



ACF-INTERNATIONAL **ENHANCING RESILIENCE TO SHOCKS AND STRESSES**

Briefing Paper
April, 2013





ACKNOWLEDGE

The author, Sandrine Roussy (DRM Advisor ACF-F), would like to acknowledge Frederic Ham (DRM Advisor, ACF-E), and Etienne Du Vachat (Food Security Advocacy Officer, ACF-F), for the considerable work carried out in initiating and contributing to the development of this document. The author would like to extend the thanks to Ioana Kornett (Scientific and Technical Director, ACF-F), Silke Pietzsch (Technical Director, ACF-US), and Morwenna Sullivan (Policy Advisor, ACF-UK) for their recommendations for improving the reflexion on resilience to disaster and climate change.

The author would like to thank all ACF missions, and external stakeholders who will use this briefing document to develop interventions on disaster risk reduction and climate change adaptation, while tackling underlying causes of risk and building resilience to people affected by hazards including climate-related hazards.

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In 2011, natural disasters affected more than 244 million, killed nearly 30,770 people and caused \$366 billion in damages. In addition in 2011 we faced the first famine of the 21st century in Horn of Africa. The frequency of natural and man-made hazards appears to be increasing over the coming decades and shocks and stresses will affect a large number of people all over the world¹. Further climate change is already taking place and magnifies the risk of climate-related disaster.

The impact of climate change is leading to increased risks of malnutrition and livelihoods insecurity, particularly amongst the most vulnerable and poorest people.

A shock is defined as a 'sudden event that impacts on the vulnerability of a system and its components'. In case of slow onset hazards is 'when the event passes its tipping point and becomes an extreme event.' A stress is a 'long-term trend that undermines the potential of a given system and increases the vulnerability of actor within it'².

The impacts of shocks and stresses at the community level depend of the intensity of the hazard, combined with the vulnerability and the capacity of those affected to cope with them.

$$\text{RISK} = \text{HAZARD} \times \frac{\text{VULNERABILITY}}{\text{CAPACITY}}$$

Disaster risk reduction (DRR) aims to minimize or avoid the losses caused by natural and man-made hazards, through preparedness, mitigation and prevention measures whilst working to build resilience.

Climate change adaptation (CCA) has for objective to develop actions to cope, evolve or profit from changes in climate. Adaptation is a process that implicates multiple stakeholders at different level, involving various sectors of intervention. It requires analysis of climate shocks and stresses of current and future exposures.

With more people than ever before affected by natural disasters, and an increasingly proportionate number of civilian victims suffering from violent conflict, ACF remains committed to responding to humanitarian crises.

ACF adopts a two pronged approach in responding to a humanitarian crisis. The twin track approaches focus to:

- **Address the urgent needs of those affected by disasters**
- **Build adaptive strategy through disaster risk reduction and climate change adaptation³.**

It is important to notice that the approaches are not dissociating one from the other. Building resilience to disaster of the individuals, households or communities requires simultaneous interaction to cover both urgent needs from shocks and permanent needs by targeting structural causes of vulnerabilities.

Additionally these parallel approaches contribute to strengthen the resilience of threatened populations, through the development of their capacity both at institutional and community level⁴.

1- UNISDR, 2012 - Annual Disaster Statistical Review 2011
2 - DFID, 2011 - Defining Disaster Resilience: a DFID approach paper
3 - ACFIN, 2010 - ACF International Strategy 2010 - 2015
4 - ACF-France, 2011 - Action Plan CAP 2015

WHAT IS RESILIENCE?

The concept of resilience is at the centre of the current debate amongst development and humanitarian actors. Resilience has been defined in various ways by combining keywords such as ability, mitigation, adaptation, recovery, shocks, stresses, address risks, vulnerability, but most of the elements have been identified and are comparable.

Resilience is the ability to cope with adverse shocks and stresses, and to adapt and learn to live with changes and uncertainty. The review of the literature notes that it is the **'ability to resist, recover from, or adapt to the effects of a shocks or a change'**⁵. Resilience is a long-term approach, not only focussed on the ability to bounce back but also integrating **adaptation and transformation while undergoing change**⁶.

Resilience can be understood as⁷:

- Capacity to **withstand or absorb** from sudden or chronic shock = **resistance**
- Capacity to **cope** with temporary disruption while **minimize** the damages and costs from hazard = **preparedness**
- Capacity to **restore or bounce back** after an event = **recovery**
- Capacity to **manage or maintain** basic functions and structures to become suitable for future situation = **adaptation**
- Capacity to **create opportunities to change** the abilities to take advantage of an adverse situation = **transformation**

Resilience has some limitations. Adaptation or transformation is not benefit to everyone. One of the major concerns is that resilience doesn't capture social dimensions and power relation within the community or at household's level. Moreover resilience is not directly related positively with well-being: some households may increase their resilience, but at the expense of their own well-being⁸.

Programming resilience will require better **articulation between humanitarian response and long-term intervention**, in order to address long-term stress and short term shocks. This interaction will need to **initiate multi-sectorial approach** at determined moment to ensure sustained development. For instance, integrated measures can be set up before a shock or stress that can be associated or may occur at different scale to reduce the effect of the event⁹.

DEFINITION OF RESILIENCE

'Disaster Resilience is 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 (DFID, 2011)¹⁰.

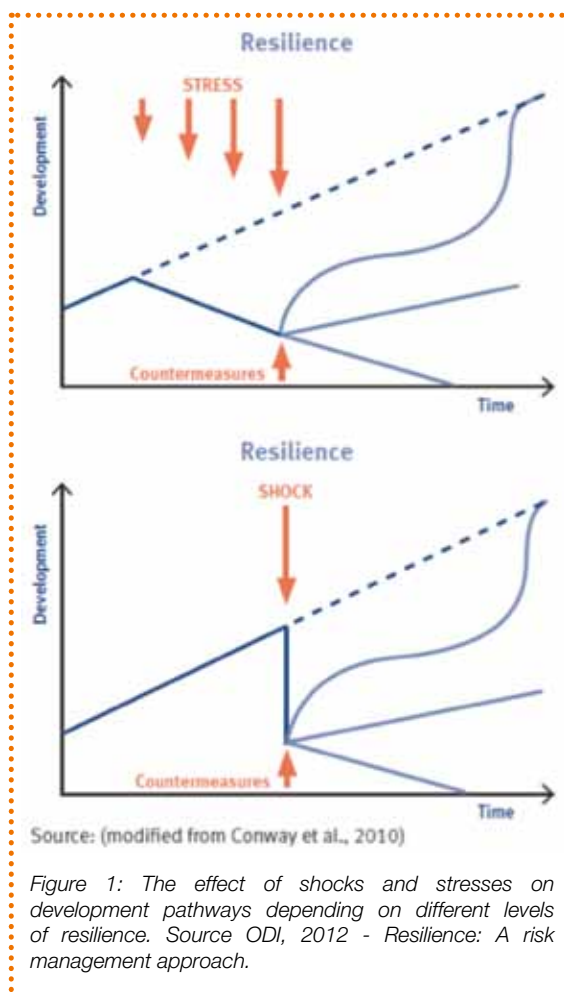


Figure 1: The effect of shocks and stresses on development pathways depending on different levels of resilience. Source ODI, 2012 - Resilience: A risk management approach.

5 - IDS, 2012 - Resilience: New Utopia or New Tyranny?
 6 - BC3, 2011 - Multidisciplinary perspectives on urban resilience
 7 - John Twigg, 2009 - Characteristics of a Disaster-resilient Community
 8 - IDS, 2013 - Making the most of resilience
 9 - ODI, 2012 - Resilience: a risk management approach
 10 - DFID, 2011 - Defining Disaster Resilience: A DFID Approach Paper



INDIVIDUAL, HOUSEHOLD, COMMUNITY OR SYSTEM

Resilience takes place at multi-level involving individual, household, community, system and/or society. ACF targets **individuals, households and communities** who are the first actors to be affected or those that do not have sufficient resources to cope with chronic or spontaneous events. Focus on resilience means to empower communities to use their own resources and strengthen their capacity to deal with shocks and stresses, rather than focussing on their vulnerability or their needs during an emergency.

However communities do not exist in isolation and their resilience will be influenced by external capacities from institutions, where ACF can interact by strengthening their abilities to better manage futures hazards.

MEASURING RESILIENCE

Disaster resilience can be measured through indicators or characteristics as part of the monitoring, evaluation and learning system. **Community resilience can be measured but any such measurement must be both location- and hazard-specific.**

According to 'Characteristics of a Disaster-Resilient Community'¹¹, disaster resilience has to be measured following the **five pillars mentioned in Hyogo Framework for Action 2005-2015.**

Process	Outcomes
Training and strengthening capacities	Hyogo Framework for Action:
Assessment of vulnerability and capacities	Risk governance
Preparedness and actions plans	Risk assessment
Community awareness	Knowledge and Education
Mitigation activities	Risk management and vulnerability reduction
Community early warning system	Disaster Preparedness and Response

Disaster resilience is measured based on characteristics rather than indicators. Characteristics are more equivalent to outcome used in project evaluation or output related to DRR activities. Indicators are measurable changes related to the input from a project.

Systematic monitoring against core indicators:¹²

- Process (progress of the project)
- Impact (achievement of outcomes)
- Direct or Indirect (proxy)
- Qualitative or Quantitative

Based on process and outcome indicators selected from the steps of the 'Integrated Community Based Risk Reduction approach' and key characteristics of disaster resilient communities, an Index for measuring disaster-resilient communities can be developed¹³.

11 - John Twigg, 2009 - Characteristics of a Disaster-resilient Community
 12 - OXFAM - Measuring the Impact of Disaster Risk Reduction: A Learning Companion
 13 - Shesh Kanta Kafle, 2011 - Measuring disaster-resilient communities

OPERATIONALIZE RESILIENCE TO DISASTER AND CLIMATE CHANGE

To move forward, disaster and climate resilience could be seen as an **integrated and multi-disciplinary approach** that allows more linkage between emergency response and long-term perspective.

ACF aims to **combine disaster risk reduction, climate change adaptation, natural resources management, and social protection with prevention of under-nutrition**. These thematic are developed via **community-led approach** that ensures the empowerment of communities in order to protect their lives and livelihoods from shocks and stresses.

1. Reduce disaster and climate change impacts: preparation and information management

ENHANCE PREPAREDNESS IN FACE OF SHOCKS AND STRESSES

Respond and mitigate the effects of shocks or stresses require preparedness mechanisms involving multiple stakeholders and at multiple level.

- **Strengthen capacities on preparedness** at mission's level and at headquarters to better prepare the response in partnership with all stakeholders acting in WASH, FSL, CPMH and Nutrition (e.g. Preparedness and Emergency response planning).
- **Establish multi-sectorial analysis** of the impact and threats of disaster and climate change on nutrition security to increase our understanding of the context and coping strategies set up by communities. Joint assessment, regrouping WASH, FSL, Nutrition and CPMH should be conducted, or at least each sectorial assessment should be analysed at the same time (e.g. multi-sector seasonal calendar tool, or participatory risk assessment).
- **Enhance institutions and community's preparedness** capacities to deal with disasters and food, water and nutrition crisis (e.g. national contingency planning).

STRENGTHEN UNCERTAINTY, FOOD AND NUTRITION SECURITY SURVEILLANCE AND EARLY WARNING SYSTEMS

Food security and nutrition surveillance systems have been conceptualized internally and implemented amongst communities and countries at risk of shocks and stresses. These systems have been used to inform or warn key actors and authorities about food and nutrition situations.

- **Link early warning information with internal preparedness and emergency response planning** to ensure early response mechanisms (e.g. flood early warning system).
- **Support food and nutrition surveillance and early warning systems** at local, national or regional levels. Further ensure monitoring of early warning information by governments (e.g. food price surveillance, admission of malnourished children in nutrition centre, prevalence of diarrheal surveillance, water table monitoring, etc.).
- **Increase skills of communities to better manage uncertainty and change** through the management of indigenous and external knowledge.
- **Converse skills and knowledge into learning, experimentation and innovation** (e.g. training on climate prediction)

- ACF Preparedness and Emergency response planning
- National or local contingency planning
- Community preparedness and response planning
- Multi-sector assessment
- Risk monitoring of secondary disasters or knock-on effects leading to other disaster
- Multi-sector Seasonal calendar tool
- Regional, national or community early warning system
- Seasonal weather forecasting
- Climate modelling
- Natural resources/urban planning projections
- Community surveillance for hazards and hunger linked to external forecasting
- Traditional preparation, coping and positive nutrition mechanisms
- Formation and training of disaster committees
- Community cross-learning on hazard-proofing/diversification of livelihoods
- Build knowledge and skills for a community 'culture of safety'

2. Reduce structural vulnerability to disaster and under nutrition

MANAGE RISKS AND ENHANCE COMMUNITY RESILIENCE

Communities strengthen collective action, equity and trust whilst diversifying livelihoods in an ecologically responsible way in order to reduce the risk of disaster and vulnerability to under-nutrition.

- **Set up multi-sectorial programming** combining DRR, CCA, social protection and prevention of malnutrition to enhance resilience of livelihoods system (e.g. participatory capacity and vulnerability assessment)
- **Ensure hazard-proofed** livelihoods and infrastructure (e.g. use of resistant seeds, or bank rice).
- **Promote healthy environment:** adequate access to health services, improvement of food production, better access to income and balanced diets, access to safe water, and use of knowledge promoted in households and communities linking with behaviour change (e.g. awareness on hygiene and care practices after a disaster).
- **Take account good practices and learning process** to scaling up risk management and resilience building activities (e.g. exchange field visit).

- Hazard resistant seeds, livestock and agriculture methods
- Education on food utilization, child and maternal health and care practices
- Education on hygiene and water-borne disease prevention
- Cash and food-based safety nets (social protection)
- Seed, cereal or fodder stock and banks
- Crop and livestock diversification
- Ecological agricultural and watershed management
- Culture of safety to reduce disaster risk

3. Enhance supports of communities by responsible and capable governance

EMPOWER CAPACITIES OF COMMUNITIES AND INSTITUTIONS

Focus on the improvement of developing positive link between authorities and the community, while empowering and reinforcing capacities of governance.

- **Establish or strengthen policy, capacities and mechanisms of coordination** prioritising under nutrition, disaster risk reduction and climate change adaptation, supported by institutions (e.g. jointly platform on DRR and CCA).
- **Engage community organizations with external actors** to promote community-based initiatives on disaster risk reduction and climate change adaptation (e.g. local development planning, and specific events)

CONDUCT ADVOCACY AND SHAPING POLICIES

Nutrition security in a changing climate and disaster prone areas has to be part of policy briefs, key risk management strategies and advocacy documents. On the opposite, climate related risks and the need for resilience has to be better considered by food security and nutrition agendas.

- **Support advocacy campaigns** that highlight key issues and needs of the most vulnerable to disaster and under nutrition.

- Community-local government events
- Support of community consultation on government development planning
- Upgrading technical capacity of local institutions
- Promoting the integration of disaster, climate change and under nutrition issues into national and regional development sectors policies and strategies
- Prioritisation of DRR in resourcing and the improvement of disaster management to facilitate an early response to crisis
- Scaling up of seasonal social protection and preparation for under nutrition peaks

ADVOCATE FOR RESILIENCE

Following the crises in Horn of Africa and Sahel regions, ACF has developed an important expertise in the fight against hunger and under-nutrition in many countries. With this invaluable field experience, based on recognized technical competencies, we know that each area and each region are specific, that the local causes of under-nutrition are different from one place to another and that there is not “one size fits all” solution against hunger.

KEY MESSAGES ON ADVOCACY

- Tackling the root causes of food crises and not just their symptoms
- Integrating contingency into development schemes and increasing the sustainability of humanitarian interventions
- Measuring resilience : hunger and under-nutrition as key progress indicators
- Acting for resilience: targeting vulnerability
- Combating high and volatile food prices
- Ambitious national social protection schemes
- A multi-sectorial approach to prevent under-nutrition
- Bridge the institutional gap between humanitarian and development actors
- Additional funding are needed over the long-term
- A sustained high level political will



CASE STUDIES

1. To be better prepared for emergency response

INDONESIA: PREPAREDNESS AND EMERGENCY RESPONSE PLAN

The preparedness and emergency response plan is a tool to ensure a rapid, appropriate, efficient and effective response to save lives in case of large scale disasters, while preparing in prior ACF's emergency response.

Analysis of risk: Indonesia is a country prone to several natural hazards; and population is highly risk to floods, landslides, earthquake, volcanoes, tsunami, and drought. National authorities and local organisations are well organised and have resources to respond to small-scale emergencies.



Response plan: considering priorities and hazards ranking, ACF focusses on floods, earthquakes and tsunamis. The response will be address during medium and large scale disasters, in particular in remote areas where it has an added value in comparison to other agencies. ACF has capacity to implement WASH and FSL programmes with partnerships.

Likelihood	Very low	Low	High	Very High	
↑		Landslide		Floods Earthquake	Frequent or very likely
		Volcano			Moderate or likely
	Drought		Tsunami		Occasional slight chance
					Unlikely improbable
					Highly unlikely rare event
					Very rare event
					→ Severity

2. To better understand coping mechanisms of community

GEORGIA: BUILD DISASTER RISK REDUCTION AND RESILIENCE THROUGH PARTICIPATIVE PROCESS

The participatory capacity and vulnerability assessment (PCVA) is an investigative methodology that uses a variety of qualitative participatory tools to engage local stakeholders in their own disaster risk and vulnerability diagnosis.

Through participative approach, it aims at reinforcing the capacities and knowledge of the communities toward disaster risks. Upon this it helps identifying the means and opportunities that could be used to reduce vulnerability and increase the resilience of the communities in front of disaster and support the prioritization of means that would allow mitigating or avoiding the effects of disasters amongst communities with the support of governmental authorities.



3. To enhance community's preparedness

ETHIOPIA: COMMUNITIES BECOME PREPARED TO RESPOND TO FUTURE EFFECTS OF DROUGHT

Through community based disaster risk management approach, the most vulnerable people increase their capacity to be better prepared in case of drought thanks a community preparedness plan. The plan integrates a range of activities that can be done to respond and mitigate future risks according to the capacities of the communities (e.g. identification wet and dry season grazing area, early warning system, bush clearing, water point's rehabilitation etc.).

By identifying the risks and the actions that can reduce these risks, communities had the opportunities to increase their decision making processes to local authorities. Government officials have the responsibility to minimize casualties and structural damages in their area. The way forward will be to funds appropriate measures through local development plan taking into account community preparedness plan.



4. To reduce the risk whilst diversifying livelihoods

BURKINA FASO: RECOVERY SUPPORT TO PEOPLE AFFECTED BY FLOODS, AND FOR ADAPTATION TO CLIMATE-RELATED HAZARDS

2010 floods caused structural damages and human losses in the East Region of Burkina Faso. Humanitarian organizations have responded with emergency support and long-term assistance in risk reduction measures. During this first year of the programme, ACF emphasised on infrastructure rehabilitation activities, whilst developing risk reduction initiatives to deal with climate-related hazards. Moreover economic support has been launched amongst the most vulnerable. For instance, water points have been built at community level, and smallholders have received improved seeds or livestock. In order to limit the degradation of soil and increase crop yield, lands have been rehabilitated through cash-for-work activities.

Through knowledge and education awareness on disaster risk reduction and climate change adaptation, community and local institutions acquired skills to be better prepared from, respond to and mitigate climate-related hazards.





5. To reduce vulnerability through disaster risk reduction

PAKISTAN: IMPROVE CAPACITY TO REDUCE THE EFFECT OF FLOODS THROUGH MITIGATION MEASURES

Pakistan has experienced large-scale internal displacement caused by a range of natural and human-made disasters. Since 2011, ACF carried out a DRM project to reduce morbidity and mortality risk by improving community resilience to natural disasters.

More than 50,000 persons have benefited to structural measures such as small-scale irrigation channels for agriculture, rehabilitation of water and sanitation facilities, retaining and flood protection walls, and hazards proof water supply schemes that mitigate the effects of floods.

Furthermore software activities, like local early warning system, village disaster management plans, and awareness campaign at school, strengthen capacities of communities to be better prepared to floods, and enhance the sustainability of the project.



6. To increase community's skills to better manage risk, uncertainty and change

PHILIPPINES: MULTI-HAZARD MAPPING USING GEOGRAPHIC INFORMATION SYSTEM

Hazards like typhoon, landslide, flood, storm surge, tsunami, and earthquake poses risks to life, property and livelihood compounded by physical exposure and proximity to hazard-prone areas, socio-economic, cultural and behavioural conditions.

An integral part of disaster risk reduction undertaken by this project is the Geographic Information System (GIS). Combination of spatial analysis and local knowledge of communities are essential inputs in producing multi-hazard maps. Local knowledge of communities is gathered through Participatory Capacity and Vulnerability Assessment (PCVA) where community members develop community hazard and resource maps. The availability of reliable multi-hazard maps are important risk assessment tools providing relevant information essential for community planning and decision making, especially in emergency response, and disaster preparedness and mitigation.



7. To support early warning system to enhance livelihoods of the communities

GUATEMALA – NICARAGUA: USING SENTINEL SITES TO PRESERVE AND STABILIZE THE LIVELIHOODS OF THE COMMUNITIES IN REMOTE AREAS.

The Sentinel Sites aim at gathering and generating relevant information from and for populations in order to alert decision makers, at local and national level to ensure proper forecast and appropriate response to prevent deaths and hunger outbreaks during food shortages.

The Sentinel Sites focus on analysing socio-economic and climate related variables at a local/municipal level, thus, improving decision making processes in relation to its various levels.

In addition to their “early warning” purpose, the Sentinel Sites also serve to strengthen institutions and advocacy groups as well as increase the involvement of the affected population to reduce their vulnerability toward disaster risks.

In 2012, the Nicaraguan authorities announced the endorsement of the methodology to be adapted to their national system.



8. To empower capacities of governance

HAITI: COMMUNITIES AND INSTITUTIONS ARE ORGANIZED IN A PLATFORM TO FORMULATE STRATEGIES FOR DISASTER PREPAREDNESS AND FOR RESILIENCE TO SHOCKS

Because of its location bringing degraded watershed in the sea front, almost all Gonaives city is an area at high risk of floods, and landslides. More spontaneous hazards such as earthquake and cyclones are added to these recurring risks. Face to these multiple hazards, national and local institutions do not have clear strategy on disaster risk management, and their capacities allowed partial response to prepare and mitigate risks. To cover these weaknesses, ACF developed a programme focussing on building capacities of local institutions.



This programme includes:

- Enhancing links between communities and government for identification of risks and decision making through creation of platform
- Strengthening knowledge and skills on preparation, response and mitigation of disaster risks for members of the platform
- Strengthening the resilience of communities through a better understanding and recognition of risk factors

9. To monitor, analyse and anticipate disaster risks

MALI-NIGER: ANALYSING OF PASTORAL RESOURCES AND ASSESSING PASTORAL VULNERABILITY IN SAHEL THANKS TO PASTORAL EARLY WARNING SYSTEM (PEWS).

The Pastoral Early Warning System (PEWS) is a series of GIS based tools aiming at supporting the analysis of the available pastoral resources and assessing the vulnerability of pastoralists in Sahel.

The PEWS has been gradually improved from 2000 to 2011 and is now fully functional to support assessing and targeting the pastoral vulnerability in Sahel. Using GIS and Remote Sensing products to monitor pastoralists' vulnerability has proven to be a strategic and successful initiative, combining the three major components of pastoral livelihood into the system, namely: pasture production, water availability and livestock movements.



The system has been transferred to national authorities in Mali and Niger through capacity building and institutional support and is now considered as one of the reference in the region.

Presently, the system is still being developed and to be replicated in other countries in Sahel through local, regional and international partnerships.

REFERENCES

Action Contre la Faim International (ACF-IN), 2010. ACF International Strategy 2010 – 2015

Action Contre la Faim (ACF-France), 2011. Action Plan CAP 2015

Basque Centre for Climate Change (BC3), 2011. Multidisciplinary perspectives on urban resilience. Edited by Chelleri L. and Olazabal M. A workshop report.

Department for International Development (DFID), 2011. Defining Disaster Resilience: a DFID approach paper. UK: London.

Institute of Development Studies (IDS), 2013 – Making the most of resilience. Christophe Béné, Andy Newsham and Mark Davie. In focus policy briefing paper 32.

Institute of Development Studies (IDS), 2012 - Resilience: New Utopia or New Tyranny? Reflection about the Potentials and Limits of the Concept of Resilience in Relation to Vulnerability Reduction Programmes. Christophe Béné, Rachel Godfrey Wood, Andrew Newsham and Mark Davies. Working paper.

Intergovernmental Panel on Climate Change (IPCC), 2001. A Report of Working Group II, Climate Change 2001: Impacts, Adaptation, and Vulnerability, McCarthy, J.J. Canziani, O.F. Leary, N.A. Dokken, D.J. White, K.S. (eds) Cambridge, UK: Cambridge University Press

John Twigg, 2009 - Characteristics of a Disaster-resilient Community. A Guidance Note. University College London.

ODI 2012 – Resilience: a risk management approach. Background note

OXFAM - Measuring the Impact of Disaster Risk Reduction: A Learning Companion. Oxfam Disaster Risk Reduction and Climate Change Adaptation Resources.

Shesh Kanta Kafle, 2011 - Measuring disaster-resilient communities: A case study of coastal communities in Indonesia. Canadian Red Cross. Journal of Business Continuity & Emergency Planning Volume 5 Number 3

United Nations International Strategy for Disaster Reduction (ISDR), 2009. Terminology on disaster risk reduction. Switzerland: Geneva

United Nations International Strategy for Disaster Reduction (ISDR), 2012. Annual Disaster Statistical Review 2011. The numbers and trends. Debby Guha-Sapir, Femke Vos, Regina Below with Sylvain Ponsérre. Coordination with Centre for Research on the Epidemiology of Disasters (CRED), Institute of Health and Society (IRSS) and Université catholique de Louvain – Brussels, Belgium.



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