A COMMUNITY-BASED APPROACH TO MANGROVE MANAGEMENT, DISASTER RISK REDUCTION, AND CLIMATE CHANGE ADAPTATION

Experiences from CARE-Vietnam in Thanh Hoa Province, 2006-2014
1/ Integrating climate change adaptation, disaster risk reduction, and natural resource management in two coastal communes through a community-based approach has led to cost savings, efficiency gains, and active engagement of local people in a range of successful resilience-building activities.

2/ Community-based approaches and institutions have strong potential for achieving long-term, sustainable management of mangrove forests. However, lack of delegated authority, budgets, and long-term incentives for community stakeholders to participate in management present obstacles.

3/ MoNRE and MARD can support the integrated, community-based approach by encouraging closer collaboration between DARD and DoNRE at the local level on climate change adaptation and disaster risk reduction, improving frameworks for community-based management of mangrove forests through policies currently under development, and supporting community-based mangrove management as part of its nation-wide climate change adaptation strategy.
The challenge

Vietnam’s coastal communities are confronting a range of interacting and increasingly complex pressures. Da Loc commune in Hau Loc district, Thanh Hoa Province, is a case-in-point. Over the last half-century, degradation of coastal ecosystems has exposed local residents, their homes, and productive assets to more serious storms and tidal floods. Resulting hardship and debt creates additional pressures on natural resources. Households are dependent on chemical fertilizers for cultivating crops like rice and vegetables, further degrading the quality of local soil and water. In these fragile systems, an external shock can have catastrophic results. This occurred in 2005, when Typhoon Damrey destroyed part of Da Loc’s coastal dike, inundating villages, and destroying homes and crops.

Climate change is exacerbating these challenges in numerous ways. Projections indicate that changing temperature and precipitation patterns, sea level rise, and the possibility of more severe extreme events\(^1\) will continue to impact coastal communities in the coming decades. While MARD and MONRE have been proactive in addressing disaster risk reduction and climate change adaptation respectively, existing efforts are often hindered by a lack of coordination and meaningful community participation. These shortcomings reduce efficiency and effectiveness of interventions and raise costs.

---

Interlinked challenges require an integrated set of responses. Since 2007, CARE has worked in Da Loc commune and Nga Thuy commune in Nga Son district, Thanh Hoa province to apply an integrated, community-based approach to building coastal resilience. Projects have aimed to:

- **Restore and establish new institutions for community-based management of mangrove forests.** Community-Based Mangrove Management Boards (CMMB) were formed in both communes, composed of representatives elected from Commune People’s Committees and mass organizations. The CMMBs steered a process of planning and decision-making, planting and maintenance, and protection of the young mangrove forests. This included Participatory Land Use Planning (PLUP) with local villages, inventorying existing mangrove resources and projecting future growth. Results informed the development of mutually agreed mangrove forest regulations and benefit sharing arrangements. In 2009, officials in Hau Loc District assigned three villages in Da Loc to manage the mangrove system for a period of five years.

- **Build capacities for disaster risk reduction.** Village level facilitators were trained to support vulnerability assessments and to develop disaster preparedness plans. This involved close coordination with local officials from both DARD and DoNRE, such that insights from local engagements were integrated into Socioeconomic Development Plans (SEDPs).

- **Promote resilient livelihood strategies:** With support from external experts, local households identified, piloted, and replicated new livelihood models that are more sustainable and resilient in the face of climate change. These strategies ranged from the application of bio-fertilizer to replace chemical inputs, to innovative approaches for growing rice and maize, to a demand-side solution involving partnership with a chili import-export enterprise.

- **Enhance understanding and local support for the integrated approach:** “Green Teams” composed of local youth were formed to promote new coastal resilience strategies. Working closely with mass organizations, Green Teams developed creative awareness campaigns on mangrove forest-use regulations, disaster risk preparedness measures, and climate resilient livelihood models.
Lessons Learned

Challenges wrought by disasters, climate change, depletion of natural resources, and underlying marginalization are interrelated – and should be addressed together rather than separately at the local level. Integrating these diverse components helps drive a virtuous cycle, making communities more resilient in the face of shocks and stresses. Restored mangrove forests along the coastline are helping to mitigate future impacts from storms and floods. They also provide a source of income for local people. New agricultural and livestock models have helped households diversify their livelihoods, stabilize or increase incomes, and improve water and soil quality. Villagers have institutionalized disaster preparedness planning processes, with enhanced capacity to respond when storms and flood do strike.

The integrated approach also saved time and budget. Assessments and trainings combined a number of topics, ranging from mangrove management, to disaster preparedness, to climate change. This prevented local departments from each sponsoring separate activities from separate budgets.

The community-based approach has already demonstrated strong short-term success. Communities in Da Loc and Nga Thuy have mobilized to plan, plant, maintain, and protect the mangrove forests. This aligns strongly with Vietnam’s Grassroots Democracy Degree and shows powerful results. Since 2007, community members have planted 277 hectares of mangrove forest in Da Loc and 181 hectares in Nga Thuy. At a survival rate of 70% - 90%, the mangrove forests have flourished compared to earlier projects in the same area. The use of local labor and local expertise also led to cost savings, efficiency gains, and strong community buy-in for forest protection. Local officials and community members are highly confident that as a result, mangrove forests will not be overexploited or depleted by illegal activities in the near future.

2. Depending on proximity to the coastline. Mangroves exposed the open sea have a lower survival rate than those next to the beach.
With government support, CMMBs played a crucial role in these achievements. Strong support from local government was critical to the success of community-based activities. CARE’s role as external facilitator helped to broker the relationship between government and community. As a result, CMMBs were highly effective in mobilizing community members to contribute time, knowledge, and labor to the process of mangrove restoration, disaster preparedness planning, and climate resilient livelihood models.

New institutions such as the CMMB can provide platforms for meeting ongoing management challenges, if they are sustained into the future. Beyond organizing and facilitating activities, community-based systems are required for negotiating between different stakeholders’ needs.

When clam farmers seized an opportunities to exploit the mangroves in Da Loc, the CMMB proved effective in finding a mutually agreeable response to the conflict. This highlights the need to sustain transparent, accountable decision-making platforms like CMMBs. Currently in Da Loc and Nga Thuy, however, both CMMBs face uncertainty regarding delegation of authority and funding from the district-level to support ongoing activities. The dominance of the top-down approach may hamper efforts to develop community-based management in other districts and provinces.

Community consensus is a key success factor in the short-term. However, it does not replace the need for long-term tenure and incentives for mangrove management stakeholders. In Da Loc and Nga Thuy, the high level of awareness and consensus around mangrove forests for coastline protection meant that community members were willing to accept short-term management arrangements and low levels of compensation. This is unlikely to be the case in most places, and will likely change in Da Loc and Nga Thu in the future. Ultimately, sustainable management of mangrove forests in Vietnam depends on all community members having an assured, long-term stake in the resource and/or adequate remuneration. Currently, national legal frameworks do not permit long-term tenure arrangements for mangrove forests, which are designated as Special Use or Protection forests.
National policy makers have a critical role to play in enabling an integrated, community-based approach to coastal adaptation at the local level. Recommendations based on experience from Da Loc and Nga Thuy are provided below. **MoNRE and MARD can enable an integrated approach at the local level:** Current programs provide excellent platforms for bridging the policy divide between climate change and disaster risk reduction, as illustrated by the cooperation between DARD and DoNRE in Da Loc and Nga Thuy. The National Program on Community-Based Disaster Risk Management (CBDRM) can enhance assessment and planning under the National Target Program to Respond to Climate Change (NTP-RCC). MoNRE can require local teams or consultants charged with climate change planning to join and support CBDRM programming, integrating local priorities into climate change action plans and providing additional insights for communities to assess longer-term climate impacts and responses. Ultimately, MoNRE and MARD should work towards a unified approach to assessment, planning, and investment.

**New policies on Coastal Forestry, currently under development, must support community-based management of mangroves.** The role of healthy ecosystems in reducing disaster and climate risks is already recognized and promoted through numerous policies and programs. Many local level initiatives in terrestrial and mangrove forests, including CARE’s work in Da Loc and Nga Thuy, have demonstrated that involving local communities and households is the most effective approach to restoring and preserving these critical systems. New laws under development related to coastal forestry can support this through:

- Provision of long-term tenure arrangements for the community, such that all community members have a clear stake in benefits and thus a long-term incentive to protect the forests. In contractual arrangements, community members should also receive adequate compensation for protecting mangrove forests.

**Recommendations**
- Support for establishment of local management and decision-making institutions, such as a CMMB, voted by members of the community.
- Application of participatory processes such as PLUP to develop regulations and benefit sharing mechanisms for both direct benefits (ie. collection of fish, mollusks, firewood, honey, etc.) and indirect benefits (ie. tourism, payment for environmental services)

**MoNRE programs and policy on climate change should support the role of communities, particularly in managing coastal resources as an adaption strategy:** MoNRE can promote community-based adaptation and resource management through its climate change programs. Funding from the Special Plan on Responding to Climate Change (SPRCC) for instance can be directed to support community-based adaptation. This may require exploration of decentralized financial management mechanisms, so that CMMBs can manage budgets directly.

Community-based adaptation should include support for mangrove reforestation and management, in coordination with existing policies and programs under MARD.

**In the short-term, promote community-based adaptation at the local level by supporting the enabling role of local governments and civil society organizations.** National governments can support district authorities to assign households or communities to manage mangroves forests. These arrangements should also include a budget for management activities under institutions that are representative of and accountable to community interests, such as a CMMB modeled on CARE’s approach in Da Loc. MoNRE and MARD can encourage provincial climate change planners to work closely with teams responsible for implementing the National Program on CBDRM. Finally, national policy-makers can partner with NGOs and mass organizations to strengthen national networks of community-based adaptation practitioners, to enhance cross-learning and strengthen advocacy.