



# The role of local institutions in reducing vulnerability to recurrent natural disasters and in sustainable livelihoods development

Philippines

# The role of local institutions in reducing vulnerability to recurrent natural disasters and in sustainable livelihoods development

Philippines

Prepared by the  
**Asian Disaster preparedness Center**  
Under the overall technical guidance  
and supervision from Stephan Baas  
Rural Institutions and Participation Service  
FAO Rural Development Division

The Institutions for Rural Development Series includes four categories of documents (Conceptual Notes, Guidelines, Case Studies, Working Papers) aiming at supporting efforts by countries and their development partners to improve institutions, be they public, private, centralized or decentralized.

The designations employed and the presentation of material in this information product do not imply the expression of any opinion whatsoever on the part of the Food and Agriculture Organization of the United Nations concerning the legal or development status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

ISBN 978-92-5-105636-3

All rights reserved. Reproduction and dissemination of material in this information product for educational or other non-commercial purposes are authorized without any prior written permission from the copyright holders provided the source is fully acknowledged. Reproduction of material in this information product for resale or other commercial purposes is prohibited without written permission of the copyright holders. Applications for such permission should be addressed to:

Chief

Electronic Publishing Policy and Support Branch  
Information Division

FAO

Viale delle Terme di Caracalla, 00153 Rome, Italy

or by e-mail to:

[copyright@fao.org](mailto:copyright@fao.org)

© FAO 2006

## PREFACE

The Global data show that natural hazards are increasing in frequency and intensity. Recurrent natural disasters such as droughts, floods, and tropical storms have devastating impacts on the agriculture, livestock and fisheries, threatening the livelihoods of hundred thousands of rural people.

On the occasion of the World Conference on Disaster Reduction in Kobe, Japan (WCDR January 2005) governments, UN agencies and civil society strongly called for moving from concept to concrete action in disaster risk reduction. Building on the recommendations of the WCDR the General Assembly Resolution (March 2005) on ‘International Cooperation on Humanitarian Assistance in the Field of Natural Disasters, from Relief to Development’ calls upon all States to adopt, and requests the international community to continue to assist developing countries, appropriate measures to mitigate the effects of natural disasters and integrate disaster risk reduction strategies into development planning. Generally the WB estimated that economic losses worldwide in the 1990s could have been reduced by US\$280 billion if US\$40 billion had been invested in preventive measures, indicating a cost/benefit ratio equal to 7.

The Rural Institutions and Participation Service of FAO, SDAR, supports the view that “effective integration of disaster risk reduction into development, notably through strengthening the role and performance of rural institutions, will help transform ‘vicious’ spirals of failed development risk accumulation and disaster losses into ‘virtuous’ spirals of development risk reduction and effective disaster response”.

The service tackles the topic of disaster risk management and its link to development from an institutional perspective, and more specifically within the context of ongoing decentralization processes. The working approach is built on the premises that the sound understanding of existing institutional capacities and possible gaps and the comparative strengths of different actors in DRM, particularly at decentralized levels, are key entry points for a successful shift from reactive emergency relief operations towards long-term disaster risk prevention and preparedness, as well as for the integration of disaster risk management into regular development planning. Over the last years SDAR has been and is implementing a range of field projects and normative activities in the areas of risk management and disaster preparedness. A specific programme focused on studying the “The role of local level institutions in reducing vulnerability to natural disasters”, which has been implemented in collaboration with a range of partners including the Asian Disaster Preparedness Centre (ADPC), University of Cape Town (UCT), The World Food Programme (WFP), and several NGOs as well as local government representatives. This case study on the Philippines was commissioned in this context among other case studies. Its in-depth look at the situation in a disaster-prone area of The Philippines contributes to the understanding of the impact of local institutions in the design and implementation of disaster risk management strategies, as well as the role of local authorities in building community social capital for disaster prevention and preparedness. This understanding will provide insight and guidance on how disaster risk management may be integrated into development strategies.

## TABLE OF CONTENTS

<b>INTRODUCTION .....</b>	<b>VII</b>
<b>1.1 Background .....</b>	<b>vii</b>
<b>1.2. Conceptual frame work and key definitions .....</b>	<b>vi</b>
 <b>THE ROLE OF LOCAL INSTITUTIONS IN REDUCING VULNERABILITY TO NATURAL DISASTERS, AND LONG-TERM SUSTAINABLE LIVELIHOOD DEVELOPMENT IN HIGH RISK AREAS</b>	 <b>1</b>
<b>2.1 Philippine Hazard and Disaster Situation .....</b>	<b>1</b>
<b>2.2 Study area profile .....</b>	<b>2</b>
2.2.1 Iloilo Province .....	2
2.2.2 Dumangas Municipality .....	4
2.2.3 Study Sites: Balud, Maquina, Barasan .....	7
<b>2.3 Hazard profile.....</b>	<b>7</b>
<b>2.4 Vulnerability profile .....</b>	<b>10</b>
2.4.1 Balud .....	10
2.4.2 Maquina .....	12
2.4.3 Barasan .....	13
2.4.4 General vulnerability features .....	13
<b>2.5 Disaster risk management .....</b>	<b>14</b>
2.5.1 Local institutions involved in DRM .....	14
2.5.1.1 <i>Social institutions in the community</i> .....	14
2.5.1.2 <i>Non-governmental organizations (NGOs)</i> .....	16
2.5.2 The National Disaster Risk Management System .....	19
2.5.3 DRM coordination at municipality level and below .....	26
2.5.3.1 <i>The Municipal Disaster Coordinating Council (MDCC)</i> .....	26
2.5.3.2 <i>The Municipal Disaster Preparedness Plan</i> .....	28
2.5.3.3 <i>The Barangay Disaster Coordinating Council (BDCC)</i> .....	28
2.5.4 DRM resource mobilization at local levels .....	29
2.5.4.1 <i>Financial Resources</i> .....	29
2.5.4.2 <i>Relief Goods</i> .....	30
2.5.5 Disaster risk management tasks pursued by the municipality	30
2.5.6 Disaster risk management in the study sites	31
2.5.6.1 <i>Balud</i> .....	31
2.5.6.2 <i>Maquina</i> .....	33
2.5.6.3 <i>Barasan</i> .....	33
<b>2.6. Risk Profile.....</b>	<b>34</b>
2.6.1 Community perception of risk .....	34
2.6.1.1 <i>Typhoon and flooding</i> .....	34
2.6.1.2 <i>Drought</i> .....	35
2.6.2 Environmental Issues .....	35

**LOCAL INSTITUTIONS RESPONSE TO RECENT NATURAL HAZARDS ..... 36**

<b>3.1</b>	<b>Hazard events – 1990 and 2000</b> .....	36
3.1.1	Typhoon Ruping, November 1990.....	36
3.1.2	Typhoon Ulpiang, December 2000.....	36
3.1.3	Local Institutional Response.....	38
<b>3.2</b>	<b>Hazard events – 2001 and 2003</b> .....	42
3.2.1	Typhoon Nanang, November 2001 .....	42
3.2.2	TyphoonCHEDENG, May 2003 .....	43
3.2.3	Institutional responses .....	45
3.2.4	Household responses.....	46
3.2.5	Household adaptive capacity .....	46

**ROLE OF LOCAL INSTITUTIONS IN MANAGING RECENT DISASTERS – AN ASSESSMENT ..... 47**

<b>4.1</b>	<b>Evolution of institutional response</b> .....	48
4.1.1	Developments up to 1990s .....	48
4.1.2	Developments during early 1990s.....	48
4.1.3	Developments since late 1990s 49	
<b>4.2</b>	<b>Recovery, mitigation and prevention – gaps</b> .....	51
4.2.1	Recovery from disaster .....	51
	4.2.1.1 <i>Rehabilitation of agriculture</i> .....	51
	4.2.1.2 <i>Rehabilitation of most vulnerable households</i> .....	51
4.2.3	Reconstruction .....	52
4.2.4	Prevention and mitigation .....	52
<b>4.3</b>	<b>Recent initiatives of local government</b> .....	53
4.3.1	Use of Climate Information .....	53
4.3.2	Community-based Flood Forecasting and Warning .....	54
4.3.3	Public Awareness .....	54
4.3.4	Mitigation and prevention .....	55
<b>4.4</b>	<b>Constraints to undertaking prevention and mitigation measures</b> .....	55

**CONCLUSIONS AND LESSONS LEARNED..... 58**

## INTRODUCTION

### 1. 1 Background

The Philippines is one of the most disaster-prone countries in the world due to its geo-physical location and socio-economic conditions. The Dumangas Municipality in Iloilo Province of the Philippines was chosen for this case study because of its vulnerability to climatic hazards such as typhoons, floods and droughts. The study analyzes the role of local institutions in disaster management, looking specifically at response to recent natural hazards.

In the Iloilo area, most vulnerable people have livelihoods so fragile and delicately balanced that even a minor shock can endanger household security. Although the distinction is not always clear, it is useful to distinguish between household-specific, “idiosyncratic” shocks and community, “covariant” shocks.

When social mechanisms work well, household shocks, such as the illness or death of a breadwinner or the theft of livestock, may not require outside intervention. However, community shocks such as widespread crop failure due to natural hazards can affect everyone in the community to some degree and would require outside intervention. Hence, the role of community-based institutions in assisting communities to prepare for, respond to and recover from natural hazard-associated shocks becomes significant.

This study is based on the premise that successful disaster risk mitigation and management as well as successful rural development require strong links between central government line ministries and departments and local actors such as traditional authorities and civil society. It also takes into consideration the comparative advantage of coordinating and decentralizing actions and resources through local actors who bring local perspectives into policy-making, planning and implementation of rural development activities. In addition, through two-way communication with higher policy levels, local actors can participate in mobilizing local participation, with conscious links to the reconstruction, prevention and preparedness phases of disaster risk management and handling emergencies at the local level.

### 1.2. Conceptual frame work and key definitions

The definition and conceptual framework adopted are the following.

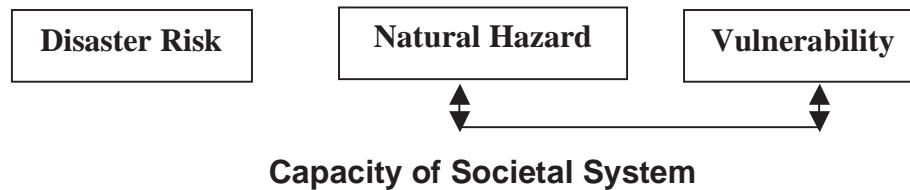
**Natural hazard:** Potentially damaging natural phenomenon.

**Vulnerability:** Propensity of a society to experience damage, disruption and casualties as a result of a hazard.

**Disaster risk:** Function of probability of the specified natural hazard event and vulnerability of societal systems.

**Capacity:** Ability of policies and institutional systems at the national and local household levels to reduce damaging potentials of hazards and reduce vulnerability.

Natural hazards such as earthquakes, hurricanes, floods and droughts spring to mind when the word *disaster* is mentioned. However, they themselves are not the disasters; they are the events, the natural *agents* that transform a vulnerable human condition into a disaster. Disaster risk is a sum of the frequency and intensity of hazards and the vulnerability of livelihood systems. In terms of community resilience and management systems, societal systems potentially can alter the hazard characteristics and reduce vulnerability through systematic interventions. Hence, the capacity of societal systems can act as a denominator in the disaster risk equation to determine the levels of risks, as illustrated in the figure below.



**Methodology:** The following methodology was used for the case study.

- Information gathering on the types of organizations and committees existing at the local level, their resources and the risk prevention activities they undertake. This included assessing minutes of meetings and government records and reports.
- Focus group discussions with disaster victims on their experiences, their perceptions and definition of risk, the resources at their disposal, including social capital, and their capacity to manage risks.
- Interviews with the local government unit at the municipal and *barangay* (village) levels, chief of the Punong *barangays*, head of the irrigators association and other stakeholders, highly vulnerable groups in the selected sites, and provincial and national government officials.

Dumangas municipality was selected because the area deals frequently with floods, typhoons and drought. Its Disaster Coordinating Council received a Presidential Award in 2003, because of its achievement in institutionalizing disaster preparedness and emergency response. The three individual Dumangas *barangays* selected for the study each has a different natural hazard risk level: Balud, in a low lying area, is exposed to typhoon flooding every other year; Maquina, in an elevated area, is exposed to typhoon flooding every three to five years; and Barasan, located in less flood prone area, is relatively safe although it could face damage from typhoons every 15 to 20 years.

Analysis of the information gathered was undertaken within the following framework.

**Assessment:** Assessment was made of the existing framework within the selected communities including the nature, constraints, incentives and capacities of the existing institutions.

- **Review:** Review was conducted on three levels, looking at: prevention and preparedness – the process of social capital consolidation and institutional capacity building in of hazards;



response and recovery – the role of social capital and institutions in managing an emergency after the impact of the hazard and how that role can be strengthened during the prevention and preparedness phases;

comparative advantages – the roles of decentralized, local-level, trans-sectoral and multidisciplinary institutions vis-à-vis central, sector-specific, mono-disciplinary institutions in dealing with both pre- and post-impact aspects of the hazard.

- **Identification:** Identification of participatory approaches, concrete actions and possible institutional innovations that have strengthened or will strengthen local capacities for disaster risk management and long-term development in high risk areas.

### **Structure of the Report**

The report is presented in four main sections. The first section provides an overview of local institutions, hazards, vulnerability and disaster management and risk dimensions. The second section looks at the roles played by local institutions in managing the typhoon and floods of 2000 and the 2003 floods, followed by a section presenting an assessment of the role of local institutions in managing disasters. The final section summarizes the overall findings into conclusions and lessons learned. .