

ON SOLID GROUND

ADDRESSING LAND TENURE ISSUES FOLLOWING NATURAL DISASTERS

©FAO/J. Spauli



Philippines

NATURAL DISASTERS OF ALL KINDS
RANK HIGH IN THE PHILIPPINES

Environmental context

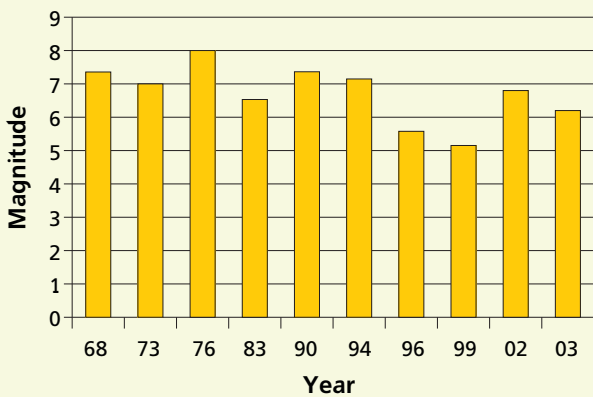
The Philippines is the second largest archipelago in the world, consisting of over 7,000 islands. Its location in the north-western Pacific Ocean places the country in the direct path of the world's number one tropical cyclone generator which brings destructive floods, landslides and storm surges. It also sits on the edge of the "Pacific Ring of Fire," where the islands experience periodic earthquakes and volcanic eruptions. According to the International Red Cross, The Philippines is the fourth-most disaster-prone country in the world.



UN HABITAT
FOR A BETTER URBAN FUTURE



FIGURE 1
Magnitude of Destructive Earthquakes 1968-2003



Note: 1990 figure is average of 3 earthquake magnitude.

FIGURE 2
Landslide Incidents, 1981-2006

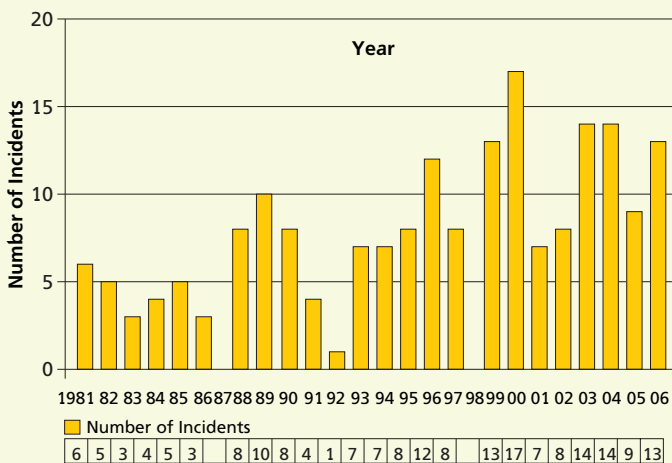
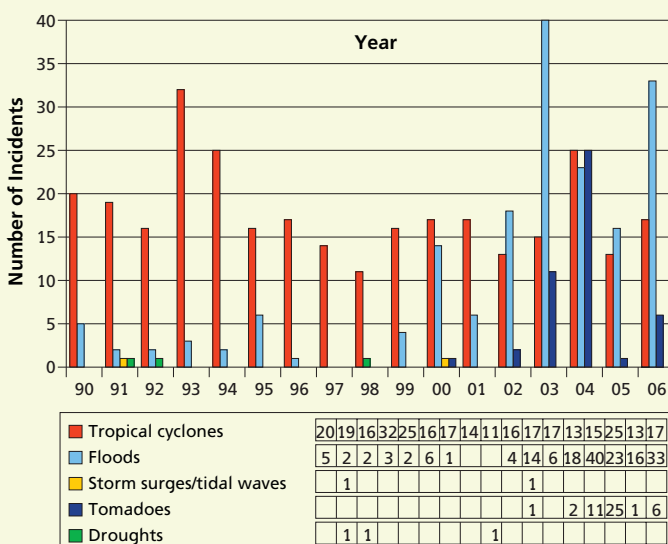


FIGURE 3
Climate/Weather-Related Hazard Occurrences, 1990-2006



Volcanic eruptions. There are about 220 volcanoes in the Philippines, of which 22 are considered active. Eighteen years after Mt. Pinatubo erupted in June 1991, mudflows continue to threaten the rehabilitation of the 364 *barangays* (villages) in the 'rice granary' of the country, and the 1.2 million people who live there.

Earthquakes. Tectonic earthquakes are found to be more destructive than volcanic ones. By 1991, an average of five earthquakes a day occurred in the country. During the next 13 years (1992-2004), a slight increase to six a day was recorded. The Luzon earthquake of July 1990 was the most destructive, causing the death of 1,283 people and affecting 1.3 others.

Tsunamis. Tsunamis are often caused by volcanic eruptions and earthquakes (at magnitude 7 in the Richter scale). In the Philippines most are caused by the latter.

Landslides. Most of the country's provinces are at risk of earthquake-induced landslides. From 1981 to 2006, the government monitored 194 landslide incidents. The Guinsaugon landslide of December 2003 killed 154 people and displaced 3,811 families.

Tropical cyclones. Tropical cyclones (or typhoons) are regarded as most destructive of all natural hazards in terms of the largest number of people affected and the value of total damage. From 1990-2006, 303 tropical cyclones hit the Philippines, or an annual average of 18 cyclones. During Typhoon Uring, about 6,400 people died and the entire Ormoc City was submerged.

Flooding. Tropical cyclones combined with heavy rains often produce flooding and flashfloods. Between 1990 and 2006, 175 flood occurrences, or an average of ten per year, were reported. In this period, there were more flooding incidents than any other hazard, killing 5,523 people and affecting over 5.2 others.

Tornadoes. Mindanao is the area most at risk of tornadoes, having been hit 20 times from 2000 to

TABLE 1 – The Impact of Major Natural Disasters in the Philippines, 1990-2006

Disaster Type	Freq	Casualties			Population Affected		Houses Damaged	
		Dead	Injured	Missing	Families	Persons	Totally	Partially
Volcanic eruption	6	958	201	23	339,149	1,619,029	44,247	68,451
Earthquake	9	1,394	3,566	329	262,174	1,444,913	27,276	88,661
Landslides	142	735	387	81	15,422	75,147	719	1,574
Tropical cyclones	139	12,274	15,184	4,524	15,422,872	76,638,345	1,430,039	4,224,617
Floods	175	5,523	685	1,364	1,107,405	5,253,367	9,234	35,828
Tornado	46	14	72	54	7,227	38,950	652	1,364
Drought and El Nino phenomenon	3	0	0	0	2,143,941	9,739,938	0	0
Total	520	20,898	20,095	6,375	19,298,190	94,809,689	1,512,167	4,420,495

Source: Data obtained from National Disaster Coordinating Council, Office of Civil Defense.

2006, followed by Western Visayas provinces, which experienced eight tornados in the same period. During this period, 46 tornadoes have struck the country, claiming the lives of 14 people, injuring 72 and leaving 54 missing. Almost 38,000 people have been affected.

Between 1990 and 2006, the Philippines experienced 520 disasters from seven major natural hazards, which killed 20,898 people, injured 20,095 and left 6,375 missing. About 1,230 people were killed each year. These disasters affected 19,298,190 families (about 95 million people), which suggests that many had been repeatedly hit, particularly by tropical cyclones, floods and/or landslides during the same period. The economic impacts of natural disasters on the country have been measured in terms of direct losses to agriculture, public infrastructure and private property. Between 1990 and 2006, average annual direct damage to the country as a consequence of major natural disasters was estimated at about 0.2 percent of the country's gross domestic product.

Major land tenure issues¹

Disasters cause undue displacement of affected households, thereby resulting in either temporary or permanent changes in land tenure and property. The

« The main difficulty in dealing with disaster consequences on land tenure and property lies fundamentally in the lack of awareness about the importance of land tenure and property in a disaster context. »



©M. Toroman

¹ In the Philippines, there has been no study to examine the direct impacts of natural disasters on land tenure and property. Existing literature only refers to land tenure in relation to poverty in the context of the poverty-disaster nexus. This section, therefore, draws on the views of government and non-government officers who have been involved in disaster relief and mitigation activities, and experiences of some disaster-affected people from the Province of Albay in Bicol Region.



©FAO/Majnoni

SO MUCH UNTITLED LAND

Between 2002 and 2004, the Land Administration and Management Project (LAMP) of the Department of Environment and Natural Resources (DENR) funded a series of studies on land laws, land markets, tenancy and land tenure. Their key findings give a clear picture of the country's current land use and tenure issues:

"[...] some 60% of the real property of the country is informal. Considering that some 46% of the Alienable and Disposable (A&D) lands are untitled, and much of the Forest domain is occupied and used by persons without secure rights, it can be seen that this figure of 60%, although extremely high, is not unreasonable. Any country with so much wealth remaining informal, can expect that the economy would have a limited contribution from the property sector. In addition to securing ownership for the remaining 46% of A&D land parcels, LAMP has proposed in the land laws and the tenancy study reports that secondary rights be registered, such as long term leases.

The land tenancy study showed that there are about 2 million ha of farms (estimated 1 million parcels of farm lands) for which agrarian reform beneficiaries have yet to receive formal long-term leases... the LAMP land laws study of 2002 suggested that long term leases could provide immediate tenure security in the absence or while awaiting the protracted process of transferring full ownership."

severity of impact differs in terms of: (i) whether those who are affected have secure or no secure tenure to their property, (ii) whether the disaster has caused lasting damage to the property; and (iii) the capacity of the affected people to recover their lost property, or to restore and improve their tenure security, which mainly defined by their socio-economic status.

People with secure tenure are more confident to reclaim their property if the damage is not permanent. In the case of households affected by landslides from Mt. Mayon resulting from Typhoon Reming, those with titles immediately returned to their properties, knowing that the title records kept at the Register of Deeds (RoD) would prove the location of their boundaries. Moreover, because houses on titled properties are more often built of stronger construction materials, finding the exact locations of the properties is not difficult because of the high probability that parts of the structures will still be intact after the disaster.

In contrast, affected households with no secure tenure are likely to have greater difficulty in relocating or in reclaiming their original occupied properties following a disaster. This is more pronounced in farmlands, and in locating the original location of their dwellings. In the absence of boundary marks and permanent structures, returning to the property is made easier by community recognition of each others' rights to occupancy, as neighbors help each other in reestablishing the original boundaries of their formerly occupied properties based on trust. This sense of cooperation is strong among affected community

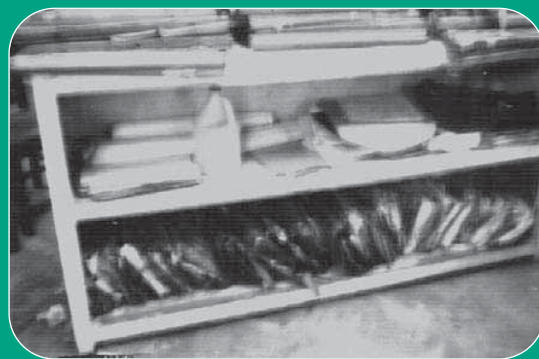
members immediately after the disaster, as they share a common experience and willingness to help each other in coping with its after-effects. However, the possibility of boundary dispute may arise once the parcel boundaries are re-delineated by surveys.

Where the damage to land is permanent, affected people, regardless of their tenure, often find themselves eased out of their original communities and relocated to government-designated resettlement sites. This is particularly true for informal settlers, who have no choice but to accept moving to the resettlement sites in order to establish new dwellings and engage in other livelihood activities. However, in many cases, the relocation sites do not provide better alternatives to their former way of life. For instance, families from Aurora, Quezon that were affected by the 2004 landslides triggered by four consecutive typhoons were advised that their original community was no longer suitable for habitation. Yet people find the relocation site too far away from their original area, forcing them to alter their livelihood from fishing to farming.

Administrative and legislative constraints to land titling

Absence of a complete cadastre. The different land offices do not have complete records of all rights to land. The presence of many agencies involved in land titling and land administration has led to duplication and overlaps of records, in some cases resulting in issuance of double titles over the same property. There is no comprehensive set of maps that supports the title records issued, thereby increasing the probability of overlapping titles. In the context of rehabilitation after a disaster, this situation aggravates the probability of issuing multiple titles on the same property.

Absence of control points maintenance programme. Many of the control points installed in the past decades throughout the country have been damaged or destroyed for varied reasons. The government does not have an active monitoring and maintenance program to reestablish the control points. In the case of the Mt. Pinatubo eruption, for instance, the National Mapping and Resource Information Authority (NAMRIA) has not been successful in receiving the funds necessary to



Land survey records damaged by Typhoon Reming in Albay in November 2006, consisting of:

- ❖ Cadastral maps for surveys for the whole province
- ❖ List of survey claimants for surveys, and
- ❖ Technical descriptions of surveys.

Source: DENR PENRO/ICENRO, Legaspi City, Albay.

reestablish the primary control points required to guide the subsequent cadastral surveys for relocating the parcel boundaries of property owners.

Lost, damaged or destroyed land records. Most DENR field offices have incomplete and outdated land records due to loss and theft during frequent transfers, and damage caused by fire, floods and vermin infestation. The DENR provincial office in Albay, for instance, lost 2,445 cadastral maps and other land survey records when the roof of its office building collapsed during Typhoon Reming. Reconstitution of records is difficult and costly as the DENR does not maintain a systematic filing system for its records. This situation is true in many parts of the Philippines. In order to resume the processing of applications for original title, land claimants have to reconstitute their documents if they were damaged or lost at the DENR. For many affected families that have lost their homes and properties, this takes an

enormous amount of time as the documents have to be reconstructed and/or secured again from other government offices.

Costly and lengthy process of title reconstitution.

This is a legal process whereby the owner files petition in Court to reconstitute the title records which were lost or damaged at the RoD. The owner shoulders all related costs, including legal fees, which are estimated to be about Php 20,000.00 (about US\$ 460). The process can take months to complete, considering that the RoD does not have a complete cadastre. Experience from the World Bank- and the AusAid-funded LAMP reveals that one of the causes of double titling is judicial reconstitution, wherein the Court issues new title copies for records that have been lost or destroyed.

Costly and lengthy process of securing title copies.

Property owners who have lost their copies of titles have to secure a second owner's copy at the RoD. This is also a purely legal process whereby the owner petitions the Court to grant the RoD authority to issue a second owner's copy. This process is initiated by the owner, who shoulders all associated expenses. The process can take months to complete, and expenses can reach about Php 10,000.00 (about US\$ 230).

Costly process of relocation of parcel boundary marks.

This process is initiated and paid for by the property owner concerned. The Geodetic Engineers of the Philippines has set standards for this service, which costs the property owner an average of Php 10,000.00 to 12,000.00 (about US\$ 230-277). The government does not have a programme to support affected families in relocating their parcel boundaries following a natural disaster.

Presence of many erroneous surveys.

The relocation of boundary marks is made complex by the presence of many erroneous surveys. The experience of LAMP is that an additional process had to be introduced – survey validation – to determine whether the quality of survey works warrant the issuance of titles. This has been necessary due to poor survey practices, and lack of monitoring and supervision of survey works. One outcome is the increased probability of misplacement of boundary marks.

In disaster risk management efforts, land tenure issues will come into play in different ways, depending whether efforts are focused on disaster prevention and mitigation, disaster response, or recovery after a disaster.



©MA, Torhonen

SPECIAL CHALLENGES OF INFORMAL SETTLERS

Informal settlers face a different set of challenges, since there are no records as basis for reclaiming their former occupied areas. This information is preserved in the minds of elders and community members. However, in case of death of elders and community leaders, this information is difficult to reconstruct. In addition, those who have no secure rights to land before a disaster are at risk of being permanently displaced to the relocation sites offered by the government. In many cases, the sites are unattractive and do not correspond to their pre-disaster situations. Most of the resettlement sites are densely populated, far from original sources of livelihood, lack basic facilities and services, and offer an entirely different socio-economic environment that forces people to adapt to different traditions, livelihoods and lifestyles. As a result, these people are compelled to return to their former lands, even if the land has become unproductive due to the damage caused by the disaster; or else they are compelled to find other suitable areas where they can start a new life and sustain their culture. All these circumstances make them highly vulnerable to another disaster, thus perpetuating the cycle of poverty and vulnerability.



©Photo/RFI photo null

was almost wiped out when the slopes of a hill collapsed after hours of continuous heavy rains.

Dense settlements in vulnerable areas. The presence of dense settlements in vulnerable areas is partly a function of weak enforcement of land use policies, and partly a result of uncontrolled urban growth and lack of access by rural landholders to land resources. Uneven investments which favour the highly developed regions, burgeoning population growth, and lack of livelihood opportunities in the rural areas pull people out of the provinces. These conditions bring about an artificial scarcity of land and intensification of human settlements in the urban areas which force many people to inhabit the drainage

Disaster prevention and mitigation

Absence of comprehensive spatial information.

The absence of comprehensive spatial information before land titling results in the issuance of titles to properties located in vulnerable areas. For example, in Albay, several titles were issued along the flanks of Mt. Mayon, even along the 6.0 kilometres declared as a permanent danger zone by the Philippine Institute of Volcanology and Seismology. This is also the case of the Ginsaugon landslide tragedy. The absence of comprehensive hazard maps for all types of hazards resulted in a misguided land classification system as well as land use and development policy. An entire barangay, where the land had been declared alienable and disposable and hence subject to private property,

« In the context of land tenure and disaster prevention, there is a need for hazard mapping to be completed to guide future development, and for land development regulations to be formulated and strictly enforced in the whole country. »

systems, easements, areas under the bridges, and even the high-risk coastal areas. In rural areas, uneven distribution of land encourages informal occupation of public lands and upsurge of seasonal farm labour on large privately owned lands, while the absence of widespread land tenure instruments over open-access areas leads to unsustainable land use and degradation in critical watersheds, danger zones, protected areas and marginal lands susceptible to high degrees of erosion.

During the emergency response phase

Condition of survey and records infrastructure.

Government agencies are mandated to immediately assess the impacts of the damage after a natural disaster (Presidential Decree 1566 issued in June 1978, which is the current legal basis for disaster management arrangements in the Philippines). However, no assessment has been made of the conditions of survey and records infrastructure after a disaster and the land tenure status of affected households. There are no reports on the damages to survey controls, parcel boundary marks and land records held by the government agencies, which are important in determining the support that affected persons may require for their rehabilitation.

On the part of the affected families, no systematic information is gathered on the value and size of the affected properties, their locations and the corresponding land tenure. Reports are more focused on damages to government properties that require funding for repair and/or reconstruction. Estimates of affected private properties have mainly considered damaged houses and related structures. At best, resettlement sites with free core houses and some basic facilities are given to all affected families regardless of their previous land tenure status. These weaknesses affect the ability of the government and other organizations to plan for recovery, relocation, or rehabilitation of affected communities and households following disasters.

During recovery and preparedness phase

Lack of public policies. The key issue is the absence of any support to land tenure issues following a natural disaster, particularly as a response to poor, vulnerable and food-insecure households. No clear public policies exist to facilitate the recovery and rehabilitation of affected lands and other related properties. At present, affected families are left on their own to locate their properties, restore boundary marks, reconstitute lost



« It has become evident that the poor, vulnerable and food-insecure households show high risk-taking behavior because the advantages of disaster-prone areas (open access, low cost, proximity to employment and low transport cost) are perceived to outweigh the risks. »

records, and/or reestablish farmlands. Support for disasters is limited to immediate relief and finding relocation sites for those affected.

Lack of awareness of procedures. For those who have the means, perhaps the major impediments to returning to their property are the lack of awareness about the procedures involved in surveys and title reconstitution, and lack of access to records. Studies by LAMP have highlighted the lack of transparency high costs of the land administration system, which

encourages landowners to stay out of the formal system or secure the services of third parties who are familiar with the procedures. The latter contributes to the added high cost of land transactions.

For the poor households with no secure tenure, the main impediment is returning to the property or finding a suitable place to live and practice their livelihood following a disaster. Life in resettlement sites is difficult for these untenured families because most of the sites do not include agricultural lands for farming and other livelihood activities. For example, in Legazpi City, the victims of Typhoon Reming have been housed in dwellings of about 12 m² each in size, with no farmlands. Moreover, standards set for determining appropriate resettlement sites mainly consider lower risk of the areas to hazards.

Government context

At the national level

The National Disaster Coordinating Committee (NDCC), placed under the Office of Civil Defense of the Department of National Defense, is responsible for carrying out preparedness, mitigation, response



©M. Tarhonen

IMPROVING LAND ADMINISTRATION SERVICES AT THE NATIONAL LEVEL

In order to provide better land administration services, government agencies would have to improve their records system, enhance public understanding of the procedures, and streamline the processes to be more transparent and client-responsive. They would also need to develop more preventive approaches to be better placed to serve the needs of affected families when a disaster strikes. These would include:

- ❖ providing for better security of records – back-up copies, more systematic organization of records to improve public access, regular updating, and improved consistency in records among agencies;
- ❖ identifying alternative areas for agricultural production for affected families; and
- ❖ relocating vulnerable communities in safer areas and providing secure tenure and farms.

Improvement in awareness of land tenure and resource access issues is also important so that these agencies and other humanitarian organizations can identify and implement more responsive programmes for marginalized and vulnerable households.

and rehabilitation. However, its mandate does not cover assistance in resolving land tenure and related natural resource access issues. At most, assistance is limited to providing resettlement sites for affected households and giving them support in the construction of dwellings and issuance of titles over these properties. The support does not include providing farmland for families. Thus, for example, marginalized farmers continue to live and work in the foothills of Mt Mayon, disregarding dangers from volcanic eruptions, because it provides them an opportunity to produce food without secure land titles. People only obey evacuation orders when the highest level of alert is reached.

The search for cultivable land, therefore, rests with the affected family. Some people approach government agencies, such as the Department of Natural Resources (DENR), to try to participate in their regular programmes for titling and tenure security. However, when a family is displaced, the chance of securing a title on public land is non-existent because one of the primary criteria for a title is proof of occupation for at least 30 years. There is no special programme designed to provide farmlands with secure tenure to poor rural households that lost their farms after a disaster.

Land-related government agencies (for example, NAMRIA under DENR, and the RoD under the Department of Justice), do not have programmes to support disaster-



©NIA, Tohonen

stricken communities in coping with land tenure and property issues. This is mainly because their programmes are aligned with the approved budget, which does include responses to the requirements of disaster after-effects.

At the local level

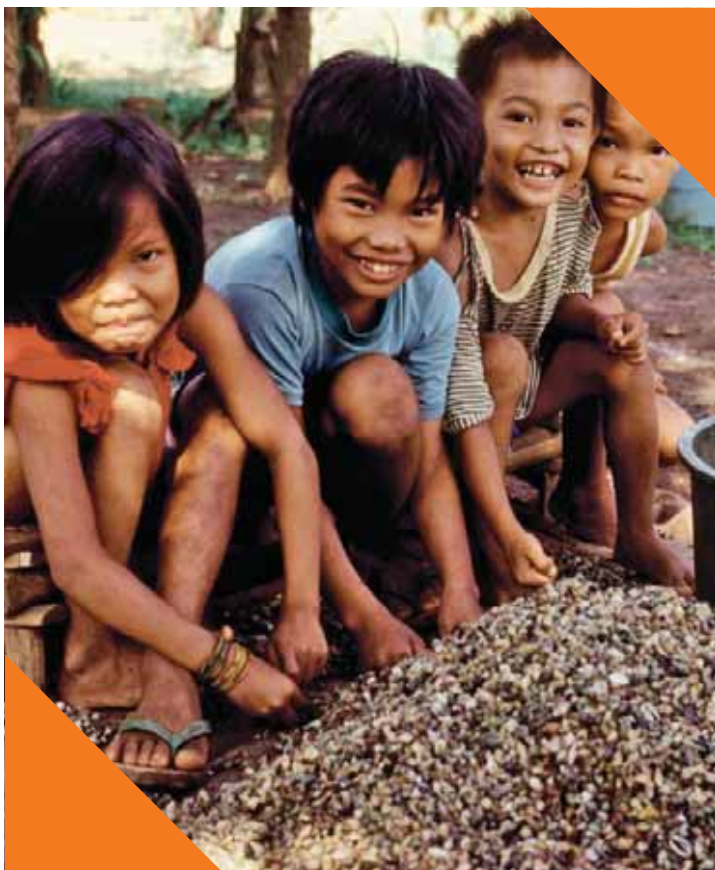
The NDCC structure is replicated at the local level – at each region, province, city, municipality and barangay. At the municipal level, the LGUs are expected to provide direct support to the needs of affected communities within their jurisdiction, with assistance from the field offices of national government agencies. Under the Local Government Code of 1991, the local government units (LGUs) are required to set aside 5 percent of their estimated revenue from regular sources as Calamity Fund. This amount is used for relief, rehabilitation, reconstruction and other works and services. Again, this amount does not cover support for addressing land tenure and related natural resource access issues. As part of the LGU mandate, land use planning is undertaken by the municipal and provincial governments. However, this activity is not always informed by risk assessment and hazard mapping. Very few LGUs have active programmes to relocate disaster-prone communities and informal settlers and provide them with secure tenure in safer environments. Few cities and municipalities have the capacity to prevent settlement in disaster-prone areas, particularly by informal settlers. Moreover, local land use policies, rules and regulations, when they exist, are seldom enforced. In some cases, LGUs allow the entry of informal settlers as a deliberate vote-raising strategy, even in more high-risk areas.

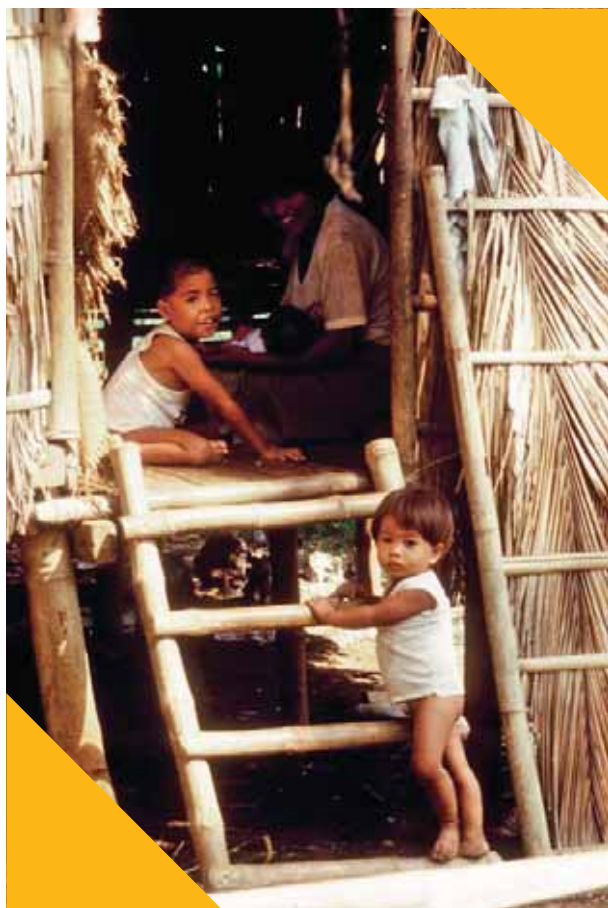
The performance of LGUs in disaster management varies greatly. They are expected to draw up risk management plans, but may not put them in practice. When plans do exist, they focus largely on relief and rescue operations. Given their fiscal and manpower capacity, it is difficult for many LGUs to incorporate land tenure and natural resource access issues into their disaster management plans, or into their local development plans. To date, very few LGUs have been successful in implementing disaster prevention or flood control measures, and in relocating highly vulnerable households to safer environments.

©FAO/ Mattoli



©FAO/ Villamor





©FAO/J. Villamor

A word about poverty and vulnerability

Provinces and regions with high poverty incidence are more vulnerable to natural hazards. A recent study conducted by the World Bank and NDCC reported that the country's poverty incidence was 26 percent in 2000 and is highly concentrated in rural areas, where about 77 percent of poor people reside. Two-thirds of them rely on agriculture, fishing and forestry for their livelihood. The absence or lack of land tenure is a central issue among poor people, forcing many to live and work in high-risk areas, such as in the danger zones of the six most active volcanoes and practically all deforested mountains, riverbeds, low-lying flood plains and coastal areas in the country. While most of the poor are now

aware of the risk and vulnerability of these areas to natural hazards, they have no choice but to remain close to their source of livelihood. As a result, informal settlements including resettlement sites have gradually expanded in high-risk areas in more recent years. Repair or reconstruction of poorly constructed houses becomes a frequent activity of poor people after every disaster. Lack of secure tenure also reduces their incentive to invest in housing improvements, permanent agricultural production systems, or safeguards to protect their farms and fishing grounds against floods, landslides, droughts, etc. This desolate condition weakens their capacity to prepare for disasters, or adapt and recover after such events. For example, the study reported that after the 1991 Ormoc flood, 24 of the 30 families returned to their original areas because they had no other place to live, although they recognized the dangers of living on the banks of the river. In other cases, families returned to their areas due to proximity to place of work and other means of livelihood, even when resettlement sites were made available to them. Surprisingly, neither the affected families nor the support organizations had given attention to land tenure issues following disasters.

NATURAL DISASTERS AND LAND TENURE GOVERNMENT INSTITUTIONS IN THE PHILIPPINES

NATURAL DISASTERS:

National Disaster Coordinating Committee (NDCC)
Centre for Disaster Response (CDRC- NGO)

LAND TENURE AND RELATED INSTITUTIONS

Ministry of Agriculture
Department of Environment and Natural Resources (DENR)
Registrar of Deeds (RoR)
Local Government Unit Assessor Office
National Mapping and Resource Information Authority (NAMRIA)
Department of Justice (DoJ)
Asian NGO Coalition (ANGOC)



CONTACT:

FAO. Land Tenure and Management Unit.
Mr. Paul Munro-Faure. Chief.
Paul.Munro-Faure@fao.org
Ms. Adriana Herrera Garibay
Land Tenure Officer
Adriana.Herrera@fao.org

UN-HABITAT. Land, Tenure and Property Administration Section Shelter Branch.
Ms. Clarissa Augustinus Chief.
Clarissa.Augustinus@unhabitat.org

FAO REPRESENTATION IN THE PHILIPPINES

FAO Representative:
Mr Kazuyuki Tsurumi
Kazuyuki.Tsurumi@fao.org