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Through Deluge and Drought: A Village Overcomes

**Case Study of Trapeang Rumdenh Village,
Kbal Trach Commune, Krakor District,
Pursat Province, Cambodia**

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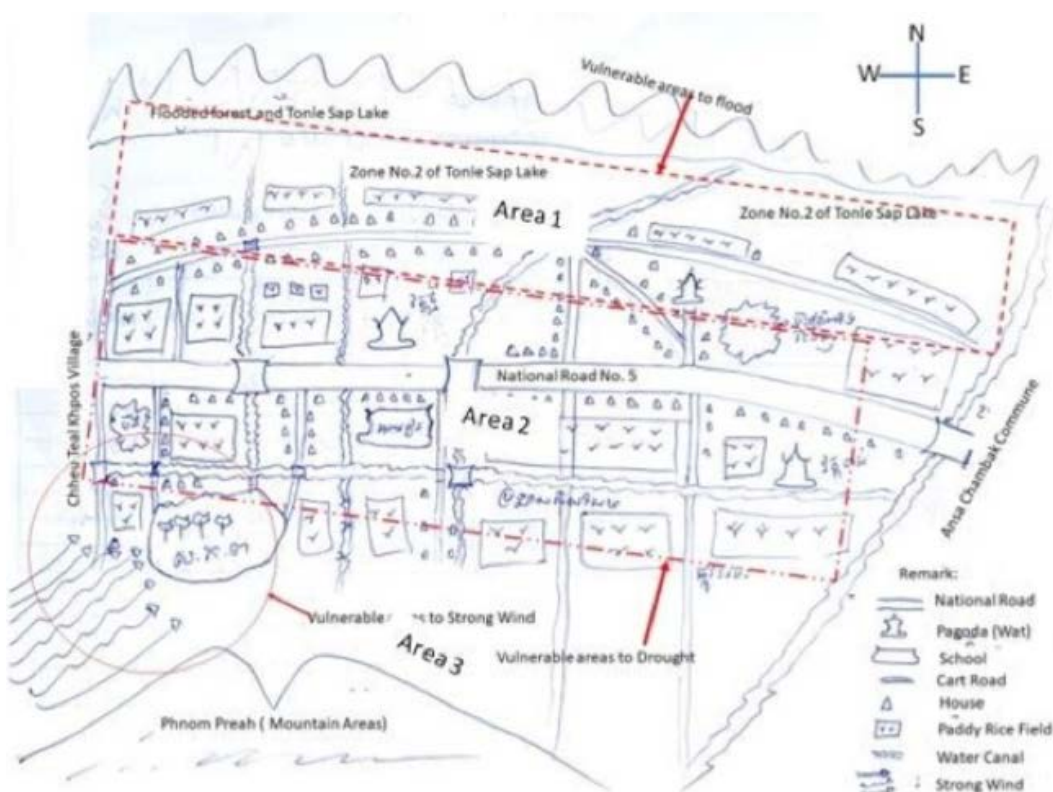
Key Messages

- Diversification of income sources is vital. This can help to protect people from the impacts of climate change, such as crop failure or loss of livestock.
- The lack of funding and support for climate change adaptation is a major challenge that the central government must address by allocating more resources to the government agency responsible for disaster management as well as to local organizations so that they can better respond to the needs of vulnerable people affected by climate change.
- As part of the process of securing land tenure security, the community must begin to establish and document proof of their occupancy and use of the land.
- The community must consider forming a community land trust — a legal entity that takes ownership of, or authority over, a piece of property on behalf of a community. This can help to prevent land from being sold or developed by outsiders without the community's prior knowledge and consent.

The village of Trapeang Rumdenh, located in Krakor District, Pursat Province, Cambodia, covers approximately 1,400 hectares, and is home to 407 households, or 1,651 people. The village's predominantly Khmer population makes their living from agriculture, growing rice, vegetables and fruit trees, aside from fishing in the Tonle Sap Lake, located north of the village.

Climate change is making Trapeang Rumdenh increasingly vulnerable to flooding and drought.

The village is located in a floodplain, which puts it at greater risk of flooding. Besides its location, changes in rainfall patterns and increasing deforestation are resulting in more frequent and more destructive flooding. For instance, the slow-on-set flood from Tonle Sap which occurred in October to November 2021 destroyed the village's entire rice crop.



Hazard Map of Trapeang Rumdenh. Photo by STAR Kampuchea

At the same time, the village has experienced more frequent droughts. This has made it difficult for farmers to irrigate their crops, and has led to crop failures. The drought has begun to occur in June to September – the traditional period of wet rice production. It is notable that in the Three-Year Rolling Investment Plan Book (3IP) of Kbal Trach commune, which is located in Krakor District, there is no provision for a water irrigation system to meet the water shortage that farmers in many villages anticipate even during the rainy season from 2023 to 2024.

The table below summarizes the climate risks that affect Trapeang Rumdenh Village, along with their months of occurrence, and the areas or land use that are most affected:

Table 1. Climate risks in Trapeang Rumdenh Village, their period of occurrence, and sectors affected

Hazard	Month	Area or Land Use
Flooding	October to November	Rice fields (Area 1)
Drought	June to September	Rice fields (Areas 1 and 2)
Strong winds	Mid-April to early June	Crops, homes, and property in Area 3

The Link between Climate Vulnerability and Tenure Status

Trapeang Rumdenh Village consists of three Areas, which are distinguished not just by their topographic features but by the prevailing tenure status of their population and their exposure to climate change impacts.

Area 1 is located in the floodplain and in the transition zone of the Tonle Sap Biosphere Reserve outside of the buffer and core zones.

Most people living in Area 1 do not possess formal land titles. This situation impacts on their capacity to recover from, adapt to, and prepare

Too Little and Too Much Rain: Two Faces of Climate Change

Mr. Moa Bol, 64, is a farmer and chief of Community Forestry in Trampeang Rumdenh village. He recalls that some years ago, farmers could harvest one to two tons of rice per hectare even while they were dependent on rainwater. Recently, however, there has been too much rain in the months of September and October, causing flooding which destroys their crop.



Mr. Moa Bol, 64, farmer and Chief of Community Forestry

Mr. Phal Nhem, 65, is a farmer in Trapeang Rumdenh. He relates that he and other farmers in the village used to be able to produce two tons of rice per hectare even without irrigation. In recent years, the supply of water has been severely



reduced. As a result, his rice crop has been slow-growing, compared to his crop last year, which grew to as high as his knees.

Mr. Phal Nhem, 65, farmer of Trapeang Rumdenh village

for flooding and erosion. More generally, the lack of formal land titles makes it difficult for them to access credit, sell their land, or pass it on to their children. It also makes it difficult for them to protect their land from encroachment or other threats.

In Area 2, which is located on higher ground, more people have formal land titles. However, these landowners use their land for purposes other than agriculture. This is because they think that their land, having been deforested and overgrazed and are prone to drought, is no longer fit for food production. Thus, they opt to sell or transfer their land to others, or use it as collateral to secure loans from banks.

In Area 3, which is located in the mountains, most people manage and use the forest communally. However, this practice has not been formally recognized by the government in the form of a community forest management agreement.

In general, the lack of secure land tenure is a major challenge for people in Trapeang Rumdenh Village. It makes them more vulnerable to climate change impacts and makes it difficult for them to adapt to these changes. The government needs to take steps to improve land tenure security in the village, such as issuing formal land titles and recognizing customary land tenure. This will help to protect people's land rights and make them more resilient to climate change.

Response by the Community

The Community Forest (CFo) of Trapeang Rumdenh is taking steps to respond to climate change. Each year, the CFo plants 200 small trees in the forest land. These trees help to absorb rainwater and reduce flooding.

In addition, the villagers engage in a variety of activities to generate income and to make up for their lost rice yields due to climate change. From February to March, they hunt for insects and spiders, which they sell to middlemen, earning for themselves between five US Dollars and 10 US Dollars a day. From April to June, they collect wild mushrooms, from which they make five US Dollars a day. From August to September, they collect wild bamboo.

The other villagers also collect wild vines from the community forest to make handicrafts, which they sell for around 2.5 US Dollars per basket. This helps to supplement their income and cope with the challenges of climate change.

Finally, some of the villagers have migrated to Phnom Penh City or to other provinces to work as construction workers. Others have migrated abroad, such as to Thailand, Malaysia, and Korea. This is a last resort for many people, but it is a way to earn a living and support their families.



Ms. Kong Pheap, 72, is making a basket from wild-vine. Photo by STAR Kampuchea

Responses by Authorities

The Village Disaster Management Committee (VDMC) is responsible for managing disaster response at the village level. The VDMC is composed of local volunteers who are trained to respond to disasters, such as floods, droughts, and storms. They work closely with local authorities and non-government organizations (NGOs) to coordinate disaster response efforts and provide assistance to affected communities.

The Commune Committee for Disaster Management (CCDM) is responsible for responding to any risk or disaster response inside of Kbal Trach commune. However, the CCDM has limited resources to respond to the needs of vulnerable people affected by climate change.

The Three-Year Rolling Investment Plan Book (3IP) of Kbal Trach commune for 2023 to 2024 does not include any activities or budget for responding to climate risk in all of the villages of the commune. This means that the CCDM will need to find other sources of funding to support their response efforts.

Trapeang Rumdenh village has proposed to prioritize the building of a watchtower (cottage) for patrolling the forest in the community forestry of Trapeang Rumdenh. This is an important activity to help protect the forest from deforestation, which is a major contributor to climate change. However, no institution or organization has yet expressed interest in supporting this action plan.

The lack of funding and support for climate change adaptation is a major challenge facing the authorities in Kbal Trach commune. The government needs to provide more resources to the CCDM and other local support organizations so that they can better respond to the needs of vulnerable people affected by climate change.

Recommendations

Strengthening Land Tenure Security

- The community must form a community land trust. A community land trust is a legal entity that takes ownership of, or authority over, a piece of property on behalf of a community. This can help to prevent land from being sold or developed by outsiders without the community's prior knowledge and consent.
- Members of the village can begin documenting their land rights by establishing proof of their land use, such as planting trees or building a house.
- Everyone in the village must be encouraged to get involved. This can help to build support for land rights and to make it more difficult for people to be dispossessed of their land.

Practicing Sustainable Land Management

- Planting trees help to prevent soil erosion and improve water retention. Trees also provide shade, which can help to reduce the risk of drought.
- Overgrazing must be reduced as it can damage the soil and make it more vulnerable to erosion. It is important to manage grazing so that it does not damage the land.
- More sustainable agricultural practices must be adopted. There are a number of sustainable agricultural practices that can be used

to reduce the impact of agriculture on the land. These include using cover crops, crop rotation, and intercropping.

Building Resilience to Climate Shocks

- Diversification of income sources is vital. This can help to protect people from the impacts of climate change, such as crop failure or loss of livestock.
- Building a food supply buffer is important to help ensure that people have food to eat during times of food shortage.
- A plan should be put in place so that village members know what to do in the event of a disaster, such as a flood or drought. ■

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