

Vulnerability and capacity assessment in West Kalimantan, Indonesia



Canadian Coalition on
Climate Change
& Development



World Vision

Poor communities in the Indonesian island of West Kalimantan approached World Vision with their concerns about disruptive environmental changes. They agreed to take part in a pilot initiative to realistically assess environmental stresses and their decreasing ability to cope with these developments. This pilot, supported by World Vision Indonesia (WVI) and World Vision Canada (WVC), was aimed at strengthening the capacity of people in poor communities, mobilizing them for action, supporting their adaptation of the impacts of climate change, assessing local wisdom, and using secondary scientific information and new methods to assess risks. New programming methods and standardized vulnerability assessment tools are now being rolled out in WVC's programming.



Photo Credit: World Vision Indonesia

Rosnani, a traditional rubber farmer from Penyemur, West Kalimantan, watches her son bathe as she collects water from a now-polluted river.

The Problem

West Kalimantan is expected to experience significant socioeconomic impacts due to climate change. These will affect the poorest communities who depend on agriculture and the forests for their livelihoods. In World Vision's ongoing work with poor communities in West Kalimantan, it became clear that these communities were already experiencing the impacts of climate change. Specifically, communities expressed concern that:

- Forest-based livelihoods were being threatened by reduced rainfall and deforestation, which has resulted in a reduction of forest productivity.
- Fresh water resources, soil fertility and wild animals for hunting were decreasing.
- Food insecurity and child undernutrition rates were increasing due to decreasing crop harvests and reduced availability of fish. Crops yields are being reduced by an increase in pests and diseases as well as an increasingly unpredictable growing season.
- Incidents of diseases such as diarrhea, malaria and asthma were increasing, particularly among children.
- New diseases were appearing, such as rheumatic fever and chikungunya.
- Flooding, erosion and river siltation were increasing.

Country Context

Deforestation, peat land degradation and forest fires have made Indonesia one of the top three greenhouse gas emitters in the world. On the other hand, as an archipelago, Indonesia has a massive coastline which makes it very vulnerable to climate change. Prolonged droughts, increased frequency in extreme weather events, and heavy rainfall leading to widespread flooding are regularly cited as the major climate change threats for Indonesia. The inundation of some parts of Indonesia (such as Jakarta Bay) has already occurred, and Indonesia's vast natural biodiversity is also at risk.

Traditional coping strategies used by communities and households to adapt to shocks and threats have proven to be inadequate in the face of rapid acceleration of climate related disasters such as flooding. In the face of food insecurity, households rely on the sale of liquid and productive assets, reducing their coping capacity over the long-term. Primary livelihood activities (e.g. smallholder farming and plantation agriculture) are acutely climate sensitive. Communities have limited access to weather forecasts and effective early warning systems for disasters. More than 50 per cent of population lives below poverty line.



Photo Credit: World Vision Indonesia

Rosnani's house is now frequently flooded and may be under water for up to a week per month.

The Project

To respond to community concerns in West Kalimantan about the increasing toll of environmental stresses and their decreasing ability to cope, WVIn asked World Vision Canada for technical assistance in strengthening WVIn's capacity to respond to the impacts of ever increasing environmental stresses.

As a first step in a capacity building process WVIn and WVC jointly developed and piloted a new assessment tool, the Climate Change and Environmental Degradation Vulnerability and Capacity Assessment (CEVCA), in three of World Vision's programming areas in West Kalimantan.

The objectives of the CEVCA were:

- To undertake a realistic assessment of vulnerabilities and adaptation capacities of the communities World Vision works with.
- To understand how local communities experience climate change and mobilize community action for adaptation.
- To combine local wisdom with secondary scientific data at the regional and national level to provide a greater understanding of the impacts of climate change and environmental degradation and identify new adaptation methods for new risks.

The results from the assessment have been used to increase WVIn's practical understanding of how climate change will impact their programming as well as develop an action plan to integrate climate change adaptation and environmental sustainability into existing and future

programs. The development of a standardized assessment tool will also make a significant contribution to the World Vision Federation as a whole to strengthen the integration of climate change adaptation and environmental resilience into its global programming.

On the Ground

The total population of West Kalimantan is approximately 4 million. The programming areas covered were Pontianak District with approximately 500,000 people, Sanggau with 372,488 people and Sambas with 494,531 people.

The CEVCA is a hybrid assessment methodology, which begins with World Vision's Community Owned Vulnerability and Capacity Assessment tool, a participatory, community-based assessment method that draws out possible solutions that communities can design and implement themselves. A key feature of the World Vision approach to vulnerability assessment is that the assessment is facilitated by members of the community. The aim is to develop a process that is owned and implemented by the communities themselves.

To complement local knowledge of threats and possible solutions, information from interviews with Provincial Government Ministries and WVIn program staff, reviews of national government documents and other relevant secondary sources were compiled and analyzed. Engaging with key government stakeholders provides a means to strengthen community linkages to local and national policy makers. This provides opportunities to strengthen the Government of Indonesia's understanding of how

communities experience climate-induced vulnerabilities, potentially leading to the design of evidence-based policies that support and strengthen community-based adaptation response.

Trained WVIn field staff trained community members as facilitators. Special attention was given to including women and children in the assessment as there is a growing body of evidence that they are more at risk and less able to adapt.

The community facilitators led focus group discussions and community vulnerability mapping exercises to identify key threats (Box 1). Many of the issues that came forward were either directly or indirectly caused by climate change or environmental degradation. The communities were then asked to come up with activities to address these key threats (Box 2), with the caveat that communities had to be able to implement these activities on their own using their existing resources.

Effective adaptation strategies were identified through the secondary data that could be incorporated within future programming (Box 3).

At the end of the assessment, WVIn and WVC held a final workshop to share results and develop an action plan to address some of the findings.

The WVIn Action Plan includes:

- Capacity building for staff and communities on climate change and environmental degradation.
- Support to community initiated and managed activities identified through the assessment.
- Collect local stories about climate change impacts for policy influence and funding opportunities.
- Incorporate climate change issues into WVIn's advocacy plan for West Kalimantan.
- Incorporate Disaster Management and Risk Reduction approaches into WVIn's programming plans.
- WVIn to develop longer term programming plans to address the impacts of climate change.
- Follow up with contacts that were made with Provincial Government bodies, opening up opportunities to work with the Government to make sure their support benefits poor communities impacted by climate change.

I. KEY THREATS IDENTIFIED BY COMMUNITIES

- Land use change (deforestation for palm oil production in one area; national park established in another area to protect forest)
- Health (malaria and respiratory illness)
- Flooding
- Food insecurity and child malnutrition
- Alternative livelihoods

2. REPRESENTATIVE LIST OF COMMUNITY-IDENTIFIED MITIGATION/ADAPTATION ACTIVITIES

- Land tenure rights advocacy
- Community forest management and reforestation
- Ensure that communities understand the new or increased health risks and how to reduce them, e.g., by sleeping under mosquito nets, reducing open water containers that breed mosquitoes
- Crop diversification and livestock replenishment

3. REPRESENTATIVE LIST OF ADAPTATION STRATEGIES FROM SECONDARY SOURCES

- Construction or rehabilitation of flood control structures
- Introduce drought-, flood-, or salt-resistant crops
- Review/modify cropping calendar
- Forest fire management
- Peat land conservation
- Health promotion and awareness raising
- Disease surveillance

Impacts/Results

- Communities identified climate change mitigation/adaptation activities they could implement on their own using their existing resources. The objective of the community based assessment approach is to support a process that is completely owned and implemented by the communities themselves.
- The participation of women and children increased noticeably over the course of the assessment. They spoke up much more often and at the end felt that their ideas were heard and acted upon.
- This assessment was an important capacity building process for WVI to begin developing its own action plan for integrating climate change issues into programming.
- Important relationships were established with Provincial Government departments, opening up policy influence space for communities to express how they are experiencing climate change and influence what kinds of programs the government develops.

What risks/obstacles/ opportunities are identified?

- At the community level, climate change will amplify already existing vulnerabilities. Therefore, the impact of climate change must be addressed as part of a comprehensive community development approach that strengthens community and household resilience to a wide range of shocks.
- Potential and/or existing conflict over natural resources, within communities and between communities and other stakeholders can impede community adaptation approaches.
- There is a high degree of alignment between what communities are observing and what scientific and government studies are saying.

In the last five to 10 years, the dry season has become much longer. Planting time is unpredictable, crop pests and diseases have increased, crops have failed.

There are more big floods, and many houses near the river are under water for one week a month. Livelihoods are severely impacted: people can't tap the latex from the rubber trees, the crops are soaked by water and die, the children can't go to school, the parents can't work, it's hard to find food.

In the 1980s the water was still clean and drinkable and it was widely used by the community. It is no longer safe to drink, and people have to walk long distances to get clean water. Fishing is reduced, and people now become itchy after bathing in the river. More people get malaria and are too ill to work, plus medical expenses increase.

— Rosnani, a traditional rubber farmer from Penyemur, West Kalimantan, Indonesia.

LESSONS LEARNED

- Climate change adaptation must form part of a holistic response that aims to reduce the underlying causes of community vulnerability.
- Local wisdom and scientific data collectively offer a much richer picture of how climate is changing but most importantly, how communities are experiencing the impacts of climate change.
- Communities understand that climate change will intensify the risks and vulnerabilities of the communities we work with, but they largely understand it through an environmental lens.



Photo Credit: World Vision Indonesia

Epilogue to 2010 C4D Case Study: Vulnerability and capacity assessment in West Kalimantan, Indonesia



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World Vision Canada's 2010 case study documented the results of doing a Climate Change and Environmental Degradation Vulnerability and Capacity Assessment (CEVCA) in the West Kalimantan province of Indonesia.

After the assessment process documented in that case study, the community participants developed many ideas to respond to their vulnerability to malaria, flooding and food insecurity, including addressing land tenure rights, engaging in community forest management, providing access to mosquito nets, diversifying crops, constructing flood control structures, adopting flood resistant crops and disease surveillance. Eventually, however, they prioritized addressing land tenure rights and environmental education.



The First Teachers training for Green School Implementation

Photo: World Vision Indonesia

In order to build more awareness of land tenure rights, a community mapping exercise was undertaken with the use of simple GPS tracking devices to define individual private boundaries and common area boundaries. This process has increased community empowerment to defend their rights where potential land use changes are occurring.

Environmental education has also been a successful product of this assessment process, with many schools developing curriculum to help teach the next generation about how to manage the environment appropriately.

Some lessons have been learned in the process of implementing this project. When originally planned, it was very much focused on vulnerability to climate change and many of the risks identified were directly related to climate issues. However, the project team came to realize that this assessment process needs to be more open ended, as vulnerabilities in the community go

beyond just climate risks, including land tenure rights that were eventually chosen as a key focus of the project. An assessment should take into account a much broader complexity.

Furthermore, an ongoing challenge is coming to an understanding of how to measure a reduction in vulnerability. Ongoing assessments such as these will help understand if there are improvements but the absence of metrics to measure resilience have made it difficult to verify progress.

As work continues on this project—slated to finish in September 2014—the project team will continue to find ways to improve our understanding of the changing nature of vulnerability, as well as continue to improve land tenure rights and address environment degradation.