



## Timor Zero Hunger – Plus (T0H+)

Final Report | November 2019 – October 2020

## SUMMARY

Timor Zero Hunger, which Week of Compassion has been supporting since 2015, was designed to help families in remote and impoverished southeast Indonesia face the complex challenges of hunger and malnutrition, especially for young children. To broaden the Timor Zero Hunger approach to sustainable change for women and teenage girls, and again with support from Week of Compassion, CWS pioneered the *Berdaya* (Empowerment) initiative in 2017. While *Berdaya* was added to the Timor Zero Hunger project in West Timor, core program (water/farming) activities started in Timor-Leste, which shares Timor island with Indonesia.

With an overarching aim to help families improve their food security with improved agriculture, poultry-raising and supplementary income-generating activities have been added to Timor Zero Hunger. Now known as Timor Zero Hunger-Plus (T0H+) the initiative is engaging families and government duty bearers to identify locally-specific issues of disaster risk, particularly from climate change, that negatively affect their lives and livelihood options.

Over the past 12 months, T0H+ has expanded its reach to an increasing number of families in West Timor and Timor-Leste. Together, and with CWS support, they are addressing increasingly complex development challenges, which now include issues of local climate change.

Through T0H+ participation, 421 women and 462 men have more knowledge and means to assess locally specific climate change/related vulnerabilities to avoid near- and long-term disaster. Another 706 women and 674 men enhanced their abilities to adapt their farming practices by using new community-based coping/resilience strategies. Among these, 280 women and 270 men have improved access to safe water to support their adaptation.

*NOTE: Because of the COVID-19 crisis, Timor Zero Hunger activities slowed down in West Timor in late March per government restrictions on gatherings and travel. From June onward, activities were back on track and implementation accelerated to ensure all activities were completed on time. CWS staff observed all relevant government protocols and restrictions regarding COVID-19.*

## BACKGROUND

Timor island is at the far southeast end of the Indonesian archipelago and about 450 miles northeast of Darwin, Australia. The western half of the island, West Timor, is part of Indonesia. The eastern half is Timor-Leste, an independent nation. Conditions in Timor are quite difficult for poor families, as they mostly rely on subsistence agriculture. Over the last few years, families are particularly affected by climate change, especially drought.

CWS has partnered with communities and families in Indonesia and Timor-Leste for decades. Timor Zero Hunger started with CWS CROP Hunger Walk funding in 2014 to help West Timor families face the complex challenges of child hunger and malnutrition. With generous funding support from Week of Compassion the project has grown exponentially since 2015 to broaden the Timor Zero Hunger approach to sustainable change for women and girls. As noted, and again with support from Week of Compassion, CWS pioneered *Berdaya* (Empowerment) in 2017. Through that initiative, women farmers formed saving groups, improved their knowledge of family and business financial management, started saving and then making small loans to members. Since then, borrowers have started, improved, or expanded a variety of home-based micro businesses. In addition, through *Berdaya*, girls ages 14 to 19 and village Health Post volunteers learned accurately about adolescent sexual and reproductive health; some girls are Peer Educators with support from adult supervisors.

While *Berdaya* was added to the Timor Zero Hunger project in West Timor, core program activities expanded to Timor-Leste. This was done not least because the CWS Indonesia / Timor-Leste team recognized that socioeconomic and natural conditions like poverty and drought do not change at national borders. And there was awareness of Timor-Leste's acute development needs. So, CWS invested CROP Hunger Walk funds to expand. The first two years of Timor Zero Hunger programming in Timor-Leste have gone well—the program is growing.

## PROJECT DESCRIPTION

With better farming and gardening, poultry-raising and other supplementary income-generating activities, T0H+ engages families and government duty bearers to identify locally specific issues of disaster risk, particularly from climate change. The view is to see and assess factors that negatively affect their lives and livelihood options. After identifying, considering, and prioritizing key issues with all stakeholders, T0H+ staff support locally appropriate and practically-possible actions among farm families. The goal is to help each family improve their farming in order to further improve their livelihoods and food security. Specifically, T0H+ supports communities to build their adaptive capacities (knowledge, skills, action planning, action taking) to reduce their risks from accelerating climate change – and drought, specifically – and build resilience.

### **Key Objectives:**

1. To help communities develop capacity, including more knowledge and means, to assess locally specific climate change / related vulnerabilities to avoid near- and long-term disaster.
2. To help families gain / enhance their capacity to adapt their farming using new community-based coping/resilience strategies.
3. To ensure families have improved access to safe water to support their adaptation to and coping with drought.
4. Info-data exists for continuous project improvement and future expansion.

## PROJECT PARTICIPANTS

There was a total of 2813 participants in the project, with the breakdown in the various program components as provided below:

OUTCOMES	Project Participants (Nov '19 – Oct '20)		Total
	MEN	WOMEN	
Communities have capacity, including knowledge and means, to assess locally specific climate change/related vulnerabilities to avoid near- and long-term disaster	462	421	883
Families' ability to adapt their farming using new community-based coping/resilience strategies is enhanced	674	706	1380
Families have improved access to safe water to support adaptation to drought	270	280	550

## FUNDS USE

**Objective 1:** To help communities develop capacity, including more knowledge and means, to assess locally specific climate change/related vulnerabilities to avoid near- and long-term disaster.

With funding from Week of Compassion, CWS supported community climate change adaptation in these ways:

- Community Climate Vulnerability and Capacity Analysis:** project participants in nine villages undertook Climate Vulnerability and Capacity Analyses and presented their findings for discussion in community meetings. All families' coping and adaptation measures and behaviors, as well as alternative adaptation and change options, were reviewed and updated
- Community Climate Change Adaptation Action Plans:** a workshop to develop a Plan in each village was done in August 2020. Using climate forecasts from Indonesia's Meteorological, Climatological, and Geophysical Agency, risk and hazard assessments from the Operations Management Center of the District Disaster Management Agency and results of the CVCA, participants developed CCCAAPs for their villages. The CCCAAP includes an early warning system for the five most common disasters in each village. Usually these are droughts, floods, landslides, bush fires, and animal diseases outbreaks. Most, if not all, are related to climate change. The plan also lays out short-, medium-, and long-term actions each community will take to adapt to climate change. Communities tested several adaptation options as described below under Objective 2.

**Objective 2:** To help families gain/enhance their capacity to adapt their farming using new community-based coping/resilience strategies.

Using the results of the CVCA as guidance, CWS supported adaptation activities to achieve these outputs and results:

- Project participants formed 17 **farmer's groups** with 706 women and 674 men in seven villages. These groups supported Community Climate Change Adaption Action Plan rollout in their villages. They have led actions to add (i) drip irrigation systems during drought, (ii) land conservation using organic fertilizers and pesticides, (iii) terracing and (iv) bio-pore infiltration holes that reduce organic waste, fertilize the soil, reduce runoff and absorb water; and (v) seed storage containers.
- In a series of workshops, 312 people learned about **farmland conservation and organic fertilizer and pesticide production and use**. These project participants learned about crop terracing; reintroducing climate-adaptive sorghum to their farms as an alternative to corn, and how to make / use organic fertilizers and pesticides. The farmers will apply the knowledge and skills gained through these trainings to improve productivity in their farms
  - Two groups are piloting an initiative to plant a new corn variety that is more resilient to the effects of climate change than the variety they now plant.
  - CWS has supported all farmers groups with 600 liters of organic fertilizer and 60 liters of organic pesticides to complement their home-made outputs for this year's corn, which is the staple food in Timor and the main source of livelihood for most farmers.
  - Farmer groups made 9,000 kg of organic fertilizer and 460 liters (121.5 gallons) of organic pesticides for their gardens and farms.
- In an effort to improve diets and incomes through **chicken raising**, 192 families in seven villages built coops and received 384 chickens. All families joined a workshop about chicken raising using best local practices. Topics covered during the workshop include: how to make chicken coops and chicken feed; identifying and preventing diseases, including through vaccinations. Based on pre- and post-test results, participants' knowledge increase by 71% on average.
- All chickens were vaccinated in coordination with the district Livestock Department. By the end of the project the number of chicken had increased to > 800 from the initial 384 chicken distributed at the beginning of the project.
- In an effort to help families improve their **home gardening**, 301 families in seven villages received seeds (bitter melon, cucumber, eggplant, tomato, kale, mustard greens, and chili) and tools. These families also received chickens. This was possible using Week of Compassion funds (192 families cited) or Latter-day Saints (LDS) Charities (109 families).

- All families continue gardening and have already harvested vegetables several times; some were eaten (cucumbers, eggplants, and mustard greens) while others (bitter melon, tomato, kale and chili) were sold for extra income.
- To reduce exposure to aflatoxins and post-harvest corn crop loss, the CWS team supported an initiative to **make storage containers using galvanized steel\***. Nine farmers' groups who grow mainly corn received materials and technical support and built 500kg storage containers. The containers are used as seed banks and farmers can save / loan seeds managed by the group.

*\*NOTE: In 2016, Week of Compassion gave the CWS Incubation Lab a small grant so the Timor Zero Hunger team could study the impact of aflatoxins in exacerbating chronic food insecurity in West Timor. Aflatoxins are produced by fungi on crops like corn, peanuts, cottonseed, and tree nuts. Exposure to aflatoxins is associated with an increased risk of liver cancer. People are exposed to aflatoxins since their staple crops are corn, beans, and peanuts. In fact, they are at risk of losing up to 50% of their harvest from poor post-harvest storage, which also increases the risk of insect infestations and aflatoxin contamination. So, one clear way to prevent aflatoxin contamination of corn harvests is improved storage. Since several container types are available to farmers with whom CWS works, the Timor Zero Hunger team assessed the effectiveness of each container in preventing or reducing aflatoxin contamination in stored corn. The galvanized steel containers were assessed to have the most advantages: they are sturdy and can last 25-50 years; they are made locally from relatively inexpensive and readily available materials; and they can be sized to meet each farmer's or farmers' group needs. So, this container was recommended for wider use. And it is for those who did not prefer or could not afford the steel containers, the fact that any of the tested containers is a significant improvement over traditional storage practice was shared. Now TOH+ is supporting expanded galvanized steel container use.*

**Objective 3:** To ensure families have improved access to safe water to support their adaptation to and coping with drought.

With WOC funding, CWS supported access to safe water to achieve these outputs and results:

- Families in Maumeta village, Timor-Leste, worked together to protect a spring and build a water tank. Now 50 families (170 women / girls and 135 men / boys) have improved access to safe water for farming and household use.
- In West Timor community members built collection boxes and storage tanks at three springs, and repaired one dug well. To reduce runoff and absorb more water community members dug bio-pore infiltration holes around two springs. This resulted to 134 families (280 women/girls and 270 men/boys) in Teas and Enoneten villages have improved access to safe water for farming and household use.
- Activities toward this objective were delayed by COVID-19 government restrictions on community gatherings. However, during the time of restrictions on some activities, the TOH team took up the challenge and opportunity to step up handwashing promotion. With technical support from CWS, 301 families in seven villages in West Timor added 301 simple public sinks (using a jerry can), with soap, for all community members' use. Families also learned about household water treatment and safe storage (boiling, filtration, solar disinfection, etc.).

**Objective 4: Data exists for continuous project improvement and future expansion.**

With WOC funding, CWS collected data to achieve these outputs and results:

- Baseline survey, info-data analysis and interpretation done. The baseline survey shows > 90% of respondents had no prior knowledge about climate change adaptation; none had ever joined an education activity on this topic nor taken action to adapt to climate change.
- Survey findings were shared during a workshop with community members and government duty bearers.
- Monitoring, evaluation, accountability, and learning (MEAL) tools were finalized by the CWS/T0H+ team in November 2019.
- Project monitoring, evaluation and learning information is routinely shared with community members and government duty bearers.
- These learning documents were produced and shared with communities:
  - Disaster Risk Assessment, including consideration of hazards, vulnerabilities and capacity (knowledge, skills and readiness) to respond.
  - Community Climate Change Adaptation Action Plans, including Early Warning Systems.

## STORY OF CHANGE



Sefnat Sapay and his wife Ita are farmers in Teas village in West Timor, Indonesia. Their three children are 10, 16 and 18. They make a living gardening vegetables and raising chickens and pigs. Sefnat sells some of the vegetables they harvest as well as some he gathers in the forest. While they eat the eggs, they usually sell the chickens and pigs for profit.

As far as Sefnat recalls, West Timor has gone without any rain for several months every year, leaving grass and bushland extremely dry. Then, when the rains finally arrive, they are usually very in-tense over a short period of time, often resulting in flash floods and landslides accompanied by strong winds that damage crops.

Clearly, the climate situation Teas' residents face is complex. It is also worsening. For example, the prolonged dry seasons have also increased the risk of bushfires, which are potentially devastating. Luckily, Sefnat has not been directly affected by such fires. But, during the last four years, the longer dry seasons have caused crop failure for Sefnat and his neighbors. The loss of income from selling vegetables has forced Sefnat to sell more of his most valuable assets – his animals – than usual to make up the difference.

So, Sefnat has worried a lot about these changing weather and rainfall patterns, especially the lengthening of the dry seasons and the severity of the drought. The impact on his family's life has been bad. He has been far from alone in this, which is why CWS prioritized Teas families for community development partnerships. In March 2020, Timor Zero Hunger-Plus staff reached out to Sefnat and his neighbors so they could start to address their challenges.



Together, they learned facts about climate change. They came to understand the causes of the various risks that changes pose. Mainly, they learned about climate-induced disasters, like prolonged and more severe drought, which they had been experiencing.

By joining TOH+ activities, Sefnat and others had the chance to *analyze* the particular vulnerabilities Teas was facing. And, in response, they agreed a set of actions they would take to adapt to the climate changes that most affected them. These actions were then put into a Community Climate Change Adaptation Action Plan. Priority actions are to improve springs through bio-pore infiltration holes to help reduce runoff and increase absorption of rainwater; repair a water storage tank; draft village forest-use and management regulations; map village hazards in disaster-prone areas; terrace their land to prevent erosion and landslides; and create an early warning system for disaster incidents.

To adapt his farming practices to climate changes, Sefnat decided to terrace his garden and set up a drip irrigation system. He also helped form two farmers groups in Teas. One, with 25 members, chose the name *Tafena*, which means “to build.” The other, with 17 members, is *Ingin Maju*, which means “wanting to develop.” A key aim of both groups is to advance understanding and use of climate-adaptive farming techniques.

In a recent conversation with CWS staff, Sefnat commented, “*Before joining TOH+ I didn’t know anything about ‘climate change’ and I didn’t understand what was happening to our weather.*” So when prolonged dry seasons and worsening droughts continued, Sefnat said, “*I just surrendered myself. I never imagined that I could do something about it.*” But with support from CWS, Sefnat and his neighbors now know how to prepare for disasters. Sefnat continued, “*With CWS staff, we were able to improve the springs that we depend on for drinking water and farming.*” Then, “*together, we learned facts about climate change and other disasters, and all the things we need to do to prepare for them.*” With Week of Compassion and CWS support, Sefnat and his Teas neighbors have made good progress toward resecuring their lands and livelihoods for the future for their themselves.

# FINANCIAL REPORT

DESCRIPTION	BUDGET	EXPENDITURES
Objective 1. Communities have capacity, including knowledge and tools, to assess locally-specific climate change/related vulnerabilities to avoid near- and long-term disaster	\$8,950	\$8,960
Objective 2. Families' ability to adapt their farming using new community-based strategies is enhanced	\$24,247	\$24,246
Objective 3. Families have improved access to safe water to support adaptation to drought	\$3,966	\$4,000
Objective 4. Info-data exists for continuous project improvement for future expansion	\$2,084	\$2,113
Program Support	\$20,753	\$20,681
	<b>\$60,000</b>	<b>\$60,000</b>