

CASE STUDY

MERCY CORPS INDONESIA



Influencing multi-scalar policy change to enable local resilience action

This case study shows how locally-grounded evidence regarding climate risk and projected impact can be used strategically and consistently at multiple levels to influence comprehensive policy change that supports local action to build resilience.

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The win

At the local and sub-national levels, Mercy Corps Indonesia:

- Supported the development of holistic and long-term water resource management policies and land-use plans that address the root causes of flood risk in Pekalongan City, Pekalongan Regency, and the Central Java Province.

At the national level, Mercy Corps Indonesia:

- Built awareness around the issue of land subsidence and helped influence the national government to prioritize Pekalongan City and Regency for watershed management and coastal and agricultural resilience (via the Climate Resilience Development Policy 2020-2045) and pilot interventions to address land subsidence.
- Influenced the Ministry of National Development Planning to adopt Mercy Corps Indonesia's proposed approach for aligning the top-down national policy framework with local-level needs assessments.
- Helped shape the development of the Roadmap for Nationally Determined Contributions (NDCs) on Adaptation to ensure its relevance for local and sub-national governance and its alignment with existing climate resilience policies.
- Provided an evidence-based climate rationale for Mercy Corps Indonesia's nationally-selected Green Climate Fund (GCF) concept note on

Key Alliance terminology

Zurich Flood Resilience Alliance (Alliance):

The Alliance is a multi-sector collaboration between the humanitarian sector, academia, and the private sector focusing on shifting from the traditional emphasis on post-event recovery to pre-event resilience. We are nine years into an eleven-year program that has been delivered in two Phases (Phase I from 2013-2018; Phase II from 2018-2024).



Tidal flooding slowly submerges the community's aquaculture area © Denia Aulia Syam - Mercy Corps Indonesia

strengthening livelihoods while preserving ecosystems across watersheds.

At the global level, Mercy Corps Indonesia:

- Informed the official Indonesia statement for COP26 by providing empirical evidence to shape policy recommendations; Mercy Corps Indonesia influenced recommendation that a new financial instrument for loss and damage should better account for climate-induced displacement, slow-onset events, and non-economic losses was incorporated in the G77+China group's position on loss and damage.

The combination of these policy wins is expected to lead to evidence-based investment and action to build resilience to land subsidence in Pekalongan.

How the win was achieved

Building the evidence base for land subsidence

Creating good climate change policy that will benefit localities requires strong, contextual data that reflects the local experience of climate change. Globally, such data is lacking. The Indonesian government has risk analysis tools that it uses to

inform its policies; however, these tools rely on historical data or analyze climate risk at a regional rather than local level. Mercy Corps Indonesia saw the opportunity to focus its Alliance program on using evidence of local climate risk and impact to incorporate locally-grounded climate information into policies from the local to national levels. It also wanted to use this work as a demonstration for how forward-looking risk analysis can be better incorporated into decision-making around climate change more broadly.

In 2019, Mercy Corps Indonesia conducted scoping studies and discussions with local, sub-national, and national governments to inform its advocacy focus and strategy. These studies and discussions allowed Mercy Corps Indonesia to develop an understanding of the political cycle, current government interests and needs, and the situation of local government with regard to climate change governance. Mercy Corps Indonesia already had significant credibility at the national level due to previous policy development support it had provided to the national government. However, to continue to open doors, especially at the sub-national and local levels and in areas it had not yet directly engaged, Mercy Corps Indonesia positioned itself as a think tank partner that would provide information useful for strengthening policy.



Undeterred by floods, children use an inundated road to attend school © Arif Gandapurnama, Mercy Corps Indonesia

Based on these scoping activities, Mercy Corps Indonesia chose to focus on Pekalongan City and Regency, located in Central Java Province. The selection of location was influenced by the fact that the local governments were about to review their 20-year spatial plan and start developing a new local development plan. This was a policy window that Mercy Corps Indonesia could influence within the timeframe of the Alliance program. Furthermore, the Pekalongan area has high flood risk due to land subsidence. Despite the prevalence of land subsidence issues along the coastline of Java, in 2019, land subsidence had not been officially recognized by Indonesian government actors as a priority hazard. Government actors felt that the existing flood protection infrastructure would continue to protect the Pekalongan area from flooding for the next 15 years, despite increasing flood risk; Mercy Corps Indonesia had already observed issues of overflow.

Because land subsidence was not on the sub-national or national radars, Mercy Corps Indonesia needed to build the evidence base to show that land subsidence, which leads to tidal flooding and permanent inundation, was an issue that needed

to be addressed by decision-makers. To do this, it commissioned the development of the Climate Risk and Impact Assessment tool (CRIA), with the ultimate goal of showing the government how the combination of climate change (e.g., changes in precipitation patterns and sea level rise) and non-climatic factors (e.g., land subsidence) contributes to and intensifies another kind of hazard that government already understands well — floods.

More broadly, the aim of the CRIA is to help integrate climate vulnerability, risk, and impact information into local and sub-national decision-making, and amplify the evidence in national policy discussions focused on climate-resilient development. CRIA is a methodological assessment using computer modelling that connects three models:

- a land subsidence, tidal flood, and river-flooding model;
- a model of how water moves through the built landscape, particularly in response to changes in large-scale flood protection like sea walls and dikes, and includes how water movement is being affected by land-use change; and

- a model that estimates the economic and non-economic impacts associated with flood protection and flooding.

Recognizing the need to build the capacity of local institutions to identify local climate risks and feed its knowledge into decision-making, Mercy Corps Indonesia intentionally sought to build partnerships with both the Bogor Agricultural Institute, a prominent national academic institution known for climate change research, and Diponegoro University, a local university. Together with these partners, Mercy Corps Indonesia piloted the tool in Pekalongan City and Regency and collected evidence on potential flood risks, the root causes of flooding, and the economic and non-economic impacts of current and projected flooding. Mercy Corps Indonesia intentionally aligned its climate risk and impact analysis timeframe with the targeted policy cycle and its milestones (e.g., use of 15-year climate projections to inform a 15-year plan) to ensure its relevance to ongoing policy opportunities.

To further build government buy-in to the data from CRIA, Mercy Corps Indonesia engaged government stakeholders in shaping the analysis and prioritizing indicators for the vulnerability analysis, and kept them abreast of findings from the analysis as they evolved.

Using evidence-based knowledge in multi-scalar advocacy

Mercy Corps Indonesia used evidence from CRIA to inform policy discussions, improve policies related to climate and flood resilience under the framework of integrated water resource management, and ensure greater understanding and prioritization of local climate risks across multiple levels and departments. To do this, it tailored the data based on the type of information needed for each policy target and the best approach for presenting this information to ensure its uptake in development and land-use planning processes.

Mercy Corps Indonesia used data from CRIA to show:

- High flood risk areas in Pekalongan — analysis on the spatial distribution of floods allowed the identification of hotspot areas.
- Root causes of flooding — government actors had widely perceived that tidal flooding was being caused solely by rainfall and sea level rise, both climatic factors. Using CRIA, Mercy Corps Indonesia was able to show that the main driver of tidal flooding and permanent inundation was actually the land subsidence caused by unsustainable groundwater extraction combined with sea level rise and rainfall.
- Impact of flood losses on the government's existing economic targets — Mercy Corps Indonesia used the language in government policies to communicate and thus contextualize the flood impacts revealed by CRIA. For example, Mercy Corps Indonesia was able to show that flood losses in 2020 would amount to half of the combined Pekalongan City and Regency budgets; in 2025, flood losses would be up to three times the combined budgets.
- Key contributors to economic losses — CRIA showed that the main contributor to economic loss during floods is the loss of income for communities. This is not something that can be addressed through continued or greater investment in flood protection infrastructure; rather, solutions need to focus on strengthening ecosystems and addressing socio-economic challenges.

Data from CRIA, particularly the novel impact analysis, has been impactful as it enabled 'storytelling' about the situation on the ground. Mercy Corps Indonesia paired its data analysis with potential recommendations and solutions for government to consider.

Sub-national and local levels

Mercy Corps Indonesia used the data from CRIA to help government actors understand why and how they need to move beyond hard infrastructural flood protection measures and toward preventative actions that address the root cause of flooding. Mercy Corps Indonesia's messaging on how government economic losses from floods would increase if current development pathways are maintained — that the existing situation is beyond their fiscal capacity — was a powerful eye-opener



Communities were forced to abandon their houses due to permanent inundation © Denia Aulia Syam, Mercy Corps Indonesia

for governments. Local government actors are starting to understand that flood risk reduction is not just a disaster management issue; it is also a development planning issue.

As a result, not only has CRIA data shaped local land use plans, it has also led otherwise siloed local and provincial decision-makers from the Regional Development Cooperation to convene and discuss options for maintaining the regional water supply. Using knowledge from CRIA and Mercy Corps Indonesia's resilient livelihoods model development process, they are exploring application of water conservation principles, including using alternative water sources, that will relieve pressure on groundwater sources while also securing livelihoods.

National level

Mercy Corps Indonesia has used CRIA at the national level to support government to rethink its traditionally top-down decision-making and place greater emphasis on integrating data on local needs and climate risks and impacts into key climate policies and policy implementation strategies. The following examples illustrate how Mercy Corps Indonesia has leveraged CRIA to achieve this shift in thinking:

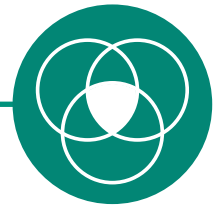
- Mercy Corps Indonesia used CRIA to showcase local evidence on the land subsidence phenomenon, namely its main drivers and how it leads to secondary impacts and hazards. This supported the national government to recognize

the need to address land subsidence and prioritize Pekalongan for resilience action.

- Mercy Corps Indonesia developed intervention models to show government how gaps identified via CRIA can be filled, as demonstrated in its nationally-selected GCF concept note focused on building resilience through livelihood improvements and ecosystem preservation.

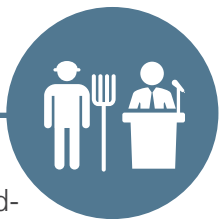
The credibility that Mercy Corps Indonesia has built at the national level through its consistent provision of data in support of evidence-based decision-making has opened new opportunities for influence. For example, the Ministry of Environment and Forestry has also asked Mercy Corps Indonesia to present its impact analysis as part of a wider effort to identify existing tools and data to support the government's upcoming loss and damage assessment. Additionally, Mercy Corps Indonesia was invited to co-lead the development of the official Indonesia statement for the COP26 Presidency with the Ministry of Environment and Forestry. Here, too, Mercy Corps used the CRIA to demonstrate a local case and provide empirical evidence for how funding loss and damage at an equal level to climate mitigation and adaptation can support integrated climate action (e.g., transboundary action that addresses the social, economic, political, and environmental factors that exacerbate flood risk and vulnerability and lead to significant loss and damage).

Why Alliance advocacy was successful



ESTABLISHED RELEVANCE

- Aligned program advocacy goals with government priorities by leveraging existing policy windows relevant to climate change governance.
- Generated government buy-in by engaging government stakeholders in the data gathering and analysis processes and providing frequent updates on new learning.
- Creating an enabling environment for local-level flood resilience action by strategically layering local-to-national advocacy.



BUILT RELATIONSHIPS

- Engaged with local, sub-national, and national government stakeholders by using Mercy Corps Indonesia's knowledge, connections, and overall credibility from prior work.
- Supported coordinated watershed-level decision-making by convening local and provincial government stakeholders around evidence of the regional implications of local practices.



PROVIDED EVIDENCE-BASED KNOWLEDGE

- Increased knowledge of decision-makers on local-level climate risk and impact by developing and implementing a locally-contextualized data tool and presenting evidence, recommendations, and intervention models.
- Influenced government to rethink top-down decision making by illustrating the value of local-level data in informing locally grounded policies and implementation strategies.
- Shifted perceptions on climate risk and encouraged uptake of recommendations into policies across levels by tailoring the data to the specific advocacy target.

Additional resources

- [Loss and damage case studies from the frontline: a resource to support practice and policy.](#)
- [Climate Risk and Impact Assessment of Pekalongan, Indonesia](#)