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USAID’S AVANSA AGRIKULTURA PROJECT
FINAL REPORT
APRIL 01, 2015 – January 31, 2021

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Cardno Emerging Markets USA, Ltd.

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# TABLE OF CONTENTS

I: PROJECT BACKGROUND, GOALS, AND VISION ...................................................................................................................... 6

II: OVERVIEW AND CONTEXT .................................................................................................................................................. 8

III: MARKET SYSTEMS APPROACH TO HORTICULTURE ........................................................................................................ 10

IV: FROM SUBSISTENCE TO COMMERCIAL FARMERS ........................................................................................................ 13

V: MARKET INPUTS AND FINANCING .................................................................................................................................. 19

VI: AGRIBUSINESS GROWTH ................................................................................................................................................. 22

VII: GOVERNMENT INVESTMENT ........................................................................................................................................... 26

VIII: NUTRITION IMPROVEMENT ........................................................................................................................................... 30

IX: STRATEGIC COMMUNICATIONS ..................................................................................................................................... 32

X: THE COVID-19 IMPACT ....................................................................................................................................................... 34

XI: CONCLUSION ............................................................................................................................................................................. 36
# ACRONYMS

<table>
<thead>
<tr>
<th>A2F</th>
<th>Access to Finance</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAO</td>
<td>Food and Agriculture Organization of the United Nations</td>
</tr>
<tr>
<td>GOTL</td>
<td>Government of Timor-Leste</td>
</tr>
<tr>
<td>IFC</td>
<td>International Finance Corporation</td>
</tr>
<tr>
<td>INDMO</td>
<td>Instituto Nacional de Desenvolvimento de Mao-de-Obra/ National Institute for the Development of Labor</td>
</tr>
<tr>
<td>KJFL</td>
<td>Knua Juventude Fila Liman</td>
</tr>
<tr>
<td>LoP</td>
<td>Life of Project</td>
</tr>
<tr>
<td>MAF</td>
<td>Ministry of Agriculture and Forestry</td>
</tr>
<tr>
<td>MFI</td>
<td>Micro-Finance Institution</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-governmental Organization</td>
</tr>
<tr>
<td>SALT</td>
<td>Sloping Agricultural Land Technology</td>
</tr>
<tr>
<td>SME</td>
<td>Small and Medium Enterprises</td>
</tr>
<tr>
<td>SPS</td>
<td>Sanitary and Phytosanitary</td>
</tr>
<tr>
<td>TOT</td>
<td>Training of Trainers</td>
</tr>
<tr>
<td>UNDP</td>
<td>United Nations Development Programme</td>
</tr>
<tr>
<td>USAID</td>
<td>United States Agency for International Development</td>
</tr>
<tr>
<td>USG</td>
<td>United States Government</td>
</tr>
<tr>
<td>ZOI</td>
<td>Zone of Influence</td>
</tr>
</tbody>
</table>
USAID's Avansa Agrikultura Project – Final Report

Life of Project Key Achievements

- 11,000+ individuals implementing climate risk-reduction practices, including salt
- 6,590+ youth engaged in agro-business activities
- 5,900+ MSMEs (including producers) supported
- 295% increase in annual household savings
- $2.661 Smallholders' annual incomes, up from $235
- $2.6 million in agri-input sales
- 34,000+ farmers apply new productivity improving technologies and practices
- $3.97 million average annual sales of farms and firms in the last three years
- Hunger reduced from 15% to 0.9% in targeted areas
- $8.5 million in USG commitments and private sector investments supporting food security and nutrition
- 12,900 individuals trained in agri productivity or food security
- 62% of all supermarkets
- 53% of all input suppliers
- 42% of all food processors
- 37% of all nurseries

The Project supported...

...in our Zone of Influence

USAID's AVANSA AGRIKULTURA PROJECT
I: PROJECT BACKGROUND, GOALS, AND VISION

This is the Final Project Report for USAID’s Avansa Agrikultura Project, a six-year, $21.2 million program implemented in Timor-Leste by Cardno Emerging Markets USA, Ltd.

The Report highlights key achievements over the life of the project (April 2015 – January 2021). Through this project, USAID increased support to Timorese citizens, through economic activity and growth initiatives in the municipalities of Aileu, Ainaro, Bobonaro, Ermera, Dili, and Liquica. Local subcontractor HIAM Health, together with the Norman Borlaug Institute for International Agriculture at Texas A&M University, and US small business Resonance, supported the project.

USAID’s Avansa Agrikultura Project implemented a market systems approach to achieve increased productivity along key horticulture value chains that include vegetables, fruits, and legumes. The project responded to the USAID/Timor-Leste Development Objective of “institutional and human capacity for development strengthened to improve the lives of Timor-Leste’s citizens,” with the Sub-Purpose of improving the ability of Timorese citizens to engage in economic activities and increase the productivity of selected horticultural value chains.

Cardno successfully implemented an adaptive management approach, exceeding a majority of the life-of-project goals as set forth in the Project Management and Evaluation Plan (see Annex A). The
initial framework enabled the project to introduce Climate-Smart agricultural systems and high-value crops and products; develop farmers’ groups and associations; and expand partnerships with end markets through a successful cost-share program. In response to the 2017 mid-term evaluation, and in collaboration with USAID, the project consolidated outputs—making nutrition, gender, and youth cross-cutting themes—to better apply a market systems framework and respond to cultural norms of working in Timor-Leste. This pivot increased flexibility and led to success in the final years of implementation.

Women in rural Timor-Leste face many challenges, not the least of which is the ability to become financially independent, support themselves and their families, and realize their own dreams. USAID’s Avansa Agrikultura Project is proud that females make up 40% of those supported and that 23% of our supported agro-businesses are female-led. Women move to the forefront of economic engagement as their confidence and skills increase. Empowered women empower Timor-Leste.

USAID’s Avansa Agrikultura Project Municipalities
II: OVERVIEW AND CONTEXT

Over the past six years, USAID’s Avansa Agrikultura Project supported the birth of a thriving horticulture market in Timor-Leste that has seen rural economic opportunities increase, household incomes and nutrition improve, market systems gaps decrease, and an enabling environment strengthened to support market actors. Through adaptive approaches, the project managed changes created by evolving circumstances, including by the COVID-19 pandemic.

By facilitating the development of a sustainable market system, the project has increased average annual incomes for smallholder agribusinesses and farmers from $235 to $2,661, and expanded sales of agricultural inputs from $200,000 to over $2.5 million. Farmers used the additional income to increase investments in agricultural assets. During the second half of the project, farmers spent an average of $733 on agricultural equipment, household items, transportation, and cultural ceremonies. The overall value of new USG and private sector investment that was leveraged to support food security and nutrition reached $8,593,508.

When the project launched in early 2015, communities in the zone of influence (ZOI) offered little opportunity for employment. Many families relied on subsistence farming, but were unable to meet demand, due to low productivity and use of outdated methods and equipment. When the project
introduced new technologies, climate-smart agriculture, and natural resource management training, farm productivity increased with more frequent and varied vegetable, fruit, and berry crops. These measures addressed the need to manage the delicate agro-ecosystems of Timor-Leste, with its mountainous terrain and pronounced wet and dry seasons. More diverse consumption practices helped increase food security. The transition to commercial farming required a holistic approach to the horticulture value chain—including the identification of market gaps and stimulation of entrepreneurs to provide quality goods and services that commercial farmers need.

Those engaged in small-scale horticulture production relied on a thin input market that supplied questionable seeds and expensive fertilizer. In 2015, a lack of quality and consistent inputs in the ZOI hindered the horticulture sector’s development. Limited collector and transport options reduced access to wider markets. As the project facilitated linkages from production to end-markets, positive effects on the market function appeared across the value chain. The project supported the establishment and development of 18 agricultural input suppliers (53% of the total input suppliers in the ZOI) with vital linkages to producers and farmer groups and horticultural associations. The project facilitated creation of 16 new collectors who filled a critical service gap, improving the overall network. Collectors distribute produce, often from remote, previously-inaccessible areas, to numerous and major market outlets for consumers.

To expand and strengthen the horticulture value chain and improve access to markets, farmers and collectors required access to finance (A2F). The project initiated several A2F partnerships. Ultimately, Kaebauk Investimentu no Financas, S.A’s, a local micro-finance institution (MFI) proved to be the most successful. Through micro-finance loans and the project’s innovative cost-share program, farmers and collectors accessed the inputs required to grow their businesses. Over the life of the project, the cost-share ratio shifted from 50:50 to farmers and collectors investing 60%, because they recognized the benefit of investing in new technology, good seeds, and fertilizer.

Lack of financial options that would facilitate investments at the farm and small and medium enterprise (SME) level inhibited farmers—particularly women and youth—from engaging in the horticulture value chain. Today, according to SERV (small business registration), A2F and project grants have more than doubled the registered small-scale food processing market of fruits and vegetables (from 19 to 39) in the ZOI. The project engaged youth and women in entrepreneurship through focused financing, as well as business and soft skills training. Several thousand youth now participate in youth-focused farmer groups, agribusiness activities, internships, and career fairs with partner universities and vocational training schools.

Poor nutrition and high levels of hunger—due to a dearth of available nutritious foods and a lack of education regarding what constitutes a healthy diet—afflicted target households, particularly women and children. Due to project interventions in the ZOI, moderate to severe hunger and under-nutrition—especially for women and infants—has now fallen from a baseline of 15% to 0.9%, surpassing the project goal of 3.3%. Project interventions included promoting increased consumption of home-grown vegetables and other nutritious foods purchased with farm income.
III: MARKET SYSTEMS APPROACH TO HORTICULTURE

In a relatively thin horticulture market, Timorese farmers and agribusinesses faced daunting challenges. Prior to project interventions, there were a limited number of buyers and sellers and few suppliers of high-quality inputs; extension workers were not able to offer sound agriculture advice; collectors had limited capability to transport goods to market; and access to suitable finance for business investment and expansion were negligible. Therefore, project interventions were required to work across the entire value chain—individual farmers, farmer groups, and small and large agribusinesses.

Employing a market systems approach, the project facilitated development of a more robust horticultural value chain through promotion of sustainable production practices, increased functionality of farmer groups and associations, improved market linkages, and increased access to quality agricultural inputs, services and finance; which stimulated economic activity and growth in the ZOI.

Interventions were more direct at the beginning of the project, due to the state of the horticultural market system. Through adaptive management, interventions evolved to become more facilitative, as
stakeholder engagement and capability increased. The map below demonstrates how the project linked stakeholders.

To successfully transition to commercial farming, improving economic viability along the way, farmers need access to 1) agricultural inputs, 2) buyers (collectors, processors, and end-markets), and 3) finance. From day one, the project worked closely with farmers to identify their challenges in accessing and interacting with value chain stakeholders.

The project linked farmers with input suppliers and strengthened their capability to provide quality inputs to improve farm productivity; while at the same time stimulating an increase in the number of input suppliers to give farmers more options, ensure a steady supply of inputs, and introduce more competition.

The project connected farmers and buyers, so that decisions on planting schedules could match market demand, increasing the range of selling options. Traditionally, the focus market was supermarkets in Dili, but the project linked farmers, collectors, and non-traditional buyers, including restaurants, schools, hospitals, and hotels—expanding the range of options for farmers, while simultaneously expanding demand. Strengthening these market linkages resulted in a more integrated market system, increasing accessibility and enabling smallholder farmers and collectors to negotiate with buyers.

The project was successful in linking farmers and collectors with financial institutions to address issues related to A2F. The project also worked concurrently to build the capability of farmers, collectors, and financial institutions to better understand the need for finance. Providing bridging structures such as cost-share grants, resulted in more farmers and collectors accessing financing, and at least one financial institution feeling more comfortable making loans in the horticulture sector, which is generally viewed as risky.

USAID’s Avansa Agrikultara Project introduced a market systems approach to the horticulture value chain, ensuring that farmers had the ability to generate a family-supporting wage from their crops—thereby improving their ability to engage in the economy, raising them out of poverty, and providing more sustainable pathways to economic success. Supermarkets and local markets in Timor-Leste have demonstrated that they are willing to purchase local produce (versus imports) if local farmers can meet their quality and quantity demands at a competitive price.
IV: FROM SUBSISTENCE TO COMMERCIAL FARMERS

Farmers are key investors in their own successful transition from subsistence to commercial farming. In a market with minimal commercial farming, it was imperative to engage and strengthen farmers’ capacity to meet demands of the local market to decrease imports and improve incomes. This required the project to educate farmers on the financial and production benefits of investing in technology, adopting modern farming methods, and transitioning to a business mindset when operating a commercial smallholder farm.

Through the project’s training and technical assistance, farmers incorporated nine new technologies—including tunneling, irrigation systems, and mulch—that enabled them to expand production. The project introduced the practice of inter-cropping high-value and lower-value crops, which allowed farmers to earn consistent weekly and monthly income while waiting for longer-growing crops to mature (see Annex C for top-grown products). Farmers who adopted new technologies were able to extend their growing seasons and increase efficiencies, thereby encouraging them to purchase more agricultural inputs and equipment. Over 34,000 individuals in the agricultural system applied improved management practices or techniques, exceeding life-of-project goals by 18.6%.

Project staff provided training in effective methods to combat negative climate change impacts, resulting in 12,158 farmers using climate information or implementing risk-reduction practices to improve...
resilience—surpassing project goals by 18%. The project also introduced the SALT methodology, which allows for cultivation on terraced slopes, while stemming the flow of water during flash floods. Initiatives to increase resilience to climate change and improve farm-level natural resource management helped build the foundation for sustainability.

Intensive technical assistance, coupled with integrated training packages, was integral to farmers’ success. Packages included: (1) horticulture/land management, (2) financial literacy, (3) use of inputs, and (4) nutrition training. Women and youth accounted for almost 40% of all training participants. The project worked to build the capacity of local partners, and later input suppliers, so both are able to work closely and effectively with farmers. Field staff implemented a training schedule, adapted to each farmer group, and provided manuals designed for farmers with limited education and literacy (See Annex D for details on the training program).

The project supported establishment of 127 farmer groups, expanding their ability to connect with market services such as purchasing and finance. Groups are now more likely to invest in expensive machinery, such as hand tractors, and

Due to a long dry season, agriculture production is viable in Atabae for a limited period, making it difficult for farmers to grow year-round. But when USAID’s Avansa Agrikultura Project’s cost-share program helped farmer Leonito Martin purchase drip irrigation equipment in 2017, he was able to grow high-value produce (including sweet corn and tomatoes) all year. Martin reported that his now-steady income and production had doubled, and he supported four family members at university. He has also purchased a mini-tiller and hand tractor, and increased the land area under production. In 2019, he was able to purchase his own land and build a family home, a dream he never thought possible.
share the cost with group-allocated funds. As farming groups began increasing their incomes and market access, individual farmers gained the financial stability needed to invest further in their farms. As farmers moved into commercial endeavors, the project supported formation of farmer groups, which increased bargaining power and provided more quality goods. Consequently, incomes along the horticulture value chain increased substantially (from $235 to $2,661 annually).

Farmers identified cost-share/input provisions, combined with financial literacy (and occasionally with horticulture and land management trainings), as the most useful package. Farmers also valued pesticide and fertilizer-use trainings and technical assistance in helping them improve their farm output.

Previously, farmers did not track their finances or distinguish between personal and business incomes, which made it difficult to gauge assets and introduce credit options. With training and regular technical assistance, farmers now register more accurate sales figures, which helps track income and better manage expenses. Farmers increased their ability to identify profit-making activities/crops and disinvest from loss-making, or less-profitable activities, thereby increasing their overall income.

With project guidance, farmers adopted new varieties of vegetables, fruits, and berries. Of note is the unequivocal success of strawberry farmers, who have raised and marketed this new crop in many markets around Timor-Leste. The strawberry success led to the design of a blackberry trial. Farmers had requested project assistance with re-cultivation, but the initial work in January 2020 was delayed due to COVID-19. Yet farmers were not deterred. Once the in-country restrictions were relaxed, the project provided in-depth support to farmers trialing the cultivation of blackberries. Similar to the strawberry success, new farmers are drawn to blackberries and are keen to get a head start on production. The successes from the introduction of strawberries have shown farmers the importance of early investment to solidify production viability. At the close of the program, a total 700m² of land is being used to cultivate over 400 seedlings (propagated from the original plants discovered by a curious farmer).

As progress in transitioning from subsistence to commercial farming demonstrated success, rural
Technical Vocational Schools approached field staff for assistance in developing curricula and suitable instruction. The project supported the schools’ agriculture programs, through curriculum revision, and grants for practicum equipment and teacher training. This valuable program helped engage youth in farming, decreasing rural-urban migration. These youth are increasingly able to produce the essential food commodities that support economic growth.

Farmers across the project’s ZOI gained pride in their livelihood as they recognized agriculture as an important sector in Timor-Leste’s overall economic development. With increasing business knowledge and linkages to market actors, farmers improved their bargaining positions. Local authorities (specifically Village Chiefs, local police, Ministry of Agriculture and Forestry (MAF) staff and staff from each municipal president authority office), are now engaged in solving disputes and facilitating market linkages—replacing former reliance on project staff for these actions.
Strawberry Farming Increases Economic Opportunity

USAID’s Avansa Agrikultura Project introduced strawberries to Timor-Leste in the summer of 2016. With project support, twenty-three early adopters piloted strawberry crops in Maubisse, Mertutu (Ermera), and Aileu. Manuel from Ululefa, Maubisse was one of them. Growing strawberries was new to Manuel and his brother. But within seven months, their first strawberry crop produced a 317% increase in their farm income.

Manuel built on his strawberry production venture, starting his own collection company, Laledu Berrymatak. It began providing fresh strawberries and vegetables to more than 15 supermarkets and public institutions. He invested the profits to build an office, with enough storage to branch out into cold storage processing of the fresh berries. Manuel reported that he continues to seek opportunities to expand his farming cooperative for the financial benefit of his family and his community. Through the project cost-share program, he invested in a second vehicle for his collection business and then, cold storage equipment. Manuel now also sources strawberries and other fresh produce from more than 20 households in the Ululefa Valley, bringing business and markets to their doorsteps.

As strawberries grew in popularity, more farmers across Maubisse and Aileu began seeking seedlings to start their own strawberry farms. The project directly supported close to 100 farmers in launching strawberry production throughout the Maubisse and Aileu region. Strawberries became the project’s third most profitable crop, with sales over $265,000 since 2016, and the fifth most popular grown crop (after mustard, long beans, boc choy, and cabbage).
INTRODUCTION TO NEW TECHNOLOGIES

- **Improved Seeds**
  - 198 households
  - onions, cabbage, NRM trees, strawberries, grafted trees

- **Pest Management**
  - 616 households
  - IPM, organic pesticides, fungicides

- **Irrigation**
  - 629 households
  - crop watering, drip irrigation, surface irrigation, water pump, dam

- **Cropping Practices**
  - 625 households
  - plant spacing, trellis, high tunnels, low tunnels

- **Marketing**
  - 395 households
  - MOUs

- **Post-Harvest Practices**
  - 518 households
  - grading, improved storage

- **New Practices**
  - 621 households
  - seedling production, transplanting, planting density, mulch, crop rotation

- **Soil Fertility**
  - 702 households
  - plastic mulch, organic fertilizer, compost, mulch, crop rotation

- **Climate Adaptation**
  - 608 households
  - SALT, crop wheels, high/low tunnels

- **Mechanization**
  - 285 households
  - hand tractor, front line tiller, large tractor

- **Business Management**
  - 825 households
  - bookkeeping, financial management
V: MARKET INPUTS AND FINANCING

While farmers were receiving training in new techniques and technologies that allowed them to provide more quality produce, accessing inputs, capital, and end-markets remained a challenge. The project worked with private sector actors to link farmers to input supplies and end-markets to ensure the growth of a sustainable system.

Traditional farming in Timor-Leste used limited inputs—seeds, fertilizers (occasionally), and mostly unregulated pesticides. The project provided financing to farmers and training to 18 input suppliers to expand access to necessary inputs for increased productivity and the use of new technologies, which benefitted more than 34,380 farmers. To address the seed inputs gap, and a need for private sector seedling companies to produce fruit trees and other high-value timber seedlings, grants were provided to 15 companies working in the tree sapling production market. This approach resulted in a 1,300% increase in total sales to USD$2,596,327 since project start.

Access to input supplies at the municipality level remains a challenge, requiring a mind-set shift on where one can purchase the best products. A recent Market Input Assessment (2020) by Resonance confirmed that while most farmers felt they could access everything they needed either locally or in Dili, many farmers doubt the quality and benefits of inputs (particularly seeds and fertilizers) available in their local rural shops, and prefer to travel to Dili to buy inputs. Input Supply Market Days in all ZOI municipalities became a popular way to connect farmers and input suppliers. These markets introduced farmers to reputable companies and ‘input agents’—designated members who are
responsible for wholesale purchase of seeds and other inputs for the entire group. Over time, as trusted relationships were established, project-supported collectors also stepped in to bridge this gap, selling inputs to farmers when collecting produce.

As the input supply chain improved, business opportunities in the agriculture sector increased. The project engaged input supply companies and shops to demonstrate the benefits of modern technologies, which led, in turn, to an increase in demand and business opportunities. As the project connected with those input suppliers eager to sell to smallholder farmers, the issue of A2F became apparent.

In response, an A2F strategy was developed in conjunction with Resonance. Partnerships formed with MFIs Kaebauk and BNCTL; and input suppliers Kmanek (the country’s largest supermarket and importer) and Vinod Patel (a multi-sector importer and input supplier), to provide financing to farmers and collectors. (The partnership with BNCTL did not prove sustainable, because they were too risk-averse.)

Over time, the project successfully introduced a joint cost-share program (coupled with financial literacy and business management training) to reduce risk for farmers and input suppliers who could share the cost of inputs, and increase access to markets outside of Dili. The project brought together disparate market players to create positive change in the horticulture market system.

The project introduced Kaebauk to the agriculture sector and how it works. Input suppliers learned how to manage their own financing activities, as well as collaborate with MFIs, which ultimately proved morefruitful. The project trained both on how to assess a farmer’s credit rating and use a farmer scorecard. Simultaneously, the project worked to affect behavior change among farmers, introducing them to concept of financing, and the benefits of borrowing from an MFI versus a community member, as well as financial management.

Since banking services are limited, the project also established 30 Saving and Loans groups with 430 members. These groups were able to access financial opportunities otherwise unavailable to households.

Since 2015, input suppliers’ sales have increased by 1,198%, the result of the project’s introduction of new technologies to Timor-Leste’s farmers and its work with both wholesalers to increase access to inputs, and micro-finance institutions for credit options.
individuals. While many groups started with “women-only” participation, male community members recognized the benefits, and joined or established their own groups (including farmers not directly engaged in the project). Over the past three years, groups have saved $59,563.50 (a household average of $525), and taken out $16,170.07 in loans, primarily to pay for farm inputs, school expenses for children, or cultural expenses. This is a significant achievement, given that average household savings at the project’s launch was measured at $178.

**Cost-Share Approach**

The cost-share approach is based on joint investments from the project and farmers, with financing to purchase technologies, such as hand tillers and drip irrigation packages. Vinod Patel and Kmanek agreed to the project’s proposed model: the project paid 50% up-front, while the farmers obtained ‘store-credit’ for their share. These two input suppliers struggled with repayment from farmers, due to a lack of staff to collect monthly payments. All parties were keen to continue the business agreement, but acknowledged a need for a third party to manage farmer loans.

With project support, Kaebauk Finance and Investments expanded their product line to include agriculture investment loans. The project trained 23 agro-investment specialists for the MFI. Kaebauk has provided nearly $50,000 in loans to 78 farmers for purchasing tillers, hand tractors, tunnels, and drip irrigation packages (in part or in whole).

To date, 72% have repaid, and 37 farmers have closed their loans. Ultimately, the project implemented a successful cost-share approach, which enabled over 800 farmers to access new technologies.
VI: AGRIbusiness GROWTH

Agribusinesses are vital to a successful commercial value chain, creating rural employment, providing off-farm jobs, supporting SMEs in rural communities, and offering new markets to otherwise monopolized or underserved areas. As productivity increased, existing collector networks were unable to absorb the products.

With project support, sustainable collector systems gradually developed in the ZOI, expanding farmers’ access to markets. The project strengthened this critical buyer-seller relationship by facilitating collaboration between the parties. As farmers’ understanding and capability improved, their negotiating power increased, as they no longer needed to rely on a single buyer. The project assisted buyers and farmers in developing agreements to maintain production and harvesting schedules.

As businesses expanded, a major challenge in sustaining a collector network was access to reliable transport. Based on the success of the inputs cost-share initiative, the project launched a cost-share grants program for the purchase of vehicles. Sixteen vehicles, plus equipment such as scales and crates, worth $102,760.51 were purchased. The grants program enabled 88 small businesses—including 23 start-ups, of which 19 were food processors—to purchase necessary equipment. The project linked 1,064 project-supported farmers with food processors to provide raw materials. In addition to financial assistance, the project provided training on business plan development, market understanding, asset and inventory management, and essential business concepts such as marketing, pricing, income, and profitability. As the sector developed, new agribusinesses opened, including middle persons/collectors.
and food processors, with earnings of more than $2,000 a month for some collectors (as smallholder farmers they averaged $20 a month). Several, well-trained former project staff have started collection companies filling gaps in several municipalities, while others are beginning their own farm production. They recognize the unmet demand and will play a critical role transitioning subsistence agriculture towards a commercial private-sector led system, yielding a higher standard of living for farmers and modernization of the sector.

An important project focus was support for women- and youth-owned startups. Targeted grant opportunities provided to women and youth, coupled with business development training and financing, were key in their successful start-ups. This resulted in 16 flourishing youth-led businesses, inspiring other youth to engage in entrepreneurship. Still, lack of general business know-how and innovation to penetrate the private sector with attractive products, remains a challenge. Support to schools and curriculum development is essential if the next generation of farmers and aggregators are to acquire the skills necessary for gainful employment and entrepreneurship.

Many youth are unaware of the opportunities and benefits for both on- and off-farm business employment. While commercial farming among youth has expanded due to project support for commercialized agriculture, overall youth unemployment remains high. To build awareness of opportunities, the project developed a film featuring Timorese youth who earn a living as farm extension workers and in various agribusinesses (https://www.youtube.com/watch?v=SDUst3E6OQo).

Youth Entrepreneurs: New Products, New Markets, New Jobs

Through the Lean Start Up Accelerator, youth-led businesses received start-up funds and business management support.

**SEJAMD**

In Gleno, Ermera, eleven youth jointly launched a small 'after-school' white mushroom production business, with the intention of funding their education.

Once they saved the initial capital required from working odd jobs, the project provided them with a start-up grant. Since then, SEJAMD has expanded production twice to meet the growing market demand, investing returns into building a larger production center and increasing the number of plants to enable weekly harvests.

The business supplies local buyers in Gleno and large supermarkets in Dili.
Ana Papaya

Known today as a supplier of top quality organic papayas, Ana Pinto began as a horticulture farmer during her final year at university. She soon saw potential in the fruit market, and pivoted to launch one of the few fruit plantations in the country. With support from the project, she started with 600 papaya trees, eventually adding a fresh produce store to sell her own produce, as well as products sourced from other farmers. She recently began small-scale processing, making papaya jams, fruit salads, and smoothies.

Through her openness to innovation and a willingness to take a risk when she saw a market gap, Ana is paving the way for future entrepreneurs, especially young women.

ZelFunan-86

Growing flowers was Mana Zelia’s childhood hobby. Many in her community, in Atabae, purchased fresh flowers for cultural events. Mana Zelia, together with her husband and support from the project, turned her hobby into a flourishing business.

They invested funds from their watermelon business so Mana Zelia could open her own flower nursery. “I never dreamed one day I would turn my hobby into a business, but with the help of [USAID’s Avansa Agrikultura Project] this is changing.” Located on the main road to Maliana or Batugade, passing travelers frequent Mana Zelia’s nursery.
To begin equipping youth with the skills needed to become entrepreneurs, the project collaborated with UNDP’s Knua Juventude Fila Liman (KJFL) to develop an internship program. In collaboration with universities, companies, and NGOs, 103 youth were trained and placed as interns in various market-related companies, improving their employability in a competitive market and building their capacity to pursue entrepreneurial opportunities.

Melquinos da Silva  
(15 y/o)

A big problem we have here is a lack of good quality seeds for us to grow more produce. When I finish school I want to open an Agriculture Shop so farmers in my area can get the inputs they need to farm better.

Lizia Titi Torezão  
(17 y/o)

Some friends from school laugh at me because they think farming is for old people. Whenever I hear their comments I just ignore them. I am learning many things. I want to go to University and study Social Communications but if not I can have my own farm.

Geonvânio da Costa  
(17 y/o)

From working here I realize you can make a lot more money than other jobs if you know how to grow good quality crops and sell to a good buyer. I want to go to University and study agriculture professionally.
VII: GOVERNMENT INVESTMENT

A thriving agriculture industry needs an enabling environment in order to grow. Despite gaining independence twenty-one years ago, the Timorese political sphere remains fragmented. This lack of consistent governance has greatly hindered traction in national-level policy reform. Despite this challenge, the project succeeded at the municipality level, through curriculum development and establishment of Farmer Associations. This helped lay the groundwork for national regulatory and policy reform.

Farmer Associations (legal entities at the municipality level) play an important role as a collective face for individuals, small businesses, and organizations to petition for better work conditions, bargaining advantages, and policy development. They are also critical in bringing farmers and private sector entities together to achieve shared goals, ease communication, and promote cooperation. As farmers transition from subsistence to commercial agriculture, cooperation becomes more relevant. With limited support for a National Horticulture Association and recognition that municipal-level associations will become more important as decentralization is implemented, the project focused on establishing the latter. The project facilitated formation of two associations in Ermera and Bobonaro in collaboration with MAF’s municipal branches. The associations are information hubs for communication among donors, NGOs, government, private sector entities, and farmers. They also advocate on municipal-level issues related to horticulture and members provide technical extension services to other local farmers. Government representatives supported the associations’ development, as they are seen as effective counterparts to the Municipal Government and Chamber of Commerce.
• **Associacao Hortikultura Municipio Ermera (AHME)**, was formally launched in August 2020 with 11 farmer groups and more than 132 members. This association will be the umbrella group for most horticulture farmers in Ermera.

• **Associacao Hortikultura Bobonaro (AHB)**, was formally launched in September 2020, with 15 farmer groups as active members.

To promote ongoing success in the horticulture sector, the project supported policy reforms and regulations in a number of areas. A key challenge is that inputs, including fertilizers and pesticides, are entering Timor-Leste with little government oversight to ensure safety. Many products lack adequate labeling. Import procedures are opaque, time-consuming, and costly for agribusinesses and cause an insufficient and unreliable supply of inputs. To address these issues (and in collaboration with the International Fertilizer Development Center and Food and Agriculture Organization of the United Nations (FAO)), the project circulated and presented a draft Pesticide Law and Fertilizer Regulations to relevant MAF directorates and the Office of the Minister in 2018. However, work was put on hold due to other priorities within MAF, including an internal restructuring in 2019. It has yet to be presented to the Council of Ministers and approved.

**Associacao Horticultura Bobonaro**

The Bobonaro Secretary Authority thanked USAID for implementing the Avansa project which has greatly assisted development of the horticulture value-chain in Bobonaro. He noted the importance of in-depth technical assistance at the farm level and hopes other agencies and future programs will adopt the Avansa method.

**Pesticide Law in Action**

Mr. Amaro Ximenes, National Director for Horticulture and Extension, remarked in February 2019 that “[this] pesticide law is very important to control the circulation of pesticide within the country and prevent its negative impacts to human, animal, and environment health” (excerpt from Timor Post, March 11). The law regulates pesticides entering the country for sale, distribution, and use (regulated by the Pesticides Registration Board).
Similarly, sanitary and phytosanitary (SPS) measures are needed to ensure that imported horticulture products are pest-free and disease-free. Phytosanitary certificates to support Timorese exports are also needed. In response, the project worked with the National Directorate for Quarantine and Biosecurity in 2016 to develop a Sanitary and Phytosanitary Requirements Roadmap, including procedures to improve biosecurity measures. Building on this effort, the Asian Development Bank utilized project materials and in 2019, the World Bank and the International Finance Corporation (IFC) supported the Timorese government in finalizing a legal framework for SPS, two decree laws, and two ministerial diplomas.

At MAF’s request, the project assisted in development of the first Horticulture Policy, which addresses constraints in the horticulture sector while building consensus around priorities and obstacles. This led to a comprehensive Horticulture Action Plan that complements the pending Agriculture Policy. The project also supported an Agribusiness Policy Paper, as well as a Land Law and Forestry Law, as reforestation plays an important role in land rejuvenation and stabilization. Rapid and inconsistent deforestation across Timor-Leste has led to mass land degradation. When the MAF Forestry Department began offering seedlings for reforestation efforts, the project identified those who most needed them (i.e., farmers with land more prone to erosion, landslides, strong winds, or water insecurity).

The project also worked with rural Technical Vocational Schools and Instituto Nacional de Desenvolvimento de Mao-de-Obra/National Institute for the Development of Labor (INDMO) to develop horticulture curricula and accredited programs. In a move to restructure the school system, the government is standardizing practices and materials to be used nationwide in all schools. With Borlaug’s assistance, five schools now implement the project-developed horticulture curriculum, which addresses best agriculture practices and farming business management. By the end of the project, INDMO launched the Horticulture Value-Chain Curriculum, bringing together TecVoc Schools to share their experiences incorporating the program and highlighted the complimentary nature of this curriculum with the Ministry of Education curricula. GOTL representatives, including members from the Secretary of State for Formation and Employment (SEFOPE), participated in the effort.

The project conducted a week-long TOT session with the Tec Voc Schools, including INDMO’s session on accreditation pathways for schools and training centers. Institutions from across the country attended, not just within the project’s ZOI.
Improving Vocational School Offerings

Youth in Timor-Leste often lack practical and soft skills, hindering employability. TecVoc Schools are poised to address this issue, as the government works to support an educated and skilled population on the country’s Journey to Self-Reliance.

The project worked with INDMO to improve the horticulture curriculum, and provided grants to five schools to equip their outdoor learning centers. “This equipment will not only enable us to better train our students, but by having a working farm, we will be able to produce fresh products year-round for the school’s consumption and also to sell—generating a small profit to help maintain our agriculture department. The help the Avansa project has given to our school is crucial to the development of the school and the students’ knowledge of modern and advanced farming systems. We are aware of the importance of transitioning from subsistence farming, using traditional methods, to commercial farming.” Alcino de Araujo, Ainaro Villa Technical School Director.

As agriculture proves to not only be necessary for Timorese development and self-reliance, but a profitable venture to support one’s family, more youth will engage.
VIII: NUTRITION IMPROVEMENT

The project’s nutrition approach was spearheaded by HIAM Health, a locally-run NGO. The project approached nutrition improvement from the family level, conducting intensive training with wider family groups. By implementing a cross-cutting approach to nutrition, the project was able to increase effectiveness and reach—improving dietary habits through increased agriculture productivity and incomes, resulting in reports of improved familial health.

Along with increased incomes came access to more diverse and healthy food for target households. This greatly improved the nutritional intake of children aged 6-23 months and women of child-bearing age. Prior to the project’s launch, 40% of children were receiving a minimum acceptable diet; this has now increased to almost 50%. Over 86% of women of reproductive age are now eating five or more of the 10 recommended foods. Hunger has decreased from 15% at the beginning of the project to 0.9%. Women of reproductive age were eating healthier food, with 99% including five or more nutritious food groups in their diets during a 30-day recall period. Three years ago, diets only included two groups, which did not provide women and their babies with the required level of micronutrients.
Improving Nutrition

Generating behavior change around nutrition is always challenging. For Felis and his wife, Fatima, a high-risk family, the journey to improved family nutrition and sanitation took several years of sustained effort. The project began working with the couple in 2016, helping them to create a nutrition group and begin intensive nutrition and sanitation training. Eager to both improve their family’s health and increase their ability to generate income, the couple—noting the success of farmers in their area—decided to become ‘horticulture farmers’. Their actions led the project to launch a new strategy, integrating ‘nutrition groups’ into the horticulture value-chain. The goal was to increase Timorese farmers’ capacity to commercialize, while improving their own nutrition and health. Felis and Fatima now intercrop high-value products, like broccoli, with quick-growing leafy greens to generate income. With 15 crops on rotation, they sell to supermarkets, local collectors, and the local market every week. This additional income allowed them to build a new house, complete with sufficient water storage and piping, and purchase food supplies including fruit, eggs, beans, and (occasionally) meat. “I can see the difference in my children. My first two children were sick a lot with stomach issues when they were little 20 years ago. I was always worried because of the many fevers. But now, my youngest two are rarely ill. They eat good food and because of improved hygiene, they do not have stomach issues like their older siblings.” (Fatima – during interview, 2020)

Felis and Fatima invested back into their farm, purchasing irrigation material, chicken manure to produce their own compost and fertilizer, and seeds in bulk to ensure consistent production. “Commercial agriculture is a good living. We see the potential for growth in the agriculture sector and the benefit for our family. We have confidence in our ability and will continue farming long into the future. We give thanks to USAID: Because of the American people, we have been able to grow, learn, and improve our lives.” (Felis – during FI interview, 2020). Even through the challenges posed by COVID-19, Felis and his family were able to maintain a steady income by renting transport in order to continue safely supplying markets.
IX: STRATEGIC COMMUNICATIONS

The project’s Communications and Knowledge Management Plan’s central objective was to promote USAID’s Avansa Agrikultura Project as it accelerated inclusive and sustainable economic growth across the horticulture value chain, increasing productivity and profitability.

The project’s initiatives positioned, promoted, and communicated activities throughout the year to targeted audiences: the host-country government, the Timorese public, civil society organizations, media, the private sector, multilateral agencies, and development partners.

The project facilitated an integrated approach, working across all project components and targeting all stakeholders to ensure USAID’s Avansa Agrikultura Project was widely recognized. The project’s success and popularity further solidified its positioning and influence in the sector. Use of social media through USAID’s Timor-Leste and US Embassy Facebook presence helped the project reach local community members, whereas Cardno’s social media channels promoted the project internationally—opening opportunities to publish articles on AgriLinks (https://bit.ly/3ILfHjy, https://bit.ly/343Qrsi) and in Cardno Connect (a global magazine).

Connectivity, awareness, and relationship-building are major players in driving behavior change. Many farmers are cut off from Dili, the country hub, and lack access to information. In order to bring awareness to agriculture and off-farm opportunities, the project hosted journalists from the nascent industry to foster positive relationships and support. Journalists were provided with the opportunity,
to travel to rural areas, to acquaint them with the successes and challenges of the agriculture sector, and with the project’s work. This helped build awareness of agriculture sector opportunities and developments among individuals in the wider community and encouraged farmers to take pride in their livelihoods. As networks were built and relationships formed, project partners developed links with other agencies who have continued support outside of the project’s purview.

Quarterly newsletters presented project activities from a farmer’s perspective, enabling the project to inform others of new activities, and encouraged individuals to adopt new technologies, launch small businesses, or otherwise engage with the project. In addition to print materials, the project utilized radio and YouTube to increase awareness and promote behavior change. Popular radio programs such as Juliana’s Effort and film clips—such as the Youth in Agriculture film (https://www.youtube.com/watch?v=SDUst3E6OQo), 1,000 Day nutrition film, and Bitersa Saves the Harvest—encouraged communities to adopt new practices and establish new businesses and initiatives. Project partners—including KJFL, the Ministry of Health, local NGOs, and other donor-funded programs—also adopted these practices.

The project’s Communications and Knowledge Management Plan was adaptive and innovative, bringing new ideas to support technical teams and ultimately, project goals. This flexibility allowed for greater team-building and involvement in the agriculture sector, as well as off-farm activities. Refer to Annex F for a full listing of technical documents developed under the project to support technical activities.

### Awareness Raising and Behavior Change Events

Women in Agribusiness Conference, #HeForShe Campaign, Career Day Events, Market Input Events, Women’s Day Events, and more. Participating in activities funded by GOTL and donor programs positioned the project as a good collaborator, supporting wider initiatives like the Climate Change Conference, World Food Day, and overseas expos in Singapore.
X: THE COVID-19 IMPACT

As COVID-19 spread across the globe, the Government of Timor-Leste shut down its borders, declaring a State of Emergency at the end of March 2020. These events provided an opportunity to highlight project successes. The project quickly adapted, using innovative methods to communicate with staff, stakeholders, farmers, and SMEs. Project staff moved rapidly to create virtual online platforms to host trainings and meetings and ensure timely implementation of activities.

Faced with abrupt disruptions to the food import supply chain, weekly demand for horticulture products from supermarkets and collectors increased. Project-supported farmers had production systems in place that enabled them to respond to shifting demand cycles, even outside the growing season. Farmers had investment capital from produce sales, savings and lending groups, and other sources, that allowed them to scale up production to meet the unexpected demand. The system was quickly able to adjust, implementing new communications channels, with collectors transporting produce and input supplies that others could not.

The project scaled up the use of WhatsApp chat groups, linking field staff across the five project offices and six municipalities. Stakeholder groups were created. Supermarkets and collectors exchanged lists of desired and available products for delivery, and farmers and collectors shared details on harvest dates and product availability. Through WhatsApp groups, farmers were notified quickly when national input supplies were re-stocked. Several suppliers reported selling out within days—highlighting the need
for increased capital to support the continued demand for agriculture inputs, particularly seeds and fertilizers. This improved communication among actors within the market system, allowing for real-time responses, and capitalized on geographic production strengths. The transition to active, online communication increased direct communication between farmers and market buyers, continuing even after restrictions lifted. The project-assisted transition to digital solutions yielded access to more up-to-date information regarding availability of farmers’ produce and improved connections within the market system as a whole.

However, COVID-19 restrictions did highlight the fragility of some key and supporting market system actors. For example, inputs are mainly imported through the land border, which was closed. Supplies quickly dwindled, as businesses do not have capital for large purchases and usually only have 2-3 months of supplies on-hand.

Police also proved disruptive to supply channels from the municipalities to Dili, due to misinterpretation of national government restrictions. Police enforced a more conservative interpretation of the law, which led to suspension of travel and (at times) stoppage of fresh produce travelling throughout the country. Many households across Timor depend on wet markets to purchase food on a daily basis, and this abrupt cessation of goods transportation had an immediate impact. Local markets closed on the South Coast, decreasing access to varied nutritional food groups. Within days, markets and shops experienced shortages of fresh produce and perishable vegetables risked rotting on farms.

However, the project was able to help ameliorate these major income and food security consequences. It provided collectors with approved transport letters to renew the flow of produce and inputs, and collaborated with the Food Security Working Group to successfully encourage government and customs officials to release much-needed input supplies.

Cardno moved quickly to institute a teleworking policy, allowing everyone to continue their work, informed by an internal Task Force. As restrictions lifted, protocols around social distancing, masks, and hand washing were put in place for all offices, and for field visits or events, which were held outside.

Restrictions to prevent the spread of COVID-19 in Timor-Leste impacted families’ ability to earn daily incomes—putting a strain on their ability to feed themselves. As the government moved to support the people, various donor-led initiatives stepped in to assist by providing practical locally-sourced solutions. The United Nations Development Program sourced funds from various agencies, including the Asian Development Bank, to purchase fresh produce from local suppliers.

Supporting the largest collector network of fresh produce in the country, USAID’s Avansa Agrikultura Project mobilized an initial delivery of 1,100 kilograms of fresh fruit and vegetables from farmers across Maubisse, Atabae, Miguir, Maliana, and Aileu. One hundred households received food baskets, with a further 5,000 identified as being in need. Despite the troubling times—both in light of the pandemic and other challenges within the Timorese agriculture market system—partnerships such as these are essential to assist with bridging gaps, while boosting sustainability efforts to support farmers and collectors.
XI: CONCLUSION

Unlike previous agriculture projects, USAID’s Avansa Agrikultura Project worked to identify market demand for specific high-quality products and determined which farming areas could best produce these products.

Still, a gap remains between local production and market demand, underscoring the need for further investment in the Timorese horticulture industry. As governments and donors continue to support the agriculture sector’s development in Timor-Leste, both need to be cognizant of market system realities. Following are areas to provide continued support that build on the work already completed.

• Municipal horticulture associations in collaboration with MAF, present an opportunity for growth and expansion of extension farming, improving linkages to markets, and the ability to advocate for a stronger enabling environment.

• The collector network bolstered with targeted cost-share and financial literacy. As the network continues to expand, both farmers and collectors are able to avoid inflexible agreements with supermarkets, which can lead to supply and demand mismatches and price swings. The networks strengthen inter-farmer and collector market coordination and information flow.
• Kaebauk, a micro-finance organization, established a new agriculture-based micro-finance product with project support. In order to further strengthen the market, and ensure it remains competitive, additional financial institutions will need to be engaged and linked to credit guarantors and donors.

• Building on the success of strawberries and other high-value crops, the opportunity exists for continued expansion to different vegetables, fruit, and livestock. Seed production methods should be incorporated into farmer trainings, to reduce reliance on imported seed, where feasible.

• Given project success in establishing and encouraging youth-and women-led SMEs, it is essential to strengthen the supply side for these businesses through agricultural education programs. Specific grants and entrepreneur champions will also be important.

At the close of the program, the agriculture sector in Timor-Leste is strengthened and consolidated compared to 2015 when the project launched. An interconnected system is expanding with significant buy-in from private sector players and MFIs, to agro-inputs and production centers. More work is essential if the sector is to grow, as Timor-Leste continues on its unique path to self-reliance.

USAID’s Avansa Agrikultura Project has bolstered relationships across the market system and supporting frameworks in ways that will ensure the long-term development of Timor-Leste, and ultimately, shape and strengthen the sustainability of food production, delivery, and marketing systems. The project’s initiatives over the past six years will contribute to stabilizing responses and contribute to the nation’s self-reliance for years to come.