for [water supply, energy supply, communication systems, etc.].</p> <p>By [time indicator], [project team, beneficiaries, sub-contractors] has/have improved a drainage system for an area of [# square meters].</p>

Family 5.3 Private homes	
Output Definitions	Output Indicators
Inhabitants in [flood, storm, earthquake] prone locations in [area] are able to reinforce their homes.	<p>By [time indicator], [project team, beneficiaries, sub-contractors] has/have built [#of] pilot constructions in [storm, flood, cold, heat, earthquake] prone locations.</p> <p>By [time indicator], [#of] people know how to build in a hazard resistant way (<i>to be specified according the specific needs: storms, floods, cold waves, heat waves, earthquakes, etc.</i>).</p> <p>By [time indicator], [#%] inhabitants have made their homes resistant to [storms, floods, cold waves, heat waves, earthquakes, etc.].</p>

Family 5.4 Productive infrastructure

See families: “Food Security” and “Local Economic Development”.

Family 5.5 Water, sanitation and hygiene (WASH)

See: “WHH Wash Indicator Manual”, 2014

FAMILY 6: ENVIRONMENT

Outcome Definitions	Outcome Indicators
<p>The risk of environmental loss and damages in [area] is reduced.</p> <p>The pressure on natural resources in [area] is reduced.</p>	<p>By [time indicator], the [local government, line ministry] has created a protected area with an extension of # [km², hectares].</p> <p>By [time indicator], the [local government, line ministry] has established a mechanism for the (co-)management of the protected area.</p> <p>By [time indicator], the [local government, line ministry] and a local [NGO, CSO] have signed an agreement for co-management of the protected area.</p> <p>By [time indicator], [#of] [families/households] cover their needs in food, building material, energy carriers, and monetary income according to the established use rights.</p> <p>By [time indicator], [#of] [families/households] cultivate [#%] of their land according to the [established, agreed] criteria for sustainable agriculture.</p>

Family 6.1 Rules and Regulations	
Output Definitions	Output Indicators
<p>Preconditions to protect natural resources in [area] are established.</p>	<p>By [time indicator], the project team has prepared in a participatory way the required documents for the [declaration, establishment] of a protected area, based on risks assessments and land use plans.</p> <p>By [time indicator], the project team has disseminated the use rights agreed for the protected area.</p> <p>By [time indicator], the project team has prepared in a participatory way a [mechanism, agreement] for the (co-) management of the protected area.</p>

Family 6.2 (Co)Management of Protected Areas	
Output Definitions	Output Indicators

Family 6.3 Natural Resource Management	
Output Definitions	Output Indicators
<p>Local actors in [area] are able to undertake natural resource management.</p>	<p>By [time indicator], [#of] members of [communities, CSO, local government, etc.] (at least #% women) know how to practise [water shed management, soil conservation, pastureland management, erosion control, reforestation, forest management etc.].</p>

	By [time indicator], [project team, beneficiaries, sub-contractor] has/have [reinforced, established, planted, protected] [# meters of living fences, # of trees in # hectares, # meters of gullies, # meters of natural barriers, # hectares of mangrove forest, etc. – <i>please indicate and quantify the specific products to be created during the action</i>].
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Family 6.4 Ecosystem based Adaptation (EbA)	
Output Definitions	Output Indicators
Local actors in [area] know how to apply the EbA concept.	By [time indicator], [#of] members of [communities, local government, line ministries, etc.] (at least #% women) understand the concept of Ecosystem based Adaptation to climate change. <i>to be complemented</i>

Family 6.5 Ecosystem Services	
Output Definitions	Output Indicators

FAMILY 7: LOCAL ECONOMIC DEVELOPMENT

Outcome Definitions	Outcome Indicators
The structural vulnerabilities in [area] are reduced.	By [time indicator], the number of people classified as poor and very poor is reduced by [#%]. By [time indicator], [#of] [households, families] have reduced their [fire wood consumption, fuel consumption, electric energy] by [#%].

Family 7.1 Physical protection of productive infrastructure	
Output Definitions	Output Indicators
Entrepreneurs in [area] are able to protect their productive infrastructure.	By [time indicator], [#of] entrepreneurs have [protected, reinforced] their [factory buildings, workshops, warehouses, stores, etc.] against [flood, storm, etc.] in endangered locations.

Family 7.2 Risk sharing mechanisms / Micro insurance / Safety nets	
Output Definitions	Output Indicators
[Households, families] in [area] have access to [micro-insurance services, safety nets, indemnification funds].	By [time indicator], [#of] community inhabitants (at least #% women) know the advantages and disadvantages of accessible micro-insurance systems. By [time indicator], [#of] [local governments, communities] have established a system to [financially, materially] [support, indemnify] people affected by disasters.

Family 7.3 Income diversification	
Output Definitions	Output Indicators
[Families, households] in [area] are able to develop diversified livelihood strategies.	<p>By [time indicator], [#of] persons (at least #% women) know how to apply [diversified production, market mechanisms, employment opportunities, investment, saving strategies, etc.].</p> <p>By [time indicator], [income, employment] options for [#of] community members (at least #% women) have been increased by [strengthening value chains, identifying new opportunities].</p> <p>By [time indicator], the project team has supported the foundation of [#of] small and medium enterprises.</p> <p>By [time indicator], [#of] [farmers, entrepreneurs] (at least #% women) know the criteria of micro-finance services.</p> <p>By [time indicator], the number of women with access to financial services has increased by [#%].</p>

Family 7.4 Energy	
Output Definitions	Output Indicators
Households in [area] are able to use energy efficient devices.	<p>By [time indicator], [#of] community inhabitants, (at least #% women) know how to install, use and maintain [energy efficient stoves, wind mills, solar power facilities, hydro power facilities, energy sufficient system, etc.].</p> <p>By [time indicator], [#of] [energy efficient stoves, wind mills, solar and hydro power facilities, energy sufficient system, etc.] are operative.</p>

FAMILY 8: EDUCATION

Outcome Definitions	Outcome Indicators
Schools in [area] [support, promote] actions to strengthen resilience.	<p>By [time indicator], [#of] schools have included strengthening resilience in their curricula and teaching materials.</p> <p>By [time indicator], teachers and students of [#of] schools act in an adequate way during local simulation exercises.</p>

Output Definitions	Output Indicators
Teachers and students in [area] are able to support actions to strengthen resilience.	<p>By [time indicator], [#of] teachers (at least #% women) and [#of] students (at least #% girls) of [#of] schools know how to [establish school based contingency plans, protect school infrastructure, practise first aid and rescue, etc.].</p> <p>By [time indicator], at least [#of] schools have implemented [#of] activities for strengthening disaster preparedness based on the established school based contingency plans, with the participation of [#%] of teachers (at least #% women) and [#%] of students (at least #% girls).</p> <p>By [time indicator], a network of teachers and students for strengthening resilience is operative.</p>

ANNEX 1 DEFINITIONS

Alignment

Alignment, according to the Paris Declaration, means that transitional development assistance and development cooperation should support and complement the agenda of local partners and national development strategies.

Climate

Climate in a narrow sense is usually defined as the average weather, or more rigorously, as the statistical description in terms of the means and variability of relevant quantities over a period of time ranging from months to thousands or millions of years. The classical period for averaging these variables is 30 years, as defined by the World Meteorological Organization. The relevant quantities are most often surface variables such as temperature, precipitation and wind.

Climate Change Adaptation

Initiatives and measures to reduce the vulnerability of natural and human systems against actual or expected climate change effects.

Climate Change Mitigation

Technological change and substitution that reduce resource inputs and emissions per unit of output. Climate Change Mitigation means implementing policies to reduce greenhouse gas emissions and remove a greenhouse gas, an aerosol or a precursor of a greenhouse gas or aerosol from the atmosphere (sinks).

Connectedness

Connectedness is defined as the way how or extent to which different measures are linked. This definition is based on the LRRD (Linking Relief, Rehabilitation and Development) approach and relates to the concept of sustainability, and highlights the importance of linking short and medium-term actions to a long-term development goal.

Disaster

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

Disaster Risk Management

The systematic process of using administrative directives, organizations, and operational skills and capacities to implement strategies, policies, and coping capacities in order to lessen the adverse impacts of hazards and the possibility of disaster.

Disaster Risk Reduction

The concept and practice of reducing disaster risks through systematic efforts to analyze and manage the causal factors of disasters, including through reduced exposure to hazards, lessened

vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events.

Extreme weather event

An event that is rare at a particular place and time of year. The characteristics of what is called extreme weather may vary from place to place in an absolute sense. Single extreme events cannot be simply and directly attributed to anthropogenic climate change.

Hazard

A dangerous phenomenon, substance, human activity or condition that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage.

Preparedness

Preparedness is defined as the knowledge and capacities developed by governments, professional response and recovery organizations, communities and individuals to effectively anticipate, respond to, and recover from the impacts of likely, imminent or current hazard events or conditions.

Resilience

Resilience is the ability of people and institutions, whether individuals, households, local communities or nations, to cope with and recover quickly from shocks caused by fragile situations, violent conflict, economic crises or extreme natural events, and to adapt to chronic stress or transform their means of living and functions without compromising their medium and longer-term prospect.

Risk

The combination of the probability of an event and its negative consequences. The relation of risk to hazard may be expressed as: $Risk = f(\text{hazard, exposure, vulnerability})$. Based on this definition, a risk assessment includes both a hazard assessment and a vulnerability assessment.

Theory of Change

A Theory of Change is a specific and measurable description of a social change initiative that forms the basis for strategic planning, ongoing decision-making and evaluation. Like any good planning and evaluation method for social change, it requires participants to be clear on long-term goals, identify measurable indicators of success, and formulate actions to achieve goals.

Vulnerability

Vulnerability is the degree to which a system is susceptible to, and unable to cope with, adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of the character, magnitude, and rate of climate change and variation to which a system is exposed, its sensitivity, and its adaptive capacity.

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