Introduction

The impacts that climate change brings upon human settlements and land use systems can bear heavily on people’s land access and land tenure in ways that affect their livelihoods, well-being, and sense of security (Quan and Dyer, 2008). Communities may be hit by an increasing frequency of extreme and sudden weather events such as typhoons, floods, and droughts that can erode or inundate homes and farmlands, render them unproductive, or challenge existing tenure relationships to the disadvantage of vulnerable groups, resulting in forced migration and displacement of populations. Communities may also gradually be detached from their former homes and lands as a result of slow-onset environmental degradation, such as sea-level rise, salinization of soils, and changes in weather patterns.

But while climate change affects everyone, those who are poor and lack land tenure rights are among the most vulnerable to the direct effects of climate change. Poverty forces people to cultivate marginal lands that may be too steep, too dry, too wet, or prone to erosion, or else to occupy fragile public lands or areas that are vulnerable to flooding, high tides, and storm surges. Moreover, the lack of tenure security limits people’s choices and diminishes their capacity to recover and rebuild when a disaster strikes.

However, even with the growing awareness on climate change, there is still limited understanding and response in addressing the nexus of the impacts of climate change, social and policy responses, and need for land tenure security.

For one, the links between land tenure and climate change may not be obvious. Tenure, or the relationship between people with respect to land, has traditionally been viewed from the perspective of an individual, family or community. Climate change, on the other hand, is often viewed from a global perspective and is attributed to the collective or human use or abuse of natural resources. The connection often becomes clearer only when viewed from a broader perspective, a panoramic view from which relationships can be observed (as cited in Te, 2021).
Also, much of climate change discussions remain under the exclusive realm of scientists and governments. As cited in Limon, 2009:

“One main failing in climate diplomacy is that the phenomenon has often been viewed as a scientific projection “… a kind of line graph stretching into the future with abstract measurements based on parts per million, degrees centigrade or centimetres .... The international community has largely failed to translate the important and hard-won scientific consensus into an equally compelling vision of how the consequences of global warming are being felt by people and communities around the world. In other words, the world has failed to humanize climate change.”

Meanwhile, poor people are often left out of climate change discussions; among the poor, those without land or near landless are the most marginalized and voiceless, and thus, land tenure issues are rarely addressed or tackled. They are often treated as causes and passive victims, rather than as potentially active responders in the fight against climate change.

What this paper is about

There is still limited literature and understanding on the links between land tenure and climate change. Much of current literature focuses on the macro and physical impacts of climate change on land, with insufficient attention given to the social impacts of climate change from the perspective of poor people, and how it affects their access to livelihoods, social relationships, and security of tenure on the land.

Similarly, climate responses tend to focus solely on the sustainable use and management of land, such as through the establishment of protected areas, reforestation programs, wildlife sanctuaries, and tree plantations. Oftentimes, not enough concern is given to the tenure and land rights of communities likely to be affected by such programs. Also, in the planning of adaptation and mitigation programs, those without legally documented property rights are often left out of the discussions.

While there has been increasing recognition of tenure security as a factor that increases the resiliency of people to the effects of climate change, literature and evidence are still limited; and the link of tenure and climate change needs to be further studied, illustrated, and established.

There is emerging interest among CSOs and land rights advocates in linking land rights with climate change. Yet even among land rights advocates, the topic is still relatively new, understanding is limited, and documentation is scant.

This paper seeks to enhance the understanding and analysis of the links between land tenure, land use and climate change. It is NOT an academic paper, but rather a descriptive paper that draws
mainly from secondary sources. It features seven case studies written by CSOs from Bangladesh, Cambodia, Indonesia, India, Kyrgyzstan, Nepal, and Philippines that seek to:

- describe how the lack of tenure security and resource rights increases the vulnerability of the rural poor, and reduces their capacity to cope with the changes brought about by climate change; and,
- illustrate how improved tenure security, resource rights and land governance can increase the capacity of poor people to adapt to climate change.

This paper also builds from two earlier studies by ANGOC (see References):
- Discussion Paper: Climate Change and Land Tenure in the Philippines: A scoping of legislations, recent field experiences, and their implications for land tenure and climate change policies (November 2017) prepared for the project “Mainstreaming Voluntary Guidelines on the Responsible Governance of Tenure (VGGT): Philippines” supported by the Food and Agriculture Organization (FAO) of the United Nations, and
- Climate Change, Natural Disasters, and Land Tenure: Case of Typhoon Sendong (Washi) in Cagayan de Oro City, Northern Mindanao, Philippines (February 2018) prepared in cooperation with RMIT University, Melbourne for the “Research Study on Land Tenure, Climate Vulnerability and Adaptive Capacity” supported by the Global Land Tool Network (GLTN).

This paper is presented in five parts:
- Understanding the links: climate change and land tenure in the Asian context;
- Natural disasters: land issues in vulnerability and resiliency;
- Land tenure rights in climate change adaptation and mitigation;
- Towards a rights-based approach to climate change; and,
- Ways for moving forward.

Understanding the links: climate change and land tenure in the Asian context

Land rights may be held individually, or collectively in a family, a group, a community, or the State. Land may also be part of open-access regimes where specific rights are assigned with little or no operational tenure rules with respect to resource use and management (UN Habitat, 2019).

Land tenure refers to the way in which interests in land are held by people or entities such as the State. In practice, land tenure involves the legal, customary or religious relationships among people with respect to land and natural resources (Mitchell and McEvoy, 2019). Land tenure systems consist of rules invented by societies to regulate behavior in relation to land. They define how rights to land are allocated within societies, the security of those rights, and how they are enforced (FAO, 2002).
Land tenure rights, therefore, influence the way that land and natural resources are used and can impact directly on the environment and on climate change. Inappropriate land development can exaggerate climate impacts.

<table>
<thead>
<tr>
<th>BASIC CONCEPTS AND TERMS</th>
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<tr>
<td><strong>Climate change</strong> is defined as “any change in the climate over time, whether due to natural variability or [...] human activity.” However, the United Nations Framework Convention on Climate Change focuses specifically on climate change that is “attributed directly or indirectly to human activity” and is “in addition to natural climate variability.”</td>
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<td><strong>Hazards, disasters and risks.</strong> A <strong>hazard</strong> refers to a severe or extreme event such as a flood, storm, cold spell or heatwave, etc. which occurs naturally anywhere in the world. A hazard only becomes a <strong>disaster</strong> when human lives are lost, and livelihoods damaged or destroyed (UNDRR, 2020). <strong>Risk</strong> refers to the level of exposure of people to the potential harms of hazards, such as living in a flood-prone area.</td>
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<td><strong>Mitigation</strong> refers to measures aimed at minimizing the extent of global warming by reducing emission levels and stabilizing greenhouse gas concentrations in the atmosphere.</td>
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<td><strong>Adaptation</strong> refers to adjustments in natural or human systems in response to actual or expected climate stimuli or their effects, which moderate, harm or exploit beneficial opportunities. In other words, they are measures to reduce harm and (to) strengthen the capacity of societies and ecosystems to cope with and adapt to climate change risks and impacts (as cited in Brookings Institution, 2014).</td>
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<td><strong>Resilience</strong> is the “capacity of social, economic, and environmental systems to cope with a hazardous event or trend or disturbance, responding or reorganizing in ways that maintain their essential function, identity, and structure, while also maintaining the capacity for adaptation, learning, and transformation” (IPCC, 2014).</td>
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<td><strong>Vulnerability</strong> to climate change is the “degree to which a system is susceptible to, or unable to cope with, adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of the character, magnitude, and rate of climate variation to which a system is exposed, its sensitivity, and its adaptive capacity” (IPCC, 2001).</td>
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<td><strong>Land tenure</strong> is the relationship, whether legally or customarily defined, among people, as individuals or groups, with respect to land (and natural resources). Land tenure systems determine who can use what resources for how long, and under what conditions (FAO, 2002).</td>
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<td><strong>Tenure security</strong> is the certainty that a person’s rights to land will be recognized by others and protected in cases of specific challenges. People with insecure tenure face the risk that their rights to land will be threatened by competing claims, and even lost due to eviction (FAO, 2002).</td>
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<td><strong>Disaster risk reduction (DRR)</strong> refers to a set of measures that prevent or reduce the damage caused by natural hazards such as earthquakes, floods, droughts, and storms. These include, for instance, early warning systems; hazard mapping, vulnerability analyses and planning; building codes; and, training of first responders. At farm or household level, these may include diversification of livelihoods or protection measures against strong winds and floods (as adapted from Caron, et. al., 2014).</td>
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On public lands, the issuance of land leases and licenses define the rights holders, uses of the land, rights and obligations of users, and the duration for the exercise of rights. For instance, the issuance of licenses and leases for mining, quarrying, logging, or large-scale plantations can lead to massive deforestation, siltation of rivers, and toxicity of the soils (from industrial residue and wastes). Extractive activities can cause the release of greenhouse gases (GHGs) that contributes to climate change; it also increases the exposure of people in the area to the impacts of natural disasters (e.g., mudflows, soil erosion, flooding, and strong winds) when they occur.

The over-exploitation of forests, especially in open access regimes, can also lead to deforestation and soil erosion. Settlers, smallholder farmers, and those without tenure security face limited land-use options and might focus on exploiting forests to meet their immediate needs (e.g., through charcoal-making or timber-cutting) rather than on protecting and ensuring the long-term sustainability of the resource. Poverty and tenure insecurity make them reluctant to make long-term investments that could improve their overall resilience.

Today, Asia and the Pacific experience the highest frequency and magnitude of extreme weather events. Around 72 percent of the total frequency of intense natural disasters was recorded in Asia and Pacific between 1971 to 2010 (Thomas, et al., 2013). Further, in 2006 to 2015 data of the Annual Disaster Statistical Review Reports, six of the top ten countries most hit by natural disasters are in Asia including China, India, Philippines, Bangladesh, Pakistan, and Nepal (Guha-Sapir, et al., 2016).

Not only are countries in Asia the most hit by natural disasters, but they are also considered the most vulnerable. The high frequency and impact of disasters in Asia is largely due to the size of the continent and landscapes that represent a high risk of natural hazards, such as river basins, flood plains, and seismic fault lines. Additionally, there are high population densities in many disaster-prone areas of the continent.

In the State of Kerala, India, an unprecedented amount of rainfall in August 2018 caused widespread flooding and landslides that left 400 dead and 5.4 million people affected, covering one-sixth of the State’s population. Land use changes brought about by urbanization and overdevelopment was seen by local people as the major reason for the disaster. In short, the natural factors of the disaster event, combined with anthropogenic factors contributed to the impact of the floods in Kerala (see Box 1).

Many Asian countries also have large growing populations with a high proportion of poor people living with tenure insecurity which lessens their resiliency to the adverse effects of disasters. Coupled with land degradation, poverty reduces the resiliency of communities to the effects of climate change. In developing countries of Asia, poverty incidences are high and remain prevalently rural and agricultural. Rural poverty is strongly linked to the lack of access to land – due to landlessness, insecure tenure or contested land rights.
Poverty and the lack of tenure security, heighten the risks of people to the effects of natural disasters and climate change. To put disaster risk in its proper perspective, approximately an equal number of people are exposed annually to tropical cyclones in Japan and the Philippines. Yet, a cyclone of the same intensity would kill 17 times more Filipinos due to the country’s greater level of vulnerability, including poor standards of housing and infrastructure, and the numbers of poor people settled in at-risk areas (IDMC, 2013).

BOX 1. THE 2018 FLOODS OF KERALA, INDIA

Kerala is categorized as a multi-hazard prone State in India due to its geographical and topographical characteristics located at the extreme southern tip of the Indian subcontinent. It is a gateway of the South-West (June to September) and the North-East (October to December) monsoons in India. The two monsoon seasons, in addition to summer rains, pour an average annual precipitation of around 3,000 millimeters in Kerala (equivalent to 286 days of rain in a year). The mountainous topography and rivers increase the risks of floods and flashfloods, landslides, and mudflows.

In June to August 2018, Kerala experienced an unprecedented amount of storm rainfall in decades, with the State receiving 42 percent above-the-normal rains during the entire monsoon season. Between 1 and 19 August 2018 alone, Kerala received 164 percent more.

Natural and biophysical factors of the disaster event, combined with anthropogenic factors contributed to the impact of the floods in Kerala.

Natural events. The continuous high intensity rains resulted in widespread flooding. “Rains in August forced the release of excess water from dams across the State, aggravating the flood impact.” Landslides occurred in more than 500 locations in the mountainous districts of Idukki and Wayanad. The said events left more than 400 deaths and 5.4 million people affected, covering one-sixth of the State’s population.

Man-made causes. The alteration of terrains (due to urbanization and changes in land use) was seen as a major factor for the unprecedented flooding and landslides in August 2018. The cutting of slopes and removal of soils facilitated changes in the patterns of runoffs and the stability of slopes.

- Unregulated construction and indiscriminate quarrying and sand mining. Geoscientists who conducted a ground survey following the landslide events in Kerala observed that most of the landslides and all the houses lost in landslides occurred in areas where recent construction had happened and where mountain slopes were unstable. The construction boom since the mid-1970s and the growth of real estate in Kerala also led to unregulated quarrying and mining, and indiscriminate extraction of sand in rivers, causing the erosion of riverbanks and reducing the capacity of the watershed to regulate surface runoff during floods. Construction of dams was also rampant, with 58 dams in the State adversely affecting water systems and forests.

- Reclamation of wetlands and paddy fields. The reclamation of wetlands was pronounced in Kerala to keep up with the demands for industry, infrastructure development, and housing. In Thrissur District, nearly 50 percent of wetlands and paddy fields have been reclaimed since the 1970s. The Vembanad Wetland, the longest (96 kilometers) water body in Kerala and in India, lost 10.72 percent in area from 1966 to 2012. Most of the reclamation occurred in Kochi City, the most densely populated city in the State. Wetlands act as a buffer between the ocean and the land. Removing this natural buffer makes the land easily flooded by the oceans/sea.

- Encroachment in forests and riverbanks. Satellite data between 1980 and 2016 indicated a 3.6 percent loss in forest cover – the third highest among Indian States. In Wayanad District, the Kerala State Biodiversity Board (2018) reported that banks of Panamaram River and Mananthavadi River “had collapsed due to loss of considerable amount of natural vegetation along the river banks due to encroachments and other unsustainable land management practices.”

Source:

Land Watch Asia
The link between land tenure insecurity and risks due to natural disasters is perhaps best illustrated by the people who currently live on Bangladesh’s river islands, known as *chars* (See Box 2). Over a million people are displaced each year due to river flooding and riverbank erosion brought by the annual monsoons, and this is likely to become more significant under climate change, as rainfall both increases and becomes more erratic, and the melting Himalayan glaciers alter river flows (EJF, 2021).

**In the coming years, climate change will heavily impact most heavily on agriculture** – as rural livelihoods and livelihood assets become more exposed and vulnerable to changes in rainfall patterns. One of the most outstanding impacts of climate variability and extremes is the recent rise in global hunger and severe food crises by affecting all dimensions of food security – food availability, access, utilization, and stability (FAO, et al, 2019).

In Asia, climate change will adversely affect the agriculture sector as it will significantly undermine crop production and threaten food security, even after adaptation and productivity improvements have been accounted for (ADB, 2012).

Most of the world’s poor and food-insecure people are rural and dependent on agricultural production and income for their livelihoods. They are directly exposed to climate risks that affect agricultural production. Among all climate change impacts, drought has been the most destructive force for agriculture, causing USD 37 billion in crop and livestock production losses from 2008 to 2018. But while drought continued to be the main disaster stressor for crop and livestock at the global level, floods and landslides had the largest impacts in Asian agricultural system (FAO, 2021a).

According to the Global Climate Risk Index 2019, South and Southeast Asia are the most at risk and vulnerable to the effects of climate change. In these regions, drought is more recurrent in

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**Box 2: Char lands and the annual monsoons of Bangladesh**

The current effects of the annual monsoon season in Bangladesh illustrate the potential impact and complexity of land tenure issues that come with climate change. The country lies within the deltas of four powerful river systems that drain a 625,000-square mile area of South Asia that includes much of the Himalayas. During the monsoon months, an enormous amount of water flows over relatively flat lands – creating new channels, eroding riverbanks, and shifting silt deposits. In a country with high population densities, the social impact is immense. Over a million people a year shift their place of residence as their houses are washed away, or to take advantage of newly created lands. As rivers expand and shrink, new land bars or riverine islands are created. These emerging riverine lands are known as *char* lands – literally, on shifting sands.

By law, any land lost to river erosion and on which accretion occurs would be owned by the government and declared as *khas* land for redistribution to poor and landless families. However, the land is often taken away from landless people by politically influential local elites and powerful farmers or *jotedars*.

Many affected families are forced to migrate. Up to 50 percent of those now living in Bangladesh’s urban slums may be there because they were forced to flee their rural homes as a result of riverbank erosion.

Poor people have few options but to cope. As a local saying goes: “We just have to keep rolling like silt” (Quizon, 2013).
Bangladesh and Nepal, and Cambodia and Vietnam, respectively (Miyan, 2014). On the other hand, from 2000 to 2016, the top three Asian countries with the highest frequency of flooding are China, India, and Indonesia (Ashraf, et al., 2017).

In Asia, despite rapid urbanization, poverty remains largely rural and agricultural. It is home to 70 percent of the world’s indigenous people, and accounts for an estimated 87 percent of the world’s small farms that depend on household labor and cover less than two hectares of land.

Poverty in Asia is closely associated with landlessness and the lack of tenure rights. In Bangladesh, almost 60 percent of the total households are functionally landless households and own only 4.2 percent of the land. Further, smallholders in the Philippines who depend on forests for their homes and livelihoods (an estimated 20 percent of the total population) have no legal tenure rights over forestlands.

Natural disasters: land issues in vulnerability and resiliency

Sectors that are without security of tenure and who are politically weak, face the greatest risk to the impacts of climate change and natural disasters. They also have the least capacity to cope with, and are often last to recover and rebuild after disasters. Many displaced families whose needs are not addressed are likely to fall into cycles of vulnerability.

Poverty pushes people to live in vulnerable areas and conditions. Poor families may be forced by circumstances to occupy areas that are vulnerable to flooding, high tides, or storm surges. They may cultivate hillsides that are prone to landslides and erosion. Others are compelled to make a living in harsh environments that are too dry, too steep or too remote, with lack access to basic services.

Also, informal settlements may be densely packed, or far and remote, with housing made of temporary and semi-permanent materials, with poor roads and unplanned infrastructure which hampers reaction or response in cases of emergency. The lack of tenure reduces the incentives and capacity for people to invest in housing improvements or to modify their living environment to protect their homes against floods, landslides, and disaster. Thus, many poor households fall into a constant cycle of disrepair and rebuilding after each disaster.

A case in point is when Typhoon Washi hit Northern Mindanao, Philippines in December 2011. Heavy rainfall in the highlands caused flash floods and landslides that sent mud and logs crashing down on poor communities near the river, mountain, and sea where over a thousand people were immediately killed overnight. Those living near riverbanks and low-lying areas were most affected, including large numbers of informal settlers and neighborhoods that were part of the city’s socialized housing program (Franta, et al., 2016).
And while the poor are aware of the risks to their homes to natural hazards, many are forced to accept or ignore such reality, given their lack of options, and in order to carry out their livelihoods. In a case study conducted by FAO (2010) in Bicol, Philippines, a region frequently hit by typhoons, it was evident that the poor, vulnerable, and food-insecure households show high-risk-taking settlement behaviors. Poor households reside in disaster-prone areas perceiving them as open access, low cost, within close proximity to livelihood, and entailing low transport cost. Expansion of settlements with no security of tenure in these high-risk areas gradually occurred in recent years (FAO et al., 2010); therefore, increasing the occurrences of displacements brought by disasters.

Some natural disasters (erosion, landslides, flooding, salinization) can directly result in a significant loss of land. When this happens, there are serious consequences in terms of the loss of livelihoods, destruction of homes and displacement of populations. It forces people to migrate, and to cope

<table>
<thead>
<tr>
<th>Box 3. Coping with Cyclone Aila and its Impacts on Land, Livelihoods and Displacement, Bangladesh</th>
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<tr>
<td>In May 2009, Cyclone Aila hit the southwest coast of Bangladesh severely affecting the communities in Shyamnagar Upazila of Satkhira District and Koyra Upazila of Khulna District. Though Aila was a relatively weaker typhoon (Category 1), its damage surpassed that of super typhoon Sidr (Category 4) in 2007.</td>
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<tr>
<td>Cyclone Aila affected 2.3 million people and left 325 people dead in the two upazilas. Prolonged waterlogging caused salinity in both water and soil – damaging 90 percent of livelihoods in the southwestern coastal communities. The tidal surge height of 10 to 13 meters washed away houses, livestock, and crops, causing homelessness among the residents.</td>
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<tr>
<td>Impacts on land and tenure</td>
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<tr>
<td>Cyclone Aila hit the southwestern region at a time when the government was trying to rehabilitate the area after the damage caused by a previous cyclone (Sidr) that struck in 2007.</td>
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<td>A significant portion of the populations of the Satkhira and Khulna Districts had been already suffering from extreme land tenure insecurity.</td>
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<td>The cyclone devastated the farms just before the harvest season, leaving the farmers with massive financial losses. A 2019 follow-up study on the socio-economic impacts of Cyclone Aila found that the numbers of functionally landless and marginal farmers significantly rose after the devastation.</td>
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<tr>
<td>Some 40 percent of households in Satkhira and Khulna Districts (landless and extremely land poor) migrated due to homelessness and financial vulnerability, but the lack of employment provided the major push for households to leave their villages.</td>
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<tr>
<td>Coping strategies</td>
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<td>In the immediate aftermath of the cyclone Aila, displaced people made use of the rooftops, embankment, highways, relief camps, schools, mosques, and houses of relatives as temporary shelters.</td>
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<td>Close to 14 percent of both migrant and non-migrant households reduced their expenditures on health and education. A possible reason could be that the affected households sent their children to work; thus, the disaster decreased children’s schooling. Previous studies also found that in both rural and urban households, children’s school attainment decreased after a disaster.</td>
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<tr>
<td>These short-term strategies were generally inadequate in minimizing the impacts on people. Short-term strategies and insufficient external assistance failed to reduce the hardships of those affected, which led to out-migration.</td>
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<tr>
<td>During the cyclone, the severe storm and prolonged water logging resulted in increased salinity in both water and soil causing unproductivity of agricultural lands and thereby threatening farmers’ livelihoods. This situation forced some farming households to diversify their sources of income and agricultural practices (e.g., crop diversification). Aila-affected coastal communities were also encouraged to diversify crops by growing saline water-tolerant crops and vegetables (pumpkin, ladyfinger, eggplant, and spinach) and those that require a minor irrigation system.</td>
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Asian NGO Coalition for Agrarian Reform and Rural Development
by shifting their livelihoods, while facing increased vulnerability and rising competition over their new living spaces. This is illustrated in the 2017 ALRD Study conducted in the Bangladesh’s coastal areas of three districts – Satkhira, Khulna and Noakhali – which were heavily affected by Cyclone Aila in 2009 (see Box 3). The case also argues that, in some instances, it may be more meaningful to work with the climate migrants at their destinations, to empower and integrate them at these locations rather than aiding them to return, which may be a possibility only if there is available land or work opportunity at their area of origin (ALRD, 2021).

In Bangladesh, current disaster management programs often fail to give due attention to the importance of land tenure issues, which increase poor people’s vulnerability to disasters. Similarly, post-disaster rehabilitation programs are often ineffective at supporting landless and affected households in rebuilding their livelihoods (Shaf, 2021).

Calamities also cause displacement indirectly, as land is submerged or eroded, landmarks are erased, known boundaries disappear, and legal documents are destroyed – thereby causing local land disputes or worsening existing ones. They create opportunities for land speculation and land grabs as a result of population displacement. Existing land tenure relationships are brought into question, such as tenancy rights when crops and landscapes are completely destroyed. In some documented cases, this causes the eviction of tenants, or the sale of farmlands and produce without their knowledge or agreement (see Box 4).

Families also lose important documents that may be difficult or costly to reconstitute. These include not only land titles, land certificates and tenancy contracts, but also important identity documents such as birth certificates, marriage licenses, registration documents, and proof of education. There are consequences of having lost identity documents, as people could lose out on their entitlements, and face difficulties in restoring their lives and livelihoods.

Moreover, official reports regarding disaster losses focus more on public infrastructure, and do not include the loss of land records and boundaries. Disaster funds do not cover the expenses required by the agencies to reconstitute their records, conduct cadastral surveys, or provide land title reconstitution services for affected families (Eleazar, 2010). This affects the work on rebuilding, as the tasks of delineation and rehabilitation of private parcels are left entirely to private owners. Boundary disputes may arise as parcels are re-delineated via new surveys. In such cases, the reconstruction of property rights requires community participation and recognition, as neighbors help each other in reestablishing the original boundaries.

Holders of secondary rights – including tenants, sharecroppers, pastoralists, and those who lease, use or occupy land – become particularly vulnerable to evictions. They are also often excluded from land information systems. This makes it more difficult for them to recover their rights. Significant amounts of land are not covered by land information systems.
Women are especially vulnerable, especially in cases where they are unable to inherit property and the land is registered under the husband or a male relative. This lack of formal recognition of women’s land and property rights also means that a female spouse may not have access to planned relocation or compensation for the loss of property, especially when widowed, separated, or divorced. Also, the needs of women may be ignored in patriarchal societies where the men make decisions regarding migration and relocation. The lack of tenure rights compounds the hardships of women and their dependents in disasters. On the other hand, providing women with formal recognition of property rights can mean that a female spouse and her dependents will have access to relocation options or compensation for property loss.

Natural disasters create opportunities for secondary land occupation and land grabs, due to population displacement. The sudden onset of many natural disasters creates the risk that abandoned land or housing will be occupied by persons other than their former owners or users. This creates tension as former residents and users return to their places of origin. Yet, those who will require adjudication or restitution are more likely to be without adequate and recognized land rights before the disaster, including tenants, informal landholders, and women (UN-Habitat, 2010).

Disasters also provide opportunities for land grabs, especially where entire communities are wiped out or in dire need of rehabilitation. The schemes involve land investors and elites grabbing abandoned land, and using their influence to obtain State concessions, or to negotiate with poor people in distress. Disasters bring about a consolidation of State emergency powers, increase land speculations, that may lead to collusion between governments and private investments for the acquisition and reallocation of land. Disasters expedite and facilitate the “land-broker State,” considering “the displacement of large numbers of people without clearly defined land ownership, and can enable private and government land grabs” (Cruz, et al., 2015).

This became evident in some documented cases in Eastern and Central Visayas, Philippines following the onslaught of Super Typhoon Haiyan in 2013 (see Box 5).

In reclaiming affected property, affected households with no secure tenure are likely to have greater difficulty in relocating or reclaiming their original occupied properties following a disaster.
(Eleazar, 2010). In some cases, those with no secure tenure may be prevented from returning to their areas, and from repairing and rebuilding their homes, especially if the land is later classified as a “high-risk” area.

Experiences also show that people without secure tenure may lose out on permanent shelter assistance. For instance, shelter programs in response to Typhoon Haiyan that hit the Philippines in 2013 potentially excluded informal settlers and lessees, as the eligibility criteria under the Omnibus Shelter Assistance included the need for legal ownership or a guarantee of long-term occupation through the submission of a lease agreement covering a ten-year minimum occupancy over the land to be used to build shelter (Alvarez, 2017).

In most cases, the poor and vulnerable are forced to fend for themselves when a natural disaster strikes and lands and livelihoods have been permanently destroyed. Rural families may be pushed to migrate to areas where their presence and tenure rights may not be recognized. Climate change can impact both the places of origin for migrants and their destination.

The story of 50 families displaced by floods and landslides and now living in Bategada village of Chure municipality, Sudurpaschim province in Nepal shows how “climate change pushes communities-at-risk to the farthest margin of the economic development, disconnecting them from the mainstream development and planning that aggravates poverty and inequality” (see Box 6 on next page). And “when climate change discussions fail to put [the concerns of] marginal peasant communities, landless dwellers and indigenous peoples at the center of debates, then they fail to find solutions in a practical way” (Joshi and Basnet, 2021).

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The interaction between vulnerability, disaster and resilience is illustrated in Figure 1 (see page 28). Land responses (or the lack of it) may affect people’s resilience after a natural disaster.

In many countries, humanitarian efforts aimed at reducing disaster risks and responding post-disaster, have not adequately dealt with land tenure rights and property issues. Inadequate responses appear to be caused in part by a lack of clear understanding of tenure issues in the context of natural disasters, the lack of clear policy, the lack of allocated resources, and the limited capacity of frontline responders to deal with tenure issues.

There is need to undertake risk assessments, clarify ownership of remaining land, or find new land as necessary. Otherwise, these can delay recovery and contribute to residual caseloads of people without access to land after a disaster (GLTN, 2010). The initial response of affected people is to return to their places of origin, to recover their belongings and to re-establish their tenure rights, and to rebuild their homes where possible. Disputes are likely to arise, and this may need immediate mediation and response.

When massive numbers of families need to be relocated and permanently resettled elsewhere in the aftermath of major disasters, several land tenure-related problems are often encountered, and need to be addressed.

- **Need for safe lands for relocation.** There is often a lack of suitable lands for relocation in the wake of sudden disaster events such as typhoons, floods, landslides, or storm surges that may destroy wide areas or landscapes. Years after the disasters, many may remain waiting for permanent relocation, in temporary shelters, or in high-risk zones.

- **Eligibility criteria for relocation.** Where available land or resettlement areas are scarce, the holders of secondary rights are sometimes deemed ineligible for relocation assistance and are excluded from permanent resettlement sites. These include boarders, renters, lessees, tenants, and new migrant families in an affected site.

- **Need for livelihoods and utilities in relocation communities.** For people who are forced to relocate, sources of income are limited, and their tenure status is insecure. Some may relocate in hazardous areas or may lack basic services and facilities. For those who need to travel to their former areas to make their living, a significant portion of their income goes to transportation costs. Thus, many opt to remain in high-risk areas even if given a chance to relocate.

The lack of tenure security limits people’s choices and diminishes their capacity to recover and rebuild from a disaster. If not adequately addressed, the insecurity of tenure may create cycles of vulnerability. Displaced persons with no rightful claim to land are likely to: a) fall deeper into poverty with unrestored livelihoods; b) move back into their former areas of displacement or relocate to unsafe land, or c) form residual caseloads of landless groups without access to land and permanent housing.
Displacement impacts on the very ability of people to resume their livelihoods. They are forced to take on unfamiliar jobs or to resume their livelihoods in new places with no social networks or familiar forms of support. Thus, displaced people often return to unsafe lands because to them, the advantages of disaster-prone areas (i.e., being near sources of livelihood, low transport costs) are perceived to outweigh the risks.

Box 6. Migrants after a Disaster: Bategada village in Chure rural municipality, Nepal

In August 2008, the once arable land of Khairala village in Chure rural municipality experienced week-long heavy rains, causing floods and landslides that washed away houses and destroyed lands used for agriculture and livestock. Some 50 families were forced to leave their ancestral land in Khairala village, along with their long-established community ties and social networks. With damaged homes and fields, and with no shelter and food available, they migrated to the remote village of Bategada in Chure rural municipality, as they had no better option. Bategada village lies on forest land; it is remote and almost inaccessible. Families here rely on subsistence farming which barely provides for their daily needs.

- Income opportunities are limited, compared to Khairala village where families used to engage in orange and vegetable production.
- The families received no support from either the government or CSOs for their livelihoods.
- The rights of the community to gather forest resources such as firewood and fodder in Bategada have been strictly regulated since the area lies in a national forest.

The 50 migrant households from Khairala village have been cultivating lands in Bategada for 13 years following the disaster of 2008, with no security of tenure. As the village lies within a national forest, residents are not eligible for private land ownership. Without legal status on the land, accessing public services and facilities has been a serious challenge. The families have been living in constant fear of forceful eviction from their cultivated lands.

Bategada village belongs to the territory of Chure rural municipality but has very loose ties with its local government, as it takes three days’ walk to reach the municipal office. The community is much closer (five kilometers) to Gauriganga municipality. The Chure and Gauriganga municipalities have an ongoing boundary dispute, and this adds to the fear of eviction among the 50 households.

As the village is isolated and remote, their representation in meetings at municipal or ward level has been rare, and their voices remain unheard.

Lessons and insights

- In Bategada, the households use community consensus in allocating land use rights, but these customary arrangements are yet to be legally recognized.
- Given their lack of formal land rights, people have been unable to exert political pressure with the municipal government for development assistance for the community. The community is trapped in a vicious cycle of landlessness, poverty, and food insecurity while facing recurrent disaster risks. The lack of a land certificate disqualifies the community from claiming basic public services (electricity, agricultural inputs and services); this reduces the community’s disaster resiliency.
- Without local government recognition of community land and resource rights, the Bategada people are experiencing discrimination and exclusion from policy discussions and decision-making. With this, the adaptive capacities of the community is being eroded.

Postscript: In April 2020, the Land Issues Resolving Commission (LIRC) was established to formalize the land rights of landless and people with informal tenure across Nepal. With this, the people of Bategada village were able to file claims for land distribution and land rights recognition. Of the 50 migrant households, half registered themselves as “landless”, and the other half as “informal settlers” – for recognition by the LIRC under its ongoing land registration process.

Source:
The ability of a family to recover is typically associated with the availability of resources. When poor households that are forced to finance their own recovery and reconstruction, may find themselves in a constant position of disrepair, and may not be able to recover without external assistance.

Finally, natural disasters and extreme weather events can intensify conflicts over land. They impact people’s livelihoods and assets, amplify the competition for land, and increase risks of violent incidents by amplifying existing inequalities. As such, climate change can be considered a “threat multiplier” of conflict (EJF, 2017).

Some climate-induced disasters (e.g., erosion, inundation of settlements, soil salinization, and desertification) may cause lands to be uninhabitable and may force poor people to relocate to occupied public areas, thereby causing disputes with existing residents. Drought and shifts in rainfall patterns may cause traditional pastoralists to veer away from their migratory routes and bring them into conflict with farming communities. The loss of farms due to typhoons and floods may force farmers to shift to livelihoods that offer immediate and short-term returns, such as charcoal-making, timber harvesting or quarrying – in ways that bring them into conflict with existing users of forests and public lands.

**Land tenure rights in climate change adaptation and mitigation**

*Land tenure security is crucial for climate change adaptation and disaster prevention.* When tenure is insecure, the constant threat of eviction contributes to the increased vulnerability of households. It discourages households from spending on more durable materials; housing is often self-constructed and made from low-quality materials.
But when there is tenure security, families invest better in their homes and farms. They are more willing to make long-term investments in durable structures such as better housing, embankments, terraces, dikes, canals, and drainage systems that lessen their exposure to damages and risks. Also, the specific type of tenure (i.e., being an owner, lessee, tenant, or agricultural worker) determines the range of options that farmers have in managing their farms – the farming system, irrigation, use of inputs, choice of crops, or when to plant. For example, tenant farmers with short-term leases may not use soil protection measures, plant trees or improve pastures. Land tenure can also impact a farmer’s risk management decisions through indirect effects on his/her risk perceptions, risk attitude and access to government services.

Women’s adaptive capacity is substantially undermined when their right to land is denied. **Securing land tenure rights for women is key for their social and economic well-being and in climate change adaptation.** Women’s empowerment is crucial in challenging existing power relations, cultural practices, knowledge systems, and adaptive strategies in ways that can improve protection of the environment and overall resilience to natural disasters. Women’s concerns for nutrition and food security, economic stability, security of shelter, health, safety, and family well-being all represent significant areas for adaptation (UN-Habitat, et al., 2019). When productive assets such as land tenure rights are placed in the name of women, this enhances their tenure security and allows more benefits to flow to their children and dependents (ANGOC, 2017).

**Secure land tenure enhances resiliency** insofar as it contributes to “improved food and water security, more sustainable livelihoods, reduced forced and unplanned human mobility that leads to landlessness, reduced environmental degradation, less poverty, reduced conflict over land and resources, etc.” These increase the resiliency of families and communities in the light of shocks and stresses brought by natural disasters and climate change.

**When adaptation is applied at individual or family level, the scale is often limited by the amount of land that one has under control.** Also, as individual adaptation is bottom-up, the outcome is the result of a multitude of small decisions that are made individually. Each household will implement adaptive actions depending on its location and use of the land, farming practices and crops, climate changes felt, and opportunities available. The result is an effective patchwork of varied responses across a landscape, rather than a uniform response (Ingram and Hong [Eds.], 2011).

**Oftentimes, adaptation needs to be implemented in a larger scale, for which some level of organization is required.** Land tenure security is a key factor that encourages people to protect and sustainably manage larger landscapes and forests on which their homes and livelihoods depend. A common example is the establishment of community forests, where communities are given user rights to forests, from which they grow food, gather resources, and obtain income. In turn, the families protect and manage forests from where they draw their household needs and livelihoods. In Cambodia, one such case is the establishment of the Rokha Community Forestry (CFo) in Pursat province, which also enabled forest dwellers to participate in the Commune’s
climate change adaptation and mitigation action planning (see Box 7). In fact, studies comparing deforestation rates in protected areas and community-managed forests suggest that deforestation rates are lower, with less variation in deforestation rates in community-managed forests compared to protected forests (IPCC, 2019; Porter-Bolland, et. al. 2011).

Indeed, over the past few decades, increasing emphasis has been placed on the practice on community-based approaches to sustainable use and management of natural resources. These include various approaches on social forestry, community-based natural resource management (CBNRM), joint forest management, participatory conservation, as well as specific approaches such as the Indigenous Community Conserved Areas (ICCA). They all involve combinations of legal and policy reforms, and they emphasize decentralization, community organizing and mobilization, collective decision-making, equity and access, and resource conservation.

However, the range of community approaches vary widely across countries, especially in relation to the specific State powers that are devolved to communities with regards to: a) resource governance, self-regulation, and the adjudication of resource conflicts; and, b) the level of tenure rights given to local communities over their local domains.

Oftentimes, State powers are devolved only from national to local governments (devolution of administrative functions), or from States to the private business sector (thru private concessions...
and joint management schemes). However, the kind of devolution that builds up resilience of the poor are those that are directed to groups and communities (e.g., women’s associations, farmer cooperatives, user groups, indigenous communities). The success of decentralized natural resource management initiatives depends on the increased participation and empowerment of community members themselves, and not only of local leaders and elites (Quizon, 2011).

In Kyrgyzstan, local communities play a central role in the planning and management of the country’s pasture, forest and water resources and are seen as key players in the rapid response to, and prevention of natural disasters from climate change. The approach involves the organization of “user groups” or sectors responsible for the planning, use and management of pastures, and of irrigation systems. The functioning of these pasture user associations and water user associations is enshrined in national laws of the Kyrgyz Republic. The State’s promotion of informal social institutions (i.e., pasture users) along with the recognition of tenure rights enables a synergy of approaches between the traditional nomadic lifestyle of pastoralists and modern approaches to land management. This in turn increases the ability of the poor to adapt to climate change, and to contribute to its mitigation. Meanwhile, joint forest management is carried out with the participation of local governments and local communities through the lease of forest land, and community forestry (see Box 8).

There are no standard approaches; strategies must adapt to circumstances. The key is building resilience by maintaining healthy and diverse landscapes, diversifying production systems, strengthening community institutions, and improving land tenure security. Instead of centralized control, local efforts should be multiplied a thousand-fold by involving communities in managing natural resources, helping people acquire secure tenure to land (including property rights), improving access to markets, and strengthening the quality of governance.

Some long-term climate change adaptations, such as the task of protecting the upland watersheds, may extend across several political jurisdictions, making comprehensive management policies difficult to develop and enforce. Thus, this will require multi-stakeholder solutions that involve communities, government, civil society, and the private sector.

A case in point is when Typhoon Washi (Sendong) struck Northern Mindanao, Philippines in December 2011. Torrential rains in the uplands led to the sudden swelling of two river systems that caused catastrophic flooding downstream. Illegal logging, small-scale mining, timber poaching and quarrying in the uplands had triggered erosion, landslides and flooding (Ravanera, 2017). This illustrates how watershed management remains a major challenge in most countries where settlements are located on plains between the coast and upland water catchment areas.

The event forced different stakeholders to adopt a landscape governance approach while negotiating arrangements for protection of the watershed. In this context, the experience of

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4 Landscape governance relates to how decision-making addresses overlapping claims, as well as shared interests by different stakeholders in a given landscape.
the MILALITTRA community in Bukidnon Province, Philippines could provide a compelling case for recognizing the role of indigenous communities and traditional land governance systems as an approach towards restoring upland forests and watersheds, while protecting downstream communities from the effects of climate change (see Box 9).

As shown in the MILALITTRA case, secure tenure rights provides the incentive for people and communities to invest long-term in the protection and sustainable use of their environment. Moreover, the incident shows how the presence of legally recognized land rights (thru a Certificate of Ancestral Domain Title, or CADT) and a legal persona (in the form of MILALITTRA as a registered organization), enabled members of the Talaandig tribe in three village communities to negotiate confidently with local municipal governments, businesses, the university and other outside groups of stakeholders.

Box 8. Role of local communities in managing pasturelands and water resources in Kyrgyzstan

On pastures. Since the 1990s, over half of the pasturelands in Kyrgyzstan have been degraded due to the various pressures and irrational management of the pastures. Grazing methods were unsystematic, resulting to grass deterioration, number of livestock was beyond carrying capacity, and traditional knowledge and pasture management were almost forgotten.

In 2009, the Law of the Kyrgyz Republic “On Pastures” was enacted providing for the transfer of the rights of planning, use, and management of pasture resources from the State to local communities. Pasture users and local communities formed Pasture Users’ Unions (PUUs) and adopted the community-based approach to pastureland management – facilitating their engagement in community discussions and planning. This has helped to ensure that the community-based pasture management plans (CBPMPs) are based on traditional management approaches – which includes the rotation of pastureland use by season to allow the recovery of the soil and plants.

The creation of PUUs has also enabled for the practice of long-term planning, unification of pasture users, improved joint efforts to prevent natural disasters and address emergency situations, and mutual understanding and support among rural residents on the use of natural resources and the associated conservation of biodiversity.

On forests and agroforestry. In 1998, the management of forest resources was decentralized under a new National Forest Policy that sought the involvement of local communities through community-based forest management (CBFM) and joint forest management (JFM) arrangements. Forest lands were leased out to communities, as a strategy to increase the ecological and resource potential of forests, and to improve their rational use. Today, there are about 25,000 lease agreements for State Forest Fund (SFF) plots.

On irrigated agriculture and water management. After independence in 1991, many State and collective farms were dissolved affecting the irrigation of the 75 percent of the country’s irrigated lands then. In 2002, the Water User Law was enacted defining the roles of Water User Associations (WUAs) in managing off-farm and on-farm irrigation systems. In 2005, the Water Code defined the principles, institutional arrangements, and processes for integrated water resources management, using river basins as primary planning unit. The Code also provided for the expansion of the participation of water users, the public, and the sectors involved in the planning, formulation, implementation, and monitoring of government decisions.

Faced with increasing water scarcity as result of the changing climate, many local communities have shifted to agroforestry. This allows farmers to grow various crops in close proximity – which reduces water consumption for irrigation. Introduction of a multi-storey agroforestry system near rivers reduces the risk of mudflows, floods, and landslides – preserving the state of rivers and river basins. Plants and/or trees grown for agroforestry also contribute to carbon sequestration, reducing the carbon emissions that cause climate change.

Indeed, many mechanisms for ecological services, emission rewards and carbon-financing schemes are complex, and efforts will be needed to ensure that poor people are not shut out of such benefits through social exclusion or limitations on land-use rights (IFAD, 2011). Entitlement to payments under such schemes as Payment for Environmental Services (PES) and Reducing Emissions from Deforestation and Forest Degradation (REDD) is directly linked to land rights. Hence, those without
legal forest tenure are likely to be left out or even displaced with the increased competition for forest lands. Treating forests as “carbon sinks” (as in some REDD schemes) could also lead institutions to overlook the other functions that forests provide for local people (Quizon, 2013).

For many sectors of the poor, collective action is a necessary condition for pursuing and protecting their land rights. Collective action can be a legitimate/legitimizing source of power for ensuring property rights for the poor (e.g., social movements, community actions and group enforcement). Thus, despite their lack of legally recognized land rights, some communities rely on their community cohesion and collective action to improve their social resilience in coping with natural disturbances and in averting disasters. A case in point is that of the Bulupayung SeTAM Peasants (Union) in the southern coast of Cilacap regency, Central Java, Indonesia. For many years, the local farming community of Bulupayung Village has been mired in agrarian conflict with a State-owned company that manages forests in Java. This has not deterred the community from taking collective action in climate change adaptation; and, in fact, the case itself shows how adaptation efforts can help to strengthen a community’s land claim (see Box 10).

Towards a rights-based approach to climate change

“While climate change affects people everywhere, those who have contributed the least to greenhouse gas emissions (i.e. the poor, children, and future generations) are those most affected. Equity in climate action requires that efforts to mitigate and adapt to the impacts of climate change should benefit people in developing countries, indigenous peoples, people in vulnerable situations, and future generations” (UNHCR, 2021).

In an earlier Resolution 7/23, the Human Rights Council had stated that climate change “poses an immediate and far-reaching threat to people and communities around the world and [climate change] has implications for the full enjoyment of human rights.”

The human rights implicated by climate change impacts on people and land, is illustrated by Limon (2009) through Figure 2 (see page 36).

There is need for a rights-based approach to climate change. Limon (2009) says that linking climate change with human rights would:

- humanize climate change discussions,
- amplify the voices of the poor and marginalized,
- level the playing field, and,
- construct better policy responses (at both the national and international level).

Ensor et al. (2015) argues that human rights principles enable resilience practices to have a greater pro-poor emphasis by changing the balance of power in favor of the marginalized (see Figure 2). This includes addressing the needs of those who are in the frontlines of the impacts of climate
change, including peasants, indigenous peoples, pastoralists, small farmers, fisherfolk, and poor urban dwellers, who, paradoxically, may have also contributed to it the least. People in vulnerable situations who face greater risks and threats from climate should have the right to meaningful and informed participation in decisions likely to affect their rights and survival.

At the global level, much inequality also exists. Many poor countries and Small Island States, which produce the least greenhouse gases (GHGs), are more adversely affected by climate change than well-developed countries that produce higher amounts of GHGs. Adaptation and mitigation measures society to address climate change must also be planned to protect human rights,
promote social justice, and not exacerbate existing problems for vulnerable populations, or create new ones.

**In adaptation, there is wide consensus that States should ensure adequate tenurial security for people and communities**, as this provides the starting point and enabling environment for people to cope with climate change and to take adaptive responses. Since sectors without secure land tenure rights and who are politically weak face the greatest threats from climate change, tenure systems should allow land rights to be reassigned to enable societies to cope with land use change, displacement and migration, and the expected rise in competition and conflict over land as a result of climate change (Quizon, 2013).

A rights-based strategy could seek to have tenurial and property rights recognized and enforced by the different legal and land administrative provisions. This includes legal recognition of tenure security and property rights on land currently managed under various types of customary and informal tenure. This would provide different starting points for improving adaptive capacity and resilience especially for the poor and vulnerable.

It may be noted that as much as 70 percent of the world’s land lie outside formal registration systems and cadasters and are managed under customary and informal tenure regimes (GLTN, 2015).

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**Figure 2. Climate Impacts on People and Land, and Human Rights Implicated**

*Adapted from Limon, 2009*

<table>
<thead>
<tr>
<th>CLIMATE IMPACTS</th>
<th>IMPACTS ON PEOPLE AND LAND</th>
<th>HUMAN RIGHTS IMPLICATED</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sea level rise</strong></td>
<td>• Loss of land</td>
<td>• Self-determination (ICCPR; IESCR, 1)</td>
</tr>
<tr>
<td>• Flooding</td>
<td>• Loss of clean water</td>
<td>• Water (CEDAW, 14; ICRC, 24)</td>
</tr>
<tr>
<td>• Sea surges</td>
<td>• Damage of coastal homes, infrastructure and property</td>
<td>• Adequate and secure housing (ICESCR, 12)</td>
</tr>
<tr>
<td>• Erosion</td>
<td>• Salinization of land and water</td>
<td>• Culture (ICCPR, 27)</td>
</tr>
<tr>
<td>• Salinization of land and water</td>
<td></td>
<td>• Property (UDHR, 17)</td>
</tr>
<tr>
<td><strong>Temperature increase</strong></td>
<td>• Food and water insecurity</td>
<td>• Life (ICCPR, 6)</td>
</tr>
<tr>
<td>• Drought</td>
<td>• Impact on agriculture</td>
<td>• Means of subsistence (ICESCR, 1)</td>
</tr>
<tr>
<td>• Reduced water supply</td>
<td>• Changes in traditional fishing livelihoods</td>
<td>• Adequate standard of living (ICESCR, 12)</td>
</tr>
<tr>
<td>• Coral bleaching and impact of fisheries</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Extreme weather events</strong></td>
<td>• Dislocation of populations</td>
<td>• Life (ICCPR, 6)</td>
</tr>
<tr>
<td>• Higher intensity storms, floods</td>
<td>• Containment of water supply</td>
<td>• Water (CEDAW, 14; ICRC, 24)</td>
</tr>
<tr>
<td>• Sea surges</td>
<td>• Food crisis</td>
<td>• Means of subsistence (ICESCR, 1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Adequate and secure housing (ICESCR, 12)</td>
</tr>
</tbody>
</table>
Currently, as much as 45 percent of the land in developing countries of Asia are controlled by States under the public domain. Many poor people continue to live and eke out meager livelihoods in these State lands with no legal recognition, and many are even dispossessed when such lands are awarded as land concession to private and State companies. The allocation and management of such lands will be crucial in responses to climate change.

A rights-based approach would compel States and other duty bearers\(^5\) to address land tenure issues and to re-establish tenure security for affected families and communities in the event of climate-induced disasters.

Climate change also raises questions for broader land policy, including provisions for population and urban growth, management of common property resources, land use regulations, environmental protection, resettlement in the face of natural calamities and hazards, and potential conflicts to which climate change may be contributing.

Land tenure is also not addressed in several international instruments. International instruments on climate change and natural disasters like the UNFCCC, Paris Agreement and the Sendai Framework also do not provide explicit references to tenurial rights (La Viña and Tan, 2017).

Instead, the Voluntary Guidelines on the Responsible Governance of Tenure of Lands, Fisheries and Forests (VGGT) is one of the few international documents that expressly mentions the linkages of land tenure rights to climate change (Sec 23), natural disasters (Sec 24) and conflict (Sec 25).

Further, the UN Social Development Goals (SDGs) specifically recognize the role of land (as a cross-cutting theme) in sustaining human development through SDG 1, 2, 5, 11, and 15, while Goals 1, 2, and 5 specifically address community land rights. SDG 13 meanwhile specifically focuses on the need for climate action. The specific targets and indicators of SDG 13 makes no specific mention of tenure rights, though the SDGs as a whole address both the need for tenure rights and climate change response.

Currently, the laws on climate change and natural disasters still do not address land tenure issues. On the other end, neither do existing land laws make sufficient reference to climate change and disasters. A 2017 review of Philippine laws on climate change and natural disasters found that, while these laws contain broad policy declarations that recognize the importance of tenure rights, their operational provisions lack clear protections for tenure rights and the enjoyment of these rights in the event of disruptions due to climate change and disasters. While the laws recognize “improper land management” as one of the underlying causes of disasters, they do not regulate

\(^5\) Duty bearers are entities identified by the rights holders as competitors and enablers with more power and whose claim over land under contestation is not inherent to their survival and identity. This includes private companies/corporations, powerful individuals, government, State-owned enterprises, the military, as well as other rights holders (Source: ANGOC. (2021). 2020 Land and Resource Conflicts Monitoring Report in the Philippines. [Manuscript copy].)
tenure over land. Also, other laws relating to land governance make no reference to climate change and disasters, as most of these laws were enacted long before climate change and natural disasters became part of policy discussions⁶ (La Viña and Tan, 2017).

Similarly, in Bangladesh, the relationship between land tenure issues and disasters has not been reflected and integrated in several key policy frameworks, such as the Poverty Reduction Strategy Paper, the National Plan on Disaster Management 2008 to 2015, and the Standing Order on Disasters (Shaf, 2010).

**Ways for moving forward**

The impacts of climate change can bear heavily on people’s land access and land tenure in ways that affect their livelihoods, well-being and sense of security. Yet, there is still limited understanding and appreciation of the links between the impacts of climate change, land tenure, and need for social and policy responses.

The lack of land rights among the poor sectors makes it doubly difficult for them to cope, recover and rebuild when disasters strike. Displaced families whose needs are not addressed are likely to fall deeper into cycles of poverty and vulnerability, adding to residual caseloads of people without access to land.

As shown by experiences, inadequate responses to disaster events often stem from a lack of clear understanding of tenure issues in the context of natural disasters and the impacts of climate change. There is lack of clear policy, and limited capacity of local governments and frontline agencies to deal with tenure issues. Oftentimes, local governments are disaster victims themselves.

Thus, it is important to address land tenure issues in early efforts at building resilience and disaster preparedness. Also, climate change adaptation needs to be mainstreamed into national planning and policy frameworks, including land policy. These strategies should aim to deliver adequate tenure security, as this is necessary to provide people with the rights, resources and incentives for good land and resource management, and reduced vulnerability.

Climate change also raises questions for land policy for addressing wider issues of land access and redistribution, land use, management of common property resources, environmental protection, resettlement in the face of natural calamities and hazards, and potential conflicts to which climate change may be contributing.

Hence, this paper outlines four major recommendations: a) building a better understanding and appreciation of land tenure issues in climate change discussions; b) inclusive governance and the

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⁶ A sole exception is the Indigenous Peoples’ Rights Act (IPRA) of 1997 that recognizes the rights of ownership and possession of indigenous cultural communities (ICCs) and indigenous peoples (IPs) over their ancestral domains. It also protects the tenure rights of ICCs/IPs in case displacement occurs due to natural catastrophes.
need to re-frame the policy discourse on climate change; c) addressing land tenure rights and security in the context of natural disasters; and, d) ensuring an engaged stakeholder participation.

In relation to building a better understanding and appreciation of land tenure issues in climate change discussions –

**Stakeholders should:**

- **Humanize climate change discussions.** While climate change discussions initially focused on its physical impacts, we should now focus on climate change as an issue of humanity – in terms of lifestyles, consumption behaviors, and inequalities – and in the kinds of choices and sacrifices we have to make. It is far harder for world governments to remain ambivalent in the face of human suffering, especially when that suffering is on a global scale and is man-made, than is the case with physical phenomena such as melting icecaps or bleaching coral. Humanizing climate change creates an ethical imperative to act that can with time translate into legal obligations; a human rights approach (will) situate ethical imperatives within a legal framework (Limon, 2009).

- **Amplify the voices of the poor and marginalized.** Using a human rights lens and framework will help to bring focus on those who are disproportionately affected by climate change - the poor, marginalized, and vulnerable people (including women, children, indigenous groups, discriminated castes, the landless, the elderly) who might otherwise not be heard and who, if empowered, could make an important contribution to improving climate change policy (Limon, 2009).

**Civil Society Organizations (CSOs) should:**

- Raise concerns and discuss with stakeholders on the need to address land tenure issues in climate change responses, and in natural disaster policies and programs.

- Provide platforms for CSOs and communities to improve the documentation of field cases in support of public awareness and advocacy on the need to address land tenure rights in climate responses. Possible themes include:
  - How secure tenure rights encourages sustainable land use by communities in ways that restore their environment
  - How those with secure tenure are less likely to be at risk of land disputes, which may affect their adaptive capacity
  - How land rights, especially for women, contributes to the improved capacities of families and communities to implement resilience actions
  - How securing and recognizing customary tenure for indigenous communities (with legal or policy frameworks) helps to reduce deforestation, improve land management, and improve the capacity of indigenous communities to adapt and respond to climate change
  - How tenure security/insecurity affects post-disaster financial support
In relation to inclusive governance and the need to re-frame the policy discourse on climate change –

**Ensuring a rights-based framework towards climate justice:**

- Governments should undertake a review of major national laws on climate change and natural disasters on whether they explicitly address the links between climate change and disasters and tenure rights. Governments should adapt a framework that ensures the protection of tenurial rights in the face of natural and man-made hazards.

- The *Voluntary Guidelines on Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (VGGT)* provides a useful reference to improve tenure policy and legal frameworks in relation to climate change strategies. The VGGT is one of the few international documents that expressly mentions the linkages of tenure to climate change and natural disasters.

- Further, the Sustainable Development Goals (SDGs) recognize the role of land in sustaining human development through SDG 1, 2, 5, 11, and 15. SDG 1, 2, and 5 specifically address community land rights – i.e., indicators 1.4.2, 5.a.1 (a), and 5.a.1 (b); and target 2.3.

- For longer-term climate change adaptation and disaster preparedness, comprehensive land use planning at local level should be guided by scientific hazard mapping studies, a national policy on land use, and a policy on ensuring land tenure security for those likely to be affected by land use plans.

- While many governments include agriculture as a priority for adaptation within their Nationally Determined Contributions (NDCs), very few address issues of tenure security and land governance. Governments, thus, should include clear commitments that recognize and strengthen tenure of vulnerable communities, in their NDCs and National Adaptation Plans.

- Ensure that a gender perspective, including efforts to ensure gender equality, is included in all planning for climate change mitigation and adaptation. The rights of children, older persons, minorities, migrants and others in vulnerable situations must be effectively protected.

- Building transparent and accessible land administration systems that can contribute to both risk reduction and recovery efforts requires expanding and verifying available information based on land use, land tenure and ownership. It is fundamental that the center point of land administration and management systems should always be the people, focusing on peoples’ relationship to the land, their context and their community.

- Improved land governance should be a part of climate change adaptation. Land tenure should be a central consideration in vulnerability/risk assessments and adaptation planning processes.

- Finally, the tasks of building disaster preparedness and resilience should also focus on ensuring tenure security for all. This includes the need to reassign tenure rights, towards broader development goals of ensuring greater land equity, redistribution, and tenure security.
Promoting climate-responsive policies:

- As women are disproportionately affected by climate change impacts, their role and inclusion in land management and tenure should be strengthened. Policies should ensure equal land rights for women and remove barriers to women’s participation in sustainable land management. Some steps may include improved spending on health, education, training and capacity building for women, financial support and program dissemination through existing women’s community-based organizations.

- Indigenous people’s rights to land should be legally recognized and protected. Access and use of land enhances the equitable sharing of land resources, fosters food security and increases the existing knowledge about land use, which can increase opportunities for adaptation and mitigation.

- Customary approaches to the management of land and resources should be supported, including the seasonal migration of pastoralists. Provide secure, legally recognized land tenure rights for people who depend on community lands for their livelihoods and food production.

- Recognize and, where relevant, record land tenure rights for those living in informal settlements to improve their access to infrastructure, services and the formal economy.

- Use mitigation programs to improve tenure security. Forests, watersheds, drylands, and other agricultural lands could provide important environmental services for mitigation, but are often held under insecure tenure. In such cases, providing tenure security could be used as an incentive or a reward for participation in environmental protection, and in sustainable use and management of the resource. There are many examples of social forestry agreements and community-based natural resource management programs where increased security of tenure for upland farmers, forest users and coastal fisherfolk are ensured, in exchange for their commitment to resource-management methods that would incorporate agroforestry and sustainable resource management practices.

In relation to addressing land tenure rights and security in the context of natural disasters –

- Include land tenure issues when conducting impact and vulnerability assessments that investigate both biophysical and socioeconomic factors. This will help ensure that land tenure issues are addressed in the planning of adaptation programs, and in the prioritization of investments.

- Governments should address tenure in disaster prevention and preparedness programs as well as ensure that tenure concerns are addressed in their relief and rehabilitation programs, in particular:
  - Review national action plans of climate change and natural disaster. Ensure that land tenure issues of the rural poor are incorporated in the plans.
  - Implement risk mitigation measures such as protecting land records against disasters, and creating multiple back-up files and record storage locations. Build resilience into the administrative system to facilitate recovery (Mitchell, 2011; FAO, 2012).
Incorporate assessments of tenure status and issues in disaster risk mapping and response preparedness efforts. In areas threatened by slow onset disasters such as sea-level rise and droughts, involve affected community members in defining threshold levels and any subsequent zoning decisions, alternative land use plans, and/or the identification of permanent resettlement sites (Caron, et al., 2014).

Participatory disaster mapping is a proven tool for supporting and planning community-based disaster preparedness programs. Community-drawn maps can highlight important information such as land use, landownership patterns, physical structures (e.g. schools, clinics, water wells, markets, important roads), disaster-prone areas (e.g. steep slopes, flood prone areas, ground water conditions), and environmental issues. Preparation of these maps can serve as a first step in the planning process for disaster preparedness programs.

Persons who are temporarily displaced should be assisted in voluntarily, safely and with dignity returning to their place of origin. Governments should provide means to resolve disputes over local tenure rights. Where people are unable to return to their place of origin, they should be permanently resettled elsewhere. Such resettlement should be negotiated with host communities to ensure that the people who are displaced are provided with secure access to alternative land, fisheries, forests and livelihoods in ways that do not jeopardize the rights and livelihoods of others (VGGT, Sec 24.5).

Post-disaster reconstruction should be informed by the way land is accessed, used and controlled. This may include:

- Developing an inventory of potential relocation areas with assessments of their tenure and hazard risks.
- Conducting vulnerability assessments that combine climate-risk modelling with an assessment of the available information about land occupation, use and tenure conditions, and the capacity of land institutions.
- Determining what processes are acceptable alternatives to documentary proof of land ownership or occupancy, so that shelter and housing assistance is ensured for those living in informal settlements, under customary tenure, or without documentation of property rights (Caron, et al., 2014)
- Conducting community-based enumerations of local residents based on local forms of tenure that existed, immediately after a disaster. Such documentation may help prevent the escalation of land disputes and will facilitate rehabilitation, reconstruction and resettlement where necessary.

In relation to ensuring an engaged stakeholder participation –

Ensure the full involvement of local stakeholders (particularly those most vulnerable to climate change including indigenous peoples and local communities, women, and the poor and marginalized) in the selection, evaluation, implementation and monitoring of policy instruments for land-based climate change adaptation and mitigation. Those without legally documented property rights should not be left out of such discussions.
Full participatory approaches are needed to ensure that local stakeholders not only take part in the assessment of local climate vulnerabilities but are also involved in the co-design of resilience actions. There should be a goal of “providing secure land tenure rights for all.”

Provide mechanisms to actively address land use that leads to land degradation and over-exploitation of land and water resources. Recognition in policy of the need to provide security of tenure for all should help to reduce negative environmental impacts.

Adaptation and mitigation plans should be publicly available, transparently financed, and developed in consultation with affected groups. Particular care should be taken to comply with relevant human rights obligations related to participation of persons, groups, and peoples in vulnerable situations in decision-making processes and to ensure that adaptation and mitigation efforts do not have adverse effects on those that they should be protecting.

REFERENCES

Case studies used in this paper


Other references


Asian NGO Coalition for Agrarian Reform and Rural Development (ANGOC). (2017). From the Farmland to the Table: Exploring the Links Between Tenure and Food Security. ANGOC and GLTN.


Asian NGO Coalition for Agrarian Reform and Rural Development

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ACKNOWLEDGMENTS

ANGOC expresses its thanks to the members of the Land Watch Asia Land Monitoring Working Group in preparing the case studies used in this paper:
- Association for Land Reform and Development (ALRD), Bangladesh;
- STAR Kampuchea (SK), Cambodia;
- South Asia Rural Reconstruction Association (SARRA), India;
- Konsorsium Pembaruan Agraria (KPA), Indonesia;
- National Union of Water Users Association (NUWUA), Kyrgyzstan;
- Community Self Reliance Centre (CSRC), Nepal; and,
- Xavier Science Foundation, Inc. (XSF), Philippines.

Our appreciation to Antonio Quizon for coherently assembling this paper and to Marianne Jane Naungayan for the additional research and writing support.

We acknowledge the International Land Coalition (ILC) for providing support in the preparation of this paper and the case studies.

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CITATION


ACRONYMS

ADB  Asian Development Bank
ANGOC  Asian NGO Coalition for Agrarian Reform and Rural Development
DRR  disaster risk reduction
FAO  Food and Agriculture Organization of the United Nations
GHGs  greenhouse gases
GLTN  Global Land Tool Network
ILC  International Land Coalition
IPCC  Intergovernmental Panel on Climate Change
LWA  Land Watch Asia
PES  Payment for Environmental Services
REDD  Reducing Emissions from Deforestation and Forest Degradation
UN  United Nations
UNDRR  United Nations Office for Disaster Risk and Reduction
UNFCC  United Nations Framework Convention on Climate Change
USAID  United States Agency for International Development