

# Managing Risk Through Economic Development (MRED)

## TIMOR LESTE RESULTS BRIEF

AUGUST 2020



Timor-Leste is one of the most food insecure countries in the world with more than 80% of the population relying on agriculture for both food and income. The hilly topography and increasing climate-related hazards make it particularly susceptible to disasters. Increased temperatures, incidents of windstorms, and decreased rainfall during the dry season are a few primary anticipated effects of climate change, all of which will increase the frequency and severity of disasters and contribute significantly to crop loss, crop productivity decline, and an increase in food security. Mercy Corps' Managing Risk through Economic Development (MRED-II) program supports the most vulnerable households in smallholder farming communities in Timor-Leste to be more resilient to the adverse effects of climate change and natural disasters through a resilience approach that integrates disaster risk reduction (DRR) and risk-sensitive livelihoods.

MRED-II operated in Nepal and Timor-Leste to support community based DRR structures and capacities whilst strengthening livelihood resilience through a risk-sensitive approach the program calls "nexus." Over the course of seven years of implementation in these two countries, MRED has generated substantial experience and evidence to support the value of the nexus approach in building disaster-ready communities and creating strategies to work with government and private sector partners that sustain and scale program investments. This brief will discuss the impact and results of the MRED program in Timor-Leste.



### Managing Risk through Economic Development Phase-II (MRED-II)

**MRED-II Goal:** Disaster Resilient Communities

**Timeframe:** May 2016 to June 2020

**Timor-Leste Budget:** \$2,188,641 (\$5,558,000 total program budget)

**Donor:** Margaret A. Cargill Philanthropies

**REACH:** 27,109<sup>1</sup> people are better able to cope with the effects of climate change and disaster.

### MRED Timor-Leste improved community resilience to disaster

Households applying MRED-promoted agricultural techniques resume income generating

**2 weeks**  
faster after a wind shock than non-MRED.



2 point decrease in average CSI score demonstrating that **despite frequent disasters, MRED households are less reliant on risky behaviors in a crisis** than before the program

**89%**  
of households in MRED communities are confident in their ability to cope with wind shocks



**71%**

**MRED households reported they never resorted to risky behaviors in response to disasters,** a 6% positive improvement from baseline.

<sup>1</sup> MRED-II engaged 3,567 households in Timor-Leste with an average size of 7.6 members based on an endline sample for a total reach of 27,109.

## MRED improved community resilience to disasters and climate change

through establishing DRR practices and strengthening risk-sensitive livelihoods to reduce disaster-related losses and increase economic security.

MRED empowers smallholder farmers to build their own resilience through economic and ecological systems that support communities to manage shocks and stresses. MRED works with government, private sector and community groups at the local, municipal, district and national levels. Rooted in traditional DRR programming, MRED's approach to building disaster resilient communities begins by working with Suco disaster management committees (DMC) to support planning for disaster response, mitigation and preparedness. MRED also works with the government of Timor-Leste (GoTL) to support DRR planning and to develop a national end-to-end early warning system (EWS). The program works through community development agents (CDAs) connected to local village savings and loan associations (VSLAs) to promote nexus innovations, improved farming practices, and strengthen market linkages.



### MRED Theory of Change

IF vulnerable smallholder farming communities in Nepal and Timor-Leste are supported by an inclusive enabling environment and able to access and utilize improved solutions to manage adverse effects of climate change and natural hazards, THROUGH public, private and civil society partnership THEN they will be empowered to use these solutions to build their ecological resilience and maintain or increase their wellbeing in the face of shocks and stress.



## MRED-II TIMOR-LESTE RESULTS

MRED built resilience capacities in **35 communities** to confidently plan for and mitigate future disasters.

**MRED households reduced use of risky behaviors by 2 points on the coping strategies index (CSI)<sup>2</sup>** despite an increase in disasters. This small but statistically significant improvement suggests that MRED households have improved food security in the face of disaster.<sup>3</sup>

› 95% of households never had to reduce female consumption so males could eat more.

**Households who practiced MRED nexus and climate-sensitive gardening resumed income-generating activities after a wind shock half a month more quickly than non-MRED households.** By the end of the program 72% of community members were participating in nexus interventions.

**MRED is building capacities to help families through disasters.** The final evaluation showed:

› 15% increase in MRED households confidence in their ability to cope with wind shocks.<sup>4</sup>

› 61% of MRED households feel more confident in their ability to respond to a windstorm.

› MRED households with a permagarden were 9% more likely to feel fully confident that they can face shocks and stresses in the future and had better food security than MRED households without a permagarden.

### Community Development Agents

MRED helps Community Development Agents (CDAs) launch businesses to provide remote villages with last-mile agricultural services. CDAs are a local, multi-market agent who is trained on agriculture technologies and transfers technical skills and market linkages to farmers through VSLAs.

**27 CDAs (7 female/20 male) contributed to farmer adoption of nexus practices.**

› Formed and supported 64 VSLAs to engage smallholder farmers to access financial services.

› Linked farmers to 20 market actors for agricultural inputs and services

› Introduced improved farming practices through 83 permagardens

2 The Coping Strategies Index (CSI) is a measure of negative food coping strategies in the face of a stress or shock; CSI is calibrated on a 100 point scale where 100 indicates extreme food insecurity. Reported change from 15.7 baseline to 13.7 endline.

3 It is important to note that for the endline evaluation there is no comparison group to aid in understanding the broader dynamics outside of the program area. The baseline survey included members in MRED communities who were not necessarily going to become MRED participants; thus, to increase representation of MRED participants at the endline the team used a purposive sampling approach, or sampling method which targeted only participants in the MRED program. Therefore findings could be due to surveying two different samples from baseline to endline and not due to changes in the actual populations change in outcomes.

4 Post-windstorm study found that Suco DMCs helped increase confidence, up from 53% before the windstorm. Scantlan, J., Stone, J., Tamang, C., Tamang, D. (2018). POST-WINDSTORM RESILIENCE IN TIMOR-LESTE: Evidence to Action Brief. Portland, OR: Mercy Corps.

## DISASTER RISK REDUCTION



**20% increase in bonding social capital that supports a household's ability to cope with and adapt to hazards.** Households that had higher levels of social capital and financial

access showed statistically significant decrease in negative coping strategies in response to a disaster, compared to those with low levels of social capital.

- › **78** community level groups are linked to **24** government institutions and **27** private actors.
- › **61%** believe that their community groups are able to influence the Government departments (Fishery, Municipal Administration) to help with livelihoods.
- › **64%** of community members agree that their DMC works to solve their problems and meet needs of people.

**267%** increase in MRED households who received humanitarian assistance to cope with shocks (baseline 9%, endline 33%). MRED worked with the GoTL to increase access to humanitarian assistance after wind and flood disasters. Households who received humanitarian assistance for wind shocks had a significantly higher confidence in their ability to cope with future wind shocks than those who did not.



**89% of MRED households are confident they can cope with future disasters.** Community-level Contingency Planning in Timor-Leste linked 100% of MRED communities to Suco DMC and task force groups and resulted in disaster response plans.

- › Mercy Corps was the first organization to roll out Contingency Planning workshops with simulations at the community level. Mercy Corps hosted workshops in 17 Sucos and 34 Aldeias, allowing communities to create action plans at each level of anticipated risk for applicable disasters, then conduct drills to operationalize plans.
- › **28** small-scale structural mitigation activities were implemented.
- › **70%** of households are collaborating with other community members on structural mitigation and **77%** say they would do so in the future.
- › **93%** of households are somewhat to fully confident about bioengineering interventions and low-cost structural mitigation techniques.
- › **252** hectares of land are protected or under improved land management practices.



**42.5% of people in MRED communities received early warning communications, compared with 9% at baseline.** In addition, **99.6%** reported confidence in the EWS message received.

- › MRED set up **18** community based siren systems to signal early warning.

- › With no end-to-end national EWS in Timor-Leste, Mercy Corps and MRED have partnered with the GoTL, UNDP, and Similie (a private sector provider) to develop an automated pilot hazard monitoring system and establish thresholds for disaster risks. MRED continues to make progress convening stakeholders to move towards the adoption of a shared EWS.

## RISK-SENSITIVE LIVELIHOODS



**2178 farmers engaged in nexus disaster—or climate-sensitive livelihood interventions**

including permagardens (PGs) and keyhole gardens (KHGs) that serve to bolster food security for vulnerable families while supplementing their incomes.

**73% of MRED participants engaged with legumes and perma-garden interventions, a 43% increase over the baseline of 51%.**



**962 households grew legumes** to increase soil fertility and mitigate erosion while also providing for household consumption and sale.

**69% of MRED households support cooperation in common development goals** (33% at baseline), reinforcing the community's intention to work together towards climate mitigation efforts.

- › 3,567 people were supported to cope with the effects of climate change and disaster

**Community members have established:**



**72 Keyhole Gardens and 1,070 Permagardens** established using climate-smart technologies to bolster food security for vulnerable families while supplementing their income.



**65% of participants use improved agricultural techniques.**

- › **181.6** hectares are now benefiting from improved agricultural practices that generated \$31,628 in income for farmers.



**79% of households reported year round access to markets.**

- › **60%** of farmers have access to financial services (savings and agricultural credit) through VSLA groups at the community level.
- › **79%** of farmers have access to improved inputs; Community Development Agents facilitated linkages between the farmers and market actors.
- › **94%** of farmers have market access for female heads of households, which is a 18% increase over the baseline.

## COLLABORATE & LEARN TO SCALE



MRED is recognized as a DRR leader by the GoTL and other NGOs. The MRED program actively supports disaster management policy and planning at multiple levels in Timor-Leste.

- › Suco level: MRED-TL led 56 quarterly meetings for Suco DMCs and Task Forces with 356 attendees.
- › National level: MRED-TL is an active member of the national community-based disaster risk management working group<sup>5</sup>



**In partnership with the GoTL, MRED demonstrated accelerated disaster response times.** The GoTL called on MRED to respond to the 2019 flood in Dili and within 24 hours MRED was

providing critical support to the evacuation of 200 affected households, providing food items, and conducting a rapid assessment.

MRED conducted research at the national and Suco level to advance knowledge of Timor-Leste's climate-related hazards including:

- › Joint research project with the Ministry of Agriculture and Fisheries and the soil department on the use of vetivers to mitigate landslides,
- › Windstorm research following wind disasters in Ainaro to better understand the resilience impacts of MRED interventions.



**Setting the stage for replication, MRED hosted cross-learning events with peer agencies to share learning and research supporting MRED's nexus interventions to build resilience to disasters.**

- › Cross-collaboration with MRED-Nepal to study EWS.



### Champion Farmer Spotlight

Mr. Babo is a nexus leader helping his community to improve soil fertility, reduce vulnerability to climate-related disasters, and increase incomes.

Through his involvement with nexus activities, Mr. Babo learned to diversify the crops he planted, starting with a variety of peanuts, green beans, tomatoes, eggplant, and banana trees. He has been successful at protecting one hectare of fertile soil where he now harvests 320 kg of crops per year 35kg of beans, 175kg of peanuts, 100kg of bok choy, and 15kg of eggplant - earning a \$242.50 annual profit. Though this is far from enough for Mr. Babo's family to thrive, the increase has already made a significant impact on quality of life for his family.

Mr. Babo has established 3 Farmer Groups and a VSLA through which he provides basic training on diversifying crops, techniques for planting different trees and vegetables, and financial training so farmers can start saving their earnings. He has also helped set up a Suco DMC to help better prepare his community for natural disaster emergencies.



#### CONTACT

CHET TAMANG  
Director | MRED Program  
ctamang@mercycorps.org

DINEE TAMANG  
Resilience MERL Advisor | MRED Program  
dtamang@mercycorps.org

KIRSTEN MANDALA  
Disaster Risk Reduction & Climate Change Program  
Manager | Mercy Corps Timor-Leste  
kmandala@mercycorps.org

<sup>5</sup> Participating members include Civil Protection, the National Directorate of Disaster Management, the National Disaster Operations Center, International Organization for Migration, Red Cross Timor-Leste (CVTL), Oxfam, World Food Program, Food and Agriculture Organization, United Nations Development Program, Care, and Plan International.