

FAO LAND TENURE MANUALS

3

Assessing and Responding to Land Tenure Issues in Disaster Risk Management



Assessing and Responding to Land Tenure Issues in Disaster Risk Management

Training Manual

David Mitchell

**With the supervision of
Adriana Herrera Garibay**

ROME, 2011

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Preface

Since 2007, FAO, UN-HABITAT and the Early Recovery Cluster of the UN Inter-Agency Standing Committee (IASC)¹ have produced several publications on methodologies, approaches and lessons learned to address land tenure and natural disasters. These publications are the result of a coordinated effort to address land tenure issues after natural disasters within the framework of the IASC.

In 2007 UN-HABITAT initiated the formulation of a holistic framework to address land issues, from the aftermaths of a natural disaster through the early recovery and reconstruction phases. This framework, developed in collaboration with FAO, was integrated into the guidelines for practitioners published by UN-HABITAT in 2010.²

As part of the same inter-Agency effort, in 2010 FAO published “On Solid Ground”,³ a series of six national briefs dealing with natural disasters that have occurred in the past ten years and the land tenure lessons learned in each country. Following the same lines of inter-Agency work, in January 2011 FAO published “Addressing Land Tenure in Countries Prone to Natural Disasters”,⁴ an in-depth analysis of land tenure issues in the framework of natural disaster policies and programmes in four countries: Bangladesh, Ecuador, Mozambique and the Philippines.

In addition to its Inter-Agency work, an FAO group working with Disaster Risk Management (DRM) has been developing practical tools to guide the analysis of national, district and local institutional systems for DRM and provide appropriate demand-responsive capacity-building alternatives. These methods and tools are based on field experiences and use a sustainable livelihoods approach. They were published by FAO in 2008 in the guidebook “Disaster risk management systems analysis.”⁵

After reviewing all of these publications, FAO and UN-HABITAT agreed on the importance of producing training modules that could be used either in land tenure and natural disaster training activities, or as

1. The IASC is the main mechanism for inter-Agency coordination for humanitarian assistance. It is comprised of nine full-member UN Agencies and nine standing invitee international agencies working on emergency operations and human rights.

2. UN-HABITAT, FAO, IASC Early Recovery Cluster, Global Tools Network. Land and Natural Disasters. Guidance for Practitioners. UN-HABITAT, Geneva, June 2010.

3. FAO, UN-HABITAT, IASC Early Recovery Cluster, Global Tools Network. On Solid Ground. FAO, Rome, March 2010. Re-printing, January 2011.

4. FAO, UN-HABITAT, IASC Early Recovery Cluster, Global Tools Network. Land Tenure and Natural Disasters. Assessing Land Tenure in Countries Prone to Natural Disasters. FAO, Rome, January 2011.

5. FAO. Disaster Risk Management Systems Analysis. A Guide Book. FAO, Rome, 2008.

a user-friendly self-training instrument. The present “Training Manual for Assessing and Responding to Land Tenure Issues in Disaster Risk Management” is the result.

The Manual was developed by David Mitchell, under the supervision of Adriana Herrera, and edited by Brett Shapiro.

David Mitchell is the Director of the Land Centre at the School of Mathematical and Geospatial Sciences at RMIT⁶ University in Melbourne, Australia. His expertise in natural disaster analysis derives from his experience as an international consultant, and from his role in organizing a “Climate Change and Land Tenure” session in the workshop “Small Island Developing States and the Millennium Development Goals” that took place within the International Federation of Surveyors (FIG) World Congress in 2010.⁷ David is also co-chair of the International Federation of Surveyors Commission 7, Working Group 7.2, “Land Administration, Natural Disasters and Climate Change”. He has been a Visiting Expert in FAO in 2009.

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The Manual has benefited from valuable comments from Stephan Baas from the Natural Disaster Risk Management group in FAO, the FAO Emergency Unit, the World Bank and UN-HABITAT. The layout was created by Claudia Tonini.

Rome, March 2011

Paul Munro-Faure
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6. Royal Melbourne Institute of Technology.

7. XXIV FIG International Congress. Sydney Australia, 11 – 16 April, 2010.

Acronyms

ACM	Alternative conflict management
BPN	Badan Pertanahan Nasional
CRED	The Centre for Research on the Epidemiology of Disasters
CSO	civil society organization
DFID	UK Department for International Development
DLA	Detailed Livelihood Assessment
DRM	disaster risk management
DRR	disaster risk reduction
EM-DAT	Emergency Events Database
FAO	Food and Agricultural Organization of the United Nations
HFA	Hyogo Framework for Action 2005-2015
IDP	internally displaced persons
ILIA	Initial Livelihood Impact Appraisal
ILO	International Labour Organization
IPCC	Intergovernmental Panel on Climate Change
LAT	Livelihood Assessment Toolkit
NGO	non-governmental organization
OCHA	UN Office for the Coordination of Humanitarian Affairs
SEAGA	Socio-economic and gender analysis
SIDS	small island developing states
SLA	sustainable livelihoods approach
UNDAC	United Nations Disaster Assessment and Coordination
UNFCCC	The United Nations Framework Convention on Climate Change

Glossary¹

Adaptation

The adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities. Adaptation can occur in an autonomous fashion, for example through market changes, or as a result of intentional adaptation policies and plans. Many disaster risk reduction measures can directly contribute to better adaptation.

Climate change

The United Nations Framework Convention on Climate Change (UNFCCC) defines climate change as “a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods”.

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

The potential disaster losses – in lives, health status, livelihoods, assets and services – which could occur to a particular community or a society over some specified future time period.

Disaster risk management

The systematic process of using administrative directives, organizations, and operational skills and capacities to implement strategies, policies and improved 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 analyse 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.

1. This glossary has been adapted from the following sources:
UNISDR. *Terminology on disaster risk reduction* (2009).
Inter-agency. *Handbook on housing and property restitution for refugees and displaced persons: Implementing the ‘pinheiro principles’*, FAO/IDMC/OCHA/OHCHR/UN-HABITAT/UNHCR (2007).
UN ECE. *Land administration guidelines with special reference to countries in transition* (1996).
FAO. *Multi-lingual thesaurus on land tenure* (2003).
UN-HABITAT. *Handbook on best practices, security of tenure and access to land* (2003).

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.

Hydrometeorological hazard

Process or phenomenon of atmospheric, hydrological or oceanographic nature 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. Hydrometeorological hazards include tropical cyclones (also known as typhoons and hurricanes), thunderstorms, hailstorms, tornados, blizzards, heavy snowfall, avalanches, coastal storm surges, floods including flash floods, droughts, heatwaves and cold spells. Hydrometeorological conditions also can be a factor in other hazards such as landslides, wildfires, locust plagues and epidemics, and in the transport and dispersal of toxic substances and volcanic eruption material.

Land access

Opportunities for temporary or permanent use and occupation of land for purposes of shelter, productive activity or the enjoyment of recreation and rest. Land access is obtained by direct occupation, by exchange (purchase or rental), through membership of family and kin groups or by allocation by government, other land owners or management authorities.

Land administration

The processes of determining, recording and disseminating information about the ownership, value and use of land when implementing land management policies.

Land rights

Socially or legally recognized entitlements to access, use and control areas of land and related natural resources.

Land tenure

The way land is held or owned by individuals and groups, or the set of relationships legally or customarily defined among people with respect to land. In other words, tenure reflects relationships between people and land directly, and between individuals and groups of people in their dealings in land.

Land tenure security

Can be defined as:

1. the degree of confidence that land users will not be arbitrarily deprived of the rights they enjoy over land and the economic benefits that flow from it;
2. the certainty that an individual's rights to land will be recognized by others and protected in cases of specific challenges; or, more specifically,
3. the right of all individuals and groups to effective government protection against forced evictions.

Land tenure systems

Sets of formal or informal rules and institutions which determine access to and control over land and natural resources.

Land-use planning

The process undertaken by public authorities to identify, evaluate and decide on different options for the use of land, including consideration of long-term economic, social and environmental objectives and the implications for different communities and interest groups, and the subsequent formulation and promulgation of plans that describe the permitted or acceptable uses.

Mitigation

The lessening or limitation of the adverse impacts of hazards and related disasters. The adverse impacts of hazards often cannot be prevented fully, but their scale or severity can be substantially lessened by various strategies and actions. Mitigation measures encompass engineering techniques and hazard-resistant construction as well as improved environmental policies and public awareness. It should be noted that in climate change policy, “mitigation” is defined differently as the reduction of greenhouse gas emissions that are the source of climate change.

Natural hazard

Natural process or phenomenon 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

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.

Prevention

The outright avoidance of adverse impacts of hazards and related disasters.

Property rights

Recognized interests in land or property vested in an individual or group. Rights may apply separately to land and to property on it (e.g. houses, apartments or offices). A recognized interest may include customary, statutory or informal social practices which enjoy social legitimacy at a given time and place.

Recovery

The restoration and improvement, where appropriate, of facilities, livelihoods and living conditions of disaster-affected communities, including efforts to reduce disaster risk factors. The recovery task of rehabilitation and reconstruction begins soon after the emergency phase has ended, and should be based on pre-existing strategies and policies that facilitate clear institutional responsibilities for recovery action and enable public participation. Recovery programmes, coupled with the heightened public awareness and engagement after a disaster, afford a valuable opportunity to develop and implement disaster risk reduction measures and to apply the “build back better” principle.

Resilience

The ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through

the preservation and restoration of its essential basic structures and functions. Resilience means the ability to “resile from” or “spring back from” a shock. The resilience of a community in respect to potential hazard events is determined by the degree to which the community has the necessary resources and is capable of organizing itself both prior to and during times of need.

Response

The provision of emergency services and public assistance during or immediately after a disaster in order to save lives, reduce health impacts, ensure public safety and meet the basic subsistence needs of the people affected. Disaster response is predominantly focused on immediate and short-term needs and is sometimes called “disaster relief”. The division between this response stage and the subsequent recovery stage is not clear-cut. Some response actions, such as supplying temporary housing and water supplies, may extend well into the recovery stage.

Risk

The combination of the probability of an event and its negative consequences.

Restitution

The return to and reassertion of control over one’s original home, land or property.

Vulnerability

The characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard. There are many aspects of vulnerability, arising from various physical, social, economic and environmental factors. Examples may include poor design and construction of buildings, inadequate protection of assets, lack of public information and awareness, limited official recognition of risks and preparedness measures and disregard for wise environmental management. Vulnerability varies significantly within a community and over time. This definition identifies vulnerability as a characteristic of the element of interest (i.e. community, system or asset) which is independent of its exposure. However, in common use the word is often used more broadly to include the element’s exposure.

Introduction

This training manual is for people working on emergency response and disaster risk management. It aims to provide an overview of the major land issues that may arise following a natural disaster which need to be considered and included in the decision-making processes associated with response, recovery and rehabilitation. These issues also should be considered in reconstruction and development projects to improve tenure security for the more vulnerable as part of a disaster mitigation process.

This manual is also intended for people who work in the land sector, to provide information on the challenges that may be faced in the context of emergency response and recovery from disasters. It contains information that underpins the rationale and processes for disaster risk management (DRM).

The disasters included in this discussion are hydrometeorological disasters (such as floods, drought, tropical cyclones, storm surges and tornadoes) and geophysical disasters (such as earthquakes, tsunamis, avalanches and landslides). Most of these disasters are rapid onset and cause extensive loss of life, loss of livelihoods and damage to infrastructure. Drought, a slow-onset disaster, also is considered in these training materials because of its severe global impact and because there are particular land tenure issues associated with extended and recurrent droughts.

The first module of this training manual provides an overview of the land tenure issues that can arise in the aftermath of a natural disaster, and explains the importance of having a land tenure perspective in emergency response and recovery operations and planning. Module 1 also explains how pre-disaster measures and emergency response and recovery are combined in a DRM framework. It is aimed particularly at FAO staff, consultants and national officials who, while working on emergencies, come across land issues and seek to gain a deeper understanding of these. However, it is also relevant for land professionals to introduce the key elements of DRM.

Module 2 provides further discussion on how land is administered, and identifies common themes by drawing on case studies and lessons learned about land issues that have arisen after natural disasters. It is intended to provide emergency and disaster management experts with information on the land issues specific to particular disasters, and to inform land experts on how land issues differ from one disaster to another.

Module 3 describes how the lessons presented earlier may be addressed during prevention, mitigation and preparedness phases as part of a disaster risk reduction process. Modules 4 and 5 then explore how land issues may be considered and addressed in the post-disaster phases of emergency response, recovery and reconstruction.

As most of the recent FAO and UN-HABITAT publications on the topic of natural disasters and land tenure¹, the ultimate objective of this training manual is to create awareness about land tenure – its main issues, characteristics and importance – during disaster risk reduction processes and in an emergency situation following a natural disaster, and to provide information that may assist in preparing project documents. In particular, this manual aims to discuss why land tenure is important and to identify land issues that may arise following a natural disaster. It advocates that land tenure should be considered in all stages of DRM and associated projects. Improving land tenure security and protecting access to land will reduce the risk of future disasters to all landholders, and in particular the most vulnerable sections of the community.

1. UN-HABITAT, FAO, IASC Early Recovery Cluster, Global Tools Network. Land and Natural Disasters. Guidance for Practitioners. UN-HABITAT, Geneva, June 2010
FAO, UN-HABITAT, IASC Early Recovery Cluster, Global Tools Network. On Solid Ground. FAO, Rome, March, 2010. Re-printing, January 2011.
FAO, UN-HABITAT, IASC Early Recovery Cluster, Global Tools Network. Land Tenure and Natural Disasters. Assessing Land Tenure in Countries Prone to Natural Disasters. FAO, Rome, January 2011.

MODULE 1.

Natural disasters and land tenure



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Module 1. Natural disasters and land tenure

1.1 BACKGROUND

This first module sets the context for these training materials by describing the impact of climate change on the incidence and intensity of natural disasters, and how natural disasters affect land and livelihoods. The purpose is to create a common understanding of how land tenure is affected by natural disasters and to discuss why an understanding of land tenure issues is important. This module also covers the international conventions for people who lose access to land following a disaster. The module is particularly relevant for people involved in DRM and emergency response and therefore includes a brief explanation of land tenure. As this training manual is set in the context of a DRM approach, it provides an overview of the DRM process.

The Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (IPCC 2007) states that climate change is very likely to result in increased frequency and intensity of extreme weather events such as heat waves, tropical cyclones, floods and drought. According to the Centre for Research on the Epidemiology of Disasters' (CRED) 'EM-DAT' database¹, the number of deaths from natural disasters worldwide has steadily increased from the time records began in 1900, and this is illustrated in Figure 1.

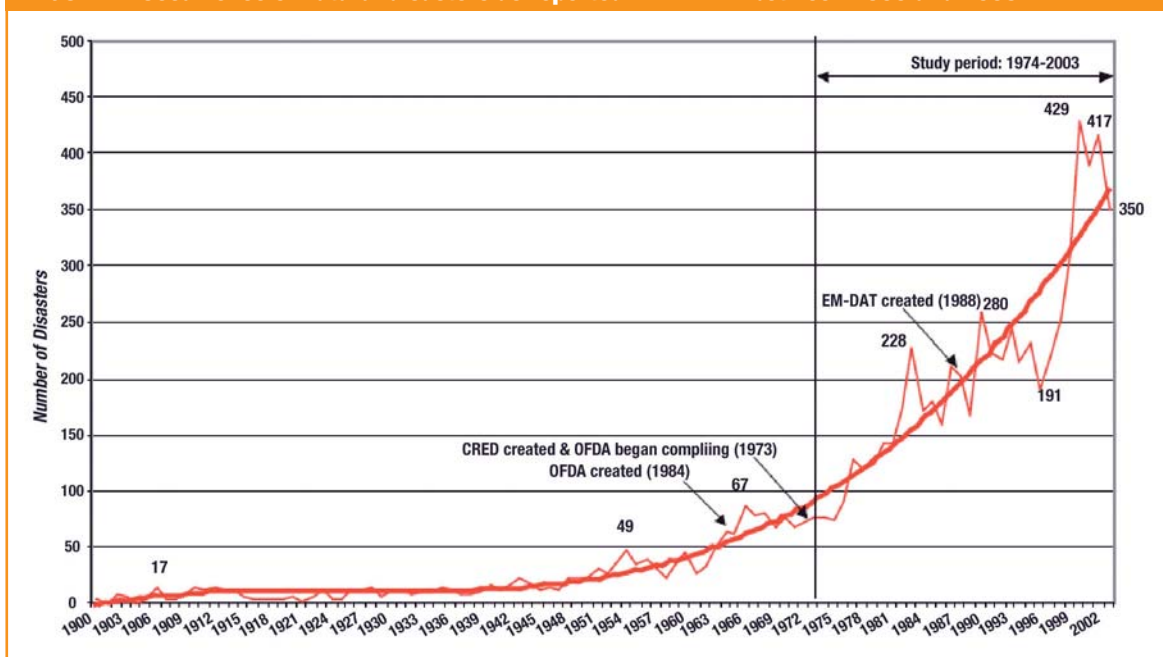
According to the World Bank Independent Evaluation Group, developing countries have borne the brunt of natural disasters, accounting for over 95 percent of all casualties (IEG, 2006). The most affected region is Asia with 79 percent of deaths from natural disasters during the period 2000-2007². China, India, Indonesia, the Philippines and Vietnam are among the world's most disaster-prone countries, while "small island developing states" (SIDS) are among the most vulnerable. Economic losses attributed to natural disasters have increased from US\$75.5 billion in the 1960s to US\$659.9 billion in the 1990s (a compound annual growth rate of 8 percent) (United Nations Development Programme, 2004)³.

Natural disasters vary in intensity and impact. They include less frequent geophysical disasters (e.g. earthquakes or tsunamis) where there may be little warning, hydrometeorological disasters (e.g. floods or

1. EM-DAT database - <http://www.emdat.be>.

2. Centre for Research on the Epidemiology of Disasters (CRED), *2008 Disasters in Numbers*. Department of Public Health, Université catholique de Louvain, Belgium; and ISDR: Brussels.

3. United Nations Development Programme, 2004: *Reducing Disaster Risk: A Challenge for Development*. United Nations Development Programme, New York, 161 pp. <http://www.undp.org/bcpr/disred/rdr.htm>.

FIGURE 1. Occurrence of natural disasters as reported in EM-DAT between 1900 and 2003

Source: Guha-Sapir *et al.* (2004).

cyclones) where there may be sufficient warning to act prior to the disaster, and drought or extreme weather conditions which may be seasonal. The impacts of a natural hazard are specific to the country affected, and even to the region within a country. For a range of social, cultural and economic reasons, some communities are more resilient to natural disasters than others. Therefore, any consideration of disasters and vulnerability should include the local context. An important aspect of vulnerability and resilience is access to land and livelihoods before and after a natural disaster. Tenure security provides greater certainty of access to land and helps to protect these property rights to land in the event of a natural disaster.

The following discussion in this module expands on some of these terms and explains the concepts of livelihoods, land tenure security, property rights and access to land in the context of natural disasters. The discussion explores the relationship between land and livelihoods, identifies minimum standards in disaster response and introduces DRM.

1.2 CATEGORIES OF NATURAL DISASTERS

This discussion on natural disasters is based on the categories of natural disasters used in the OFDA/CRED International Disasters Database (EM-DAT) data published by The Centre for Research on the Epidemiology of Disasters (CRED). CRED defines a disaster as a “situation or event, which overwhelms local capacity, necessitating a request to national or international level for external assistance... an unforeseen and often sudden event that causes great damage, destruction and human suffering”⁴.

4. <http://www.unisdr.org/eng/terminology/lib-terminology-eng-p.htm>; UNISDR Terminology on Disaster Risk Reduction (2009). <http://www.unisdr.org/eng/terminology/terminology-2009-eng.html>.

For a disaster to be entered into the EM-DAT database, at least 10 or more people must have been reported killed, or 100 people must have been reported affected, or there must have been a declaration of a state of emergency or a call for international assistance.

In this discussion, natural disasters are divided into two categories: (i) hydrometeorological disasters including floods and wave surges, storms, droughts and related disasters (e.g. extreme temperatures and forest/scrub fires), landslides and avalanches; and (ii) geophysical disasters (i.e. divided into earthquakes and tsunamis and volcanic eruptions). A third category of biological disasters (i.e. epidemics and insect infestations) is published in EM-DAT, but is not considered in this training manual. According to CRED data, the most recurrent disasters are cyclones, storm surges and floods, and these affect the largest number of people; extreme drought has the greatest impact on food security in terms of lost crops and livestock⁵.

Natural hazards also can be categorized as either slow-onset or rapid-onset hazards. Natural hazards that arise suddenly and have very little warning time are considered to be rapid-onset hazards and cause rapid-onset disasters. Most natural disasters are rapid-onset events, and the difference is important in the amount of early warning possible. Natural disasters that are considered rapid-onset include earthquakes, tropical cyclones, storm surges, landslides, avalanches, wildfires, floods and volcanic eruptions. In most cases, floods are rapid-onset, except where heavy rainfall in mountain regions leads to predicted floods in distant valleys some time later.

The most common slow-onset natural disaster is drought. Drought is different than other types of natural disasters in that it may take several months, and in some cases years, before the results of prolonged below-average precipitation causes severe water and food shortages and can be categorized as a disaster. Other disasters that can be considered slow-onset include pollution or degradation of the environment through processes such as deforestation. Increasingly, degradation of the environment contributes to increased intensity of natural hazards. However, the contributions of environmental degradation and pollution to natural disasters are beyond the scope of this discussion and are not considered in this manual.

1.3 WHAT IS LAND TENURE?

Land tenure is the way in which interests in land are held or owned. It has been defined by the Food and Agriculture Organization (FAO)⁶ as the legal or customary relationship among people with respect to land and associated natural resources such as water, trees, minerals or wildlife. Land tenure rules and systems define how property rights to land are allocated and who can use the resources associated with land. These rules vary in their legal recognition and, in some cases, include very complex customary rights and associated dispute resolution institutions and processes or, in other cases, legally defined rights to land that are enforceable in a court.

5. Centre for Research on the Epidemiology on Disasters (CRED), *2008 Disasters in Numbers*. 2008, Department of Public Health, Université catholique de Louvain, Belgium; and ISDR: Brussels.

6. FAO (2002) *Land tenure and rural development*, FAO Land Tenure Studies 3, Rome.

Land tenure constitutes a web of intersecting interests that include overriding sovereign interests, overlapping rights to the same parcel of land, and complementary interests where more than one person shares the same interest in a parcel of land. Property rights to land may be held by private parties (e.g. an individual or a family), communal groups or the State, or they may be part of open-access regimes where specific rights are not assigned to individuals but rather to a group.

In most countries, a range of tenure systems exist, each with a different level of legitimacy and tenure security. These range from illegal informal settlements that develop on lands not used by others that are constructed without formal approval from government, to registered and state-guaranteed freehold titles. The relationship between people and land is very complex and the rules are expressed through socially constructed systems that define how rights to use land, control land or transfer land are granted, and the responsibilities and restrictions that go with these granted rights. The rights tend to follow the power structures within a society and the powerful tend to enjoy more secure property rights to land.

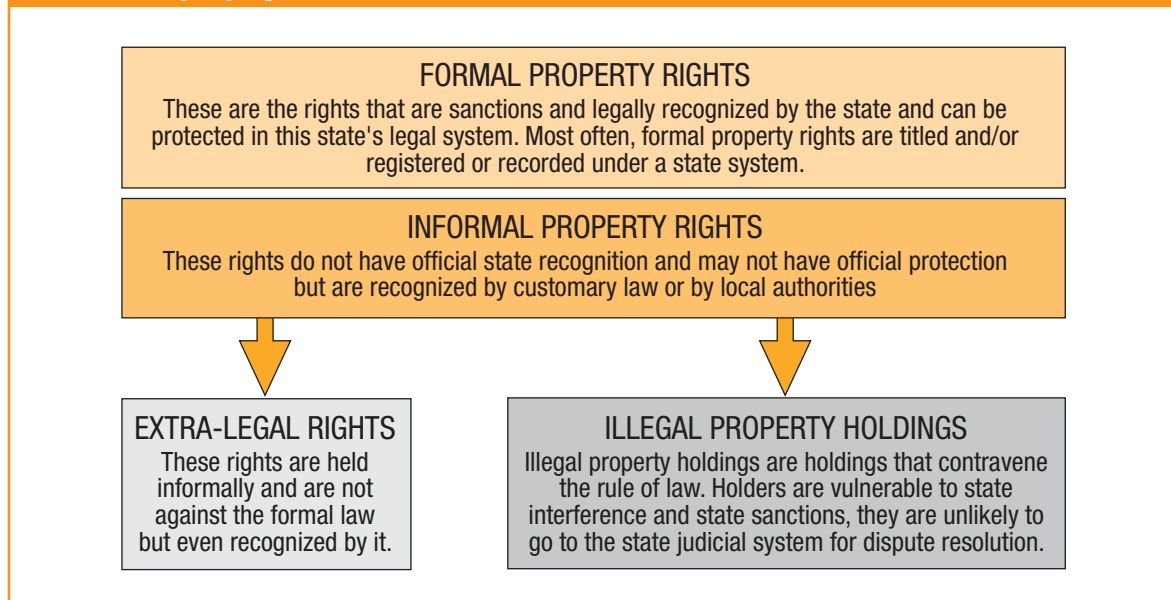
In many countries, customary land tenure is the predominant form of tenure system. This is especially true in parts of Africa and the Pacific Island countries. These customary tenure systems are based on the relationship with the traditional community that occupies the land. Customary rights often involve a complex set of arrangements for allocating land and resources, and well-established dispute resolution mechanisms. The rights can be held by individuals and groups and, while the rights are not documented, they are well understood by members of the community. Customary tenure systems are under pressure because of demographic changes, increased competition for land, urbanization encroaching on communal lands, and internal conflicts and breakdowns in customary authority.

1.3.1 Types of property rights

Land tenure is associated with a range of property rights to the land and its associated natural resources. These rights include movable rights, such as livestock, and immovable rights such as buildings and trees. Each of these rights may be considered as a stick in the “bundle of rights”. In practice, many people may have overlapping rights to land that include use rights (rights to use the land for grazing and cropping, or to access water resources), control rights (rights to decide how the land should be used) and transfer rights (rights to sell or lease the land). Often, the poor in a community only have use rights and these may leave people more vulnerable after a natural disaster than if they had control rights or transfer rights.

Property rights and their arrangements can be very complex in practice. In developing countries, land tenure and property rights have varying degrees of legal recognition; they may be considered to be formal and legally recognized (e.g. freehold, leasehold, public and private rental) or unauthorized or informal (e.g. squatting or informal settlements) (see Figure 2). Property rights that are neither legally recognized nor illegal are considered to be “extra-legal” and include land tenure systems such as customary property held in rural indigenous communities.

FIGURE 2. Property rights



Source: Herrera *et al.* (2006).

1.3.2 Access to land

Having access to land is necessary to meet the basic human needs for shelter and food, and to use natural resources such as water and firewood. An essential aspect of poverty reduction is ensuring that the poor have access to resources such as forests, water, fisheries and pastures. The rural poor who do not have access or have very limited access to natural resources are vulnerable to natural disasters because they have difficulty obtaining food, accumulating other assets and recuperating after natural or market shocks or misfortunes.

Having secure access to land and other natural resources is a fundamental aspect of the realization of the right to food. This is particularly true where the source of a family's livelihood and food supply is derived from the land they occupy. Access to public land to gather non-forest products such as timber and herbs may also be very important to the food security of a family.

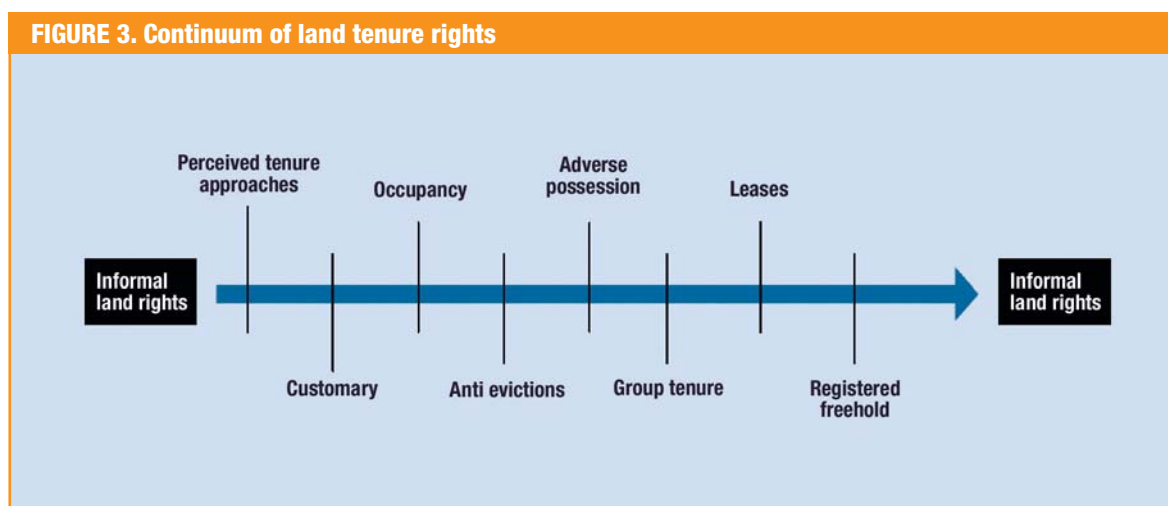
Customary or long-term access to land may be seasonal and may involve overlapping rights of access, which may be at risk in the event of a disaster and associated resettlement. For the rural poor, access to land is often based on customary rights that follow indigenous traditions or traditional ways of assigning land-use rights through community leaders. The lands may have been acquired by clearance of the land and ancestral occupation. Access to land may be gained by purchase, inheritance, or exclusive occupation of the land giving rise to recognition of adverse possession rights, leasing or renting the land, sharecropping, or squatting illegally on the land. In addition, access to land can be provided by systematic land reform interventions (e.g. land titling programmes) or land redistributions to correct historical injustices.

Where the ownership of land is concentrated in a few wealthy landholders, secure access for the poor will be limited. The likely consequence is that there will be an inequitable distribution of incomes and wealth. Where land distribution is unequal and there are limited alternative livelihoods, landlessness is linked closely to inadequate access to land. Improved tenure security of property rights to land provides a level of protection against claims by others.

1.3.3 Security of tenure

Security of tenure refers to the degree to which there is certainty that land rights will be recognized by others and the level of protection that exists in the event of a challenge. The important components of tenure security are: (i) the degree to which rights are recognized; (ii) the level of protection against claims by others; and (iii) the duration of these rights to land. Another important aspect of tenure security is the landholder’s freedom to bequeath land to heirs, or to lease or grant land to others with a reasonable guarantee of being able to recover the land.

Property rights may be considered to exist along a continuum of levels of tenure security as illustrated in Figure 3. At the lower end of tenure security are people who move to cities in search of work and build a house on informal lands over which they hold no legal rights. If the location of these informal settlements places these people at higher risk of facing recurrent natural disasters, the insecurity of their tenure increases their vulnerability to the disaster. Along the continuum of land tenure rights are people with customary rights to land, those who occupy land (e.g. squatters), people who have gained some possessory rights through long-term occupation and those who have more legally-recognized rights such as leases and registered freehold.



Source: GLTN (2008).

Developing a detailed understanding of all the interests in land held by members of a community is an important aspect of DRM. Without understanding the full range of formal, religious, customary and informal categories of tenure, people with weaker tenure security likely will be vulnerable to land grabbing or loss of land after a disaster.

Tenure security is also related to access to land and the strongest form of access to land is having an opportunity to acquire full rights of ownership (e.g. registered freehold)⁷. However, in most countries this is not the situation and interventions are needed to protect and defend the land tenure rights and access opportunities of vulnerable groups such as women, indigenous peoples, pastoralists and farm labourers. Programmes aimed at providing tenure security for large numbers of people have proved challenging. One of the challenges is the limited capacity of the institutional mechanisms for land reform in many countries.

Tenure security is partly a matter of perception, and various strategies have been implemented to safeguard the rights of landholders and improve security of tenure. One example that has been implemented in parts of Africa involves providing legal recognition of customary forms of tenure. Another strategy that has been used in some countries in Asia, the Caribbean and South America is to recognize intermediate forms of tenure such as land-use certificates and short-term leases. A third strategy that has been very widespread in developing countries is to implement large-scale land titling and land administration programmes. Security of tenure can also be achieved through clear long-term rental contracts with effective dispute mechanisms. In any event, an important element of any approach to improving tenure security is having a clear understanding of all rights that exist over land. These may involve several parties and be overlapping, depending on the season or resource.

Security of tenure underpins the ability of people after a natural disaster to return to their livelihoods, food production and rebuilding activities. The transition to recovery allows the opportunity to consider non-life-threatening issues, such as access to land, improvements to tenure security and land administration. The second and third goals of the Hyogo Framework for Action call for the development and strengthening of institutions, mechanisms and capacities and the systematic incorporation of risk reduction approaches into emergency, response and recovery programmes. Secure land tenure is particularly important to protect livelihoods and to protect against gender discrimination, other discrimination and exclusion of vulnerable groups, such as ethnic minorities.

1.3.4 Legitimacy of rights to land

Related to tenure security is the concept that legitimacy of rights to land comes from different sources, including legal recognition and recognition based on custom or tradition. Legitimacy may be divided into three categories as shown in Table 1: legal legitimacy, social legitimacy and lacking legitimacy.

Ownership rights under the first category have the highest level of tenure security and are the easiest to prove following a natural disaster. The last category involves claims on land that have neither legal nor social legitimacy, and decisions about these rights following a natural disaster should be relatively

7. Quan, J., *Land access in the 21st century: Issues, trends, linkages and policy options*. 2006, FAO Land Tenure Service: Greenwich.

TABLE 1. Sources of legitimacy of land rights

<p>Legal legitimacy (legitimate through the law)</p>	<ul style="list-style-type: none"> • Ownership rights recognized by law including rights of individuals, families and groups, and customary rights recognized by the law. • Use rights recognized by law including leases and sharecropping agreements. • Servitude/easements on both private and public land.
<p>Social legitimacy (legitimate through broad social acceptance but without legal recognition)</p>	<ul style="list-style-type: none"> • Customary rights on land vested in the state in trust for the citizens. • Customary rights on state land, e.g. forest communities. • Informal settlements on private and public land where the state has accepted that it is not possible to relocate the people. • Squatters on private and public land who have almost fulfilled the requirements for acquiring the land through prescription or adverse possession.
<p>Lacking legitimacy</p>	<ul style="list-style-type: none"> • Commercial developers who expect to profit by building in protected areas. • Politicians and others who illegally appropriate state land for their own benefit.

Source: Palmer *et al.* (2009). Towards improved land governance.

straightforward. It is the second area – social legitimacy – in which decisions about claims for land following a disaster are more difficult. Land tenure rights under this category may be understood and accepted by the community, or sections of the community, but are not legally recognized. In some cases, there may be an expectation that these socially legitimate rights will mature into legally legitimate rights. An example of this is where the legal framework allows for occupants of land owned by others to claim the land by adverse possession after a period of time during which their occupation has not been challenged. Informal settlements may fall into this grey area of socially legitimate rights if the government has publically recognized the people’s right to live in the settlement. Where the settlement site is hazard-prone, this issue becomes even more complicated.

The link between the source of legitimacy and tenure security is particularly evident following a natural disaster. While legally legitimate rights may ordinarily translate to strong tenure security, this may change following a natural disaster with the sudden death of community elders or heads of families, or with damage to land records, making the rights harder to prove or inheritance harder to establish.

1.3.5 The importance of effective land governance

The previous discussion outlined the many forms that land tenure systems may take, the complex relationships between people and land, and the sources of legitimacy of land rights. There are many opportunities for the powerful to exploit the poor where tenure security is weak, which points to the importance of strong governance in the land sector. Weak land governance creates an environment where the more powerful may exploit the poor and vulnerable.

Disaster recovery is much more effective where land institutions have adequate capacity, and where the rules and processes for making decisions about access to land and land use are clear and applied without political interference or corruption. Ideally, decisions about land should be made based on land policies developed before a disaster and using a consultative and participatory process. The legal framework should be based on the land policies and should consider all types of land tenure systems

and legitimacy of rights. A land policy that is accepted by all sections of the community and supported by a strong legal framework and enforcement of the laws provides the foundation for an effectively functioning land administration system. Land governance is considered further in Section 2.1.3.

1.4 IMPACT OF NATURAL DISASTERS ON LIVELIHOODS AND FOOD SECURITY

The 2009 World Summit on Food Security affirmed the “right of everyone to have access to safe, sufficient and nutritious food, consistent with the progressive realization of the right to adequate food in the context of national food security”. The summit also reaffirmed that “food security is a national responsibility and that any plans for addressing food security challenges must be nationally articulated, designed, owned and led, and built on consultation with all key stakeholders”.

The sustainable livelihoods framework⁸ defines livelihoods as consisting of the capabilities, assets and activities required for a means of living. Livelihoods are affected by shocks such as natural disasters and a livelihood is considered sustainable if it can cope with this shock and recover, maintaining or enhancing its capabilities, assets and activities while not undermining the natural resource base. Livelihood assets can comprise human capital, natural capital (including access to land), social networks and support, physical capital and equipment and financial capital. It could also be considered to include political capital. In most rural areas, agriculture is a fundamental source of livelihood and food security and provides a basis for economic growth⁹.

Where the predominant land use is agriculture, access to land is the most fundamental means by which the poor secure household food supplies and income. Where diversification of livelihood assets is possible, households are less vulnerable to shocks.

The amount of arable land in rural areas is limited, and land degradation and desertification is increasing in many of the poorer regions. It is estimated that 23 percent of the land surface is degrading, with almost 20 percent of degrading lands in cultivated areas, 42 percent in forests and 20-25 percent in rangelands¹⁰. Moreover, the incidence of extreme weather conditions such as drought is expected to increase, placing more pressure on livelihoods and the condition of land. In the more marginal areas (e.g. the drylands) where there are no obvious alternative livelihoods for smallholders, communities will need to adapt to more frequent natural hazards.

The major privately-owned form of natural capital livelihood assets is often land (especially arable land), and households with more livelihood assets will be more resilient to a natural hazard than households with fewer livelihood assets. The nature of the impact of a natural disaster on livelihoods also depends on the nature of the natural disaster. Rapid-onset natural disasters can have a devastating

8. FAO and ILO, *The livelihood assessment tool-kit: Analysing and responding to the impact of disasters and on the livelihoods of people*, in First Edition. 2009: Rome.

9. Global Land Tools Network, *Secure Land Rights for All*. 2008, UN-HABITAT: Nairobi.

10. Bai, Z.G., Dent, D.L., Olsson, L. and Schaepman, M.E. (2008). Global assessment of land degradation and improvement. 1. Identification by remote sensing. Report 2008/01, ISRIC – World Soil Information, Wageningen.

effect on livelihoods. Geophysical disasters such as earthquakes or tsunamis occur suddenly and affected people may not be prepared with disaster mitigation measures. The effect of earthquakes is greatest on buildings and infrastructure and this indirectly affects food production and livelihoods as people focus on rebuilding essential shelter and services. Tsunamis affect coastal areas and cause damage to everything within the affected area, including crops and livestock.

By contrast, there may be early warning of rapid-onset hydrometeorological disasters such as floods, storm surges and cyclones; their more recurrent nature means that traditional mitigation techniques are likely to be in place to improve resilience. These local adaptation measures include building more temporary structures in the most at-risk areas; having alternative livelihood options away from the hazard-prone areas; and building strong community structures to provide early warning and support in the event of an emergency.

Extreme droughts cause a different set of impacts on land and livelihoods, and do not cause the extensive damage to buildings and infrastructure. Droughts are slow-onset and typically recur in a local area. Landholders are aware of the risk of drought in the drier seasons and have the opportunity to implement mitigation measures. However, in the more marginal and remote areas, there may be very few alternative livelihood options.

The impact of each of the categories of natural disasters mentioned above is exacerbated where there is a general shortage of productive land and pressure from outside investors. People in areas most at risk of recurrent natural disasters look for alternative livelihood options that include finding new areas for productive agriculture, gathering non-forest products to support household food supplies or migrating to cities in search of different sources of livelihoods. Where a land shortage exists, this becomes much more difficult and land conflicts are more likely.

People become landless after a natural disaster for a number of reasons, such as injury or death of a family member, inability to prove prior tenure or land use, or damage to the land caused by a natural disaster. Once landless, these people are much more vulnerable to the shock of the disaster and have difficulty resuming previous livelihoods. Natural disasters have a greater impact on individuals and livelihoods where tenure security is weaker, and if governance is ineffective, vulnerability is greater. Box 1 provides the results of a survey of a rapid livelihood assessment covering 140 households after the 2006 earthquake in Indonesia.

Some of the effects of a natural disaster are short-term, and livelihoods are restored in the recovery and rehabilitation phases. However, some households lose access to their pre-disaster livelihoods and are unable to return to their land. The most vulnerable community families are those who rely on access to land for their livelihoods and households with a very low asset base. The most vulnerable family members are often women, children, the elderly and people with disabilities. In cases where many livelihoods are impacted, this affects local food production and may cause a short-term acute food shortage in the local area.

Access to land can be through a continuum of levels of tenure security ranging from private ownership (for example freehold), leasehold, tenancy (e.g. sharecropping), rental, communal tenure, to informal occupation such as squatting. Land tenure security is closely aligned with governance. Indeed, for tenure

BOX 1. RAPID LIVELIHOOD ASSESSMENT IN YOGYAKARTA AND CENTRAL JAVA PROVINCES

On 27 May 2006, a devastating earthquake struck Central Java and Yogyakarta Provinces. After the disaster, the Ministry of Agriculture asked FAO to provide emergency assistance and conduct needs and damage assessment. FAO used the sustainable livelihoods approach (SLA), including a rapid livelihood assessment that assessed 140 household representatives (of whom 25 percent were women) in 35 villages. The surveys were undertaken between July and November 2006 and provided valuable insights into the degree to which people had recovered in the months following the earthquake.

The results of the assessment indicated that the vulnerability of farming families varied; the landless were the most vulnerable to the disaster. Landowners and renters usually had a variety of livelihood assets, stronger social capital and a higher level of education, and were able to diversify their income through other activities such as trading. They also tended to have better opportunities to receive support to recover their livelihood. Six months after the disaster, most land owners were able to at least partially restore their houses.

Poorer household representatives, and especially the landless labourers and sharecroppers, were much more vulnerable. They were typically very poor and had a lower level of education, a smaller variety of livelihood assets and large families. Farming was often their only skill and source of livelihood. The earthquake damage meant they had lost their source of livelihood and many were forced into debt to feed their families. Six months after the disaster, many of these people were still living in tents or shelters.

Source: Herianto, A.S., *et al.* (2007) An Assessment of People's Livelihoods in Yogyakarta and Central Java Provinces Pre- and Post-Disaster: July-November 2006.

to be secure there must be recognition by the government at all levels that this land ownership right exists, and procedures for enforcement of this right.¹¹

The degree of impact of natural disasters on individuals depends on several factors, including whether those affected have secure land tenure, the degree of damage to the property, and the capacity of the affected people to recover their land and livelihood. Individuals with privately owned land with secure tenure are less vulnerable to the impacts of natural disasters.

Where land tenure is secure and where effective land governance exists, the loss of access to land is less likely and easier to redress if it occurs. Members of communities without secure land tenure are more vulnerable to the adverse effects of hazards and disasters as they lose access to land and the ability to carry out their previous livelihoods on that land. Landowners seek income through recommencing production on land as soon as possible after a disaster, and the disaster may create an opportunity to change to a more productive arrangement. During this critical time, tenants face the risk of eviction unless they can recommence production quickly. During the transition from emergency response to recovery, landowners are able to seek verification of their legal rights and the location of property boundaries. Once this is established, they are able to return to their land and livelihood. However, sharecroppers and farm labourers may become excluded under post-disaster rationalization,

11. FAO, *Towards Voluntary Guidelines on Responsible Governance of Tenure of Land and Other Natural Resources: Discussion Paper*, in *Land Tenure Working Paper 10*. 2009, Land Tenure and Management Unit (NLRA): Rome. Palmer, D. et al. (2009) *Towards improved land governance*, Land Tenure Working Paper 11, UNFAO and UN-HABITAT.

losing one source of livelihood asset. Weakened capacity leads to increased vulnerability to hazards and disaster risks. Secure land tenure strengthens the resilience of vulnerable groups to withstand hazards such as droughts. Box 2 describes some of the vulnerabilities to natural disasters of people without tenure security in the Philippines.

BOX 2. VULNERABILITY AND LIVELIHOODS IN THE PHILIPPINES

The Philippines is the fourth-most disaster-prone country in the world, according to the International Red Cross. It is an archipelago consisting of over 7 000 islands. It is in the direct path of the world's largest tropical cyclone generator causing regular floods, landslides and storm surges. It also is on the "Pacific Ring of Fire" and experiences periodic volcanic eruptions and earthquakes.

The incidence of poverty is concentrated in rural areas where 77 percent of the poor reside; they rely heavily on agriculture, fishing and forestry for their livelihood. Around 60 percent of the occupied land in the country is informal and 46 percent of the alienable and disposable lands are untitled. Many people occupy and use public land without secure tenure. Many of the rural poor are concerned about the lack of land tenure, and there has been an increasing trend towards people living and having livelihoods in high-risk areas. These include the danger zones of volcanoes, deforested mountains, riverbeds, low-lying flood plains and coastal areas.

Many of the poor living in these regions are aware of the risks and their vulnerability, but have few alternatives for livelihoods. The settlements are often informal with poor-quality housing, and repair and reconstruction of housing is a normal activity after each natural hazard. Lack of secure land tenure reduces their incentive to make improvements to their housing or land.

After the Ormoc flood in 1991, 24 out of 30 families returned to the land they occupied before the flood because they had no other place to live and because of its proximity to places of work or livelihood.

Source: FAO/HABITAT (2009). Philippines: Natural Disasters of All Kinds Rank High in the Philippines, On Solid Ground: Addressing Land Tenure Issues Following Natural Disasters, Rome.

1.5 HUMANITARIAN CHARTER AND MINIMUM STANDARDS IN DISASTER RESPONSE

A major goal for most disaster-affected people is the opportunity to return to their own land and dwellings. However, that may not be possible for a range of reasons including security concerns, safety issues, fear of persecution, site clearance after a disaster and reconstruction activities. If return to their own land is not possible at that time, disaster-affected people often prefer to stay with other family members, in a host community, or with people who share historical or cultural ties.

The State has the responsibility to provide assistance to individual households to repair or construct buildings or to house displaced people in existing accommodations or communities. Where the State does not have the financial capacity, it is encouraged to seek assistance from donors.

Temporary planned resettlement camps may be required to provide critical and rapid shelter where the original land has been severely damaged or where security threats exist. However, these camps should not become the default solution or a permanent one. When long-term settlements are developed,

they require more assistance, effective land-use master planning, consideration of land tenure rights, availability of essential services and social infrastructure and capacity for upgrading and expanding buildings. Land and property rights of individual parcels and communal lands should be established and all landowners should be identified. It is important to also identify those who have occupied land for an extended period prior to the disaster.

The Sphere Project developed the Humanitarian Charter and Minimum Standards in Disaster Response in 2004 to help humanitarian agencies achieve “defined levels of service for people affected by calamity or armed conflict, and to promote the observance of fundamental humanitarian principles”. The principles are also relevant to natural disasters. Module 4 of the Charter discusses minimum standards for shelter and settlement. The key indicators related to land issues are the following:

- Affected households should return to the site of their original dwellings, or if this is not possible settle independently with a host community or host families if possible, or in temporary planned or self-settled camps.
- A comprehensive vulnerability and hazard assessment should be conducted.
- The settling of affected persons should be based on an understanding of their pre-disaster economic and livelihood activities so they retain practical access to livelihoods where possible.
- Temporary settlement camps should have a minimum surface area of 45m² for each person, and should be close to essential services.

1.6 DISASTER RISK REDUCTION

Disaster risk reduction (DRR) recognizes that appropriate policies and programmes that introduce mitigation, preparedness and response mechanisms are more likely to address the root causes of disasters and reduce their impact. These issues were debated at the 2005 World Conference on Disaster Reduction in Hyogo, Japan and a subsequent UN General Assembly Resolution called on all States to implement the Hyogo Framework for Action 2005-2015 and to integrate DRR strategies into development planning. This represented a shift in emphasis from a concentration on emergency relief to a wider response to disasters by including DRR in the pre-disaster phases by strengthening prevention, mitigation and preparedness.

1.6.1 The Hyogo Framework for Action 2005-2015

The Hyogo Framework for Action 2005-2015 (HFA) seeks a substantial reduction of loss of life and economic losses through the implementation of DRR strategies, and aims to achieve this by 2015 by implementing DRR in development.

The strategic goals of the HFA include integrating disaster risk and prevention considerations into planning and programming at all levels, strengthening institutions, and incorporating risk reduction into emergency preparedness, response and recovery programmes. The second strategic goal of the HFA is strengthening institutions and capacity at all levels to systematically contribute to improved

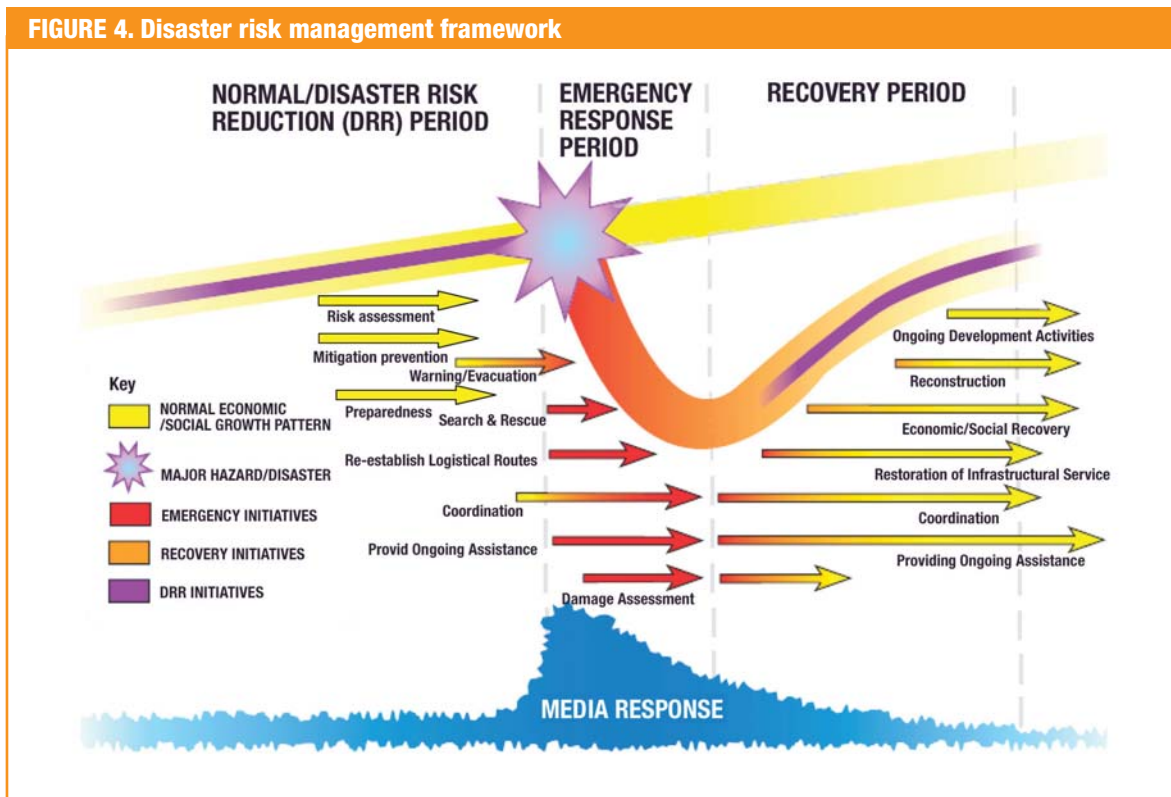
resilience to natural hazards. DRM has emerged as an approach that seeks to support this goal through combining pre-disaster work of DRR with emergency response from a management perspective.

The HFA identifies five priorities for action to achieve the strategic goals by 2015. The second of these says that each State has the primary responsibility for sustainable development and for implementing measures to reduce disaster risk. The last two priorities of action call for a gender perspective to be integrated into DRM policies and programmes, and for cultural diversity, age and vulnerable groups to be taken into account in DRR planning. These considerations are particularly relevant to the land sector because women, children, ethnic minorities and other vulnerable groups often have lower levels of tenure security and are more vulnerable to losing access to land.

The HFA calls for the priorities to be addressed by stakeholders using a multisectoral approach. States and regional and international organizations (such as the United Nations and international financial institutions) should integrate DRR into their policy, planning and programming. Civil society, the scientific community and the private sector are also important in supporting the implementation of DRR. While States have prime responsibility for economic and social development in their countries, the HFA discusses the importance of international organizations in supporting state agencies to develop the “knowledge, capacities and motivation needed to build disaster resilient nations and communities” (UNISDR, 2005). Coordination of United Nations agencies is provided through mechanisms such as the United Nations Development Group and the Inter-agency Standing Committee.

1.7 DISASTER RISK MANAGEMENT

The term “disaster risk management” is used in this manual to refer to a management approach that combines prevention, mitigation and preparedness with emergency response. It refers to the legal and policy frameworks associated with managing each of these stages, including managing the risk before a disaster and managing the emergency response. The following discussion uses the DRM framework (See Figure 4) outlined in the FAO publication *Disaster risk management systems analysis* (Baas *et al.*, 2008) to explain the stages and processes in DRM.



Source: Baas et al. (2008).

1.7.1 The DRM framework

The objective of DRM is to reduce the underlying risk factors and to provide a process and framework for managing the immediate response, should a disaster occur. The DRM framework, illustrated in Figure 4, breaks the DRM process into three stages – pre-disaster (the risk reduction period), emergency response and post-disaster (recovery) – and provides details of the activities within these stages. The DRM framework brings together development activities of mitigation and prevention and humanitarian assistance efforts of relief and recovery, with preparedness linking the development and humanitarian activities.

In the pre-disaster phase, DRM prevention and mitigation actions strengthen the capacity and resilience of households to protect their lives, land and livelihoods. During the relief phase, the focus is on saving lives and removing the immediate dangers. In the post-disaster phase, the efforts turn to recovery and reconstruction, and opportunities exist for building back better than before.

The elements of the DRM framework are illustrated in Box 3 and include pre-disaster risk reduction measures (i.e. risk assessment and prevention and mitigation), emergency response and the post-disaster phases of recovery and reconstruction.

BOX 3. ELEMENTS OF DRM FRAMEWORK

Pre-disaster

Ongoing development activities – Ongoing DRM aspects in development programmes.

Risk assessment – Diagnostic process to identify the risks that a community faces.

Prevention – Activities to avoid adverse impacts of hazards.

Mitigation – Structural/non-structural measures undertaken to limit the adverse impact.

Preparedness – Activities and measures taken in advance to ensure effective response.

Emergency response

Evacuation – Temporary mass departure of people and property from threatened locations.

Saving people and livelihoods – Protection of people and livelihoods during emergency.

Immediate assistance – Provision of assistance during or immediately after disaster.

Early recovery – Preliminary assessments and design of recovery programmes.

Post-disaster

Ongoing assistance – Continued assistance until a certain level of recovery.

Long-term recovery – Actions taken after a disaster to ensure resettlement/relocation.

Economic and social recovery – Measures taken to normalize the economy and societal living.

Reconstruction – Continued actions of development programmes.

Risk assessment – Diagnostic process to identify new risks that communities may face again.

Adapted from Baas *et al.* (2008). *Disaster Risk Management Systems Analysis: A guide book*.

1.7.2 Climate change and DRM

There is increasing recognition of the benefits of closely aligning climate change adaptation efforts with DRM. This was acknowledged at the 2007 UNFCCC Workshop on Climate-related Risks and Extreme Events in Cairo, and at the World Summit on Food Security at FAO in Rome in 2009. The World Summit on Food Security declaration discussed the severe risks that climate change poses to food security, and stated that smallholder farmers (especially in least-developed countries) were the most vulnerable. The declaration added that “confronting the challenges of climate change must allow for mitigation options and a firm commitment to the adaptation of agriculture, including through conservation and sustainable use of genetic resources for food and agriculture” (World Summit on Food Security, 2009).

Aligning DRM and climate change adaptation efforts at different scales will require identifying and promoting institutional mechanisms and processes for better coordinated actions related to climate risk and impact management, including those related to extreme events.

The linkages between climate change, land tenure and adaptation are more complex. Quan and Dyer (2008) analysed the implications of climate change for land tenure and land policy and found that the effects of climate change result in changes in ecosystems affecting land capability and land-use systems. They argued that since these changes will place greater pressure on land supplies suitable for production and settlement, land issues should be key considerations for adaptation planning. The objectives should be to strengthen land tenure security in areas at risk of hazards, and to secure access to land needed for resettlement and changed livelihood demands.

1.8 FURTHER READING

- Baas, S., Ramasamy, S., DePryck, J., and F. Battista (2008). *Disaster Risk Management Systems Analysis: A guide book*. Environment and Natural Resources Management Series. Rome.
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HIGHLIGHTS FROM MODULE 1: NATURAL DISASTERS AND LAND TENURE

According to the Intergovernmental Panel on Climate Change (IPCC), it is very likely that climate change will result in increased frequency and intensity of extreme weather events such as heat waves, tropical cyclones, floods and drought. This is supported by data from the Centre for Research on the Epidemiology of Disasters' (CRED) 'EM-DAT' database, which shows the number of deaths from natural disasters worldwide has steadily increased from the time records began in 1900.

Defining disasters

- **Disasters.** CRED defines a disaster as a “situation or event, which overwhelms local capacity, necessitating a request to national or international level for external assistance...an unforeseen and often sudden event that causes great damage, destruction and human suffering”.
- **Types of disasters.** In this manual, natural disasters are divided into two categories: (i) hydrometeorological disasters (e.g. floods and wave surges, storms, droughts and related disasters, landslides and avalanches); and (ii) geophysical disasters (e.g. earthquakes and tsunamis and volcanic eruptions).
- **Onset categories.** Natural hazards can be either slow-onset (e.g. drought or deforestation) or rapid-onset (e.g. earthquakes, tropical cyclones, storm surges, landslides, avalanches, wildfires, floods and volcanic eruptions).

Land tenure issues

Land tenure is the way in which interests in land are held or owned. Land tenure rules and systems define how property rights to land are allocated and who can use the resources associated with land. In most countries, a range of tenure systems exist, each with a different level of legitimacy and tenure security. In many countries, customary land tenure is the predominant form of tenure system. Customary rights often involve a complex set of arrangements for allocating land and resources, and well-established dispute resolution mechanisms. The rights can be held by individuals and groups and, while the rights are not documented, they are well understood by members of the community.

- **Property rights.** Property rights may be held by private parties (e.g. an individual or a family), communal groups or the State, or they may be part of open-access regimes. Rights to land may include use rights (rights to use the land for grazing and cropping, or to access water resources), control rights (rights to decide how the land should be used) and transfer rights (rights to sell or lease the land). Often, the poor in a community only have use rights and these may leave people more vulnerable after a natural disaster than if they had control rights or transfer rights.
- **Access to land.** For people to meet their basic needs for shelter and food, and to use natural resources such as water and firewood, they require having access to land. Access to land may

be gained by purchase, inheritance, or exclusive occupation of the land giving rise to recognition of adverse possession rights, leasing or renting the land, sharecropping, or squatting illegally on the land. The rural poor who do not have access or have very limited access to natural resources are vulnerable to natural disasters because they have difficulty obtaining food, accumulating other assets and recuperating after natural or market shocks or misfortunes.

- **Tenure security.** Security of tenure refers to: (i) the degree to which land rights are recognized by others; (ii) the level of protection against claims by others; (iii) the duration of the rights to land; and (iv) the degree to which the landholder may bequeath land to heirs, or lease or grant land to others with a reasonable guarantee of being able to recover the land. Without understanding the full range of formal, religious, customary and informal categories of tenure, people with weaker tenure security likely will be vulnerable to land grabbing or loss of land after a disaster.
- **Legitimacy of rights.** Legitimacy of land rights may be divided into three categories: legal legitimacy, social legitimacy and lacking legitimacy. Land tenure rights with social legitimacy may be understood and accepted by the community, or sections of the community, but are not legally recognized. While legally legitimate rights may ordinarily translate to strong tenure security, this may change following a natural disaster with the sudden death of community elders or heads of families, or with damage to land records, making the rights harder to prove or inheritance harder to establish.
- **Land governance.** A land policy that is accepted by all sections of the community and supported by a strong legal framework and law enforcement provides the foundation for an effectively functioning land administration system. Disaster recovery is much more effective where land institutions have adequate capacity, and where the rules and processes for making decisions about access to land and land use are clear and applied without political interference or corruption.
- **Impact of natural disasters on livelihoods and food security.** Where land is used predominantly for agriculture, access to land is the most fundamental means by which the poor secure household food supplies and income. The right of everyone to adequate food was affirmed by the 2009 World Summit on Food Security, and access to land and livelihoods are key to food security. The major privately owned form of natural capital is land. and households with more livelihood assets are more resilient to natural disasters. The degree of impact of a natural disaster on individuals depends on several factors: whether those affected have secure land tenure; the degree of damage to property; and the capacity of those affected to recover their land and livelihoods. Furthermore, the impact of each of the categories of natural disasters is exacerbated when there is a shortage of productive land, and pressure from outside investors. People in areas most at risk of recurrent natural disasters look for alternative livelihood options. Where a land shortage exists, this becomes much more difficult and land conflicts are more likely.

The Disaster Risk Management approach

Disaster Risk Management (DRM) is a management approach that combines prevention, mitigation and preparedness with emergency response. It refers to the legal and policy frameworks associated with the management of each of these stages, including the management of the risk before a disaster, and the management of the emergency response.

- **The DRM Framework.** The manual uses the DRM Framework to explain the DRM stages and process. The objective of DRM is to reduce the underlying risk factors and provide a process for managing the immediate response, should a disaster occur. The framework brings together *development activities* of mitigation and prevention, and *humanitarian assistance efforts* of relief and recovery, with preparedness linking development and humanitarian activities.
- **DRM phases.** In the pre-disaster phase, DRM prevention and mitigation actions strengthen the capacity and resilience of households to protect their lives, land and livelihoods. During the relief phase, the focus is on saving lives and removing the immediate dangers. In the post-disaster phase, the efforts turn to recovery and reconstruction, and opportunities exist for building back better than before.
- **DRM approaches to climate change.** The benefits of closely aligning climate change adaption efforts with DRM are becoming more recognized. This requires identifying and promoting institutional mechanisms and processes to better coordinate actions related to climate risk and impact management. Climate changes will place greater pressure on land supplies suitable for production and settlement, and so land issues should be key considerations in adaptation planning. The objectives should be to strengthen land tenure security in areas at risk of hazards, and to secure access to land needed for resettlement and changed livelihood demands.

MODULE 2. Lessons learned from previous natural disasters



Module 2. Lessons learned from previous natural disasters

The vulnerability of people to natural disasters varies among communities and involves many factors including the type of disaster, the degree of tenure security and the capacity of individuals and communities to cope. Each natural disaster presents different circumstances and challenges and a solid understanding of these local issues is important in responding to the disaster and implementing subsequent preventative and adaptation measures.

Some of the immediate issues common to most, if not all, major natural disasters concern the equitable rights of access to land for all people after the disaster, the relationship between land tenure security and vulnerability, the settlement of people displaced by the disaster, and the resolution of land conflicts that may arise. At another level, there are many lessons regarding land policy, the legal framework and the administration of land tenure that provide knowledge for future disasters and an opportunity to improve resilience.

This module aims to outline why recognition of tenure security and access to land are important, and to describe some of the common land tenure issues that have arisen following natural disasters over the last two decades. The aim is not to discuss each situation, but rather to present some common themes related to land and livelihoods that have emerged from analysing experiences from previous natural disasters. Throughout the module, specific case studies are provided which highlight the different circumstances that can exist. Also included is a description of the main land administration institutions and instruments.

In the modules that follow, the lessons are set in the context of the various stages of DRM in order to consider the stage at which responses may be advisable.

2.1 LAND ADMINISTRATION AND NATURAL DISASTERS

2.1.1 Major land administration institutions and instruments

The term “land administration” refers to systems established to provide equitable management of private, state and customary interests and property rights in land. Institutionalized land administration may operate in parallel to customary institutions and processes. The nature of rights to property varies from one country to another, and even within countries there may be many institutional structures for administering decisions about land ownership. These will depend on whether the rights to land are

customary, commonly held or individual rights, and whether the rights are legally recognized. Also, the administration of public lands and private lands often comes under different institutional jurisdictions.

As discussed earlier, rights to land can be considered to exist along a continuum, from those with strong tenure security to those which have little security of tenure. At one end of this spectrum are registered land titles recognized by the government. In these cases, there typically will be a supporting land policy and legal framework administered by national and provincial government land agencies. These agencies will be responsible for undertaking cadastral (title boundary) surveys and the adjudication of rights to land for initial systematic and sporadic titling programmes. In areas where land titles or deeds already exist, the land agencies will document changes to land ownership caused by land sales, inheritance, land subdivision and land consolidation. The capacity and ability of land institutions to respond quickly following a natural disaster to the many decisions that need to be made about land ownership and about the location of property boundaries varies from country to country.

In many developing countries, there are large areas with customary rights on communal or indigenous lands. Decisions about land ownership in these cases are based on long-established principles and procedures that are understood by the particular community, but not necessarily by those who are not part of the community. These rights are often very complex and difficult to encapsulate in land policies and land laws. Where formal legal frameworks for land coexist with customary or informal legal systems, the customary and religious leaders have a significant role in decisions and disputes over land. Decisions about land tenure in these areas must be made in close consultation with the customary elders and must use processes that are accepted by the customary and religious leaders.

People with little or no security of tenure – squatters, informal settlers, farm labourers, lessees and sharecroppers – are more vulnerable. There may be no official institution responsible for their protection; however, land agencies may make decisions about their tenure and rights of access to land. Their rights may or may not be considered in land policies and land legislation.

As countries develop more formal legal systems of land tenure, the rights to land are typically managed based on an accepted land policy framework, supported by a comprehensive set of land laws and regulations. Responsibility for implementing the land policies and legal framework is typically decentralized: the national government provides oversight while provincial land authorities maintain maps and records of land ownership, issue land titles or deeds and resolve disputes over land. These land records form a “cadastre” which includes maps of land ownership boundaries supported by registers of land ownership. As capacity increases, the land records are often converted from paper records to digital records, and the security of these records also increases. Where land taxes are collected, property valuation records are maintained, and these records are important for establishing appropriate levels of compensation when private land is acquired by government.

2.1.2 Capacity of land administration systems

In most developing countries, the land administration system is in poor condition and only covers urban areas. There may be no land records for rural lands, and even if land records exist, many people may live long distances from land offices and so recording land transactions is impractical. In fact, in many

countries the administrative procedures for registering a land parcel or recording a land transfer may be so cumbersome or expensive that they encourage people to stay outside the system and undertake informal transactions. The result is that the land register quickly becomes out of date and unreliable.

When a natural disaster occurs, the existing capacity limitations are magnified by destruction of buildings and land records, damage to boundary markers and surveying infrastructure (which make identification of pre-disaster boundaries difficult) and loss of experienced staff. At the same time, there is considerable demand on the local land agencies to contribute to the response and recovery processes, and they may require significant support and capacity building to meet that demand. Experience from disasters over the last decade shows that land institutions will face the greatest demand when the rebuilding activity is ready to commence because decisions will need to be made on rights to each parcel of land (adjudication) prior to rebuilding. Best results are achieved when the appropriate land agency is able to coordinate an adjudication process that actively includes the community in all decisions, in a manner that is consistent with public records of the rights existing prior to the disaster. For this to happen, there may need to be considerable capacity building and support.

Most developing countries at greatest risk of natural disasters have limited institutional capacity to process a large number of claims for restitution in a timely manner. Survivors of a disaster also are often confused about which agency is responsible and about the procedures for returning to their land and rebuilding. Coordination between the public sector and donors is very important.

Box 4 provides examples of some of the institutional and capacity challenges faced in Aceh following the 2004 Asian tsunami which were related to the limited capacity of the land agencies and the impact they suffered from the disaster.

2.1.3 Governance of land tenure

Governance of land has been defined as comprising three aspects: (i) the rules, processes and structures for decisions about access to land and its use; (ii) how these decisions are implemented and enforced; and (iii) how competing interests in land are managed.¹² Land governance is not just about decisions made by government, but also about decisions made by customary and religious institutions, other informal institutions and informal developers about access to land and its use. Governance includes decisions about land made within the legal, institutional and policy frameworks, as well as traditional practices for making decisions on land transactions, inheritance, resettlement and the resolution of land disputes.

Weak land governance can result from a range of factors such as overly complex or obsolete laws, ineffective institutional arrangements, a weak judiciary or the absence of the rule of law. This may manifest in corruption at various decision-making levels in government, decisions based on favoritism, limited government capacity to make good decisions about land, or the inability to prosecute offenders. Where governance is weak and the rate of pay for government officials is very low, the likelihood of corruption is higher. There are two types of corruption associated with weak governance: state capture,

12. Palmer, D. *et al.* (2009) Towards improved land governance, Land Tenure Working Paper 11, UNFAO and UN-HABITAT.

BOX 4. CHALLENGES FACED IN THE RECONSTRUCTION OF ACEH LAND ADMINISTRATION SYSTEMS (RALAS)

Funding for the RALAS project began in August 2005, eight months after the tsunami struck Aceh and northern Sumatra, and under difficult post-conflict and post-disaster circumstances. The aim of the project was to restore and strengthen security of tenure in affected areas and to facilitate the resolution of land disputes occurring since the tsunami. One of the pillars of the RALAS project was the systematic registration and certification of land in affected areas using community-driven adjudication titling procedures. The land agency responsible (BPN) was faced with institutional capacity challenges, and had lost key staff in Banda Aceh and the disaster-affected regions.

According to an in-depth progress report, the major achievements of RALAS as of 31 March 2009 included: the rehabilitation of eight land offices; adjudication of over 260 000 parcels (facilitating the construction of nearly 7 000 new houses and nearly 7 000 rehabilitated houses); community land mapping on approximately 120 000 parcels; the recovery of 50 000 damaged land records; and training of facilitators, BPN personnel and Shariah court officials. RALAS was successful in facilitating resolution of land disputes at the local level, and more broadly in preventing land grabbing and speculation. According to an independent report, the important contributions of the RALAS project included: efforts to raise public awareness on land issues immediately after the tsunami; the development of policy guidelines (in cooperation with the Shariah courts), including procedures on inheritance; the issuance of the Presidential Decree (PerPu) on the treatment of mortgages and submerged land parcels; and the waiver of property registration taxes and the annual property assessments within the tsunami-affected areas.

The perceived weaknesses of RALAS reflect the difficulties of operating in a post-disaster environment. These include the speed at which land titling occurred and the adequacy of engagement among BPN, non-governmental organizations (NGOs) and civil society organizations (CSOs). Land administration processes within RALAS were hampered by inadequate government funding, human resource difficulties, limited monitoring and evaluation, poor provincial databases and difficulties with procurement. Implementation problems included limited information dissemination, uneven coverage of affected areas, poor selection of project areas and delays in the distribution of titles. During the early stages of RALAS, management was carried out on an *ad-hoc* basis, and during 2006 and 2007 annual work plans and budgets were often not completed. Many of these issues reflect limitations in the capacity of the land agencies to undertake the large task of recovery and reconstruction.

Sources: Multi Donor Fund for Aceh and Nias (2009). In-depth Progress Report; Deutsch (2008). Project Implementation and Beneficiary Assessment, Indonesia Reconstruction of Aceh Land Administration System (RALAS) Project.

involving illegal or inappropriate transfers of large interests in land from government to private interests; and administrative corruption, where administrative officials abuse the power of their office.

Governance is important to consider in the context of natural disasters as poor governance can dramatically impact the capacity of the land sector in the affected areas to respond to the disaster. When land governance is weak, the wealthy and powerful are able to dominate the decisions over land at the expense of the poor and more vulnerable. This is particularly important where large scale evacuation has happened and the opportunity exists for land grabbing through the exercise of power or through opportunism. Where governance structures do not recognize the rights of women and children, they may face problems regaining access to land when the husband dies in a natural disaster.

The existence of weak land governance affects the capacity of the land sector to manage the recovery and reconstruction processes in a transparent and equitable manner. Initial assessments following a natural disaster should identify problems with governance and capacity limitations and consider these in the design of recovery projects.

2.2 LAND ISSUES FOLLOWING HYDROMETEOROLOGICAL DISASTERS

The most recurrent and damaging in this category of rapid-onset disasters are floods, tropical cyclones, and storm surges. Weather forecasting allows the opportunity for early warning in most cases and, in more remote areas, residents may possess local knowledge about indicators of the onset of these disasters. However, people can still be caught by surprise by these events.

2.2.1 Floods and land tenure

While floods can occur in many regions of the world, data from CRED¹³ shows that flood mortality risk is heavily concentrated in Asia, and especially in Bangladesh, Cambodia, China, India, Myanmar and Vietnam. Other areas with high flood mortality risk include Afghanistan, Pakistan and Sudan. The countries with the highest levels of risk typically have a low gross domestic product (GDP) per capita, a low local population density and high physical exposure (UNDP, 2004).

Floods provide a particular set of challenges: there is an extended period of time during which people are prevented from having access to their land and livelihoods, and there is extensive damage to buildings, infrastructure and crops which impacts on shelter, food supply and livelihoods. While there is more warning with slow-onset floods, their duration is longer than for rapid-onset floods.

Major floods have a direct impact on lives and livelihoods because they cause a significant number of people to be displaced from their pre-disaster lands. Temporary resettlement is needed and, for the more extreme floods, people may be resettled at some distance from their original parcels of land. Return to affected lands may not be possible for a few months after the flood. Yet, people wish to return to their lands and livelihoods as soon as possible because there is a strong connection between affected rural lands and livelihoods and traditional adaptation measures.

Flash floods also result in considerable erosion and debris sedimentation; this impacts on land and livelihoods and causes crop damage and loss of assets (such as livestock and fishing equipment). Damage to arable lands after the disaster makes the land unusable until rehabilitation works are undertaken. In some cases, the land may not be able to be rehabilitated and the damage may be permanent. In these circumstances, landholders will need to find alternative sources of livelihood. In the more extreme cases, debris sedimentation can lead to the complete loss of land within the landholding. Shafi (2009) reports that in Bangladesh, the consequences of flood damage on livelihoods are that people may not be able to feed their family or pay their loans. The result is that they are forced to sell or lease their land. Shafi estimates that river bank erosion causes at least 20 000 families to become homeless each year, requiring them to migrate to urban areas or within their locality.

Flash flooding may also result in the clearing of land boundary fences and structures that define the extent of pre-disaster land occupation. This can cause problems for landholders with poor tenure security as they seek to reinforce their rights after the disaster.

13. ISDR (2009). 2009 Global Assessment Report on Disaster Risk Reduction: Risk and poverty in a changing climate. Geneva, Switzerland, United Nations.

Box 5 considers the land issues common to recent floods in Bangladesh, Mozambique and the Philippines.

BOX 5. FLOODS AND LAND TENURE – SOME COMMON THEMES FROM MOZAMBIQUE AND THE PHILIPPINES

Many parts of Bangladesh are flooded every year as a result of rainfall and the overflow of river banks. In September 1998, Bangladesh suffered the most severe flooding in modern world history: two-thirds of the country was underwater, there were 1 500 deaths and 30 million people were left homeless. The floods caused severe damage to road infrastructure, standing crops and livelihood assets such as agricultural equipment and inputs, productive assets and livestock. The total loss to the economy was estimated at US\$1 200 million.

Mozambique experienced several floods in the Limpopo and Zambesi Valleys between 2000 and 2008. Of these, a series of floods in 2000 were particularly devastating with over 700 killed and 2 million people affected. Four separate flood events occurred and the second was announced as being severe, but flood levels were not as high as expected. The third flood was also announced early as being severe, yet many people did not react. This time, the flood levels significantly exceeded the forecast, leaving many people vulnerable. Over 500 000 people were displaced and settled in more than 100 camps set up by the Government of Mozambique.

The Philippines is affected by many types of natural disasters, including floods. Between 1990 and 2006, there were 175 flood occurrences, killing over 5 000 people and affecting 5 million others.

While each of these disasters occurred in countries with different capacities and levels of vulnerability, there are some common themes:

- In areas with severe population pressure and shortages of land, farms and settlements are established on marginal land in areas at high risk of flooding. The result is that large numbers of often poor people are regularly exposed to flood hazards.
- Erosion and sedimentation from flash floods and river erosion can make arable land unusable, requiring resettlement and alternative livelihoods.
- Floods affect urban and rural lands which invariably exist with a range of tenures and forms of access rights. Recognition of land rights is important during resettlement and also for subsequent restitution. Where resettlement occurs far from livelihoods, alternative livelihood sources are needed.
- After the more major floods, resettlement is often required some distance from the affected parcels and livelihoods, and may be needed for several months until the waters subside and cleanup operations are completed. This should be done in consultation with the community elders. The risk is that people will return to the affected lands too early.
- Flood mapping is very useful for settlement planning.
- Selecting a location for a resettlement site is important. It should be on land where others do not have claims, unless there is agreement with a host community, or on government land.
- Restitution to land that was affected should be carefully considered in the context of a DRM strategy. Some areas may be too vulnerable to further natural disasters to be considered for restitution.
- Displaced persons who are settled in permanent resettlement camps should be provided with secure tenure. Secure tenure should also be provided for host community parcels.
- Land tenure of rural lands should provide flexibility for landholders who seek less flood-prone land for agriculture during the wetter months.

Source: Shafi, S. *Bangladesh: Land Tenure and Disasters*; De With, P. and Norfolk, S. *Mozambique: The floods in Mozambique*; Eleazar, L. *Philippines: Natural Disasters of All Kinds Rank High in the Philippines*; in FAO, UN-HABITAT et. al. *Land Tenure and Natural Disasters. Addressing Land Tenure in Countries Prone to Natural Disaster*. Rome, 2010.

2.2.2 Tropical cyclones and land tenure

Tropical cyclones (also called hurricanes or typhoons) and, to a lesser degree, storm surges are more dramatic than some other disasters because their impact is caused by multiple factors including extremely strong winds, torrential rains that may last for days leading to floods or landslides, and damaging storm surges causing extensive coastal flooding. Each year, an average of 78 million people worldwide are exposed to tropical cyclones and 1.6 million are exposed to storm surges. The largest absolute population exposure is in the Asian countries, with the highest proportion in SIDS. Some countries, such as the Philippines, have a very high absolute and relative exposure (ISDR, 2009). According to CRED data,¹⁴ the top ten countries on the mortality risk index are Bangladesh, the Dominican Republic, Fiji, Haiti, India, Madagascar, Mozambique, Myanmar, the Philippines and Vanuatu. Countries most at risk of tropical cyclones are those with a high percentage of arable land and a high level of physical exposure (UNDP, 2004).

The areas where the eye of the storm passes are hit the hardest, however the damage can extend beyond this region for great distances. As the cyclone reaches land, it can produce hazards such as flooding, tornadoes and torrential rainfall. Loss of life is common, as well as extensive damage to private and public buildings, infrastructure, livestock and crops. The damage to the local economy is extensive.

Cyclones can cause short-term displacement as people seek safer places away from the eye of the storm, and while heavy rains and flooding continues. As a result of cyclones and hurricanes, landholdings can suffer from the deposit of debris and sediment and may incur considerable damage to buildings and infrastructure. In areas where cyclones are a recurrent hazard, it may be necessary to seek permanent resettlement solutions away from the more vulnerable coastal areas.

Box 6 summarizes some common themes from recent cyclones and hurricanes and lessons from Hurricane Mitch in Honduras in 1998, Hurricane Ivan in Grenada in 2004, Cyclone Nargis in Myanmar in 2009 and 303 cyclones in the Philippines between 1990 and 2006.

2.3 LAND ISSUES FOLLOWING GEOPHYSICAL DISASTERS

Geophysical disasters include earthquakes, tsunamis and landslides and present unique challenges as they are rapid-onset, occur often with little warning, and have a devastating impact on lives and livelihoods. Another unique aspect of these disasters is that a repeat event may not occur for years or possibly decades, although some areas may be more hazard-prone than others. This leaves people more vulnerable and less likely to implement adaptation measures than for more recurrent events such as floods.

14. ISDR (2009). 2009 Global Assessment Report on Disaster Risk Reduction: Risk and poverty in a changing climate. Geneva, Switzerland, United Nations.

BOX 6. COMMON LAND ISSUES AFTER CYCLONES IN HONDURAS (1998), GRENADA (2004), MYANMAR (2008) AND THE PHILIPPINES (1990–2006)

Hurricane Mitch in Honduras in 1998 was Central America's worst natural disaster in over 200 years. It flooded cities, damaged infrastructure, removed topsoil on farms and caused mudslides that buried entire villages and farmlands. Hurricane Ivan struck the Caribbean island nation of Grenada in 2004 bringing very strong winds that caused extensive damage to infrastructure, tourism facilities and the agricultural sector. The Grenada banana crop was totally destroyed, and there was significant damage to traditional export crops of nutmeg and cocoa.

In 2008, Cyclone Nargis struck Myanmar's Irrawaddy Delta, killing approximately 140 000 people and affecting as many as 2.4 million others. Approximately 700 000 people were displaced and 450 000 homes were destroyed, overwhelming the national authorities. Immediately after the cyclone, displaced people settled in a range of shelters (e.g. formal camps run by local authorities, self-settled camps and temporary settlements in schools, monasteries and churches).

From 1990 to 2006, there were 303 tropical cyclones in the Philippines' area, including 32 in 1993. Tropical cyclones often combine with heavy rains to produce flooding or flash flooding. In the major cities in the Philippines, vulnerability is increased by the uncontrolled expansion of informal settlements on public land and hazard-prone areas.

Lessons from these tropical cyclones include:

- People who seek shelter in self-settled camps or with friends and relatives may not gain access to response and recovery funds and support.
- Host communities need to be consulted and supported while they host displaced people. This includes recognizing the rights to land of both the hosts and the resettled people.
- Levels of tenure insecurity are higher after the disaster.
- There is a need to quickly recognize formal and informal land rights that existed prior to the disaster. These vary in legal and social legitimacy.
- In some cases, customary rights exist without legal recognition.
- Recognition of informal tenure and partial rights (e.g. for squatters, sharecroppers or renters) is necessary but more difficult to adjudicate. So, a flexible approach to adjudicating and validating land tenure is needed.
- A loss of personal records and formal government land records complicates the adjudication process.
- Unresolved land tenure issues that impact agriculture and sustainability come to the fore after the disaster.
- Poor institutional capacity in the land sector limits the ability to rapidly adjudicate large numbers of claims and limits the ability to implement land administration improvements.

Source: Barnes, G. and G. Riverstone (2009). *Exploring Vulnerability and Resilience in Land Tenure Systems after Hurricanes Mitch and Ivan*; Pedersen, S. R. (2009). *End of Mission Report (PROCAP), OCHA - Myanmar*; Eleazar (2009). *Philippines Country Brief on Land Tenure and Natural Disasters*; and FAO/HABITAT, (2009). *Philippines: Natural Disasters of All Kinds Rank High in the Philippines*, FAO/UN-HABITAT (2010).

2.3.1 Earthquakes

ISDR (2009) names the top ten countries on the CRED mortality risk index for earthquakes as Afghanistan, China, Colombia, Guatemala, India, Indonesia, Iran, Myanmar, Pakistan and Peru, and concluded that earthquake vulnerability is "highest in countries with relatively higher levels of economic and urban growth, but that have not yet put in place planning and regulatory frameworks capable of

factoring disaster risk reduction considerations into urban development”. Risk is higher for countries with high rates of urban growth and physical exposure (UNDP, 2004).

Earthquakes can cause a number of secondary hazards such as landslides, avalanches and tsunamis and also can cause damage to buildings and infrastructure. They may indirectly affect livelihoods while roads and irrigation infrastructure are repaired. Structural collapse of buildings is more frequent in countries where there are high rates of urbanization and weak enforcement of building codes resulting in poor quality and informal housing construction. ISDR (2009) concluded that “some low-income countries have yet to urbanize sufficiently to increase their earthquake risk. High-income countries, on the other hand, have been able to regulate development through tools such as building codes and land-use zoning and have invested in retrofitting buildings to withstand strong shaking”.

Considerable loss of life is often a consequence of the more severe earthquakes. However, crops are not likely to be extensively damaged. The effect is greatest in urban areas where considerable rebuilding or repair of buildings and infrastructure is needed. A significant land issue is the need to protect pre-disaster property rights to land on landholdings where houses were damaged and people have been temporarily displaced.

Box 7 presents the land issues for the earthquakes in Gujarat in 2001, Yogyakarta in 2006 and Haiti in 2010.

2.3.2 Tsunamis

A tsunami is caused by underwater movements from earthquakes or landslides, and can also be caused by the eruption of submarine volcanoes or asteroid impacts. The more tsunami-prone areas include the large Asian countries such as Indonesia and Japan, SIDS and countries on the Pacific coast of South America, such as Chile and Peru. Tsunamis are very infrequent with only five to ten events reported globally each year. The ISDR (2009) Global Assessment Report on Disaster Reduction claims tsunamis have return periods of approximately 500 years (i.e. a probability of 10 percent of an event occurring in 50 years). The time between the triggering event and the tsunami reaching land varies and influences the effectiveness of early warning systems and the possibility of evacuation.

However, they can be very devastating when they do occur, as evidenced by the Asian tsunami in 2004. The large waves can travel far inland, and can cause flooding faster than tidal waves and storm surges. They cause significant loss of life as well as considerable erosion of the landscape and destruction of buildings, infrastructure, livestock and crops. The impact on families and livelihoods is immense and a massive cleanup operation is required in the affected areas.

The damage to land may leave people landless because the land may become temporarily or permanently unusable. Where the tsunami occurs in an area that is also vulnerable to other recurrent hazards, such as tropical cyclones or storm surges, there may be a need to seek resettlement of communities to safer lands, often away from coastal areas. For example, following the earthquake and tsunami that hit the Solomon Islands in 2007, the land agency and local communities decided that there was a pressing need to relocate vulnerable coastal communities to higher, less vulnerable sites as part of a risk reduction strategy. Relocation was complex and was achieved partly on state-owned land and

BOX 7. CRITICAL LAND ISSUES AFTER EARTHQUAKES IN INDIA (2001), INDONESIA (2006) AND HAITI (2010)

Following the 2001 earthquake in Gujarat, India, 13 805 people were killed, over 200 000 dwellings were destroyed and more than 900 000 dwellings were damaged. There was also damage to hospitals, school buildings, municipal buildings in 14 towns, the water supply, power, telecommunications and transport infrastructure. The major impact on agriculture was the damage to irrigation assets and stock losses. Sites for temporary accommodation were established within the affected towns, however many chose to repair or reconstruct buildings in-situ. Where the damage was more than 70 percent, villagers were given the choice of relocation. About 36 villages were fully relocated and about 70 villages were partly relocated.

In the 2006 Indonesian earthquake in Yogyakarta and Central Java, over 5 000 people died and approximately 200 000 people were displaced or left homeless. Nearly 40 000 houses were destroyed and another 24 000 were damaged. There was also damage to the power supply, roads, airports, hospitals and schools.

The 2010 earthquake in Haiti killed more than 200 000 people and displaced more than 1.5 million people. The reconstruction effort is complicated by the breakdown of social order, problems with the security situation and extensive damage to governance structures. In some areas, everything will have to be rebuilt.

Land issues common to these disasters include:

- Aftershocks may occur, affecting the safety of access to properties after the earthquake.
- There is a need for coordination among institutions on decisions relating to land.
- The major impact is on urban buildings and infrastructure, and the choice of location for temporary resettlement is important. Settlement needs to be near people's previous land and livelihoods, close to essential services and not on land where others have claims.
- A detailed assessment of the damage to buildings is needed.
- Existing tenure security issues are highlighted after the disaster, and the recovery and reconstruction phase is an opportunity to assess these.
- Post-disaster operations need to respond quickly to protect tenure security. Mechanisms are needed to ensure that land is not seized and that fraudulent claims to land are not honoured.
- There needs to be an understanding of insecure tenure and partial rights that existed prior to the earthquake in order to determine eligibility for assistance. The landless (e.g. labourers and sharecroppers) and people with insecure tenure are the most vulnerable to disasters.
- The enabling policy and statutory framework are important factors in the adjudication process. It is necessary to understand the prevailing attitudes towards land.
- There is the need to adjudicate rights, prior to construction, to determine eligibility for assistance for rebuilding or reconstruction.
- Involving the local community and institutions in the adjudication process is important.
- It is important to consider the implications of planning norms on future urban growth.

Source: UN-HABITAT, (2007) Scoping Report: Addressing Land Issues after Natural Disasters; Herianto, et al. (2006) An Assessment of People's Livelihoods in Yogyakarta and Central Java Provinces Pre- and Post-Disaster; and IEG (2010) WBG Response to the Haiti Earthquake: Evaluative Lessons.

partly on communal land. The active participation of rural landowners and customary chiefs was seen as critical during this process (Gorapava, 2010).

Box 8 describes the land issues following the 2004 tsunami in Aceh and Nias.

BOX 8. SUMMARY OF LAND ISSUES IN ACEH AND NIAS FOLLOWING THE 2004 ASIAN TSUNAMI

On 26 December 2004, Aceh and North Sumatra were devastated by an earthquake and tsunami which hit an area approximately 220 km long by 5 km wide, and resulted in over 130 000 deaths in Aceh and approximately 1 000 deaths in Nias. In the recovery stages, it was estimated that approximately 100 000 people were left homeless, and many of the survivors lost relatives and friends and many institutions lost key staff. More than 40 BPN staff lost their lives and several land offices were damaged or destroyed.

Another impact of the tsunami was the destruction of property boundary marks and the loss or damage to approximately 80 percent of land records held in damaged land offices. These land records included records of land ownership (e.g. land register books and land titles), cadastral (ownership) maps and details of where the boundary markers are located on the ground. Any evidence of previous occupation (such as property marks or building foundations) that did survive the tsunami was also very likely to be demolished in the cleanup operations that were necessary prior to rebuilding.

The tsunami-affected areas had been experiencing a 30-year conflict, which had resulted in nearly 15 000 deaths. The conflict left the Acehnese more vulnerable to shocks and resulted in many people being displaced at the time of the tsunami. Partly as a result of the tsunami, a peace accord created an opportunity for development in previously off-limit rural villages, and led to thousands of internally displaced people seeking to return to their previous homes, further adding to the pressures of resettlement and land adjudication.

Soon after the disaster, BPN issued a decree preventing the sale of land in an effort to stop land speculation. While this had an impact, it is hard to judge the number of informal land transactions that may have occurred. A necessary precondition for the reconstruction of houses is the determination of property rights, including legal ownership, leasehold arrangements and long-term occupation of land. In Aceh and Nias, most landholders did not own land. Approximately 600 000 parcels were affected and only 25 percent of those had land titles (approximately 92 000). As many as 250 000 parcels were subject to informal tenure. It was recognized early that two types of protection of property rights were required: (i) for those whose property rights were registered before the tsunami and (ii) for the more difficult circumstance in which individuals occupied land prior to the tsunami without a registered title. Informal occupation can occur under adat law and include land held by individuals and communal adat land (of which very little exists in the affected areas). A further complication was determining the inheritance rights for families in cases where the person in whose name the land records were recorded had died (6 000 inheritance claims were filed in the first three months).

The sheer scale of the challenge facing those responsible for the emergency response was enormous. During the emergency response, it was recognized that there had to be a trade-off between rebuilding homes as quickly as possible and undertaking a transparent and community-driven process. The emergency response phase was able to avoid mass outbreaks of disease, provide sufficient food supplies, provide shelter for the homeless in host villages and clean up the massive amounts of debris left by the disaster. Nine months after the tsunami, many people still remained in settlements, although some had chosen to move back to their villages and set up tents around newly constructed mosques while awaiting the rebuilding of houses.

*Source: BRR and World Bank (2005). *Rebuilding a Better Aceh and Nias: Stocktaking of the Reconstruction Effort*; Winoto (2005). *Reconstruction of Land Administration System in Nanggroe Aceh Darussalam (NAD) and Nias*; Deutsch, R., (2008). *Project Implementation and Beneficiary Assessment, Indonesia Reconstruction of Aceh Land Administration System (RALAS) Project*.*

2.4 THE RELATIONSHIP BETWEEN DROUGHT AND LAND TENURE

Drought differs from the other natural hazards types mentioned above in several ways. The first difference is that drought is a slow-onset hazard which develops from a prolonged period of lower-than-average rainfall. The second major difference is that drought can occur anywhere, unlike earthquakes, floods or tsunamis that occur along predictable natural features such as fault lines, rivers or coasts. A third difference is in the impacts of the hazard. Deaths that are attributed to droughts are often not a direct result of the disaster, but are caused by a related political crisis or civil conflict where aid could not reach the affected population. There are three general categories of the causes of drought: (i) meteorological or insufficient precipitation; (ii) agricultural (where there is insufficient soil moisture); and (iii) hydrologic (where water supply levels are below average for a prolonged period). The direct impact of drought is typically extensive damage to crops and possibly large numbers of livestock losses; the local impact on livelihoods and food security can be immense.

Land tenure has a particular relationship with drought that presents different challenges than the other disasters mentioned in this module. Drought is slow-onset and therefore does not have the same sudden impact of other disasters. This allows people time to implement response measures during the drought and to prepare for future droughts. Hydrometeorological drought can lead to declining water bodies, which endangers agricultural use. Where there is extreme impact on the water supply, pastoralists may abandon the land and their livelihood or take over land used by others, resulting in conflict.

Climate change is resulting in more frequent occurrences in drought-prone regions, and traditional adaptation measures (e.g. movement to alternative lands) are affected by reduced availability of land. Landholders in the more drought-prone areas may have fewer livelihood alternatives than their ancestors. Land reform may also threaten traditional migratory patterns for pastoralists, as illustrated by the example of the Qashqai nomadic communities of Iran (see Box 9).

Land tenure security is very important in drought-prone areas because it provides an incentive for landholders to invest in adaptation measures such as sustainable pasture use, construction of irrigation systems and development of drought-resistant crops. Development of additional water sources is a typical drought adaptation measure. Traditional adaptation to seasonal variations in climate and conditions has often involved migration to other less-affected areas for the drier months. For example, pastoralists in Mongolia have traditional customary rights to land approved by municipal and district councils to allow migration and rangeland user rights in case of emergencies.

Land tenure systems that allow this flexibility of movement are needed to support this traditional response to drought, and it is important that these tenure systems are secure. Security is provided through official recognition of the land rights of people who use these areas, and in some cases there may be overlapping rights to land. In drought-prone areas, land tenure must accommodate collective ownership and have the flexibility to recognize traditional patterns of mobility between seasons. Where collective ownership arrangements have broken down, there must also be a resolution for resolving disputes that occur. In certain circumstances where mobility is not necessary, land tenure security based on individual parcels may be appropriate.

BOX 9. LAND REFORM, DROUGHT AND THE QASHQAI NOMADIC COMMUNITIES IN IRAN

Between 1999 and 2001, Iran suffered a drought that was estimated to be a once-every-30 years drought. Pastoralists comprise 2 percent of the total population and meet about 25 percent of Iran's livestock needs. They depend largely on grazing livestock for their livelihoods and were put under severe pressure during the drought.

The Qashqai are the largest group of migratory nomadic pastoralists in Iran and they live and migrate through parts of southern Iran. The Qashqai have developed complex natural resource management strategies that include a livestock-based livelihood system based on migration to make the best use of precipitation patterns. They have traditionally migrated with their herds two times each year from summer to winter pastures, based on customary regulations enforced by traditional tribal leaders.

Land reform in 1963 resulted in the nationalization of all natural resources, and all rangelands became state property. Individuals were granted use of land based on short-term grazing licenses, and pastoralists were alienated from their common property land and customary rights. Traditional practices of pastoral communities were affected by the fragmentation and degradation of their summer and winter pastures, and by restricting their migratory routes.

Source: CENESTRA (2004) Case Study: The role of Qashqai nomadic communities in reducing vulnerability to recurrent drought and sustainable livelihoods development in Iran, in The Role of Local Institutions in Reducing Vulnerability to Recurrent Natural Disasters and in Sustainable Livelihoods Development. For the Rural Institutions Participation Service, FAO Rome.

Land tenure arrangements in drought-prone areas also need to recognize the production needs of families and collective groups and the land area per person needed to accommodate this production. Where there has been fragmentation of land use, the recognition of rights to individual parcels can formalize shortages of land. Collective recognition of land rights allows for some flexibility to accommodate changes in the number of people involved, such as when children reach adulthood and may or may not continue to seek their livelihood on the land.

2.5 FURTHER READING

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HIGHLIGHTS FROM MODULE 2: LESSONS LEARNED FROM PREVIOUS NATURAL DISASTERS

Land administration systems

- Where formal legal frameworks for land coexist with customary or informal legal systems, the customary and religious leaders play a significant role in decisions and disputes over land. Decisions about land tenure in these areas should be made in close consultation with the customary elders, and the processes should be accepted by the customary and religious leaders.
- Land institutions face the greatest demand when rebuilding activity is ready to commence because decisions need to be made on rights to each parcel of land before rebuilding. Existing tenure security issues are highlighted after the disaster, and the recovery and reconstruction phase is an opportunity to assess these. Best results are achieved when the land agency coordinates an adjudication process prior to rebuilding that actively includes the community in all decisions, in a manner that is consistent with public records of rights existing before the disaster. For this to happen there may need to be considerable capacity building and support.
- Poor governance can dramatically affect the capacity of the land sector to respond to the disaster. When land governance is weak, the wealthy and powerful are able to dominate the decisions over land at the expense of the poor and more vulnerable. This is particularly significant when large-scale evacuation has taken place and there are opportunities for land grabbing through the exercise of power or through opportunism. In places where governance structures do not recognize the rights of women and children, they may face problems regaining access to their land if the husband died in the natural disaster. Initial assessments following a disaster should identify problems with governance and capacity limitations and consider these in the design of recovery projects. Post-disaster operations need to respond quickly to protect tenure security. Mechanisms are needed to ensure that land is not seized and that fraudulent claims to land are not honoured.
- Insecure tenure and partial rights that existed prior to a disaster must be understood in order to determine eligibility for assistance. The landless (e.g. labourers and sharecroppers) and people with insecure tenure are the most vulnerable to disasters.

Floods, tropical cyclones and tsunamis

- Floods affect urban and rural lands, which are held under a variety of tenure and access rights. There is a need to quickly recognize formal and informal land rights that existed prior to the disaster. These vary in legal and social legitimacy. Recognition of these rights is important during resettlement and also for subsequent restitution.
- Recognizing informal tenure and partial rights (e.g. for squatters, sharecroppers or renters) requires a flexible approach to adjudicating and validating land tenure.
- Erosion and sedimentation from flash floods and river erosion can make arable land unusable,

requiring resettlement. Where resettlement occurs far from livelihoods, alternative livelihood sources are needed.

- Flood mapping is very useful for settlement planning.
- Land tenure for rural lands should provide flexibility for landholders who seek less flood-prone land for agriculture during the wetter months.
- Unresolved land tenure issues that impact agriculture and sustainability come to the fore after the disaster.

Earthquakes and the urban dimension

- The major impact is on urban buildings and infrastructure, and the choice of location for temporary resettlement is important. Settlement needs to be near people's previous land and livelihoods, close to essential services and not on land where others have claims.
- A detailed assessment of the damage to buildings is needed.
- It is important to consider the implications of planning norms on future urban growth.
- Post-disaster operations need to respond to protecting pre-disaster property rights to land on landholdings where houses were damaged and people have been temporarily displaced. In addition, efforts should be made to regulate development through tools such as building codes and land-use zoning, and through investments in retrofitting buildings to withstand strong shaking.

Drought

- Drought is slow-onset and therefore does not have the same sudden impact that other disasters have. This allows people time to implement response measures during the drought, and to prepare for future droughts.
- Land tenure security is very important in drought-prone areas because it provides an incentive for landholders to invest in adaptation measures such as sustainable pasture use, construction of irrigation systems and the development of drought-resistant crops.
- People often have traditionally adapted to seasonally variable climate and conditions by migrating to other less-affected areas for the drier months. Security is provided by officially recognizing the land rights of people who use these areas, and in some cases there may be overlapping rights to land. Land tenure systems must accommodate collective ownership and have the flexibility to recognize traditional patterns of mobility between seasons. Where collective ownership arrangements have broken down, there must be a process for resolving disputes. In certain circumstances, where mobility is not necessary, land tenure security based on individual parcels may be appropriate.

Resettlement and restitution

- After a natural disaster, resettlement is often required some distance from the affected parcels and livelihoods, and may be needed for several months (e.g. in the case of severe floods) until the site is safe for return and cleanup operations are completed. The natural disaster may have caused considerable change to the landscape, affecting the resumption of livelihoods. Resettlement should be carried out in consultation with the community elders. The risk is that people will return to the affected lands too early.
- Selecting a location for a resettlement site is important. It should not be on government land or on land where others have claims, unless there is agreement with a host community.
- Displaced people who are settled in permanent resettlement camps should be provided with secure tenure. Secure tenure should also be provided for host community parcels.
- People who seek shelter in self-settled camps or with friends and relatives may not gain access to response and recovery funds and support.
- Host communities need to be consulted and supported while they host displaced people. This includes recognizing the rights to land of both the hosts and those who are resettled.
- Restitution of land that was affected should be carefully considered in the context of a DRM strategy. Some areas may be too vulnerable to natural disasters to be considered for restitution. Where restitution is decided, the restitution process should incorporate tenure security.

MODULE 3. **Addressing land issues in disaster risk reduction**



Module 3. Addressing land issues in disaster risk reduction

This module and those that follow discuss how land issues may be considered and addressed in the different phases of a DRM process. As described above, the DRM cycle commences before a disaster with a process of risk reduction that includes risk assessment, disaster preparedness and mitigation. This is acknowledged in Priority 5 of the Hyogo Framework for Action 2005-2015 (UNISDR, 2005) which states “At times of disaster, impacts and losses can be substantially reduced if authorities, individuals and communities in hazard-prone areas are well prepared and ready to act and are equipped with the knowledge and capacities for effective disaster management”. This is consistent with trends away from purely an emergency response to a more comprehensive DRM approach that leads to improvement in pre-disaster conditions and increases resilience among communities at risk.

Module 3 discusses how land issues may be addressed during pre-disaster activities and, in particular, during mitigation and preparedness. Land issues should be built into the overall disaster reduction strategies and programmes for areas at risk of recurrent natural disasters. Disaster management and emergency agencies, as well as land agencies, have a very important role to play in this process.

Disaster risk reduction (DRR) comprises elements that aim to minimize vulnerabilities and disaster risks. The process of DRR involves activities to avoid (i.e. prevention activities) or limit (i.e. mitigation and preparedness activities) the adverse impacts of natural hazards (UN/ISDR. 2004). These activities are summarized in Table 2:

TABLE 2. Prevention, mitigation and preparedness activities to reduce land issues after a disaster

DRR element	Activities and measures to reduce risk
Prevention	<ul style="list-style-type: none"> • Voluntary resettlement of people in hazard-prone areas where appropriate.
Mitigation	<ul style="list-style-type: none"> • Map hazards and assess risks. • Educate people living in hazard-prone areas about land rights. • Ensure land records are safe from the impact of disasters.
Preparedness	<ul style="list-style-type: none"> • Develop land policies and an associated legal framework based on a consultative and participatory process. • Develop land-use master plans based on a consultative and participatory process. • Decide upon potential transitional settlement areas. • Improve tenure security to enhance the rights of the more vulnerable. • Undertake capacity building for land administration agencies.

- Prevention is a term used to describe activities that lead to the avoidance of the adverse impact of hazards; this may include resettling people away from disaster-prone land. Prevention may be justified in areas that are prone to frequent disasters.
- Mitigation involves implementing measures to limit the adverse impacts of natural hazards. This may include conducting risk awareness and assessment (including hazard analysis), improving the quality of building construction and providing education about the risks and measures necessary for prevention.
- Preparedness involves activities undertaken prior to a disaster to facilitate effective emergency response. Examples of preparedness measures include developing effective early warning systems, developing a land policy framework that considers climate change and natural disaster risk, developing land-use master plans and undertaking capacity building for emergency and land agencies.

Improvements to tenure security and livelihoods during the recovery and reconstruction phases aim to build back better, but they cannot undo decades of underdevelopment or remove all risk of future hazards. It is important to draw on lessons from a disaster when developing risk-reduction measures as part of mitigation and preparedness projects. For example, projects that respond to land tenure or land access problems which were highlighted in post-disaster assessments may reduce the risk of land conflicts or land grabbing in future disasters. This section identifies several areas where those lessons (e.g. improving land policies and physical planning) may be implemented as part of a preparedness and mitigation process. Decisions about where people live (i.e. land-use planning) and recognition of their property rights in land policy and legal frameworks will help mitigate against further loss of land and livelihoods in future natural disasters.

3.1 PRE-DISASTER MITIGATION

3.1.1 Hazard risk mapping and land tenure

Planning for disaster mitigation is much easier if there is a clear understanding of an area's risk for hazards, levels of vulnerability and losses from previous disasters. Hazard mapping involves assessing previous patterns of natural hazards to help predict the location and likely frequency of future hazards. Risk assessment involves gathering information on the likelihood of hazards and on a range of vulnerability factors (e.g. the level of poverty, the type of housing construction, the culture and ethnic mix of a community and the level of tenure security). Hazard risk maps and risk or vulnerability assessments help identify the priorities for action during mitigation and preparedness phases.

In the UNDP (2004)¹⁵ report, urbanization and rural livelihoods were identified as two key variables in hazard risk. In very urbanized areas, where risk complexity and vulnerability are higher, high resolution data based on satellite imagery or aerial photography are needed to provide information at a scale that is useful for disaster mitigation or urban planning.

15. United Nations Development Programme, 2004: Reducing Disaster Risk: A Challenge for Development. United Nations Development Programme, New York, 161 pp. <http://www.undp.org/bcpr/disred/rdr.htm>.

As discussed in earlier sections, there are strong connections between hazard risk, the insecurity of tenure and vulnerability. Therefore the addition of land tenure status (or cadastral mapping) to hazard risk mapping is very useful for the development of land policies, and for land use and physical planning.

3.1.2 Education about land rights

For people seeking to return to their land after a natural disaster, a major problem is having limited information about the costs and processes involved in securing tenure. The poor, women, children and ethnic minorities are less likely to be informed about their rights to land and how to exercise them. Also, people who don't speak the predominant language may not be able to access land rights information.

People who lack an understanding of property rights and the legal land framework are more vulnerable to the impact of the disaster and to the possibility of losing access to land. Pre-disaster campaigns that provide information on land rights to all members of the community can help reduce this vulnerability and mitigate against the impact of a disaster. Central government land agencies should develop the information resources and coordinate their dissemination using a range of mediums and languages. NGOs also have effective local networks and can play a central role in disseminating information.

Where this has not occurred prior to a disaster, providing information about land rights becomes even more critical and urgent once the disaster strikes. In the recovery period, information about land rights should reach all affected and displaced people to allow them to make informed decisions about protecting their assets and returning to their land. It is most important for them to understand the risks of land grabbing, what the government will do to help reduce these risks, how land disputes will be resolved and what the landholder can do to maintain rights to land. This may be incorporated into a broader land advocacy process.

3.1.3 Ensuring land records are safe

International experience has shown that land records kept in buildings located in areas vulnerable to natural disasters may suffer damage or destruction in the event of a disaster. The loss of land records complicates the process of adjudicating the many land claims that arise following a disaster. In some cases, a land agency must produce new land records at a time when its capacity is limited. In other cases where there are many properties with insecure or informal tenure, rapid community-driven adjudication will be needed for most parcels. Information on land tenure is critical after a disaster, and the most reliable source of information about land tenure may be government records, if they are up-to-date.

Protecting land records involves ensuring that the building containing the records is not in a hazard-prone location. The rooms that house the records should be constructed in a manner to protect against rising flood waters, fire and strong winds, and the records should be stored in metal storage shelves to protect against damage. Making a backup or copy of the records and storing them in a secure site adds a further level of protection. Computer and ICT technology enables scanning and storing digital copies of land records and making backup copies.

3.2 PRE-DISASTER PREPAREDNESS

3.2.1 Land policies and legal framework

As discussed in previous modules, improving tenure security and access to land can bolster the resilience of people to disasters and provide incentives for them to undertake disaster mitigation and preparedness actions on their land. The resilience of people to natural disasters depends on a number of factors, including the level of land tenure security, governance and the cohesiveness of local communities. Individuals with land titles that are recognized by all sections of the community have much greater levels of protection than those with informal land tenure arrangements. There is also a risk that people with insecure tenure will lose their connection to their land and livelihoods after a disaster. Landholders who are able to verify their claim to land will be the first to seek to recommence land use, and they may not recognize previous rental or sharecropping arrangements or agreements to employ labourers.

Following a natural disaster, it is difficult to quickly improve tenure security in a manner that is sustainable. There may be some mechanisms that are easy to implement in the short term that result in some improvements for those who have socially legitimate, but not legally recognized, tenure. These include issuing decrees recognizing the rights of groups, entering into legal leasehold arrangements for people where such arrangements did not previously exist, or officially recognizing customary lands and landholders. However, more significant improvements to land tenure security require a long-term approach and should be based on the development of a comprehensive land policy framework.

In such an approach, State recognition of land rights is important, along with a land policy framework that elaborates and formalizes community attitudes towards land and that is developed in a consultative manner. This forms the basis for a legal framework that guides decisions on resettlement, restitution, land conflicts and subsequent decisions about land tenure and land use. An effective land policy and legal framework that protects the land rights of the more vulnerable is likely to be more important in mitigating against future disasters and supporting long-term and sustainable improvements to tenure security than ad hoc interventions on land tenure security. The policy environment is therefore an important factor in the effectiveness of a recovery. In order to develop good disaster recovery and reconstruction policies, it is important for emergency agencies and NGOs to fully engage with the government and local communities to test their approaches to emergency response.

Land policies are most effective where they have been developed using a transparent process and where the community has been actively consulted and involved. It is also important for policies to be consistent with the community's traditional attitudes towards land and its cultural norms, include all types of formal and informal tenure, and protect the rights of all people with an interest in land. Making improvements to tenure security requires an understanding of the traditional relationships between people and land.

The community consultation should aim to develop policies on a range of land matters, such as equitable access to land for the more vulnerable, processes for resettlement in the event of a disaster, and processes for resolving land conflicts and adjudication after a disaster. Land policies in areas at

risk of natural disasters should provide for people with legally and socially legitimate land rights, and allow for the recognition of tenure security for communal lands. In rural areas, land policy should provide sufficient flexibility to accommodate traditional migration of farmers between seasons. The policies should also recognize the rights of rental agreements and share-farming arrangements.

There are a range of options to improve tenure security in the medium to long term, from officially recognizing customary lands and landholders, to more formal legal remedies such as improving legal land rental agreements and formally registering land. In some circumstances, formal land titling may be justified for communities with insecure land tenure that are at risk of recurrent land natural disasters, and this should be done in conjunction with the development of a land-use master plan and consistent with existing land policies. Each land parcel and land tenure type may require different approaches to improve tenure security, and in each case, such improvements should be incremental and allow for progressive movement along the ladder of rights illustrated in Figure 3 (in Module 1).

Box 10 provides an example of the importance of the land policy and legal frameworks in Mozambique.

BOX 10. THE MOZAMBIQUE 1995 LAND POLICY FRAMEWORK AND 1997 LAND LAW

Mozambique has experienced major change in the last 20 years resulting from war, economic structural adjustment policies, severe drought, devastating floods and a severe HIV/AIDS epidemic. These factors have increased the vulnerability of much of the rural population. Many livelihoods and the productivity of smallholder farms are at risk from declining soil fertility caused by slash and burn agriculture, the loss of cattle and goats during the war, drought and floods. In particular, the southern and central regions of Mozambique are at greatest risk of drought. Regions below 20 metres above sea level and nearby major rivers – covering an area of over 1.7 million hectares – are at risk of flood.

Pre- and post-independence land policies resulted in rural communities moving to small subsistence plots on marginal lands. However, the Government of Mozambique commenced development of a new land policy that was approved in 1995. The objectives of this policy were to protect existing land rights, reduce conflict and attract investment into rural areas. It recognized customary land access rights and land management and the role of local leaders in resolving conflict and allocating land.

In 1997, the Land Law was approved, and its main objectives were to protect existing land rights, establish a transparent system for land allocation and stimulate rural investment and community development. A key aspect of the Land Law is its recognition of the right to land through occupation based on oral testimony, which helps protect many rural households' right to land. Under this law, the State attributes rights to use and benefit from land. These rights may be acquired by either occupation according to customary norms and practices, occupation in good faith for a period of at least 10 years, or a formal request to the State for a new land-use right. Local communities are involved in identifying existing land rights, implementing the titling process and resolving conflicts.

Sources: De Wit, P. (2002) *Land Conflict Management in Mozambique: Case Study of Zambezia Province*, Paper prepared for the Land Tenure Service of the FAO; and Norfolk, S. (2004) *Examining access to natural resources and linkages to sustainable livelihoods: a case study of Mozambique*. LSP Working Paper 17, FAO, Rome.

Once the land policy framework is developed to include consideration of land tenure problems and potential natural disasters, it is important for land agencies to undertake a comprehensive campaign to educate the public about land rights. This is especially important for people living in hazard-prone

areas, to help them prepare for natural disasters. The “Pinheiro Principles”¹⁶ aim to assist “in addressing the legal and technical issues surrounding housing, land and property restitution in situations where displacement has led to persons being arbitrarily or unlawfully deprived of their former homes, lands, properties or places of habitual residence”. The Principles recommend that States establish procedures and guidelines to assess restitution claims that include capacity building measures (e.g. training) and that they develop mechanisms for enforcement, dispute resolution and appeals.

For further information on the development of land policies, refer to the UN FAO Land Tenure Studies series: www.fao.org/nr/tenure/infores/Ltstudies/.

3.2.2 Land management and land-use planning

There have been several cases in which the national government of a country affected by a natural disaster has implemented planning restrictions on land use and rebuilding to reduce future vulnerability to disasters. After the 2004 tsunami, housing construction was prohibited in certain zones along the coasts in Indonesia, India and Sri Lanka. The Sri Lankan government wanted to establish a restricted area 100-300 m from the coastline, which would have required relocating over 118 000 houses and risked increasing tensions between resettled and existing communities (Brown and Crawford, 2006). In another example, planning restrictions introduced in India almost two years after the Gujarat earthquake provoked large demonstrations by property owners (Nakagawa and Shaw, 2004). Lessons from these situations show that the people affected by disasters do not want to relocate because they may have invested a considerable amount in housing and infrastructure. If the relocation is compulsory, there is a risk that the relocated people will return to their pre-disaster lands, or that others may occupy the unsafe land once evacuated.

The Hyogo Framework for Action 2005-2015 (UNISDR, 2005) listed land-use planning as one of its priorities for action, and called for disaster risk assessments to be incorporated into urban planning and management of disaster-prone human settlements. The Hyogo Framework for Action also called for disaster risk assessment to be incorporated “into rural development planning and management, in particular with regard to mountain and coastal flood plain areas, including through the identification of land zones that are available and safe for human settlement”. The process for developing land-use master plans includes mapping hazard risks and delimiting existing land-use patterns. However, the above examples were based on decisions made during the recovery or reconstruction phases of a disaster, where quick decisions were made in difficult circumstances. The desire to reduce the vulnerability of people living in hazard-prone locations during a recovery phase is understandable, but the decision-making process needs to acknowledge the complexity of the issues and the attachment people have to their land. Decisions about resettlement and about land tenure and land use are more appropriately made during a mitigation or preparedness phase when a consultative and transparent process may be used.

The World Bank publication *Safer Homes, Stronger Communities: A Handbook for Reconstructing after Natural Disasters* argues that “land use and physical plans integrated with strategic planning

16. Centre on Housing Rights and Evictions (The Pinheiro Principles: United Nations Principles on Housing and Property Restitution for Refugees and Displaced Persons).

can address reconstruction, DRR, and long-term development, yet be readily translated into action plans and investment proposals, including those that promote private investment.” However, it notes that the planning process needs “high-level support, active leadership from the government agencies that will actually implement the plans, and involvement from local communities”.

Natural disasters can increase land shortages, resulting in more competition for land and an increased risk of conflict over land. Decisions about land tenure and land use are best made during a mitigation and preparedness phase through an open and transparent land-use planning process. There are strong links between decisions on land tenure leading to the development of a land policy framework, and decisions on land use made in the development of a land use master plan. Recognition of land tenure rights and rights of access to land allow for consideration of improved land management as a component of adaptation to natural disasters. Sustainable land use planning and land management can only happen if there is agreement on land rights and access to land and natural resources.

Land use master plans provide an opportunity to develop a strategy for land management that provides protection for livelihoods, helps to improve food security, and includes preparedness activities to reduce vulnerability to future natural disasters. They also provide an opportunity to assess which communities are most vulnerable to future natural disasters and which would benefit from resettlement. For example, people in informal settlements at high risk of natural disasters may be identified as candidates for resettlement. Time should be taken to identify alternative land and livelihoods, and to develop a voluntary resettlement programme that provides each affected household with a level of tenure security and replacement of housing and other assets where appropriate. In some cases, there could be a transition during which people have access rights to both properties while they establish their shelter and livelihoods in the new location.

Sustainable land-use planning and land management can only happen if there is agreement on land rights and access to land and natural resources. It is often quite a difficult process to determine and document all existing land-use rights. Maps and aerial photography or satellite imagery can be useful. However, it is important to involve the local community if the results are to be accepted. When this approach is combined with a deep understanding of traditional attitudes towards land, land-use plans are likely to be more sustainable.

3.2.3 Protecting the property rights of the more vulnerable

The degree of a disaster’s impact on households depends on a range of factors, including the level of tenure security, the extent of lasting damage to the property and the capacity of people to recover their property and reclaim their rights to land. As part of a preparedness approach, there is an opportunity before a disaster to safeguard and strengthen the rights of vulnerable groups. Some level of protection can be provided, depending on the strength of land governance, by effective public policies that recognize the rights of the more vulnerable and a supporting legal framework. However, if there are problems and inadequacies with these policies and legal frameworks, there is the potential for discrimination against the poor and especially women, children and ethnic minorities. Customary groups may also be particularly vulnerable.

Information is needed to identify which households and groups may be particularly vulnerable and their attitudes towards land tenure. Actions to protect the rights of the more vulnerable should be consistent with international conventions on human rights, displaced persons and discrimination. Under Article 17 of the Universal Declaration of Human Rights (United Nations, 1948), people affected by a disaster have the right not to be arbitrarily deprived of their property. One aspect of this is protection of possessions left behind on disaster-affected land. Principle 21 of the UN Guiding Principles on Internal Displacement states that “property and possessions left behind by internally displaced persons shall be protected against destruction and arbitrary and illegal appropriation, occupation or use”. The risk of looting after a disaster is considerable, and government is responsible for ensuring that this risk is reduced so that people don’t feel the need to return to hazardous areas to protect their assets.

Another issue is the right for restitution, where possible. An overarching principle, established by the Pinheiro Principles, is that displaced people have the right to return to their lands when the emergency response is completed. Each person should have rights to land that are at least as good as the situation prior to the disaster. Principles 28-30 of the UN Guiding Principles on Internal Displacement state that competent authorities have the responsibility to assist displaced persons to recover their property or, where this is not possible, to assist these people in gaining appropriate compensation or just reparation. The land policy framework should be consistent with these principles.

Protecting the inheritance rights of women and children

International human rights principles protect women’s equal rights to land, property, housing and inheritance. However, in many countries there are inadequate provisions in the law for women to hold rights to land independently of their husbands. The only way that most women can access property rights is through their roles as wives, daughters or sisters. These rights are secondary rights, and depend on the enforcement of cultural norms and legislation. Often, women need to be organized in society in order to uphold their rights. In customary societies, women have limited access to land through inheritance or purchase; however, they may have rights for use and management of the land under cultural norms.

Land policy and legal frameworks should protect the rights of women and children if the male head of the household dies in a natural disaster. Women who become single heads of household are particularly vulnerable, and this is accentuated and highlighted after a natural disaster. Many of the poorest households living in informal settlements are women-headed households. For example, 26 percent of the population in informal settlements in Brazil and 20 percent in Bosnia and Herzegovina are women-headed households (UN-HABITAT, 2009). Because women’s rights of access to land are often through their husbands, women who are the single heads of households may lose access to land after a disaster. The case study in Box 11 illustrates some gender issues after the 1991 floods in Bangladesh.

For many poor households, women play the major role in producing food, feeding the family and maintaining the household. Protecting women’s access to land enables them to continue to play these important roles. Women-headed households can benefit enormously from the security and additional revenue streams that secure access to land can provide.

BOX 11. THE VULNERABILITY OF WOMEN IN BANGLADESH TO NATURAL DISASTERS

Bangladesh is one of the countries most vulnerable to climate change, and low-lying coastal cities are particularly vulnerable to the risks of rising sea level and storms. The impact of disasters on the urban poor is significant; it is exacerbated by migration from rural areas, which places greater pressure on scarce housing, water, sanitation and energy services and increases the number of vulnerable urban poor people.

In the rural areas, those with insecure land tenure are also particularly vulnerable – particularly the lower Adivasi castes and women. In Bangladesh, women have limited rights of access to land. Land may be obtained by women through marriage on a limited usufruct basis, but in the event of a divorce, the women are left landless and without collateral. A likely result of climate change is declining availability of fertile land, and it is likely that women will be the first to lose access rights. Women are the main users and carriers of water, and the declining availability of water and resources will result in increasing women's work loads as they will need to collect unsalinated water to sustain their families.

During the 1991 cyclone and floods in Bangladesh, the death rate for women was almost five times higher than for men. Huq and Ayers (2007) argued that “this was because men were able to communicate with each other when they met in public spaces, but information often did not reach the household, and because many women were not allowed to leave their homes in the absence of a male relative, many waited for their male relatives to return”.

Bangladesh is implementing various DRR measures, including National Adaptation Programmes of Action (NAPAs) in 2005. NAPAs are produced by governments of least-developed countries for the UNFCCC and they identify immediate and urgent climate change adaptation needs. The NAPA documents focus on six sectors, one of which is “Livelihood, Gender, Local Governance and Food Security”.

Source: Huq, S. and J. Ayers, *Climate Change Impacts and Responses in Bangladesh*. 2007, European Parliament's Temporary Committee on Climate Change: London.

Children who are left as orphans after a disaster have less capacity to assert their rights and are at risk of people taking over their pre-disaster family land and housing. Orphans' rights are violated when they are denied the possibility of benefiting from their parents' property, either in the present or in the future. In customary communities this may be complicated; there may be some basis in customary law for children to inherit or use their parents' property, or for their parents' property to be distributed within the extended family, or for guardians to decide how inherited property is to be distributed among the extended family. The danger is that the extended family or guardians will confiscate the land, leaving the orphans without access to land and shelter. Orphaned children should be guaranteed legal protection of their inheritance rights, and should be able to participate in and be informed about all decisions regarding their parents' property.

Measures to protect the rights of orphans include:

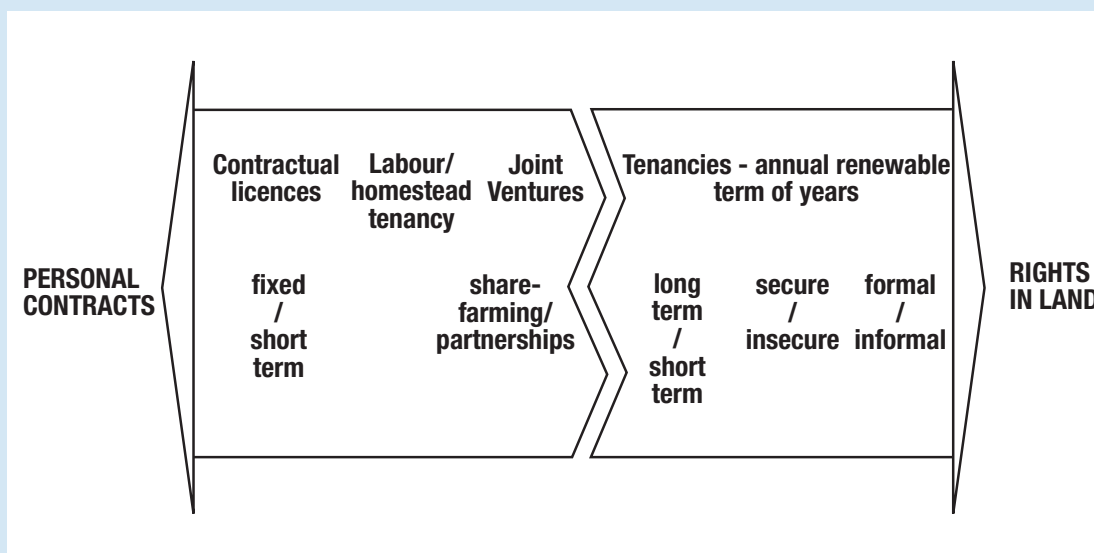
- recording land rights in the names of eligible orphans rather than in the names of their guardians;
- developing a separate inventory of all landowning children orphaned by a disaster, including the names and addresses of their guardians and the location of their land holdings;
- ensuring that the government and international agencies monitor the guardians of landowning orphans (UN-HABITAT/FAO, 2009).

Protecting the property rights of tenants

People with insecure forms of tenure, such as agricultural or urban tenants, are less likely to have records to prove their rights to land. Box 12 provides explains the range of tenancy arrangements that may be used.

BOX 12. A RANGE OF LEASING ARRANGEMENTS

Tenancy arrangements are used by tenants when they cannot purchase land or when they prefer not to use their capital for a long-term investment to purchase land; they can also be used by landowners who want to avoid wage labour costs. Some farmers have labour and/or capital but do not have the land to fully use these resources. Others have land which they do not work because, for example, they lack labour or capital or because they have no interest in engaging directly in agricultural production. The result, as the diagram below illustrates, is a wide variety of arrangements, extending from personal relationships based on usufruct rights to small parcels of land, to full tenancies of farms held as interests in property.



Source: FAO (2002) Good Practice Guidelines for Agricultural Leasing Arrangements, FAO Land Tenure Studies 2.

Tenancy arrangements may be in the form of contractual license arrangements, labour tenancies, sharecropping or other forms of tenancy. Contractual license arrangements are common throughout the world and involve the landowner contracting out some or all of the farming operations. An example is the Indonesian system of *tebasan*, in which an agricultural merchant reaches an agreement with a farmer to harvest a standing crop, which reduces the farmer’s work and risk levels and gives the merchant an opportunity to assess the quality of the crop prior to purchase (Lastarria-Cornhiel, and Melmed-Sanjak, 1999).

Under labour tenancies, labourers receive a small wage or share of the output, together with usufruct rights to a small parcel of land. Labour tenancies are found in the rural areas of many countries in Africa and Asia.

With sharecropping, the landowner and tenant share the costs and the profits. In some cases, the arrangements may be very similar to contractual labour relationships, and in others the arrangements more closely resemble a full tenancy. An example from Peru is the system of *yanacónaje*, used for cotton production and other commercial crops, in which landowners provide land, seed, oxen and tools in exchange for a portion of the harvest. Sharecropping was considered convenient for landowners because little capital outlay was required and most of the risks were borne by the sharecroppers. The sharecroppers provided additional labour during peak harvesting times. Under the arrangements, sharecroppers sold their share of the harvest to the landowner below market price. This imbalance led to the 1962 and 1969 agrarian reforms, which gave the *yanacónas* the opportunity to buy the land they had been sharecropping (Lastarria-Cornhiel, and Melmed-Sanjak, 1999).

In more traditional tenancies, there is a fundamental separation between the interests of the landowner in leasing the land and the interests of the tenant. In Uganda, for example, some individuals have been granted leasehold titles for periods of 49 or 99 years in return for a small rental fee payable to the State. These leaseholds provide long-term tenure security and are often called “ownership”, although the land technically remains State property (Adoko and Levine, 2004).

Following the 2001 earthquake in Gujarat, India, a lack of land records hindered planning for rehabilitation in some towns (Burns, 2008). Many households in affected urban areas were under tenancy; in Bhuj, for example, it was estimated that 40 percent of households were tenants, with varying levels of tenure security. Tenancy became an issue when authorities were determining eligibility for rehabilitation assistance, and a lack of awareness of land issues compounded the problem as NGOs built some houses before land rights were resolved.

Recognizing the social legitimacy of informal settlers

Rapidly urbanizing areas with insufficient land for the poor frequently witness the growth of informal settlements – often in disaster-prone locations. In many countries, people who reside in houses in informal settlements do not have legal identity records; if they do have such records, they may lose their legal status because they breached restrictions by relocating without official permission. Informal settlers are extremely likely to be left landless if a disaster affects their settlement. Shafi (2008) reported that landless people were among the most vulnerable of those affected by the 2007 cyclone in Sidr, Bangladesh, and they represented a significant proportion of affected households. When the cyclone hit, they were living in informal settlements on the outside of embankments and suffered the most damage to their homes and assets. After the disaster, they continued to live on informal lands and were more likely to not receive reconstruction assistance.

In rural areas, civil conflicts and natural disasters can lead to the displacement of people who develop settlements and undertake farming on marginal and hazard-prone lands. In northern Uganda, following the 18-year conflict, over 800 000 people have been displaced from their original land. Camps for internally displaced persons (IDPs) are very crowded and there is a shortage of land available for farming. Most IDPs wish to return to their own land which is often only a few kilometres away. Once the threat of civil unrest disappears, the IDPs will be supported in restitution by elders and neighbours;

however, the more powerful may attempt to exploit the more vulnerable. As the displacement continues on beyond a short-term period, it is necessary to create measures to protect the people's rights to their land so that they have a level of security while waiting for restitution in the IDP camps (Adoko and Levine, 2004).

Recognizing customary rights to land and natural resources

In the rural and peri-urban areas of many countries, the predominant tenure system is based on customary principles; there are large areas of customary land in sub-Saharan Africa and parts of Southeast Asia and the Pacific Island countries. Management of customary land is based on long-established principles that include mechanisms for transferring and inheriting land and for resolving disputes. In many areas, there is a strong spiritual connection between people and their customary lands, and in many of the Pacific Islands, the relationship between the people, their spiritual world and the natural resources is an important aspect of their cultural identity. People are responsible for protecting and caring for ancestral land so that future generations may benefit. Rules governing changes to customary tenure vary considerably from one nation to another; however, in each customary community the processes are well-established. After a natural disaster, these traditional processes may come under pressure because of the death of community elders or heads of households, or because they have limited capacity to deal with the damage from the disaster. These sudden changes may place pressure on the relationship between the people and land and test the customary land administration processes.

National governments, humanitarian organizations and donor agencies should seek to fully understand the complex relationships between people and their customary lands. Local customary group representatives are the best source of this information. Developing this kind of understanding will assist in creating adaptation and preparedness measures to help protect customary landholders from the impacts of natural disasters. This understanding also will form the basis for decisions about returning people to their land in countries where customary norms and processes have social legitimacy.

Developing land policies and supporting legal instruments can help to provide legal legitimacy for customary rights to land as part of a preparedness approach. The land policy and legal frameworks can specify procedural steps to obtain legal recognition for customary group claims to land. Fully consultative land policies and supporting legal instruments allow for competing land claims to be considered; they also reduce the likelihood of improving tenure security for one customary group at the expense of another.

3.2.4 Capacity-building in land administration

Each of the mitigation and preparedness measures outlined in this module require land agencies to have sufficient capacity. In many countries, this is not the case and weaknesses in capacity are highlighted when a disaster occurs. During an emergency response, humanitarian and donor funding are directed towards the life-saving activities. Reconstruction and development projects provide an opportunity to improve capacity to help build resilience.

Implementation of the land policy framework measures discussed in Section 3.2.1 is dependent on sufficient capacity in public land agencies. The second and third goals of the Hyogo Framework for Action call for the development and strengthening of institutions, mechanisms and capacities and the systematic incorporation of risk reduction approaches into emergency, response and recovery programmes. Decisions made in consultation with government, local institutions, individuals and networks will be more effective and result in greater community satisfaction (Leitmann, 2007). Local people know the major land issues and priorities. This is particularly important for decisions about land tenure because there are often very complex pre-disaster mitigation measures and land-use arrangements that need to be considered.

In many cases, the local land institutions will lack the capacity to process decisions about land tenure quickly for the potentially thousands of people displaced by a natural disaster. In most developing countries, the land administration system is in poor condition and only covers urban areas. There may be no land records for rural lands, and even if land records exist, many people may live long distances from land offices which makes it impractical to record land transactions. Improving the capacity of land administration agencies is important – especially in areas at risk of natural disasters. Preparedness measures include projects to bring land records up to date and keep them current. A well-maintained register of interests in land, and their level of tenure security, would be of great benefit to land agencies if a disaster occurs. The Pinheiro Principles recommend that States designate specific public agencies to be responsible for enforcing property restitution decisions, and that local and national authorities be legally obliged to accept the decisions of these agencies.

At a practical level, land agencies can take action to ensure that land records are safe from natural hazards. It is also important to develop surveying infrastructure that is not vulnerable to destruction from natural disasters. This may include establishing a global positioning system base station away from vulnerable areas or placing additional surveying control points (ground marks) away from hazard-prone areas.

3.2.5 Developing baseline information

In the days following a natural disaster, rapid livelihood, needs and damage and loss assessments attempt to quantify the impact of the disaster and the extent of damage. An important element of these assessments is an understanding of the situation before the disaster occurred; this makes it possible to draw comparisons and support planning for recovery and reconstruction that improves upon the situation that existed before the disaster.

Conducting baseline surveys during a preparedness phase ensures that important information on the pre-disaster situation is readily available when a disaster occurs. This information allows accurate and effective assessments of the disaster's impact. In particular, it is important to have information about the pre-disaster attitudes towards land, the existing policy and legal frameworks, the capacity of the land administration system and the main features of the existing land tenure systems. Table 3 summarizes typical land tenure questions that may be posed in a baseline assessment.

TABLE 3. Information required for a baseline land tenure assessment

Baseline land tenure assessment	Pre-disaster attitudes towards land
	<ul style="list-style-type: none"> • What is the history of attitudes towards land and land reform? • What are the predominant current attitudes towards land? • What land policies exist?
	The legal framework for land administration
	<ul style="list-style-type: none"> • How do national land laws protect existing rights to property? • Do the laws include mechanisms to manage informal or customary law, institutions and practices relating to land? • What laws govern specific issues raised by the disaster, including women's rights to land, demarcation of boundaries and proof of rights to land?
	Capacity of the land administration system
	<ul style="list-style-type: none"> • What systems are in place to identify or manage public land (including State land)? • To what extent was formal land administration overloaded, out-of-date or serving only a small (often middle-class) portion of the population? • What types of documentary systems or databases are used in the land administration process? • What steps are involved in common land-related procedures and transactions? • Is there room for simplification?
The main features of property rights and land tenure systems	
<ul style="list-style-type: none"> • Is the land customary land? • Is there a formal tenure regime, customary tenure system, or informal land tenure system? • Is this customary use recognized by law? • If not, does this present a problem? • If so, is further analysis of land rights required? • What was the nature and extent of documentary records relating to land before the disaster? • What documents are accepted as proof of ownership of land? • To what extent do these documents support the rights of women? 	
Key laws and regulations on land and property, including discriminatory housing and property laws and acts in relation to displacement, age and gender in particular	
<ul style="list-style-type: none"> • Is protection against eviction included in the constitution or national law? • Are the land restitution and compensation mechanisms supported by law and valid for emergency situations? • Are there any impediments to women and children inheriting land? • Are there any impediments to women owning land or taking mortgages in their own right? • To what degree do the building code and land-use planning provisions consider disaster prevention and mitigation? 	

3.3 FURTHER READING

- Adoko, J. & Levine, S. (2004) *Land Matters in Displacement: The importance of land rights in Acholiland and what threatens them*, Land and Equity Movement in Uganda, Civil Society Organisations for Peace in Northern Uganda, Kampala.
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- Huq, S. & J. Ayers, Climate Change Impacts and Responses in Bangladesh. 2007, European Parliament's Temporary Committee on Climate Change: London.
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- Norfolk, S. (2004) Examining access to natural resources and linkages to sustainable livelihoods: a case study of Mozambique. LSP Working Paper 17, FAO, Rome.
- Rose, L. (2006) *Children's property and inheritance rights and their livelihoods: The context of HIV and AIDS in Southern and East Africa*, Access to Natural Resources Sub-Programme, LSP Working Paper 39, <ftp://ftp.fao.org/docrep/fao/009/ah622e/ah622e00.pdf>
- Shafi, S. (2008) *Bangladesh: Land Tenure and Natural Disasters*.
- UNDP (2004). *Reducing Disaster Risk: A Challenge for Development*. New York, UNDP: 161.
- UNISDR (2005). Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters. World Conference for Disaster Reduction, Kobe, Hyogo, Japan.

HIGHLIGHTS FROM MODULE 3: ADDRESSING LAND ISSUES IN DISASTER RISK REDUCTION

Disaster risk reduction (DRR) involves prevention activities to avoid, and mitigation and preparedness activities to limit, the adverse impacts of natural hazards:

DRR element	Activities and measures to reduce risk
Prevention	<ul style="list-style-type: none"> • Voluntary resettlement of people in hazard-prone areas where appropriate.
Mitigation	<ul style="list-style-type: none"> • Map hazards and assess risks. • Educate people living in hazard-prone areas about land rights. • Ensure land records are safe from the impact of disasters.
Preparedness	<ul style="list-style-type: none"> • Develop land policies and an associated legal framework based on a consultative and participatory process. • Develop land-use master plans based on a consultative and participatory process. • Decide upon potential transitional settlement areas. • Improve tenure security to enhance the rights of the more vulnerable. • Undertake capacity building for land administration agencies.

Mitigation activities

Mitigation activities involve measures to limit the adverse impacts of natural hazards. They include conducting risk awareness and assessment (including hazard analysis), improving the quality of building construction and providing education about the risks and measures necessary for prevention. Improving the capacity of land administration agencies at all levels is also critical.

- Hazard risk maps and risk assessments help identify priorities for action during mitigation and preparedness phases. Hazard mapping assesses previous patterns of natural hazards to help predict the location and likely frequency of future hazards. Risk assessment gathers information on the likelihood of hazards and on vulnerability factors (e.g. the level of poverty, the type of housing construction, the culture and ethnic mix of a community and the level of tenure security).
- People who lack an understanding of property rights and the legal land framework are more vulnerable to the impact of the disaster and to the possibility of losing access to land. Pre-disaster campaigns that provide information on land rights to all members of the community can help reduce this vulnerability. People need to understand the risks of land grabbing, what the government will do to help reduce these risks, how land disputes will be resolved and what the landholder can do to maintain rights to land. Central government land agencies should develop the information resources and coordinate their dissemination using a range of mediums and languages. NGOs also have effective local networks and can play a central role in disseminating information.
- The loss of land records complicates the process of adjudicating the many land claims that arise following a disaster. Protecting land records involves ensuring that the building containing the records is not in a hazard-prone location. Storing a backup copy of the records elsewhere adds a further level of protection.

Preparedness activities

Preparedness activities involve measures to facilitate effective emergency responses. They include developing effective early warning systems, developing a land policy framework that considers climate change and natural disaster risk, developing land-use master plans, and undertaking capacity building for emergency and land agencies.

- An effective land policy and legal framework that protects the land rights of the more vulnerable can be more important in mitigating against future disasters and supporting long-term and sustainable improvements to tenure security than ad hoc interventions on land tenure security. To develop good disaster recovery and reconstruction policies, emergency agencies and NGOs should fully engage with the government and local communities to test their approaches to emergency response.
- Land policies are most effective where they have been developed using a transparent process and where the community has been actively consulted and involved. Policies should be consistent with the community's traditional attitudes towards land and its cultural norms, include all types of formal and informal tenure, and protect the rights of all people with an interest in land.
- The community consultation should aim to develop policies on a range of land matters, such as equitable access to land for the more vulnerable, processes for resettlement in the event of a disaster, and processes for resolving land conflicts and adjudication after a disaster. They should provide for people with legally and socially legitimate land rights and recognize tenure security for communal lands. In rural areas, land policy should accommodate traditional migration of farmers between seasons, and recognize the rights of rental agreements and share-cropping arrangements.
- Land-use master plans provide an opportunity to develop a land management strategy that provides protection for livelihoods, helps to improve food security, and includes preparedness activities to reduce vulnerability to future natural disasters.
- Improving the capacity of land administration agencies is important. Preparedness measures include projects to bring land records up to date and keep them current and safe from hazards. A well-maintained register of interests in land and tenure security would be of great benefit to land agencies if a disaster occurs.
- Conducting baseline surveys ensures that important information on the pre-disaster situation is readily available to help accurately and effectively assess the disaster's impact. This includes information about pre-disaster attitudes towards land, the existing policy and legal frameworks, the capacity of the land administration system and the existing land tenure systems.

Strengthening the rights of the vulnerable

- People affected by a disaster have the right not to be arbitrarily deprived of their property, including possessions left behind on disaster-affected land. Competent authorities are responsible to assist displaced people in recovering their property or in gaining appropriate compensation or just reparation.

- Some protection can be provided, depending on the strength of land governance, by effective public policies that recognize the rights of the more vulnerable and a supporting legal framework. However, if these policies and legal frameworks are inadequate, there may be discrimination against the poor and especially women, children, and ethnic minorities.
- In many countries, there are inadequate legal provisions for women to hold rights to land independently of their husbands. Land policy and legal frameworks should protect the rights of women and children if the male head of the household dies in a natural disaster. Protecting women's access to land enables them to continue to play the major role in producing food, feeding the family and maintaining the household.
- Children who are left as orphans after a disaster have less capacity to assert their rights and are at risk of people taking over their pre-disaster family land and housing. Orphaned children should be guaranteed legal protection of their inheritance rights, and should be able to participate in and be informed about all decisions regarding their parents' property.
- People with insecure forms of tenure, such as agricultural or urban tenants, are less likely to have records to prove their rights to land. They use a wide variety of tenancy arrangements, extending from personal relationships based on usufruct rights to small parcels of land, to full tenancies of farms held as interests in property.
- Rapidly urbanizing areas with insufficient land for the poor frequently witness the growth of informal settlements – often in disaster-prone locations. People who reside in informal settlements do not have legal identity records; if they do have such records, they may lose their legal status because they breached restrictions by relocating without official permission. Informal settlers are extremely likely to be left landless if a disaster affects their settlement.
- After a natural disaster, rules governing changes to customary tenure may come under pressure because of the death of community elders or heads of households, or because they have limited capacity to deal with the damage from the disaster. These sudden changes may place pressure on the relationship between the people and land and test the customary land administration processes. Developing land policies and supporting legal instruments can help to provide legal legitimacy for customary rights to land as part of a preparedness approach.

MODULE 4.

Land issues in emergency response



Module 4. Land issues in emergency response

In this module and the next module, we consider how the land issues discussed in Modules 1 and 2 can be assessed, considered and addressed in the post-disaster emergency response and recovery phases of a DRM framework. The aim of this module is to provide information about the land issues that may arise during the emergency response phase following a natural disaster. The focus is on land issues associated with mass displacement of people, and the need to conduct a rapid assessment of the land tenure and land administration situation. The discussion considers which of these issues may require immediate attention and which ones are longer-term issues that are more appropriately considered in recovery and reconstruction projects.

Immediately after a disaster, national and international institutions involved in humanitarian and disaster response focus on urgent life-saving needs. These include saving lives, preventing the spread of disease and providing shelter, medical assistance, food and water. Human lives are at risk, and a fast response is needed to control the crisis, restore order and minimize the physical and psychological effects of the crisis. These activities place enormous short-term pressure on local institutions and international organizations and, even under optimal conditions, there is little scope to consider land issues.

However, as the immediate disaster measures start to take effect, some land issues require early consideration, and others may need to be addressed in the recovery and reconstruction phases. This is summarized in Table 4.

There are likely to be tensions between the short-term needs and those measures which require more time to sustainably implement. For example, people with rights to land before a disaster will want to rebuild their houses and resume livelihoods as soon as possible. They may seek to identify and claim their land by placing some type of marker or barrier to demonstrate their rights to the land. However, if others claim to have rights to this land, there may be conflict and land grabbing. Experience has shown that the government needs to take control of the land adjudication process and prevent people from rebuilding houses until they have made decisions equitably in consultation with the community. It is helpful if land agencies publicly state that land rights will be respected after a proper adjudication process. All emergency response personnel then should reinforce the message that rebuilding can occur only after decisions have been made about rights to land and the location of boundaries.

TABLE 4. Summary of land responses following a natural disaster

Phase of disaster recovery	Key land administration measures
Emergency relief: The first 5 days	<ul style="list-style-type: none"> • Evacuate and establish transitional settlements and emergency shelters. • Incorporate questions on land tenure in a rapid livelihoods assessment. • Gather initial information and evaluation of local capacities. • Undertake rapid assessment of damage and loss to cadastral infrastructure and land records. • Undertake rapid needs assessment of the capacity of the land administration system.
Early recovery: The first 6 weeks	<ul style="list-style-type: none"> • Find, secure and recover land records. • Obtain satellite imagery, aerial photos and other relevant spatial data. • Incorporate questions on land tenure into detailed assessments of livelihoods, shelter and settlement and socio-economic and gender analysis. • Undertake land availability and hazard risk mapping. • Select site for transitional shelter and settlement.
Long-term recovery: The first 6 months	<ul style="list-style-type: none"> • Commence adjudication of land rights. • Establish land administration priorities and pilot projects. • Advocate measures to integrate all recognized post-disaster tenure and planning documentation (including women's documentation).
Towards sustainable land administration systems: The first 2 years	<ul style="list-style-type: none"> • Progressively restore capacity in the land administration system. • Provide recognition of tenure for people who have been resettled. • Develop processes to effectively resolve disputes over land. • Support move from international to local capacity. • Build capacity to enforce land transactions and legal determinations. • Advocate or support tenure upgrading for informal landholders. • Advocate or support gender-sensitive land data and information systems.

Adapted from HABITAT/FAO, 2009.

4.1 RESPONDING TO LAND ISSUES IN THE EMERGENCY RESPONSE PHASE

4.1.1 Evacuation, transitional settlement and emergency shelter

Many people are displaced following a natural disaster, including people who are temporarily displaced (but who will be able to return to their land) and people who become landless because of their inability to prove land tenure; the death of a family member; a security threat to the land; or damage to the land rendering it unusable. Floods can cause higher levels of temporary displacements and loss of crops and livestock. Often the most vulnerable people are most affected and most in need of help. A large percentage of the displaced people may include tenants, people from informal settlements and those who were landless prior to the disaster. As discussed in Module 2, people with insecure tenure may not have their rights to land formally recognized.

People react in different ways to a disaster, depending on the danger they perceive and the speed of onset of the disaster. Some may attempt to evacuate when it is too late to escape from the affected

area (e.g. in a flood). Others may evacuate only a short distance so that they can go back to their pre-disaster land at the earliest opportunity. Many are concerned about looters taking their possessions, and so they maintain links to the affected area. People who are forced to displace will often settle in close proximity to people from their original communities and make communal decisions about their response. These choices are often called “transitional settlement” and include all the shelter options used after a disaster. It is common for some settlement camps to be established with tents, although other options may also exist. Individual families may move from one settlement option to another during the period of their displacement. A range of emergency shelter provisions may be constructed (i.e. from plastic sheeting to tents), depending on the type and extent of the disaster.

Shelter is one of the primary concerns during the emergency response, and safe shelter in secure settlements is necessary for durable recovery to occur. The Sphere Project’s (2004) Humanitarian Charter and Minimum Standards in Disaster Response states:

“Shelter is a critical determinant for survival in the initial stages of a disaster. Beyond survival, shelter is necessary to provide security and personal safety, protection from the climate and enhanced resistance to ill health and disease. It is also important for human dignity and to sustain family and community life as far as possible in difficult circumstances....Any response should be informed by the steps taken by the affected households in the initial aftermath of the disaster, using their own skills and material resources to provide temporary shelter or to begin the construction of new, longer-term dwellings. Shelter responses should enable affected households to incrementally upgrade from emergency to durable shelter solutions within a reasonably short time and with regard to the constraints on acquiring the additional resources required.”

There may be a need for both temporary and permanent resettlement (i.e. creation of camps for IDPs). If there are returnees (from displacement or refugee situations) who have farming background, their speedy recovery and return to livelihood can be facilitated by well-managed resettlement with secure land tenure rights. However, if they do not have secure land tenure, they may be vulnerable to eviction and land grabbing.

4.1.2 Incorporating land issues into rapid assessments

During the emergency response phase, humanitarian and emergency agencies conduct rapid damage and loss assessments to gain an initial understanding of the impact of the disaster. A rapid assessment recognizes that, despite the considerable challenges in responding to life-threatening issues immediately after a disaster, there is a need to commence planning for recovery. These ongoing assessments support decision-making processes during the emergency relief efforts, and also assist long-term recovery planning. The OCHA/DFID publication “Transitional settlement and reconstruction after natural disasters” states that “emergency assessments, followed by ongoing assessments, monitoring and evaluation, are essential to a successful response. The strategy for response should be reviewed and updated according to the results obtained from this ongoing process” (Corcellis and Vitale, 2008).

The aim of rapid assessments is to determine the scope, scale and distribution of the impact of the disaster and the problems that may affect the resolution of these impacts. They provide initial information about the needs, possible intervention types and resource requirements; more comprehensive detailed assessments can follow in the recovery phase. These assessments can be specific assessments of the impacts on shelter, livelihoods, agriculture, infrastructure or vulnerability, or they may cover multiple areas.

The process for a rapid assessment usually involves observing the disaster-affected areas, interviewing people affected and reviewing supporting information about the disaster or the conditions prior to the disaster. The major challenge is to gain adequate access to the disaster-affected areas and people to make informed judgments. Gaining reliable and accurate data for the assessment often is difficult while the major focus of response efforts are on search-and-rescue efforts and meeting immediate life-saving needs. Therefore, disaster impact assessments often are based on limited information and rely heavily on the opinions of experts and site observations.

Rapid assessments are usually undertaken in the first two weeks following a disaster and may last from a few days to two weeks. It may not be possible to visit all the disaster-affected areas, and fewer people are interviewed than for the more detailed needs assessments. Therefore, rapid assessments rely on some assumptions based on previous experience with similar emergencies and knowledge of the affected area. Understanding the local context and discussions with a variety of affected households can be very important for the reliability of the rapid assessments. Separate interviews with representatives of each livelihoods group, or with people from each type of pre-disaster land tenure category may be impossible. Therefore, typical approaches include conducting a general group interview or including key informants.

Land issues cut across various sectors, and are particularly relevant to livelihoods, shelter and agriculture impact assessments. It is possible that many agencies may undertake assessments, which can lead to assessment fatigue – which occurs when people are asked the same questions, often with little result – among the population. Because land tenure issues are not generally life-threatening, it may be preferable to include land tenure assessment questions in other damage and loss assessments.

Rapid livelihoods assessments

Initial assessment of the impact of the disaster on access to land and tenure security is best done as part of a rapid livelihoods assessment. Livelihoods analysis is complex and time-consuming. The aim of a livelihood assessment is to assess livelihood opportunities and capacities and the impact of the disaster on livelihoods. The Livelihood Assessment Toolkit (LAT), developed by FAO and the International Labour Organization (ILO) in 2009, can be used to identify capacities and opportunities for recovery and increased resilience.

The LAT outlines an assessment process for sudden-onset disasters that consists of three interrelated elements: a Livelihood Baseline; an Initial Livelihood Impact Appraisal (ILIA); and a Detailed Livelihood Assessment. The ILIA is a rapid assessment which is designed to generate a picture of the impact on

livelihoods of a natural disaster and to feed into a Flash Appeal, which is normally issued between three and ten days after the natural disaster occurs. Table 5 describes the ILIA.

TABLE 5. Initial Livelihood Impact Appraisal

Function	Programming / funding target	When and by whom?
<ul style="list-style-type: none"> To initially assess the impact of the disaster on livelihoods at the local level. To be integrated into multi-sectoral quick impact assessments. To feed into Flash Appeal proposals. 	<ul style="list-style-type: none"> Provides immediate, first-hand information about the impact of the disaster on the livelihoods of affected people. Is combined with baseline information to present a basis for proposals for immediate action to recover livelihoods. Provides information for the first Flash Appeals, early recovery donor conference and subsequent livelihoods programmes. 	<ul style="list-style-type: none"> When: Assessment begins within ten days after the disaster and takes from one to seven days to complete. By whom: Ideally, national government and UN staff/consultants are integrated into the United Nations Disaster Assessment and Coordination (UNDAC) team.

Adapted from the Livelihood Assessment Toolkit (FAO and ILO, 2009).

Assessing damage and loss to cadastral infrastructure and land records

In the emergency phase, attention should be directed to assessing the damage to land records, making land records secure and, if digital copies exist, ensuring that security copies are stored at a secure site. Land records are the most critical records for verifying existing formal land tenure rights, and these may be vulnerable to natural disasters or to subsequent damage from conflict or looting. Land tenure issues do not demand as much attention at this stage as life-saving issues; they are best considered in more general damage and loss assessments to provide important information for recovery planning.

Conducting a needs assessment of capacity in the land administration system

It is important at this stage to assess whether the land administration institutions have the capacity to meet the demands which will arise later during recovery and reconstruction. A needs assessment is conducted to assess the resources and additional capacity needed to implement the recovery and reconstruction phases and to identify the measures needed to build capacity to the required level.

As for the assessment of damage to cadastral data and infrastructure, assessment of the capacity in the land sector is not among the most urgent emergency response issues. However, it should be incorporated into general needs assessments to provide a sound basis for developing projects and plans to process the large number of claims to land that will arise prior to reconstruction of buildings.

4.1.3 Coordinating the use of spatial information

Assessing the impact of a disaster in the days immediately following the event requires the acquisition or production of geo-referenced data (i.e. maps) to inform and support the emergency response. Information is required on the geographical extent of the damage, the scale of the damage and the estimated number of people affected. Traditionally, this has been achieved by using existing or new satellite images or aerial photographs. Satellite images provide data in small to medium scales and are very useful for disasters that cover larger areas, such as floods. Assessing the impact of damage to infrastructure from an earthquake requires large scale data so that individual sites can be identified, and this may require high-resolution satellite images. However, existing satellite images or aerial photographs of the damage are not always available in the days immediately after the event, and on-ground surveys are one alternative. Where they are available, the data needs to be interpreted to be useful for relief agencies, and this is a time-consuming process.

The publication *Safer Homes, Stronger Communities: A Handbook for Reconstruction after Natural Disasters* noted that “different organizations and agencies collect post-disaster data independently at different periods and on different scales, often duplicating efforts and collecting data in a way that hampers data integrations and comparison. Multiple assessments may fail to yield comprehensive, accurate, reliable and timely assessments that are adequate to support a smooth transition between relief, recovery and reconstruction. Geo-referencing is an example of a practice that improves the value of information and its ability to be shared, if it is collected using agreed-to standards.”

During the emergency response phase following the Haiti earthquake in January 2010, many data suppliers made data available, and open-mapping Internet sites allowed the collation of data to be used by all stakeholders. Many government and non-government agencies and private companies contributed by taking raw data and converting it for use in GIS software. Fortunately, there was no cloud cover immediately following the earthquake and very high-resolution satellite imagery was acquired. The imagery was made available on Google Earth, overcoming licensing issues that often affect emergency response measures. Many volunteers interpreted the high-resolution data to develop damage assessment maps that indicated damaged buildings, settlement camps and road access. It was also important to develop geo-referenced maps of sufficient resolution to act as a backdrop to damage assessment maps in GIS software. Internet-based, participatory mapping media was used to develop maps of large areas of Haiti within a few days of the earthquake. Geospatial data from various sources were effectively coordinated and, as a result, successfully integrated (Giulio Tonolo, 2010).

The collection of primary data may best be organized at an interagency level, with one government agency responsible for coordinating and managing data collection across agencies to ensure that data collection is consistent with the needs of the response efforts, and to reduce duplication.

4.2 EARLY RECOVERY

Following a natural disaster, there is a period of transition in which the focus shifts from the most urgent life-saving issues (e.g. restoring basic social services, infrastructure, livelihood opportunities

and governance capacity) to planning for recovery. The response during this transition period is called “early recovery” and it commences immediately after the onset of the crisis. The Guidance Note on Early Recovery (Cluster Working Group on Early Recovery, 2008) provides a definition of early recovery (See Box 13).

BOX 13. DEFINITION OF EARLY RECOVERY

Early recovery is defined as recovery that begins early in a humanitarian setting. It is a multi-dimensional process, guided by development principles. It aims to generate self-sustaining, nationally-owned and resilient processes for post-crisis recovery. Early recovery encompasses the restoration of basic services, livelihoods, shelter, governance, security and the rule of law, environment and social dimensions, including the reintegration of displaced populations. It stabilizes human security and addresses underlying risks that contributed to the crisis.

Source: Cluster Working Group on Early Recovery, (2008). *Guidance Note on Early Recovery.*

The foundation of recovery must begin in the emergency response phase, to allow local institutions to commence providing basic services and important governance functions. Many of the major early recovery activities have associated land issues. These are summarized in Table 6 and are described in the following discussion.

TABLE 6. Summary of key land administration measures during the early recovery phase

Phase of disaster recovery	Key land administration measures
Early recovery: The first six weeks.	<ul style="list-style-type: none"> • Assess land issues in detailed livelihood assessments, detailed shelter and settlement assessments and socio-economic and gender analysis. • Undertake land availability and hazard risk mapping. • Consider land tenure security in site selection for transitional shelter and settlement. • Implement measures to reduce land speculation and land grabbing. • Ensure effective coordination between government and humanitarian agencies, and also among emergency management and land agencies.

Table 7 provides a menu of the land issues in the key early recovery programming activities in the major sectors. These may be summarized as:

- early recovery activities within each cluster’s response plans;
- build-up of country capacities for disaster management and/or conflict prevention, transition and recovery;
- sustainable resettlement;
- area-based and community-driven social and economic recovery;
- small-scale recovery of infrastructure; and
- early recovery coordination. (CWGER, 2008).

TABLE 7. Menu of land issues in indicative early recovery activities

Livelihoods and income recovery	<ul style="list-style-type: none"> • Undertake rapid impact, needs and capacity assessments focused on local economic resources and livelihood opportunities, including labour market surveys and analysis. Include land issues in these assessments. • Carry out pre-disaster agriculture and environment situation mapping, provide pre-disaster maps on urban and rural economic activity and develop or update cadastral maps. • Assess and conduct capacity building of land agencies in disaster-affected areas.
Social services	<ul style="list-style-type: none"> • Assess availability and sustainability of access to land offices and associated services. • Build the capacity of people and communities to access land administration services such as land registry offices and contribute to maintaining these services. This includes reducing the cost of service and increasing availability. • Promote basic education about each person's land rights as a means to contribute to psycho-social responses and to reduce conflict over land. • Ensure recognition of certificates received during displacement and their reintegration into national systems upon return or local integration.
Displacement, return and reintegration	<ul style="list-style-type: none"> • Support government authorities' plans for the return and reintegration of displaced populations, and ensure that adequate priority is given to areas of return by humanitarian and development actors prior to the return phase. Land experts can provide important input on land issues. • Provide support for IDP profiling, surveys and censuses of the population or sections of the population. • Enable displaced communities to assess conditions in their home areas and to plan their return together with receiving communities. Support the return and reintegration process, promote livelihood, capacity building and community-based responses. • Promote the return and reintegration or local integration of ex-combatants, IDPs and returning refugees within local communities and ensure their integration into local/area recovery and development plans and interventions. • Assess the environmental dimensions of displacement and return/reintegration operations and identify preventive actions and responses by communities and authorities. • Ensure displaced and returnee populations (women, in particular) are not victims of discrimination in relation to their rights (e.g. their access to land and property).
Land and property	<ul style="list-style-type: none"> • Undertake land and property situation analysis. • Safeguard land and property registers in emergency situations. • Record IDP and returnee property claims. • Identify key laws and regulations on land and property, including discriminatory housing and property laws and acts in relation to displacement, age and gender in particular. • Define referral options from customary law to formal statutory courts. • Build capacity for restitution mechanisms. • Provide legal assistance and documentation of rights to IDPs and returnees. • Identify the need for property dispute resolution mechanisms and support appropriate responses at community, local authority and national levels.

Adapted from CWGER (2008) *Guidance Note on Early Recovery*.

4.2.1 Detailed livelihood assessment

Detailed assessments are undertaken after the first month following a disaster and gather much more information than a rapid assessment. They are often sector-specific and take about one month to complete.

The important relationship between land and livelihoods was discussed in earlier modules. Access to land is a fundamental requirement of many livelihoods of the rural poor. Land is the main privately-owned natural asset, and farmers' access to land is supported by different levels of tenure security.

The *Livelihood Assessment Tool-kit* (FAO and ILO, 2009) recognizes the strong link between land and livelihoods, and incorporates land tenure into the assessment process. It recommends collecting baseline information on the pre-disaster land tenure system, the land tenure status and, for female-headed households, whether the land tenure arrangements have changed.

The *Livelihood Assessment Tool-kit* outlines the basic information required about livelihoods. The livelihood assessment seeks to identify the main sources of household income and food before the emergency, and how these have been affected by the disaster.

Land issues are best considered in a livelihoods needs assessment, and the *Livelihoods Assessment Tool-kit* may be used for guidance. Rapid assessments such as the ILIA, described in the toolkit (and discussed in Section 4.1.2.1), provide an initial assessment of the impact of the disaster on livelihoods at the local level, and are usually completed in the first ten days after a disaster. It is not possible to undertake detailed assessments at that early stage and in such a short time frame. However, they provide an overview of the key issues. The *Livelihoods Assessment Tool-kit* describes how a DLA will follow an ILIA in the first three months after a disaster. The DLA provides a thorough assessment of the impact of disaster on livelihoods to identify opportunities and capacities for recovery at household, community and local levels. Ideally, a livelihood baseline assessment would have been conducted before the disaster to allow comparisons and therefore better appraisals of the full impact of the disaster. The DLA informs decisions by local and central government authorities and international agencies when developing livelihood recovery response plans and projects. A DLA is undertaken by multidisciplinary, multi-agency teams led by livelihood specialists and including national government staff (See Table 8).

TABLE 8. Detailed Livelihood Assessment

Function	Programming / funding target	When and by whom?
<ul style="list-style-type: none"> To assess the impact of the disaster on livelihoods and opportunities, capacities and needs for recovery at household, community and local economy levels. To convert the results of assessments into response options containing strategy outlines, programme profiles and concrete projects. 	<ul style="list-style-type: none"> Provides more detailed information and rationale for strategies, programmes and projects. Is submitted to Revised Flash Appeal and or Early Recovery Donor Conference for funding purposes and/or for development of livelihood recovery strategies. 	<ul style="list-style-type: none"> When: Assessment begins within 90 days after the disaster and takes 30 days to complete. By whom: Conducted by multidisciplinary, multiagency teams (including national government staff) led by livelihood specialists.

Adapted from the Livelihood Assessment Toolkit (FAO and ILO, 2009).

The Livelihoods Assessment Toolkit lists some key questions the DLA will help to answer:

- How were men and women making a living before the disaster?
- What effect has the disaster had on their livelihoods?
- What coping mechanisms and livelihood strategies have different people/households developed and how effective or damaging are these?
- Which opportunities and capacities exist for livelihood recovery within the local economy?

- What types of activities are needed for livelihood recovery for different people, households and communities? (FAO and ILO, 2009).

To conduct a DLA, each household interview includes a section on the disaster's impact on "natural capital" assets, in which people are asked about their access to land and resources and land tenure security before the disaster. They are then asked about the impact of the disaster on their access to land and tenure security. Other questions that are relevant to land issues include questions on the impact to housing, infrastructure and access to credit.

The recognition of customary rights is a very complex matter, because there are likely to be many layers of rights to land and natural resources, some of which may overlap geographically or temporally. These rights may include rights to a building, a fixed parcel of arable land or an area of shared arable land, or rights to harvest from trees in certain seasons. A family's rights to land or its share of arable land may be reallocated over time, depending on its changing needs or circumstances and on whether the country has a surplus or shortage of arable land. In all cases, changes to land allocation may create tensions. In more classic common property regimes (e.g. pastoral or forestry), recognized rights include the rights to non-forest products, the right to hunt and the rights to trees. Women often have specific rights of access to certain natural resources. In some rural areas (e.g. the drylands), pastoralists migrate to different areas during certain seasons to follow the rain and water supplies.

These rights are very complex and very difficult, if not impossible, to document. Attempts to document and legally recognize them tend to concentrate the rights in the primary landholder, and the secondary rights are often extinguished. However, if these rights are not documented, the rights may be extinguished by others. Other issues include whether there are other ways of recognizing rights; the impact of usufruct rights over land (i.e. rights to use others' land); and whether legal recognition of primary ownership rights will extinguish another person's usufruct rights.

4.2.2 Detailed shelter and settlement assessment

A shelter and settlement assessment aims to assess the condition of housing prior to a disaster, the impact of the disaster on housing and the need for emergency shelter and transitional settlement. Its results inform decisions on the size and type of transitional shelters and on suitable approaches to resettlement. The objective of the assessment is to determine:

- the needs and desires of displaced people living in resettlement camps or with host families;
- the socio-economic profiles of the camps;
- the experiences and needs of the host families.

It is important for the assessment to consider local cultural and socio-economic norms because once decisions are made about the location of housing and the type of construction, they become permanent components of reconstructed communities.

The Local Estimate of Needs for Shelter and Settlement (LENSS) Toolkit provides guidance on the data required for a detailed and rapid shelter and settlement assessment. This includes general

information about the region and its demographics, the number and type of households affected and the pre-disaster standard of housing and level of employment. Information on shelter and settlement may be obtained from meteorological records, aerial surveys, local authorities, interviews with affected persons, evacuation orders, other members of local communities and observation.

Many of the land issues associated with settlement are also included in the LENSS toolkit and are summarized in Table 9.

TABLE 9. Data collection plan

Rationale and series	Data elements
2.6	Pre-disaster households in housing units – tenure of household. Show data as: Number of households that own a housing unit, number of households that rent all or part of a housing unit.
2.11	Protection against eviction. Protection to include: Protection against eviction included in the constitution or national law.
2.12	Land restitution mechanism. Protection to include: Mechanism supported by law and valid for emergency situations.
2.13	Land compensation mechanism. Mechanism to include: Mechanism supported by law and valid for emergency events.
2.14	Land tenure system. Show data as: Formal tenure regime, customary tenure system or informal land tenure system.
2.15	Impediments to women inheriting land and housing.
2.16	Impediments to women owning land.
2.17	Impediments to women taking mortgages in their own name.
4.4	Need for emergency and transitional shelter. There are needs when: some people are present in the locality, the general resource situation is described as 'none' or 'some' and some people are roofless, or people live in shelter other than living quarters – not damaged.
10.3	Needs for transitional settlement. There are needs when: the general resource situation is described as 'none' or 'some' and the population is described as total displacement; pre-disaster population plus displaced persons from other localities; or only displaced persons from other localities.
12.1 -12.2	People intending to settle in the locality – heads of households and groups for special assistance. To assess needs for the following outcome: Attention to the needs of those most frequently, though not consistently at risk from disasters.
13.1 – 13.7	Population intending to settle in the locality – reasons, proof of identity, income, employment, languages spoken. To assess needs for the following outcome: Strategic planning covering land use, tenure, livelihoods and local infrastructure in addition to shelter options.
13.9	Damage to land. Land to include: All parcels of land where there were living quarters prior to the disaster and land available for development. In this context, the ratio of parcels to buildings is understood as 1:1. Show data as: Total and number of parcels in each damage category L0 ... L4.
13.10	Building code.
13.11	Land-use planning.
13.14	Existing land records. Records to include: Records that have survived the disaster and are held by a formal institution.

Extract from IASC Emergency Shelter Cluster, 2007.

4.2.3 Detailed shelter and settlement assessment

Socio-economic and gender analysis (SEAGA) (FAO and WFP, 2005) helps to clarify the “specific and often different needs, vulnerabilities and coping-strategies of women and men, so that they can be more adequately addressed in response to the emergency situation. Lessons learned reveal that interventions and life-saving strategies are made more efficient and timely when gender differences have been properly understood and addressed”.¹⁷ The SEAGA publication states that a Rapid Rural Appraisal should be undertaken following a natural disaster. Emergency field operators prepare this, making full use of local knowledge and experience and attempting to limit the imposition of outsiders’ preconceptions on local conditions. As part of the process, local people are asked to explain their circumstances, what they want and how they do things.

4.2.4 Land tenure questions for a detailed assessment

Table 10 provides questions that may be used to assess land administration needs and the impact of the disaster on land. These questions can be modified for the circumstances of the particular natural

TABLE 10. Suggested land tenure questions for a detailed analysis

Post-disaster situation	Impact of the disaster on the land
	<ul style="list-style-type: none"> • What is the extent of damage to land – number of parcels affected, degree of damage, how much can be reoccupied after the recovery and site cleanup? • Is the building habitable?
	Impact of disaster on land records
	<ul style="list-style-type: none"> • What is the damage to land records held by agencies? • What is the damage to personal records of land tenure? • Will official land records need to be recuperated? • What is the capacity of the local land agency?
	Extent of geospatial (mapping) information
	<ul style="list-style-type: none"> • To what extent are high-resolution satellite images or aerial photos available for the affected areas? • To what extent are useful land information products (e.g. land use, geology, drainage, slope, geomorphology, geohydrology or seismotectonic maps) available for the disaster-affected areas?
	Need for resettlement
	<ul style="list-style-type: none"> • How many people need to be moved; what land rights will they receive, and how will their pre-disaster rights be protected? • How many people can return quickly to their pre-disaster land and under which land rights condition? • What is the need for emergency shelter (e.g. number, location, proof of identity)? • What is the need for resettlement (e.g. number of parcels, location)?
	Impact on vulnerable groups
	<ul style="list-style-type: none"> • What is the number of female-headed households? • What is the number of households with no surviving parents?
Impact on the land agencies	
<ul style="list-style-type: none"> • How many staff are affected by the disaster? • How much damage is there to boundary markers and surveying infrastructure? • What is the post-disaster capacity? 	

17. WFP and FAO (2008). Socio-Economic and Gender Analysis: SEAGA for Emergency and rehabilitation Programmes, Reprinted 2008, <http://www.fao.org/docrep/008/y5702e/y5702e03.htm>

disaster and country. If baseline information on property rights and access to land was collected during a preparedness phase before a disaster, it will form the basis for fully assessing the changes in conditions from before the disaster to after the disaster. Where a baseline assessment has not been conducted, it will be necessary to acquire the pre-disaster information from a variety of sources, such as existing geospatial information, demographic information from various government agencies, information on land tenure from land agencies, and interviews with people affected.

4.2.5 Land availability and hazard risk mapping

Reducing people's vulnerability by appropriately identifying relocation sites can reduce the risk faced by transitional settlements to the ongoing impacts of the disaster and future natural disasters.¹⁸ For example, people who lived in a low-lying coastal area vulnerable to tropical cyclones could reduce their vulnerability by relocating further inland and constructing more cyclone-resistant houses and cyclone shelters.

People often settle in disaster-prone areas because they lack access to safe land. Following all major natural disasters, settlement should be prohibited in hazard-prone sites if safer alternatives exist. Conducting an analysis of land availability in areas of low vulnerability to disasters will help determine the extent of land shortage or surplus and help identify suitable sites for relocation and transitional shelter.

It is also important to know which areas are at risk of further hazards, and this will vary for different kinds of disasters. Because floods force people to relocate away from the affected areas until the flood waters subside, flood maps are useful to identify the areas covered by the current flood and areas that may be at risk of future floods. In areas prone to tropical cyclones, hazard mapping may be useful to identify where cyclone shelters and sheltered places for resettlement may be required. After a landslide, it is critical to prepare maps of landslide-prone areas, based on consultation with local experts, to ensure that resettlement does not place the population in further danger. Earthquake hazards cause major damage in urban areas and the main concern is to prevent access until those areas are made safe. A detailed assessment of the damage to buildings after an earthquake is needed to determine which buildings should be demolished and which may be rebuilt.

4.2.6 Site selection for transitional shelter and settlement

Selecting an appropriate site for a transitional shelter or more permanent resettlement is critical. Transitional settlements and shelters may be required for up to a year; they need to have adequate infrastructure so that the inhabitants are not exposed to hazards or contaminants. During the period immediately after a disaster, the main priority is safety. According to the UN Operational Guidelines on Human Rights and Natural Disasters, "the location and lay-out of camps and settlements for persons displaced by the disaster should be situated in areas with a low natural hazard risk... They should be designed so as to maximize the security and protection of displaced persons, including women and others whose physical security is most at risk".

18. Corsellis and Vitale (2008) Transitional settlement and reconstruction after natural disasters.

Transitional shelter may be in grouped settlements where large numbers of people are together, or dispersed settlements, in which people stay with relatives or host families or in small groups in urban or rural areas. It is common for people to go back and forth between their settlement and the land they occupied before the disaster as they seek to protect their assets and resume livelihoods. They may even attempt to occupy both locations at the same time. Well-chosen resettlement sites allow access to livelihoods; a guiding principle is that the duration and distance of displacement should be minimized (See Box 14).

BOX 14. MINIMIZE DURATION AND DISTANCE IN DISPLACEMENT (PRINCIPLE 5)

If displacement is essential for reasons of safety...the displaced population should be supported to minimize the duration of their displacement and the physical distance from their place of origin. Minimizing the duration and distance of displacement enables people to recover their social connections and livelihoods as quickly as possible.

Source: UN Operational Guidelines on Human Rights and Natural Disasters; in Corsellis and Vitale (2008). Transitional settlement and reconstruction after natural disasters.

Some of the problems that can arise in providing transitional shelter are summarized in Table 11. There is huge potential for conflict within transitional shelters and resettlement camps if these issues are not managed properly. If land issues are not addressed in the resettlement process, the potential for land conflict within the resettlement camps is higher and there is also potential for conflict between displaced people and host communities.

TABLE 11. Summary of key land and emergency shelter issues

Responses	Typical challenges
<ul style="list-style-type: none"> • Understand existing or underlying land rights and claims. • Select, plan and manage sites for transitional shelter. • Decommission temporary shelters through land and housing solutions for all disaster victims. 	<ul style="list-style-type: none"> • Conflicts between displaced and host communities and between host communities and the Government. • Difficulties in establishing the amount of land required for transitional shelters. • Selection of unsuitable sites by governments, international agencies and/or affected groups. • Difficulties decommissioning transitional shelters because of a lack of land and housing options for the landless. • Population of temporary shelters by victims of poverty who are not victims of the disaster.

Adapted from UN-Habitat and FAO (2009).

As discussed in previous modules, valid property rights must be respected for people who have been displaced by the disaster – whether they had formal legally-recognized tenure, informal tenure or customary rights (See Box 15). During their displacement, people require security of tenure in the place they currently live and on their original land. People who have been displaced will have a greater level of protection and security if their rights to the resettled land are recognized. Those who are not displaced, but who have sustained damage to their land or shelter, will also benefit from recognition of their rights to the pre-disaster land.

BOX 15. ENSURE RIGHTS AND SECURE TENURE FOR ALL THOSE AFFECTED (PRINCIPLE 7)

Security of tenure and property rights must be achieved for all those affected, whether they were previously illegal or informal occupants of their homes, tenants, or owners. Support must therefore be provided to the establishment of these rights for all members of the affected population, including those initially without property rights. This support must take place as early as possible, to ensure that displaced persons can return home as quickly as possible. The reconstruction of homes and communities can only begin once such issues are resolved. Displaced persons also require security of tenure while displacement lasts in the place where they are currently living.

Source: UN Operational Guidelines on Human Rights and Natural Disasters; in Corsellis and Vitale (2008). Transitional settlement and reconstruction after natural disasters.

There are three key issues:

- Ensure that the land chosen for resettlement camps is not land over which other people have land use rights or land tenure rights, unless they agree to be a host community. Selection of the location for resettlement camps should be done in consultation with village elders to ensure that host villages will accept the IDPs.
- Ensure that people in the resettlement camps return to their original livelihood as quickly as possible or commence a new livelihood or means of producing food for their families.
- Ensure that once land has been chosen and people have been established in these camps, they receive official recognition for their allocated parcel of land so they have security of tenure moving forward. Where the settlement is not temporary, it is necessary to create a structure to formally recognize tenure rights.

Building longer-term social and economic stability means seeking more permanent solutions — finding people land on which to live, grow food and earn income. Longer term restitution or resettlement needs to include recognizing tenure and re-establishing communities.

According to the Pinheiro Principles, all displaced persons have the right to have any housing, land or property for which they were arbitrarily or unlawfully deprived, restored to them. Where this is factually impossible to restore, they should be compensated for their loss. States should demonstrate that they have prioritized restitution as the preferred remedy for displacement. The right to restitution is not prejudiced by return or non-return of the refugees or displaced persons.

In the Principles, the term “factually impossible” refers to when there is physical damage or destruction of housing, land or property from conflict or natural disasters, and when damage from a disaster renders land unusable. Restitution in this context refers to an equitable remedy or form of restorative justice, whereby affected persons are returned as much as possible to their pre-loss position. Restitution is the preferred remedy for displacement, and rights to compensation are not necessarily of the same value as a durable solution. The Principles’ view is that efforts to secure return-based solutions should be exhaustively explored, unless the displaced people voluntarily choose to have a compensation-based solution. Where customary land rights exist, they are often equitable and widely accepted, and restitution in this context involves reasserting the housing, land and property rights established under customary law.

Once the disaster-affected areas are considered safe, people will wish to be located closer to the land they occupied prior to the disaster. For some disasters, such as earthquakes, it may be possible to build temporary shelters on site once the site cleanup operations are completed. For other disasters, such as floods, it may be several months before it is possible to return to the land and construct shelters or rebuild. However, the priority should be for people to be accommodated close to their pre-disaster land and livelihoods as soon as it is safe to do so. If they are able to be accommodated on their pre-disaster lands, the risk of land disputes, loss of livelihoods and community disruption will be reduced.

4.2.7 Measures to reduce land speculation and conflict

The most immediate risks to security of land tenure are land grabbing, speculative informal land sales and conflict over land. There is also a risk that people will rebuild on parts of land that were previously occupied by others. After the 2004 Asian tsunami, the Indonesian national land agency (BPN) recognized this when it issued a decree to prevent the sale of land in an effort to stop land speculation. Measures to prevent informal land transactions are important and will be easier to enforce if the public has confidence in the land agencies.

It is also important for people to understand their rights under the land laws and regulations. Public information campaigns explaining land policies, the legal framework and land tenure rights can help protect the more vulnerable from exploitation.

4.2.8 The importance of coordination

Effectively dealing with large-scale disasters requires collaboration among the affected country's government, international humanitarian organizations and NGOs, and at local levels, among provincial government, community leaders, community-based organizations, NGOs, international humanitarian organizations, international financial institutions and donor agencies.

Coordination is also important within the land sector, as it is often fragmented between two or more ministries. For example, in many countries the forestry ministry is responsible for public forests and another ministry (e.g. agriculture) is responsible for private lands. Agriculture, forestry, livelihoods and food security programmes face land tenure issues that require resolution; however, the major actors in those fields may not always fully appreciate the extent of land issues following a natural disaster. These concerns need to be carefully articulated by land tenure professionals to ensure that the appropriate steps are taken to protect the human rights and livelihoods of the more vulnerable. Effective cooperation between land agencies and other sectors will help to protect rights to land and tenure security.

4.2.9 The role of local land institutions

While the national government takes the lead role in policy formulation and disaster response, local institutions provide a “bottom-up” approach to DRM, risk reduction and disaster response and recovery. Secure land tenure is one of the factors that supports people’s return to their land and livelihoods and allows for rebuilding if necessary. Local land institutions, which have the most detailed understanding of local land issues and how to administer them, must be central in decisions about land. As authorities transition from emergency response to recovery, decisions need to be made about who has rights to land, the location of property boundaries and how to prepare for reconstruction.

The other key stakeholder in decisions about land is the local community. In many regions, the local community will have long-established processes for making community-level decisions and resolving land disputes. Often, the village head will have a central role in this process and should be actively consulted.

However, these local mechanisms for resolving land issues may be under pressure as a result of the disaster. In many cases, the local land institutions will lack the capacity to process decisions about land tenure for the many people displaced by the disaster. For the local institutions and community to engage effectively in the recovery process, they require a mandate, supported by sufficient resources and a revenue stream. Box 16 provides an example of addressing land rights in Niger.

BOX 16. CONFLICT RESOLUTION AND DRM IN NIGER

In Niger, customary and formal rights to land are complex and often inconsistent, which frequently results in conflicts among farmers and herders or between different tribal groups. Land tenure legislation and conflict management strategies are important in resolving land conflicts, especially in drought-prone areas.

The Commissions Foncières d’Arrondissement (District Land Commission) was created to reduce conflicts through recognition and registration of land rights. The Commission is composed of representatives of each of the major groups involved in reconciliation (Sous-Préfet, rural extensionists, traditional leaders, representatives of pastoral and agriculturalists’ associations, youth groups and women’s groups). The government designated traditional leaders to resolve conflicts according to customary law. If this approach does not work, then reconciliation powers are transferred to local government.

Source: Battista, F. & S. Baas. (2004). Consolidated Report on Case Studies and Workshop Findings and Recommendations, in The Role of Local Institutions in Reducing Vulnerability to Recurrent Natural Disasters and in Sustainable Livelihoods Development.

4.3 FURTHER READING

- Battista, F. & S. Baas (2004) *Consolidated Report on Case Studies and Workshop Findings and Recommendations*, in *The Role of Local Institutions in Reducing Vulnerability to Recurrent Natural Disasters and in Sustainable Livelihoods Development*, FAO, Rural Institutions and Participation Service, Rome.
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- Cluster Working Group on Early Recovery (2008). Guidance Note on Early Recovery. Geneva, in Cooperation with the UNDG-ECHA Working Group on Transition.
- FAO & ILO (2009). The Livelihood Assessment Toolkit: Analysing and responding to the impact of disasters and on the livelihoods of people. First Edition. Rome.
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- Giulio Tomolo, F., (2010) *Haiti Earthquake Response*, GIM International, Issue 4, Volume 24, April 2010.
- International Federation of Red Cross and Red Crescent Societies (2005). Guidelines for Emergency Assessment. Geneva.
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HIGHLIGHTS FROM MODULE 4: LAND ISSUES IN EMERGENCY RESPONSE AND EARLY RECOVERY

Emergency response

Immediately after a disaster, national and international institutions focus on urgent life-saving needs, and there is little scope to consider land issues. The foundation of recovery begins in the emergency response phase as local institutions begin providing basic services and important governance functions. As the immediate disaster measures start to take effect, there is an opportunity to address some land issues that require early consideration. Key matters in this phase include:

- **An orderly process.** People with rights to land before a disaster will want to rebuild their houses and resume livelihoods as soon as possible. They may seek to identify and claim their land; however, if others claim to have rights to this land, there may be conflict and land grabbing. All emergency response personnel should reinforce the message that rebuilding can occur only after all relevant stakeholders have agreed upon rights to land and the location of boundaries. This will reduce the incidence of disputes.
- **Shelter options.** Safe shelter in secure settlements is a primary concern and necessary for durable recovery to occur. Shelter responses should enable affected households to incrementally upgrade from emergency to durable shelter solutions within a reasonably short time.
- **Rapid assessments.** Initial assessment of the impact of the disaster on access to land and tenure security is best done as part of a rapid livelihoods assessment. An assessment process for sudden-onset disasters consists of three interrelated elements: a Livelihood Baseline; an Initial Livelihood Impact Appraisal (ILIA); and a Detailed Livelihood Assessment (DLA). The DLA is conducted during the early recovery stage.
- **Preparation for later responses.** While land issues are relevant to livelihoods, shelter and agriculture impact assessments, land tenure issues are not generally life-threatening and are better included in other damage and loss assessments. Capacity in the land sector, while not among the most urgent emergency response issues, should be incorporated into general needs assessments to provide a sound basis for developing plans to process the many land claims that will arise prior to reconstruction of buildings.
- **Land records.** In the emergency phase, attention should be directed to assessing the damage to land records, making land records secure and, if digital copies exist, ensuring that security copies are stored at a secure site.
- **Spatial data.** Assessing the impact of a disaster requires producing geo-referenced data (i.e. maps) to inform and support the emergency response. Information is required on the geographical extent of the damage, the scale of the damage and the estimated number of people affected. Traditionally, this has been achieved by using existing or new satellite images or aerial photographs to supplement existing spatial data. Effective coordination by disaster organizations in collecting post-disaster spatial (geo-referenced) data will reduce duplication of effort.

Early recovery

Following a natural disaster, there is a period of transition in which the focus shifts from the most

urgent life-saving issues to planning for recovery. The response during this transition period is called “early recovery” and begins immediately after the onset of the crisis. Land issues associated with many major early recovery activities include:

- **Detailed livelihood assessment.** A DLA provides a thorough assessment of the impact of disaster on livelihoods to identify opportunities and capacities for recovery at household, community and local levels. It informs decisions by local and central government authorities and international agencies when developing livelihood recovery response plans and projects. A DLA is undertaken by multidisciplinary, multiagency teams led by livelihood specialists and including national government staff.
- **Detailed settlement assessment.** A shelter and settlement assessment assesses the condition of housing prior to a disaster, the impact of the disaster on housing and the need for emergency shelter and transitional settlement. Its results inform decisions on the size and type of transitional shelters and on suitable approaches to resettlement. It should consider local cultural and socio-economic norms because once decisions are made about the location of housing and the type of construction, they become permanent components of reconstructed communities. The Local Estimate of Needs for Shelter and Settlement (LENSS) Toolkit provides guidance on the data required for such an assessment.
- **Land availability and risk hazard maps.** Conducting an analysis of land availability in areas of low vulnerability to disasters will help determine the extent of land shortage or surplus and help identify suitable sites for relocation and transitional shelter. It is also important to know which areas are at risk of further hazards, and this will vary for different kinds of disasters.
- **Site selection for shelter or resettlement.** Selecting a site for resettlement camps should be done in consultation with village elders to ensure acceptance by host villages. The site should not be land over which other people have land-use rights or land tenure rights. People in the resettlement camps should be allowed to return to their original livelihood or commence a new livelihood as quickly as possible. They should also receive official recognition for their allocated parcel of land so they have security of tenure moving forward.
- **Restitution.** According to the Pinheiro Principles, all displaced persons have the right to have any housing, land or property for which they were arbitrarily or unlawfully deprived, restored to them. Where it is impossible to restore, they should be compensated for their loss. Every person should have rights to land that are at least as good as the situation before to the disaster.
- **Public information campaigns.** The most immediate risks to security of land tenure are land grabbing, speculative informal land sales and conflict over land. Public information campaigns explaining land policies, the legal framework and land tenure rights can help protect people from exploitation.
- **Coordinating responses.** Effective cooperation between land agencies and other sectors will help to protect rights to land and tenure security. Within the land sector, responsibilities are often fragmented between two or more ministries, and those involved in responding to large-scale disasters include the affected country’s government, international humanitarian organizations, NGOs, provincial government, community leaders, community-based organizations, international financial institutions and donor agencies.
- **Involvement at the local level.** The local community and local land institutions, which have the most detailed understanding of local land issues and how to administer them, must be central in decisions about land. As authorities transition from emergency response to recovery, decisions need to be made about who has rights to land, the location of property boundaries and how to prepare for reconstruction.

MODULE 5. Land issues in recovery and reconstruction



Module 5. Land issues in recovery and reconstruction

The previous module outlined the land issues that arise in the emergency response phase. During the transition from emergency response to early recovery, there is increased pressure for land as people seek to resume livelihoods and displaced people seek to return to their land. People with insecure tenure face risk of eviction from land during this stage, or they may be denied the right to return to land they previously occupied. Long-standing problems with land tenure become evident after a natural disaster as pressure for land increases and people temporarily lose connection to their livelihoods. At the end of early recovery, the focus shifts from the emergency phase to longer-term recovery, reconstruction and development. Some land issues require action in the recovery and reconstruction phases to reduce land conflicts in the longer term, and these issues are discussed in this module.

This module is divided into the long-term recovery and reconstruction phases and outlines how land issues may be considered in each stage.

5.1 LONG-TERM RECOVERY

As order is being restored, attention turns from immediate relief to preparing for recovery. Consideration of longer-term issues identified in the rapid and detailed assessments can lay the foundation for a sustainable recovery, rehabilitation and building back better (ISDR, 2005). This is consistent with trends away from a purely emergency response to a more comprehensive DRM approach that leads to improvement in pre-disaster conditions.

There are many cross-cutting land issues in all of the rapid and detailed assessments (i.e. assessments of livelihoods, displacement, shelter, agriculture, food security or vulnerability) and these inform decisions about resettlement in restitution. One of the most urgent and important land administration responses during the long-term recovery phase is the adjudication of the many claims to land.

5.1.1 Adjudication of land rights

Adjudication is the process by which decisions are made about who has the most legitimate claim to tenure over a parcel of land. Land ownership disputes and claims over land must be resolved (adjudicated) prior to reconstruction. If this does not occur, there is great potential for land disputes and the rich or influential can take land from the more vulnerable. In one example, people were

provided with temporary shelter after the tsunami in Sri Lanka, and then evicted as soon as the shelters were completed (Lee, 2005). There were also examples of people without formal title being dispossessed from their land in Thailand following the tsunami (CNRACNR and CNACCS, 2005).

Issues of land ownership and land rights need to be dealt with early to minimize the risk of conflicts and to facilitate reconstruction. However, there are typically many parcels affected and the process of adjudication may take a considerable amount of time. It is necessary to compromise between a rapid assessment of land rights to allow fast reconstruction, and fair, transparent decisions on land rights that include appropriate community participation.

There are two aspects to adjudication – determining the validity of land claims and establishing the location of land boundaries. It is important to establish the validity of rights to land rather than rely only on documentation to verify formal rights to land. Adjudication should verify ownership with public records, be consistent with the Pinheiro Principles and comply with international human rights standards. It is very important to respect traditional cultural norms about land and existing institutions that make decisions about land disputes. The aim of restitution should be to provide tenure security that is at least as good as the situation before the disaster.

Verification of rights to land may come from official land records, other public records verifying identity and pre-disaster occupation. Cadastral maps are very important official records of formal land ownership. Where cadastral maps do not exist, topographic maps, aerial photographs or satellite images are also very useful as base maps upon which land tenure rights can be established. In some areas, Google Earth may be sufficient for this purpose. Valuation records and maps also can be very important in establishing adequate compensation for displaced people who are not able to gain restitution.

In many countries, the land records have not been kept up-to-date and provide little assistance in the adjudication process. There are typically many parcels affected by a natural disaster and the process of adjudication may take a considerable amount of time. Limited capacity in the public sector may delay the recovery and reconstruction efforts (Williams 2006). Most developing countries at greatest risk of natural disasters have limited institutional capacity to process the large number of claims for restitution in a timely manner. Decisions about land tenure rights after a disaster are also complicated by damage to official land records and land offices, death of land office staff, the loss of evidence of property by landowners and the destruction of boundary markers and surveying infrastructure (Fitzpatrick 2006, Cosgrave 2008, Deutsch 2008, Barnes and Riverstone 2009). Where family members died in the disaster, the surviving family members may have difficulty proving inheritance (Fitzpatrick 2006, Deutsch 2008); in cases where the remains of the deceased have not been found, this may be even more difficult.

Where public records are out-of-date, lost or damaged, other forms of evidence and verification from village elders and neighbours are needed. In other words, the prior rights need to be defended against new claims. Land tenure arrangements frequently involve several claims to land, including those of registered owners, squatters, lessees, sharecroppers or farm laborers. Customary land rights are often widely accepted within the group and may include rights to a building, a fixed parcel of arable land or an area of shared arable land, or the rights to harvest from trees in certain seasons. Recognition of customary rights is very complex as there are likely to be many layers of rights to land and natural resources, and some of these may overlap geographically or temporally. When decisions are made

about rights to land without a full understanding of all the claims to it, rights get concentrated in the name of the primary landholder and secondary rights may be extinguished.

Claims to different tenure types require different forms of evidence to validate the claim. As discussed in Module 1, Palmer *et al.* (2009) list three different kinds of land rights claims with respect to their status of legitimacy:

- Rights that are legitimate – such as individual, group tenure or use rights – recognized by law.
- Claims to land lacking legal or social legitimacy. These may include commercial developers who expect to profit by development in protected areas, or people with influence who illegally appropriate public land for their own purposes. In the absence of evidence, these claims cannot be supported during adjudication.
- Rights that are considered legitimate through broad social acceptance but without legal recognition. These may include customary rights on state land, informal settlements or squatters who have not gained possessory rights. This category of claims is the most difficult to adjudicate, and may exist on a continuum that ranges from those with long-established rights and strong evidence of the claim, to rights that were more recently established with limited evidence. Adjudication requires some judgement, and where the community has well-established attitudes and social norms regarding land, the local community institutions should be involved in decisions on land rights. In some cases, it may not be possible to arrange restitution for these groups, and compensation may not be possible. However, the overarching principle is their right to restitution, and alternative arrangements should be found that are at least equivalent and provide access to previous livelihoods.

Adjudicating rights that fit into the first category of legal legitimacy involves verifying ownership through public records. Where these are lost or damaged, other forms of evidence and verification from village elders and neighbours are needed. In many countries, the land records have not been kept up-to-date and provide little assistance in the adjudication process. In urban areas in many countries, people use credit to finance the construction of a house and the financial institutions ensure that land transactions are recorded so that their interest in the land is recognized. This provides an incentive for land agencies to keep the land records current, and for people to use the formal land administration processes that may exist. However in rural areas, there is no access to credit and so land transactions occur through an informal land market and no land records exist.

Claims to land that lack legitimacy also are assessed in a similar manner and in the absence of evidence cannot be supported.

It is the third category – socially legitimate but not legally recognized rights – that presents the greatest difficulty for adjudicating and recognizing rights. Claims in this category may be on a continuum that ranges from those in which rights have been established over a long period and for which there is strong evidence of the claim, to those in which rights were more recently established and for which there is only limited evidence. These cases are not clear and require some judgement on the part of the people making adjudication decisions. Where the land policy framework and land law does not specifically address the circumstances, and where the community has well-established attitudes and social norms regarding land, the local community institutions should be involved in decisions on land rights. In some

cases, it may not be possible to arrange restitution for these groups, and compensation may not be possible. However the overarching principle is their right to land, and alternative arrangements should be found that are at least equivalent and provide access to previous livelihoods.

Adjudication is a complex process and the local community is best placed to verify decisions on land. Where the community is actively consulted and involved in the adjudication process, and traditional processes are followed, there is less likelihood of disputes. Box 17 describes a process of community-driven adjudication (CDA) in Ache following the 2004 Asian tsunami.

Once rights to restitution are established, it is important to ensure that the original land is habitable and able to be used for the previous livelihoods, and that the necessary infrastructure and facilities are in place or plans to rebuild them are under way. If restitution is not possible, then it is necessary to determine how the land will be used and by whom.

5.2 RECONSTRUCTION AND ONGOING DEVELOPMENT ACTIVITIES

The timing of reconstruction depends on the severity of the natural disaster and the speed of recovery activities. For the more devastating disasters, it may be as long as six months before reconstruction and rehabilitation can commence, although planning for reconstruction may occur earlier.

Reconstruction comprises processing claims to land, reconstructing or repairing buildings and resuming livelihoods. Each of these activities is interdependent and requires coordination. Ideally, reconstruction of the land administration system would commence first to allow secure tenure to precede rebuilding so that buildings are constructed in the correct position and so there is restitution for the pre-disaster landholders which will minimize later conflicts over land. Restoring capacity in the land administration system will also allow for an equitable and legal process to be followed in acquiring land for the construction of public buildings and infrastructure. To create a stable basis for the sustainable resumption of livelihoods, it is critical to provide secure land tenure for permanently displaced people and for those returning to their land and to build long-term housing.

During the reconstruction phase, some of the major land administration issues to be addressed include restoring capacity in the land institutions, securing land for public buildings and infrastructure, providing access to land for displaced people and returnees and resolving conflicts over land.

5.2.1 Restoring capacity in the land administration system

Rapid damage and loss assessments, needs assessments and the later detailed livelihoods assessments provide information on the pre-disaster problems with the land administration system and the impact of the natural disaster on land administration. This information is very important in developing reconstruction plans for the land sector, and also in informing later capacity building associated with the DRR measures of mitigation and preparedness. Reconstruction of the land administration system should be based on principles of building back better, and of doing so in a way that involves the local community. In this context, “building back better” involves improving displaced people’s security of

BOX 17. COMMUNITY-DRIVEN ADJUDICATION (CDA) IN ACEH FOLLOWING THE 2004 ASIAN TSUNAMI

In the aftermath of the 2004 Asian tsunami, the Government of Indonesia's land authorities faced a situation in which thousands of displaced people wanted to return to their land, commence reconstruction of buildings and resume livelihoods. However, a large percentage of land records had been destroyed or damaged, many legal landowners had died in the tsunami and much of the physical evidence of previous occupation (e.g. boundary markers or buildings) had been destroyed in the tsunami or in the cleanup operations afterwards. Decisions about rebuilding needed to be based on sound decisions about property rights, and made in a manner that achieved a balance between the urgent needs of the displaced people and the need for a participatory and transparent process. Establishing land rights allows rebuilding to commence, village spatial plans to be developed, and public buildings and resettlement areas to be constructed.

An important early measure, taken by the land agency (BPN) in January 2005, was to stop land sales in the affected areas in an attempt to prevent land grabbing. A second important factor was the design and implementation of the Reconstruction of Aceh Land Administration Systems (RALAS) Project, which involved the systematic registration of titles in housing locations. An innovative community-driven adjudication (CDA) approach was implemented that used the traditional local decision-making structures in which land issues are resolved, and the existing government records that confirmed land occupation prior to the disaster, which were supported by aerial photography. The CDA approach aimed to provide a standardized process in which boundary marks are identified and ownership is agreed upon by the community in a manner that provides a strong legal basis for future land titling.

The CDA process was outlined in a manual prepared under RALAS. First it involved preparing a community land map (CLM); in this activity, the community drove the process of parcel demarcation, mapping and preparing land ownership lists. The data were processed and the facilitating agency or NGO prepared a public display for confirmation by the community. Neighbours and the village head (geuchik) and elders (tuha puet) met on site to agree on the position of each concrete parcel corner marker. This process generally worked very well, and there were a small number of cases where markers were placed without the participation of neighbouring property owners. Importantly, this process was consistent with the BPN sporadic titling process where an individual applies to prove his or her ownership. If a committee of village elders (siding panitia) supports the claim, the land right is confirmed and documents are sent to base camps and checked for legal compliance.

In principle, BPN was able to verify the CLM records against other legal records, witness statements or surveys of the land parcels. In practice, the community land mapping for housing construction required a significantly less accurate verification of the location of boundaries than what was required for legal registration of titles. Issuing new titles involves a more rigorous and time-consuming process that requires significant institutional capacity to process many titles quickly. The CLM work allowed the title registration process to proceed more quickly than normal.

However, the real value of the CDA was using a community-level consultative and participatory process to determine who had rights to land and to resolve any disputes at the local level whenever possible. This provided a solid basis for commencing construction of buildings and other recovery works, and also reinforced customary land holdings. A Project Implementation and Beneficiary Assessment in 2008 reported that most people found that the process was transparent and that it speeded up the titling process.

*Source: BRR & World Bank (2005) *Rebuilding a Better Aceh and Nias: Stocktaking of the Reconstruction Effort*, and Deutsch (2008) *Project Implementation and Beneficiary Assessment, 2008, in Indonesia Reconstruction of Aceh Land Administration System (RALAS) Project*.*

tenure and access to land, enabling people to achieve restitution where practical, and enhancing the capacity of the land institutions to administer land transactions. Reconstruction also includes restoration where land office buildings, infrastructure or land records have been damaged.

Damage to the land administration system may include damage to land records that include cadastral maps, land registers or land books and land valuation records. This is more likely for major rapid-onset disasters (e.g. floods, earthquakes and tropical cyclones) than for slower-onset droughts. However, any natural disaster may lead to civil conflict which may also result in damage to land records and looting. Damage is also more likely in countries where the level of security and backup systems for land records are poor. Reconstruction should ensure that damaged records are recovered where possible, and that they are more secure than before the disaster. Rehabilitation may involve a process of drying out the records (as in the case of a flood), or recovering the records from the remains of a damaged or destroyed building. Where the records are not able to be recovered, they may need to be reproduced from other information sources or with agreement from the community. It is important to securely store land records that were not damaged by the natural disaster to protect them from recurrences of the disaster. For example, further rain may cause flood waters to rise once again.

Any damage to surveying infrastructure will make it difficult to survey and re-establish the location of property boundaries for households and public land. In addition, site clean-up operations may destroy even more surveying marks. It will be necessary to reinstate the survey control points as part of the process of restoring capacity, and using modern surveying technology such as total stations or global positioning systems may improve efficiency and the quality of the survey infrastructure.

Perhaps the most significant element of restoring capacity in the land administration system is improving human resource capacity and supporting equipment and systems. It is likely that any major disaster will have a significant impact on the human resources, buildings, equipment and systems of the land agencies. New staff may be needed, and others may need to be trained. Replacement equipment will be required, and buildings will need to be repaired to bring the agencies back to their pre-disaster capacity. However, the demand on the land agencies will be far greater during a reconstruction phase than before the disaster, and improved capacity will be required. It is possible that the staff who survived the disaster may need to be trained in DRM and how it relates to land administration. Many may not have experience in reconstruction activities.

5.2.2 Moving from transitional shelter to reconstruction

While transitional shelter is often necessary after a disaster, people usually expect that these are short-term arrangements. There is likely to be a range of transitional settlement and reconstruction options, and people will choose different options depending on their circumstances. Affected families may also move from one option to another over time. Transitional settlement options include:¹⁹

- host families;
- urban self-settlement;

19. Corsellis (2008). *Transitional settlement and reconstruction after natural disasters*.

- rural self-settlement;
- collective centres;
- self-settled camps;
- planned camps.

In each case, it is important to recognize the rights of the affected people to occupy their chosen transitional settlement option. Where the resettlement option becomes long term, the rights should be more formally recognized and, where possible, legally recognized. Recognition of tenure on sites selected and settled by displaced people may be achieved by issuing temporary occupation permits. Temporary occupation permits provide a measure of security even though the occupant does not legally own the land. Other options for formal recognition of occupation include having friends or relatives grant the land or allocating communal or state land. Formal land acquisition is also an option.

Some of the affected people will be able to return to their pre-disaster land and commence reconstruction. This may occur when: the site has been cleared of damage caused by the disaster and is deemed safe; a damage assessment has been undertaken; land tenure rights have been verified; financial assistance has been determined; and the resources and capacity are available to commence reconstruction or repairs to buildings. Reconstruction tenure options include:²⁰

- occupancy with no legal status – the occupant occupies land or property without the explicit permission of the owner;
- house tenant – the house and land are rented by the occupant formally or informally;
- apartment tenant – the apartment is rented by the occupant formally or informally;
- land tenant – the house is owned, but the land is rented;
- apartment owner-occupier – the occupier owns their house and land or is in part-ownership, such as when repaying a mortgage or loan. Ownership may be formal or informal.

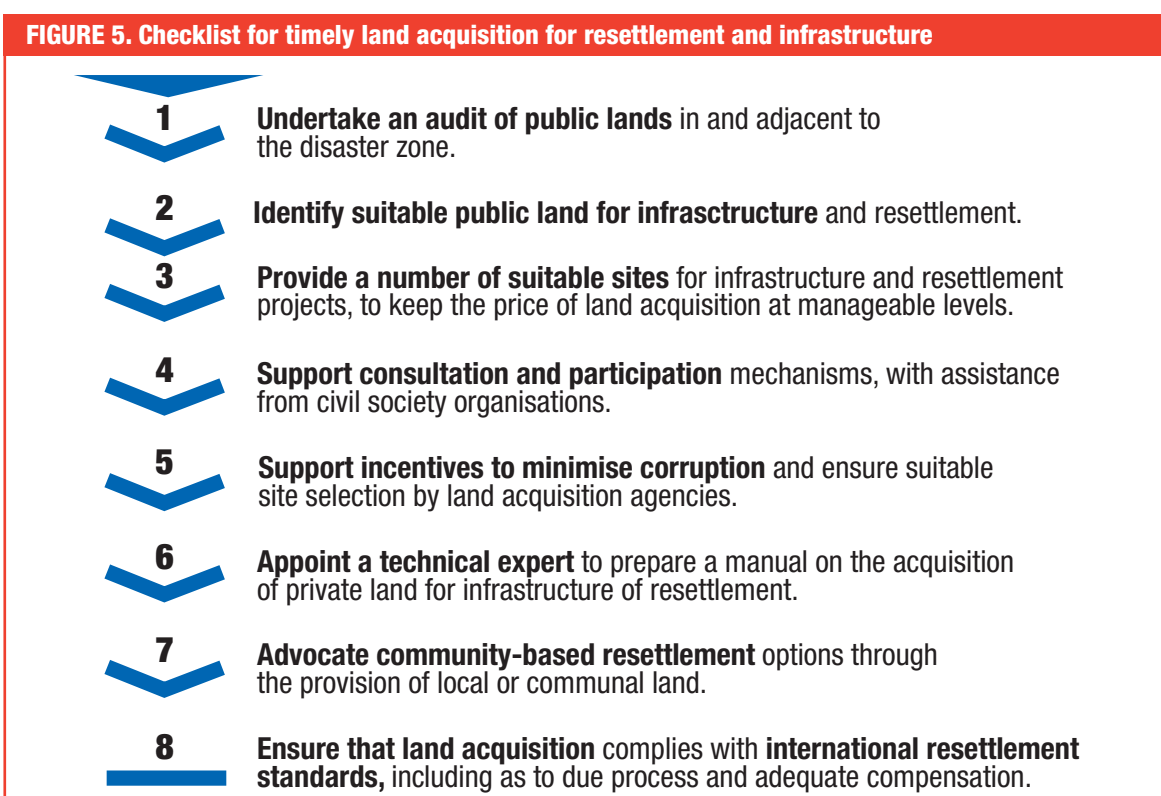
Where the chosen reconstruction option has informal tenure (i.e. lacks legal status), the affected people are vulnerable to eviction. These options are more likely to occur on land that is not in demand and will often be in areas at higher risk of future natural disasters. Alternatives should be found for affected people who return to hazard-prone land. Where informal settlements are not situated on hazard-prone land, upgrading through a master plan may be required as part of a process of improvement. Occupancy without legal status provides opportunities to work with the displaced community to seek more formal legal status and to undertake risk mitigation measures.

For reconstruction options involving tenancy, the affected people may have fewer options for financing and reconstruction, and may depend upon the landlord to support any measures. There are opportunities for international and governmental agencies to advocate for improved tenancy agreements and contracts to ensure that the affected people's rights are respected.

20. Ibid.

For affected persons with secure tenure such as owner-occupiers, the risks of displacement are less. In these circumstances, authorities can identify houses that are poorly situated or in hazard-prone areas and negotiate for relocation. Where reconstruction is not in hazard-prone areas, the community can be included in plans for redevelopment and improvement.

Land acquisition may be required where private or customary land is needed for resettlement or construction of infrastructure. However, conflict may occur where land acquisition arbitrarily displaces people, does not involve appropriate consultation with those who have rights to the land or does not offer adequate compensation for the land. Disputes over land acquisition and compensation may also delay recovery and reconstruction efforts. Where land acquisition is necessary, it is important to identify suitable sites and affected landholders as early as possible. This will allow a participatory process to be followed that respects the landholders' property rights and customary procedures. Figure 5 provides a checklist for a land acquisition process.



Source: Corsellis and Vitale, 2008.

For further reading on land acquisition processes refer to FAO Land Tenure Studies 10: Compulsory Acquisition of Land and Compensation.

5.2.3 Managing conflict over land

The devastation following a natural disaster creates many pressures on individuals and households that could lead to conflict. Conflicts over land are one type of conflict that can occur after a disaster as people seek to regain access to their pre-disaster landholdings. Conflicts over land that existed prior to the disaster may be much worse after the disaster. Alternatively, conflicts may occur entirely as a result of the displacement and damage caused by the disaster. The process of displacement, followed by resettlement and then restitution for some of the displaced people, can cause tensions even if a community-driven, consultative and participatory process is followed. The potential for conflict is greatly increased if uninformed decisions are made to allocate land to people who do not have the strongest rights. Conflict may also occur if only the primary land tenure rights are recognized, while other secondary rights of access to land are ignored. For example, there is potential for conflict where the landowners' rights are recognized, but those of the tenant or sharecropper are not. Tension may also exist between different ethnic groups and within a family.

Where the disaster occurs in a region that has experienced a violent conflict, the issues of displacement are compounded as people displaced by the conflict return to their land and seek restitution and resettlement. Box 18 outlines some of the interrelationships among land issues, livelihoods and natural disasters in southern Sudan, which has faced the challenges of several natural disasters and conflict.

BOX 18: LIVELIHOODS, LAND TENURE AND THE IMPACT OF DISASTERS IN SOUTHERN SUDAN

Communities in southern Sudan have become more vulnerable to hazards and disasters because of decades of north-south war and the associated marginalization of the area; the prevailing weak and fragile post-war economy and governance capacity; the very frail physical and social infrastructures; and most importantly, the widespread prevalence of different types of hazards such as floods, conflicts, droughts and human and livestock diseases. The situation has been worsening because of the persistently increasing prices of basic food commodities, the failure of the main season's rains in most parts of southern Sudan, widespread ethnic conflicts and attacks by Uganda's Lord Resistance Army (LRA) rebels. Formal land legislation is in place in northern Sudan (including Darfur), while customary land arrangements exist in southern Sudan. Reconciling traditional arrangements in the south with more formal provisions in the north, and in the context of a peace agreement between parties, is complex and affects restitution efforts.

An estimated two million people were killed and an additional four million were displaced in the north-south war. Following the peace agreement, an estimated 1.4 million returnees arrived in southern Sudan from neighbouring countries and northern Sudan with little or no life savings. The tasks of repatriation, resettlement, rehabilitation, reintegration and reconstruction of war-torn communities, particularly for returning IDPs and refugees, have been enormous. The expectations among these groups are high for quick delivery of basic public services, administrative justice, security, education, health, social cohesion, food and livelihood security.

Source: Abbute, W.-S. (2009). Vulnerability, Impacts of Hazards and Disasters in Southern Sudan: Study from Agriculture, Food Security, Livelihood, and Rural Development Perspectives. Report One, and Abbute, W.-S. (2009). Survey on Disaster Risk Reduction and Management Experiences in Southern Sudan. Report 2 (Draft).

For each type of natural disaster, there are different pressures on land and people and different kinds of conflicts may manifest. Table 12 summarizes some of the land issues discussed in Modules 1 and 2 that may lead to conflict unless there is an appropriate response.

TABLE 12. Potential sources of conflict over land in various natural disasters

Type of natural disaster	Land issues that may lead to conflict
Floods	<ul style="list-style-type: none"> • Resettlement with host communities may create tensions between displaced people and host families. • Floods cause damage to land through erosion and debris deposits, making land unusable. People may seek land used by others to resume livelihoods, which can create the potential for conflict. • Floods may clear boundary markers, causing disputes over the extent of land ownership or land-use rights. • The return of displaced people to their land before it is safe to do so may create tensions with authorities. • Opportunistic land grabbing can lead to conflict over land rights.
Tropical cyclones	<ul style="list-style-type: none"> • Destruction leads to temporary or permanent displacement. Choices of sites for resettlement may create conflicts if there is inadequate local consultation. • Permanent resettlement away from hazard-prone coastal areas may create tensions if it is on customary lands or previously used State lands. • For pre-disaster lands without legal legitimacy, there are risks of land grabbing that may lead to conflicts. • Resettlement of people with insecure tenure away from coastal areas to allow for development can lead to conflict.
Earthquakes	<ul style="list-style-type: none"> • Destruction of buildings creates many displaced people. Inadequate consultation with displaced people or host communities may lead to conflicts within settlement camps. • Destruction of buildings and markers that defined the extent of pre-disaster ownership can lead to disputes over the extent of ownership. • Tenants and informal settlers may lose access to land, which may lead to conflict.
Tsunamis	<ul style="list-style-type: none"> • Resettlement with host communities may create tensions. • Considerable erosion and movement of lands make some lands unusable after the disaster. There may be conflict if people use land which is claimed by others, or if displaced people are not consulted in relocation and resettlement. • Damage to buildings and survey markers may lead to disputes over where pre-disaster land parcels were and the location of boundaries. • Damage to land records and boundary markers may lead to disputes over ownership and location of boundaries. • Resettlement onto customary lands or allocated state lands may create tensions and lead to conflict.
Drought	<ul style="list-style-type: none"> • Prolonged drought may force pastoralists to search for alternative water sources on land that is claimed by others. • Recognition of land tenure or land-use rights by government may remove customary rights of migration between seasons, causing conflicts at times of drought. • Where collective or customary ownership arrangements have broken down due to prolonged drought, there may be increased conflict over land.

Land tenure alternative conflict management

Conflict resolution can either be formal (non-consensual) or alternative (consensual). Formal conflict resolution methods typically involve the intervention of a recognized formal or informal third party. The involvement of a third party may lead to sustainable outcomes. The success of alternative methods depends on the type of conflict resolution process and the degree to which it is participatory and consensual. Alternative conflict management (ACM) has been a discipline since the 1960s, and it

provides methods to achieve joint resolution of a conflict by transforming all interested parties into active and responsible decision-makers. ACM takes a holistic view of the conflict by considering both the objective and subjective aspects. This is particularly important for land tenure conflicts because they are often influenced by strongly held cultural and social beliefs. Successful and sustainable ACM relies on the use of local social capital in the conflict resolution process. If the mediator is able to work with the social capital network, the community will take care of institutional consolidation and capacity-building. The social capital networks of the stakeholders in a given conflict situation therefore need to be understood and included in the ACM processes.

A publication by FAO in 2006²¹ recognized the close links between conflict and land tenure and provided guidance on applying ACM principles in land tenure alternative conflict management. In most cases, violent conflicts are related to competition over access, use and security of scarce land and natural resources. Providing more equitable access to land and increased tenure security is often an important part of recovery from the conflict, but people also need access to complementary productive and institutional resources – including financing, training, open and effective markets, technology and rural infrastructure – if the potential benefits of improved access to land are to be achieved. In hazard-prone areas that have also been subject to violent conflicts, the poor are the most vulnerable to natural hazards and conflict. In areas with an overall land shortage, increasing population pressure results in a decrease in the size of family holdings with each generation, and the creation of opportunities for off-farm income becomes increasingly important to reduce pressure on the land.

Mediators must consider these issues, and an important factor in addressing land tenure conflict is developing a comprehensive recovery or reconstruction strategy focusing on rural development and infrastructure. Such a cross-sectoral approach is more likely to contribute successfully to sustainable improvements in land tenure security and improved livelihoods. When investigating the source of a conflict, the political and institutional frameworks should be analysed to identify which changes may be potential sources of further conflict. In the context of land tenure conflicts, the key issues usually include elements of access to land, land-use rights, security of tenure, land policy and the legal and institutional frameworks for land.

The FAO publication *Land tenure alternative conflict management* provides further guidance on how to review the history of the conflict and undertake conflict analysis and mapping, and provides options for conflict resolution.

5.3 FURTHER READING

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HIGHLIGHTS FROM MODULE 5: LAND ISSUES IN RECOVERY AND RECONSTRUCTION

Recovery and adjudication of land rights

As order is being restored, attention turns from immediate relief to preparing for recovery. Consideration of longer-term issues can lay the foundation for sustainable recovery, rehabilitation and “building back better”, which is consistent with a more comprehensive DRM approach. One of the most urgent and important land administration responses in this phase is the adjudication of the many claims to land. Adjudication is the process by which decisions are made about who has the most legitimate claim to tenure over a parcel of land.

- Disputes and claims over land must be resolved (adjudicated) prior to reconstruction. If this does not occur, there is great potential for conflict and the rich or influential can take land from the more vulnerable. It is necessary to compromise between a rapid assessment of land rights to allow fast reconstruction, and fair, transparent decisions on land rights that include appropriate community participation.
- There are two aspects to adjudication – determining the validity of land claims and establishing the location of land boundaries. Adjudication should verify ownership with public records, be consistent with the Pinheiro Principles and comply with international human rights standards. It is very important to understand both the statutory rights to land and the traditional or customary rights to land that may be socially legitimate but not legally recognized. Also important is that dispute resolution mechanisms are consistent with customary approaches where appropriate. The aim of restitution should be to provide tenure security that is at least as good as the situation before the disaster.
- Where public records are out-of-date, lost or damaged, other forms of evidence and verification from village elders and neighbours are needed. Land tenure arrangements frequently involve several claims to land and recognition of customary rights can be very complex. When decisions are made about rights to land without a full understanding of all the claims to it, rights get concentrated in the name of the primary landholder and secondary rights may be extinguished. Where the community is actively consulted and involved in the adjudication process, and traditional processes are followed, there is less likelihood of disputes.

Reconstruction

Reconstruction comprises processing claims to land, reconstructing or repairing buildings, and resuming livelihoods. Each of these activities is interdependent and requires coordination. Timing of reconstruction depends on the severity of the natural disaster and the speed of recovery. For the more devastating disasters, it takes as long as six months before reconstruction can begin, although planning for reconstruction can take place earlier.

During the reconstruction phase, there are a number of major land administration issues to be addressed: restoring land administration system capacity; long- vs. short-term settlement; reconstruction tenure options; and land acquisition.

- **Restoring land administration system capacity.** Reconstruction of the land administration system should be based on principles of building back better, which involves improving displaced people's security of tenure and access to land, enabling people to achieve restitution where practical, enhancing the capacity of the land institutions to administer land transactions and restoring land office buildings, infrastructure or land records that were damaged. Perhaps the most significant element of restoring capacity in the land administration system is improving human resource capacity and supporting equipment and systems.
- **Long- vs. short-term settlement.** There is likely to be a range of transitional settlement and reconstruction options. These include: host families; urban self-settlement; rural self-settlement; collective centres; self-settled camps; and planned camps. Where the resettlement option becomes long term, the rights of affected persons to occupy their chosen option should be more formally recognized and, where possible, legally recognized, perhaps by issuing temporary occupation permits. Other options for formal recognition of occupation include having friends or relatives grant the land, allocating communal or state land or formally acquiring the land.
- **Reconstruction tenure options.** Reconstruction tenure options include: occupancy with no legal status; house and land tenant; apartment tenant; land tenant; apartment/land owner-occupier partnership.
 - Where people's reconstruction option lack legal status, they are vulnerable to eviction. There is the opportunity to work with the displaced community to seek more formal legal status and to undertake risk mitigation measures.
 - For reconstruction options involving tenancy, people may have fewer options for financing and reconstruction, and may depend upon the landlord to support any measures. International and governmental agencies may advocate for improved tenancy agreements to ensure that people's rights are respected.
 - For people with secure tenure such as owner-occupiers, the risks of displacement are less. In these cases, authorities can identify houses that are poorly situated or in hazard-prone areas and negotiate for relocation. Where reconstruction is not in hazard-prone areas, the community can be included in plans for redevelopment.
- **Land acquisition.** Land acquisition may be required where private or customary land is needed for resettlement or construction of infrastructure. It is important to identify suitable sites and affected landholders early and to use a participatory process that respects the landholders' property rights and customary procedures in order to minimize conflict, and ensure that adequate compensation is paid.

Conflict management

The devastation following a natural disaster creates many pressures on individuals and households that can lead to conflict.

Type of natural disaster	Land issues that may lead to conflict
Floods	<ul style="list-style-type: none"> • Resettlement with host communities may create tensions between displaced people and host families. • Floods cause damage to land through erosion and debris deposits, making land unusable. People may seek land used by others to resume livelihoods, which can create the potential for conflict. • Floods may clear boundary markers, causing disputes over the extent of land ownership or land-use rights. • The return of displaced people to their land before it is safe to do so may create tensions with authorities. • Opportunistic land grabbing can lead to conflict over land rights.
Tropical cyclones	<ul style="list-style-type: none"> • Destruction leads to temporary or permanent displacement. Choices of sites for resettlement may create conflicts if there is inadequate local consultation. • Permanent resettlement away from hazard-prone coastal areas may create tensions if it is on customary lands or previously used State lands. • For pre-disaster lands without legal legitimacy, there are risks of land grabbing that may lead to conflicts. • Resettlement of people with insecure tenure away from coastal areas to allow for development can lead to conflict.
Earthquakes	<ul style="list-style-type: none"> • Destruction of buildings creates many displaced people. Inadequate consultation with displaced people or host communities may lead to conflicts within settlement camps. • Destruction of buildings and markers that defined the extent of pre-disaster ownership can lead to disputes over the extent of ownership. • Tenants and informal settlers may lose access to land, which may lead to conflict.
Tsunamis	<ul style="list-style-type: none"> • Resettlement with host communities may create tensions. • Considerable erosion and movement of lands make some lands unusable after the disaster. There may be conflict if people use land which is claimed by others, or if displaced people are not consulted in relocation and resettlement. • Damage to buildings and survey markers may lead to disputes over where pre-disaster land parcels were and the location of boundaries. • Damage to land records and boundary markers may lead to disputes over ownership and location of boundaries. • Resettlement onto customary lands or allocated state lands may create tensions and lead to conflict.
Drought	<ul style="list-style-type: none"> • Prolonged drought may force pastoralists to search for alternative water sources on land that is claimed by others. • Recognition of land tenure or land-use rights by government may remove customary rights of migration between seasons, causing conflicts at times of drought. • Where collective or customary ownership arrangements have broken down due to prolonged drought, there may be increased conflict over land.

- In most cases, violent conflicts are related to competition over access to, and use and security of scarce land and natural resources. Providing more equitable access to land and increased tenure security is often an important part of recovery from the conflict, but people also need access to complementary productive and institutional resources – including financing, training, open and

effective markets, technology and rural infrastructure – if the potential benefits of improved access to land are to be achieved. Mediators must consider these issues.

- ◉ An important factor in addressing land tenure conflict is developing a comprehensive recovery or reconstruction strategy focusing on rural development and infrastructure.
- ◉ Formal (non-consensual) conflict resolution methods typically involve the intervention of a recognized formal or informal third party, which may lead to sustainable outcomes.
- ◉ Alternative conflict management (ACM) aims to achieve joint resolution of a conflict by transforming all interested parties into active and responsible decision-makers. ACM takes a holistic view of the conflict by considering both objective and subjective aspects, which is important in land tenure conflicts that may be influenced by strong cultural and social beliefs. The success of alternative methods depends on the type of conflict resolution process and the degree to which it is participatory and consensual.

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This training manual is for people working on emergency response and disaster risk management; it aims to provide an overview of the major land issues that may arise following a natural disaster that require consideration and inclusion in the decision-making processes associated with response, recovery and rehabilitation. These issues also should be considered for inclusion in follow-on reconstruction and development projects to improve tenure security for the more vulnerable as part of a disaster mitigation process.

This manual is also intended for people who work in the land sector, to provide information on the challenges that may be faced in the context of emergency response and recovery from disasters. The information contained in the modules provides a background for the rationale and processes of disaster risk management (DRM).

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