



# USAID AGRIFUTURO PROJECT

## END OF PROJECT REPORT

1 MAY 2009–28 FEBRUARY 2015

Contract/Program NO.: EDH-I-00-05-00005-00

Task Order No.: 10



Contract/Program NO.: EDH-I-00-05-00005-00

Task Order No.: I0

Submitted to:

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Agriculture, Trade and Business Office

**USAID/Mozambique**

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All photos by USAID's AgriFUTURO staff

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# TABLE OF CONTENTS

|  |            |
|--|------------|
| <b>Acronyms</b> .....  | <b>iii</b> |
| <b>Executive Summary</b> .....   | <b>1</b>   |
| <b>1. Rolling Design and Results</b> .....   | <b>6</b>   |
| <b>1.1 Phase 1: May 2009–September 2011</b> .....                                    | <b>6</b>   |
| <b>1.2 Phase 2: October 2011–September 2013</b> .....                                | <b>6</b>   |
| <b>1.3 Phase 3: October 2013–February 2015</b> .....                                 | <b>7</b>   |
| <b>1.4 Results Tables and Explanations</b> .....                                     | <b>7</b>   |
| <b>1.5 Explanation of Variances</b> .....  | <b>9</b>   |
| 1.5.1 Phase 1 (May 2009–September 2011) .....  | 9          |
| 1.5.2 Phase 2 (October 2011–September 2013).....                                     | 10         |
| 1.5.3 Phase 3 (October 2013–February 2015) .....                                     | 10         |
| <b>1.6 Summary</b> .....   | <b>11</b>  |
| <b>2. Highlights: Impact of Program Components</b> .....                             | <b>12</b>  |
| <b>2.1 Improved Enabling Environment</b> .....                                       | <b>12</b>  |
| 2.1.1 AgCLIR.....  | 12         |
| 2.1.2 Representative Agribusiness Organizations .....                                | 13         |
| 2.1.3 Addressing Inadequate Infrastructure and Technology .....                      | 13         |
| 2.1.4 New Cooperative Law and Regulations.....                                       | 15         |
| 2.1.5 Non-tariff Barriers to Trade and Trade Promotion.....                          | 15         |
| <b>2.2 Business Development Service Centers to Serve Farmers</b> .....               | <b>16</b>  |
| 2.2.1 Farmer-Owned Service Centers.....  | 16         |
| 2.2.2 Agribusiness Service Clusters.....   | 19         |
| 2.2.3 Impact of Grants on Agribusiness Competitiveness .....                         | 21         |
| <b>2.3 Strengthened Access to Finance for Agribusiness</b> .....                     | <b>22</b>  |
| <b>2.4 Contribution of GDAs and PPPs and Assistance to Potential Investors</b> ..... | <b>22</b>  |
| <b>3. Value Chain Improvement</b> .....  | <b>24</b>  |
| <b>3.1 Forestry</b> .....  | <b>24</b>  |
| <b>3.2 Maize</b> .....   | <b>24</b>  |
| <b>3.3 Fruits: Pineapples, Bananas, Mangos</b> .....                                 | <b>24</b>  |
| <b>3.4 Cashews</b> .....   | <b>25</b>  |
| <b>3.5 Soybeans</b> .....  | <b>25</b>  |
| <b>3.6 Groundnuts</b> .....  | <b>26</b>  |
| <b>3.7 Sesame</b> .....  | <b>27</b>  |
| <b>3.8 Pulses: Pigeon Peas, Cowpeas, Common Beans</b> .....                          | <b>28</b>  |
| <b>4. Gender Impact</b> .....  | <b>30</b>  |
| <b>5. Implementation Issues, Lessons Learned, and Recommendations</b> .....          | <b>32</b>  |
| <b>Annex A: Lessons Learned, 2009–2015</b> .....                                     | <b>35</b>  |
| <b>Annex B: Description of Assisted FOSCs and ASCs</b> .....                         | <b>47</b>  |
| <b>Annex C: Tables</b> .....   | <b>54</b>  |
| <b>Annex D: Project Financials</b> .....   | <b>60</b>  |
| <b>Annex E: Index of Supplementary Materials</b> .....                               | <b>61</b>  |

## LIST OF TABLES

|  |           |
|--|-----------|
| <b>Table 1: AgriFUTURO Results Indicator Actuals versus Targeted Results</b> ..... | <b>8</b>  |
| <b>Table 2: AgriFUTURO Percentage of Actual versus Targets</b> .....               | <b>9</b>  |
| <b>Table 3: Final Project-Supported FOSCs</b> .....                                | <b>19</b> |
| <b>Table 4: Final Project-Supported ASCs and Producers Engaged</b> .....           | <b>20</b> |
| <b>Table 5: Soybean Performance in Two Groups</b> .....                            | <b>26</b> |
| <b>Table 6: List of Cooperatives Supported</b> .....                               | <b>54</b> |
| <b>Table 7: Total Grantees</b> .....   | <b>55</b> |
| <b>Table 8: MOUs Signed by AgriFUTURO Partners</b> .....                           | <b>57</b> |

## LIST OF FIGURES

|  |           |
|--|-----------|
| <b>Figure 1: Employees Trained on Quality Standards</b> .....      | <b>15</b> |
| <b>Figure 2: Groundnut Prices (\$/kg) in Nacala Corridor</b> ..... | <b>26</b> |

## ACRONYMS

|                    |  |
|--------------------|--|
| <b>ACOF</b>        | <i>Agricultura e Comercio de Olinda Fondo</i>  |
| <b>AFAP</b>        | African Fertilizer and Agribusiness Partnership  |
| <b>AgCLIR</b>      | Agribusiness Commercial, Legal, and Institutional Report                                   |
| <b>AICAJU</b>      | Association of the Cashew Industry in Mozambique   |
| <b>AMPCM</b>       | <i>Associação Moçambicana para a Promoção das Cooperativas Modernas</i>                    |
| <b>APC</b>         | Production and Marketing Agent   |
| <b>ASC</b>         | Agribusiness service cluster   |
| <b>ATB</b>         | Agriculture, trade, and business   |
| <b>BDS</b>         | Business development services  |
| <b>BOM</b>         | <i>Banco de Oportunidade de Moçambique</i>   |
| <b>CAADP</b>       | Comprehensive Africa Agriculture Development Programme                                     |
| <b>CAL</b>         | <i>Corredor Agro Limited</i>   |
| <b>CEPAGRI</b>     | Ministry of Agriculture's Agriculture Promotion Center                                     |
| <b>CFM</b>         | <i>Caminhos de Ferro do Mocambique</i>   |
| <b>CLUSA</b>       | Cooperative League of the United States of America   |
| <b>COP</b>         | Chief of Party   |
| <b>COR</b>         | Contracting Officer's Representative   |
| <b>CPI</b>         | Mozambican Centre for Investment Promotion   |
| <b>CTA</b>         | <i>Confederação das Associações (Confederation of Business Associations of Mozambique)</i> |
| <b>DCA</b>         | Development Credit Authority   |
| <b>DQA</b>         | Data quality assessment  |
| <b>DSV</b>         | <i>Departamento de Sanidade Vegetal</i>  |
| <b>EF</b>          | Emerging Farmers   |
| <b>EMPRENDA</b>    | Empowering Private Enterprise in the Development of Agriculture                            |
| <b>ETG</b>         | Export Trade Group   |
| <b>FEDAMOZ</b>     | <i>Federação de Alto Molocué</i>   |
| <b>FEPROG</b>      | <i>Federação de Produtores de Gurué</i>  |
| <b>FOSC</b>        | Farmer-owned service center  |
| <b>FrutiCentro</b> | <i>Associação dos Fruticultores do Centro de Moçambique</i>                                |
| <b>FTF</b>         | Feed the Future  |
| <b>GAPI</b>        | <i>Gabinete de Apoio a Pequena Industria</i>   |
| <b>GDA</b>         | Global development alliance  |
| <b>GIZ</b>         | German Society for International Cooperation   |
| <b>GOM</b>         | Government of Mozambique   |
| <b>HACCP</b>       | Hazard Analysis and Critical Control Points  |
| <b>IAV</b>         | Insumos Agrícolas e Veterinários   |
| <b>IEHA</b>        | Initiative to End Hunger in Africa   |
| <b>IIAM</b>        | Institute of Agricultural Research of Mozambique   |
| <b>IITA</b>        | International Institute of Tropical Agriculture  |
| <b>IKURU</b>       | A farmer-owned private agri-trading company  |

|                |  |
|----------------|--|
| <b>IPCCM</b>   | <i>Industria de Processamento de Castanha de Caju de Murrupula</i> |
| <b>IPEX</b>    | Mozambique Institute of Export Promotion                           |
| <b>ISO</b>     | International Organization for Standardization                     |
| <b>ISPM</b>    | <i>Instituto Superior Politécnico de Moçambique</i>                |
| <b>JICA</b>    | Japan International Cooperation Agency                             |
| <b>LOP</b>     | Life of project  |
| <b>M&amp;E</b> | Monitoring and evaluation  |
| <b>MADEP</b>   | Mozambique Agro-dealer Development Program                         |
| <b>MBFI</b>    | Mozambique Bio-Fuels Industries, Ltd.                              |
| <b>MINAG</b>   | <i>Ministério da Agricultura</i>                                   |
| <b>MOU</b>     | Memorandum of understanding  |
| <b>MYAP</b>    | Multi-Year Assistance Program                                      |
| <b>NEPAD</b>   | New Partnership for Africa's Development                           |
| <b>OLAM</b>    | Private company  |
| <b>PMP</b>     | Performance Monitoring Plan  |
| <b>PNISA</b>   | Mozambique's National Agriculture Sector Investment Plan           |
| <b>PPP</b>     | Public-private partnership   |
| <b>PROMER</b>  | Rural Markets Promotion Program                                    |
| <b>PRSP II</b> | Poverty Reduction Strategy Paper II                                |
| <b>QMS</b>     | Quality management standards                                       |
| <b>SAGM</b>    | South African Groundnut Marketing                                  |
| <b>SANA</b>    | CLUSA, Africare, and Save the Children Consortium                  |
| <b>SATH</b>    | Southern Africa Trade Hub  |
| <b>SNV</b>     | Netherlands Development Organization                               |
| <b>SNY</b>     | <i>Sementes Nzara Yapera</i>                                       |
| <b>SPEED</b>   | Support Program for Enterprise and Economic Development            |
| <b>TPC</b>     | Marketing and Production Technician                                |
| <b>UCODIN</b>  | Unidade de Coordenação de Desenvolvimento Integrada de Nampula     |
| <b>UEM</b>     | <i>Universidade Eduardo Mondlane</i>                               |
| <b>USAID</b>   | United States Agency for International Development                 |
| <b>USDA</b>    | United States Department of Agriculture                            |
| <b>V&amp;M</b> | Private trading company in Chimoio                                 |
| <b>WASSA</b>   | Women in Agribusiness in Sub-Saharan Africa Alliance               |
| <b>WFP</b>     | World Food Programme   |

## PREFACE AND ACKNOWLEDGEMENTS

The end of a project is the appropriate time to reflect on what has been accomplished over the life of the activity. Under USAID's AgriFUTURO project, this reflection happens against a backdrop of successive Chiefs of Party, different funding sources and results frameworks, fluctuating geographic targets, uncertain timelines, and different value chain foci. This end-of-project report attempts to look beyond the vicissitudes of project implementation to the impact of the U.S. Government intervention to improve the competitiveness of value chains and enhance the livelihoods of those engaged in them. This report should record the big picture and provide valuable insights for future implementers of competitiveness and food security projects in Mozambique. It will also leave a record of who and what organizations were assisted, how they were supported, and why, as this too should serve as important information for future activities that build on this significant experience.

The substantial and sustainable accomplishments of USAID's AgriFUTURO project would not have been possible without the talents and commitment of our partners, counterparts, clients, and beneficiaries. The vision of USAID/Mozambique guided U.S. Government support and investment from the outset; the mission continued to provide technical guidance and management oversight throughout the project's six years of operation. Abt Associates particularly wishes to acknowledge the initial AgriFUTURO "architects"—John McMahon and Elsa Mapilele—and their successors and more recent USAID technical managers, Leyla Kester, Amanda Fong, and Tim Born. Throughout, USAID staff gave the project team critical support and guidance and encouraged AgriFUTURO to be flexible and to respond appropriately and quickly to challenges presented by new market realities and evolving Agency priorities. We are also grateful to USAID for granting two project extensions and providing considerable additional funding that allowed us to sustain momentum to the very end of the project.

USAID's AgriFUTURO was a private sector-led agricultural development project that aimed to demonstrate and validate new organizational approaches to production and marketing in Mozambique and find local partners willing to integrate and apply this approach in critical sectors. We wish to thank the thousands of farmers who participated in project activities. It was our pleasure to work with you.

No strides can be made within the private sector without active support from the public sector, and we were particularly grateful in this regard for input and feedback from the Government of Mozambique, particularly the Ministry of Agriculture through the Agriculture Promotion Center (CEPAGRI), the National Seed Service (DNS), the Institute of Agricultural Research of Mozambique (IIAM), and the provincial governments of Tete, Manica, Zambezia, and Nampula.

We were also very fortunate to collaborate with a strong array of local organizations, including the Cooperative League of the United States of America (CLUSA), TechnoServe, IIAM, CEPAGRI, the Confederation of Economic Associations (CTA), *Universidade Lurio*, the *Instituto Superior Politécnico de Moçambique* (ISPM), the International Institute of Tropical Agriculture (IITA), IFDC, the Netherlands Development Organization (SNV), and USAID's Support Program for Enterprise and Economic Development (SPEED). There are many other organizations that participated in AgriFUTURO activities to one degree or another, and even though we cannot list them all in this report we wish to acknowledge them here.

Abt Associates also owes a debt of gratitude to our subcontractors, all of whom are cutting-edge practitioners in their fields: CLUSA, TechnoServe, Wingerts Consulting, and Polaris.

And finally, no project like AgriFUTURO can be successful without dedicated, competent, and professional field staff working every day to implement the project according to the work plan and field realities. AgriFUTURO was fortunate to have a skilled, experienced, and responsive field implementation team in Mozambique, composed of both expatriates and Mozambicans. Their unwavering dedication, optimism, skills, and hard work were essential to the project's successes.

## EXECUTIVE SUMMARY

The USAID Mozambique Agribusiness and Trade Competitiveness Program (known as AgriFUTURO) had a significant impact on improving rural incomes in the two main agricultural corridors in Northern Mozambique—the Nacala and Beira corridors. Using an agricultural value chain approach, the project increased production, sales, and exports of targeted crops, stimulated a dramatic increase in employment, and improved the lives of over 55,000 rural families. The project also laid the groundwork for continued expansion and development of these value chains by strengthening a sustainable network of producer organizations, commercial farms, and agribusinesses, and by identifying and developing talented emerging leaders who will maintain the momentum of this project well after AgriFUTURO ends.

Abt Associates was awarded the contract for AgriFUTURO on May 1, 2009. Originally planned for three years and 10 months, after two extensions, it ended up lasting for five years and 10 months. It began as an effort to improve agribusiness competitiveness in Mozambique, funded through the Presidential Initiative to End Hunger in Africa (IEHA), but after a little more than two years, funding was switched to the new Presidential Feed the Future (FTF) initiative and the focus changed to directly emphasize reducing rural poverty and improving nutrition. This shift also entailed significant changes in the value chains targeted by the project and in its geographic focus. Such changes occurred again when the project was extended at the end of February 2014. Despite these changes in its objectives and targets, AgriFUTURO maintained a steady value chain focus and was able to achieve significant results. Below, we highlight major activities in its four components.

### *USAID's AgriFUTURO in a Nutshell*

This project aimed to boost the competitiveness of Mozambique's private agribusiness sector by developing selected agricultural value chains in designated areas. Working in the Nacala and Beira economic corridors, the project had the following components:

- Improve the enabling environment for agribusiness
- Expand and strengthen agribusiness development services
- Increase agribusiness access to financial services
- Increase and strengthen public-private partnerships

## PROGRAM HIGHLIGHTS BY COMPONENT

Under the first component, to **improve the enabling environment for agribusiness**, the project carried out the following major activities:

- Sponsored an in-depth analysis (AgCLIR) of the policy and institutional constraints to agribusiness development, which looked at obtaining licenses, employing workers, getting credit, paying taxes, accessing marketing infrastructure, trading across borders, enforcing contracts, and closing a business. This study was widely disseminated and had a direct impact on the formulation of the Government of Mozambique (GOM) National Agriculture Sector Investment Plan. A “Friends of Agribusiness” policy review committee was established to follow up on the AgCLIR recommendations; the group was later transformed into the Agribusiness Working Group at the initiative of AgriFUTURO and the Netherlands Development Organization (SNV). AgCLIR's results and recommendations will continue to serve the country's agribusiness sector over the coming years.
- Helped create representative structures to lobby for public policy reforms that will facilitate more rapid development of Mozambican agribusinesses. The most effective of these is FrutiCentro, representing fruit and nut growers and processors in the Beira Corridor.

AgriFUTURO also supported the creation of FrutiNorte in the Nacala Corridor, but further effort is needed to consolidate this initiative.

- Funded analyses of the efficiency and cost-effectiveness of the Nacala and Beira ports. Based on the Nacala study, port owner Caminhos de Ferro do Mocambique (CFM) is working to address infrastructure problems, using financing from the Japan International Cooperation Agency (JICA). AgriFUTURO's study of the Beira port also directly led to improvements in cargo handling and port costs at that location. If appropriately managed, these studies' recommendations could lead to other improvements in port management and cost reduction.
- Addressed the presence of aflatoxin, a naturally occurring mold that contaminates grains and oilseeds and has proven detrimental to human health. If aflatoxin is encountered on exports of grains and oilseeds above the levels permitted by international standards, the shipments are rejected. AgriFUTURO funded the creation of a laboratory at Lurio University in Nampula that is capable of assessing the presence of aflatoxin before products are exported. The project also sponsored training to improve post-harvest handling of groundnuts in order to avoid contamination, and launched public awareness campaigns to increase adoption of post-harvest handling procedures that protect against aflatoxin. Lurio University has started the process of inter-laboratory testing to validate its methods and obtain certification.
- Funded research that demonstrated that green bananas are not hosts to fruit flies, a vitally important issue because shortly after AgriFUTURO began, the governments of South Africa and Zimbabwe banned importation of fruit from Mozambique due to the presence of fruit flies, and the Government of Mozambique banned shipments of fruit from the northern region to the south. The project's research led the GOM to remove its restrictions on internal transportation and South Africa to lift its banana importation ban. Zimbabwe has not yet changed its policy. AgriFUTURO also supported fruit fly monitoring and trapping, in partnership with Plant Protection Department (DSV) at MINAG in order to study fruit fly behavior and develop programs to mitigate fruit fly presence in country.
- Assisted the *Associação Moçambicana para a Promoção das Cooperativas Modernas* (AMPCM) in drafting the regulations needed to implement the new law legalizing the creation of cooperatives. The project also helped strengthen 18 cooperatives by offering training and supporting their strategic plan development.

Under the second program component, to **expand and strengthen agribusiness development services**, AgriFUTURO supported the following major activities:

- Strengthened 14 farmer-owned service centers (FOSCs) to improve and expand their delivery of services, including dissemination of productivity-enhancing technologies, harvest and post-harvest handling recommendations, and marketing linkages and support. This initiative particularly benefited women, who make up 37 percent of the 55,423 members of assisted producer organizations, since women have even fewer options for accessing agricultural inputs and markets than men. AgriFUTURO's most important assistance to the FOSCs was to establish links to respected buyers who offered premium prices for reliable supply of quality products. The project also strengthened the management capabilities of FOSC leaders, enabling them to maintain the effectiveness of their organizations when project support ends.
- Assisted in the creation of 16 agribusiness service clusters (ASCs) by building linkages between commercial farmers, banks, buyers, and emerging farmers (smallholders who have demonstrated the capacity to expand their operations). These ASCs serve as outgrowers, receiving inputs from and marketing through commercial farms. A total of 6,196 emerging farmers received support through the ASCs. In the latter stages of the project, commercial farmers increasingly

established relationships with FOSCs as well, providing the same services they were providing to the emerging farmers.

- Disseminated new production and post-harvest technologies to FOSC members and emerging farmers, stimulating an increase in productivity and production and a reduction in post-harvest losses. This effort was often done in close collaboration with other organizations and projects. The primary production technology disseminated was use of improved seeds; this intervention was frequently complemented by use of mechanization and—in the case of soybeans—with inoculants that provide more nutrition to the plants. When these technologies were used in the Nacala corridor, yields of soybeans doubled. In July 2014, AgriFUTURO embarked on a major scaling up program to expand the use of inoculants for soybeans, with a massive technical assistance effort and importation of inoculants to be sold for cash to farmers who were used to receiving inputs as handouts. Over 3,000 farmers paid the modest costs for the soybean inoculants—falling short of ambitious targets, due to farmers’ reluctance to pay cash for the inoculants in the absence of a steady supply of improved seeds. Yet by the first quarter of FY 2015, the project’s efforts had increased the number of hectares using inoculants to three times the number using them in the first quarter of FY 2014. AgriFUTURO has reached agreements with local institutions in its geographic regions to store the remaining inoculants, and recommends that the follow-on project manages their ultimate disposition and captures the results of efforts done by the project on soybeans value chain.
- Provided \$1,286,249 in grants to 22 organizations to purchase production-enhancing equipment; construct storage facilities; and purchase seed cleaners, food processors, and laboratory equipment for an aflatoxin lab. In addition to helping commercial farmers expand service provision, the grants increased the firms’ capital base, thus leveraging access to bank finance.

The third AgriFUTURO program component was to **increase agribusiness access to financial services**. Here success was more limited. The Mozambican banking system, despite the availability of significant loan guarantees through USAID’s Development Credit Authority (DCA), showed very little interest in increasing its exposure to smallholder agricultural loans. The banks see the agricultural sector as inherently riskier than urban consumer loans and purchase of government bonds. This concern was unfortunately confirmed when several of the banks providing such loans experienced a relatively high rate of delinquency. In 2014, one of the two banks that had cooperated with AgriFUTURO suspended its loan operations in the Nacala Corridor and charged 5 percent monthly interest for loans in the Beira Corridor. The other decided to cease such loans entirely. Actual loans provided to project participants fell short of the targets. However, AgriFUTURO was able to increase producer organizations’ access to short-term financing for input supply and to buyer credits to facilitate purchase and assembly of members’ production. Rural lending is risky in Mozambique due to constitutional provisions banning private ownership of rural land, so smallholders lack effective collateral for their loans. USAID and other donors have sought to increase smallholders’ access to financing for at least 15 years, but a more focused effort is needed to remove some of the structural impediments to this type of lending.

The fourth AgriFUTURO program component was to **increase and strengthen public-private partnerships (PPPs)** in pursuit of project objectives. The AgriFUTURO team signed 50 memoranda of understanding (MOUs) with Mozambican public and private entities; 46 of these qualified as public-private partnerships. This enabled AgriFUTURO to leverage its limited resources and greatly expand its impact. These PPPs and global development alliances (GDAs) helped link commercial farmers with emerging farmers and FOSCs, strengthened FOSCs’ operational capacity, disseminated new technologies, and achieved a variety of other objectives. Use of this mechanism also enabled AgriFUTURO to establish effective working relationships with international private sector companies, under the New Alliance Initiative and with a broad range of organizations active in the target corridors and gave USAID access to these important institutions.

### Value Chain Highlights

AgriFUTURO originally had nine targeted value chains: bananas, pineapples, mangos, maize, soybeans, sesame, groundnuts, cashews, and forestry. In October 2011, when funding shifted to FTF, forestry and maize were dropped and pulses (pigeon peas, cowpeas, and common beans) were added. When the project was extended in February 2014, mangos and cashews were dropped and work with the banana cluster was greatly reduced.

The following highlights illustrate the project's achievements for each of these value chains:

- **Forestry.** AgriFUTURO worked with five private sector forestry companies that in FY 2010 created 6,000 jobs (1,380 for women) and invested \$92.5 million. Another \$16.2 million was invested in FY 2011. The project supported creation of the Forestry Plantation Agribusiness Association in 2010 and helped forestry companies meet the terms of their land lease contracts.
- **Maize.** By 2011, AgriFUTURO had assisted over 38,000 maize-producing rural households (14,000 of which were women-led) and created over 2,000 jobs (including 778 for women). Over \$2.5 million in new investments were made in the maize value chain during the period of project intervention, mainly in chicken feed operations.
- **Pineapples.** The project funded importation of the internationally preferred MD2 pineapple variety, which is now being expanded through cloning at a private farm in Nampula. Planned distribution of this variety to other farms has been delayed because the volume of suckers imported was significantly smaller than expected, preventing the anchor farm from reaching the critical mass required for broad dissemination. AgriFUTURO also helped smallholder pineapple producers in the Nicoadala district of Zambezia adopt improved production technologies, which have greatly increased production per hectare and facilitated early maturing so the product can reach markets when prices are at their highest.
- **Bananas.** AgriFUTURO assisted the large banana exporting firm Matanuska with improvements in export processing at ports and in improving relations with workers and their communities. It also provided technical support to the startup of two other large international banana operations (Jacaranda and ENICA). The project's biggest contribution to this value chain, however, was funding research that proved that green bananas are not hosts to fruit flies, thus reopening internal shipment of bananas within Mozambique and exports to South Africa.
- **Mangos.** Mango production by mid-sized producers in the Beira Corridor showed promise until exports were cut off due to fruit fly concerns among neighboring countries. Project activities focused on support to the Ministry of Agriculture's plant protection department initiatives in post-harvest treatment to mitigate against fruit fly presence and dissemination.
- **Cashews.** Expectations at the start of the project were high for this value chain. The plan was for AgriFUTURO to help producers renovate their cashew plantations, which represented a shift away from the focus of assistance provided to cashew processors by USAID's predecessor USAID project, EMPRENDA (Empowering Private Enterprise in the Development of Agriculture). With the public sector providing plantlets for free to producers in the ZOI, there was no market for the private sector entities to engage in cashew tree nursing business. These ambitious new plans proved to be beyond AgriFUTURO's capability and time frame. Instead the project invested in improving processors' quality controls to ensure that they would meet international standards and to expand sales options. Project support for these firms enabled them to buy over \$19 million worth of cashews from smallholders in 2013, nearly double the target.

- **Soybeans.** Over the life of the project, the number of assisted soybean producers went up from 6,600 (with sales of \$804,000) in 2010 to 25,964 (with sales of \$5,745,000) in 2014. Use of improved seeds, mechanization and soil inoculants expanded greatly over the life of the project.
- **Groundnuts.** The number of groundnut-producing rural households nearly doubled from just over 6,000 in FY 2009 to 11,848 in FY 2014. During that same period, total sales by these households similarly increased, from \$509,585 to \$1,174,053. However, the FY 2014 figure was much lower than the \$5,651,962 in sales achieved in FY 2012, due primarily to buyer concern about aflatoxin contamination.<sup>1</sup> As described, AgriFUTURO took a number of measures to address aflatoxin, but further work is needed to restore the confidence of international buyers.
- **Sesame.** Sales of sesame by project-supported producers increased by 111 percent during the life of the project, from \$1,338,318 in FY 2009 to \$2,826,900 in FY 2014. A chief project achievement in this value chain was helping to commercialize the use of sesame cleaning equipment at the Nacololo center run by the IKURU FOSC, which helped reduce post-harvest losses. Further expansion of this value chain has been constrained by limited capacity to administer the seed treatment needed to control sesame flea beetle. Infestation by this beetle resulted in low productivity for the internationally preferred white sesame seed variety, hence limiting sales opportunities.
- **Pulses.** The three pulse value chains (common beans, cowpea, and pigeon peas) can be classified as producer-driven value chains because farmers produce these crops primarily for their families' consumption, selling any excess production. Local consumers have few demands in terms of quality and their main concern is availability and price. However, the project helped disseminate improved production technology and link FOSCs with exporting firms for common beans and pigeon peas, which opened new market opportunities. Due to these new markets, the value of sales of common beans by project-supported farmers increased more than eight-fold, from \$155,357 in 2012 to \$1,308,641 in 2014; the value of sales of pigeon peas by project-supported farmers more than doubled, rising from \$116,071 to \$359,665 over the same period. Sales of cowpeas, however, decreased from \$133,929 to \$77,400 during this period due to low production volumes influenced by late rains in some northern regions of the country.

## PROGRAM IMPACT BY THE NUMBERS

AgriFUTURO's results from year to year have been impressive: by 2014, the project had generated over 27,000 new jobs, cumulative smallholder sales at the farm gate totaled over \$100 million and total exports (including those by large producers) totaled nearly \$70 million. AgriFUTURO facilitated over \$137 million in new investments, and by 2014 the project had promoted the use of new technologies on 23,157 hectares as 35,414 farmers adopted new practices. Over the life of the project, 55,423 members of 1,439 project-assisted producer organizations benefited from the services described in this report.<sup>2</sup>

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<sup>1</sup> Sales were also down in FY 2014 because sales by producer organizations in geographic regions that had been dropped in FY 2012 were excluded from the FY 2013 and FY 2014 reporting (due to a change in the results reporting methodology).

<sup>2</sup> Due to changes in AgriFUTURO's target value chains, geographic focus, and data collection methodology, it is not possible to compare life-of-project results with targets for all indicators. See following section for a detailed explanation.

# I. ROLLING DESIGN AND RESULTS

While AgriFUTURO successfully helped a large number of rural Mozambican families increase their incomes and participate more fully in expanding agricultural value chains, this project was subject to a number of profound changes. As a result, the project's lifespan can be separated into three distinct phases within a rolling design of AgriFUTURO as its mission shifted from increasing the competitiveness of Mozambique's agribusiness sector to directly reducing rural poverty. Each phase encompassed changes in objectives, targeted value chains, geographic focus, timelines, and the way results were measured. To capture these changes, the project changed its M&E plan five times.

## **I.1 PHASE 1: MAY 2009–SEPTEMBER 2011**

AgriFUTURO began on May 1, 2009, under a three-year, 10-month task order with Abt Associates, funded with resources appropriated under IEHA. The project's purpose was to "increase Mozambique's private-sector competitiveness by strengthening targeted agricultural value chains." The targeted value chains were bananas, pineapples, mangos, maize, soybeans, sesame, groundnuts, cashews, and forestry. Efforts to reform the enabling environment were to have a national focus, while assistance to value chains would take place in the Nacala and Beira Corridors.

The diverse nature of the value chains meant that AgriFUTURO deployed several distinct implementation strategies. Assistance to smallholder maize, soybean, sesame, and groundnut producers required strengthening the role of producer organizations to reach thousands of small producers, complemented by support of Agribusiness Service Clusters (ASCs) that could deliver needed agricultural inputs and access to markets and finance. In the pineapple, mango, and cashew value chains, the project focused overcoming the technology and marketing constraints faced by medium-scale producers and processors (which can generate employment). In the banana and forestry value chains, the project aimed to help broker deals with large-scale multinational firms to facilitate large increases in investment and employment.

This first phase began to produce concrete results in the 2010/11 agricultural cycle; at the end of FY 2011, the project had exceeded annual targets for five of the nine results indicators (value of sales, rural households benefited, private sector investment, actions taken to reform the enabling environment, and number of private firms and producer organizations assisted) and came close to meeting the remaining four (jobs attributed to the project, value of exports, value of agricultural and rural loans, and number of public private partnerships established).

## **I.2 PHASE 2: OCTOBER 2011–SEPTEMBER 2013**

This phase was introduced over a 12-month period beginning with the preparation of a new action plan in May 2011 at the request of USAID and creation of a modified monitoring and evaluation (M&E) plan in July of that year. The mission had adopted a new results framework for its agriculture, trade, and business (ATB) assistance objective in anticipation of a FY 2012 shift of funding from IEHA to FTF, and a subsequent change in its primary objective to reducing rural poverty. The mission chose to eliminate the forestry and maize value chains.

When the action plan and revised M&E plan were prepared, USAID had not finalized its multi-year FTF strategy and performance monitoring plan. When these were completed, USAID asked AgriFUTURO to add the cowpea, pigeon pea, and common bean value chains and to change its geographic focus by removing Niassa and Angonia and adding Zambezia. To incorporate these changes, the project prepared a second modified M&E plan in November 2011, which went through multiple revisions before being approved in July 2012. This prolonged process was due to continuing changes in FTF results indicator requirements and definitions, during which indicators that at first seemed similar between IEHA and FTF were shown to be quite different.

Shifts in value chains and geographic focus required the project to redirect project activities and staff and to withdraw support from previously assisted producer organizations in Niassa and Angonia. The mission and AgriFUTURO leadership agreed that results achieved through FY 2011 for the discontinued value chains and targeted regions would continue to be included in the accumulated results reporting, since these results had been achieved through investment of USAID's resources and because the project had been active for 29 months and had only 17 months remaining. Due to its expanded efforts, particularly in the newly targeted Zambezia region, by the end of FY 2012, AgriFUTURO had not only surpassed its annual targets but had also exceeded many of its end-of-project targets.

USAID then decided to extend the project by 11 months (to January 31, 2014) and a third revised M&E plan was submitted to the mission in November 2012. However, in June 2013, the mission instructed the project to base results reporting on surveys of those currently receiving assistance, thus ending the use of accumulated results from discontinued value chains and regions. Since FY 2013 targets had been set assuming that results achieved in abandoned regions and value chains would still be counted, the project fell short of its targets that year.

### **I.3 PHASE 3: OCTOBER 2013–FEBRUARY 2015**

In January 2014, AgriFUTURO began a one-month, no-cost extension, followed on February 27, 2014, by a contract extension to February 28, 2015. Under this extension, the mission eliminated the mango and cashew value chains and directed assistance under the banana value chain toward smaller producers instead of multinational firms. The mission also curtailed efforts to reform the agribusiness enabling environment or create new public-private partnerships, which had been components one and four of the original project, and changed the project's geographic focus to target producers in 23 districts of Nampula, Zambezia, Manica, and Tete provinces along the Beira and Nacala trade corridors. AgriFUTURO was instructed not to issue any new grants during the final year of implementation or assist organizations previously supported through the mission's PL480 Title II program (these groups had received marketing assistance from the project and production support via Title II implementing partners).

AgriFUTURO's support during 2014 focused on marketing production from the past crop year and on increasing technology for the 2014-15 crop year, particularly on facilitating a rapid expansion of inoculants to boost soybean production.

A work plan for the extension period and a fourth revision of the M&E plan were submitted to the mission in March 2014. Targets were based on actual FY 2013 results after removing results achieved under the discontinued cashew and mango value chains and making assumptions about the expected impact of the project in the newly added geographic areas of Tete province. At the end of FY 2014, the project had exceeded its targets for nine of 11 results indicators. The project then revised its M&E plan to increase targets for five indicators in the first quarter of 2015. In this, its last quarter, AgriFUTURO met 78 percent of targets.

### **I.4 RESULTS TABLES AND EXPLANATIONS**

We present annual actual and targeted results for the project's results indicators and then explain why results exceeded or missed the targets for each of AgriFUTURO's three phases. End-of-project targets and total results cannot be compared due to the change in data collection and reporting methodology in FY 2013 without a corresponding modification of targets.

In Table I, actual results shown for the baseline year (2009) and for FY 2010 and FY 2011 were taken from the July 2012 Performance Monitoring Plan (PMP) revision, as these figures include corrections made to previous reporting. Actual results for FY 2012, FY 2013, FY 2014, and the first quarter of FY 2015 are from AgriFUTURO's quarterly and annual reports.

**Table I: AgriFUTURO Results Indicator Actuals versus Targeted Results**

| Performance Indicator  |   | Baseline 2009 | FY 2010 | FY 2011 | FY 2012 | FY 2013 | FY 2014 | 2015 Qtr I |
|--|---|---------------|---------|---------|---------|---------|---------|------------|
| Purchases from smallholders/<br>Value of farm gate sales (\$m) | T |               | 15.5    | 18.2    | 21.8    | 25.3    | 11.00   | 0.300      |
|  | A | 3.1           | 3.2     | 23.9    | 36.5    | 27.6    | 11.52   | 0.182      |
| Jobs created   | T |               | 13,133  | 16,345  | 18,321  | 29,743  | 2,600   | 1,300      |
|  | A | 2,972         | 4,972   | 8,144   | 27,325  | 7,842   | 2,078   | 942        |
| - men  | T |               | 9,400   | 11,747  | 13,384  | 20,137  | 1,432   | 716        |
|  | A | 2,280         | 3,721   | 6,284   | 18,286  | 4,318   | 1,379   | 496        |
| - women  | T |               | 3,733   | 4,598   | 4,637   | 9,606   | 2,362   | 584        |
|  | A | 692           | 1,276   | 1,860   | 9,039   | 3,524   | 699     | 446        |
| Rural households benefited                                     | T |               | 45,000  | 49,504  | 86,428  | 135,45  | 37,400  | 48,300     |
|  | A | 36,933        | 11,245  | 20,520  | 132,326 | 48,709  | 49,267  | 44,144     |
| - male head of household                                       | T |               | 27,440  | 30,243  | 53,511  | 66,306  | 19,429  | 30,300     |
|  | A | 22,660        | 10,891  | 7,684   | 63,960  | 32,371  | 31,313  | 28,294     |
| - female head of household                                     | T |               | 17,560  | 19,262  | 32,917  | 69,151  | 7,317   | 18,000     |
|  | A | 14,273        | 354     | 12,836  | 68,366  | 16,338  | 17,954  | 15,850     |
| Total new exports (\$m)  | T |               | 28.795  | 24.437  | 58.712  | 47.651  | 1.893   | 0.200      |
|  | A | 6.31          | 5.83    | 17.835  | 39.385  | 30.941  | 3.765   | 0.076      |
| - International (outside of<br>Southern Africa)                | T |               | 22.375  | 23.259  | 57.27   | 45.111  | 1.137   | 0.120      |
|  | A | 5.4           | 1.177   | 13.145  | 38.266  | 29.909  | 2.98    | 0.076      |
| - Regional (Southern Africa)                                   | T |               | 6.42    | 1.178   | 1.442   | 2.54    | 0.756   | 0.080      |
|  | A | 0.91          | 4.653   | 4.69    | 1.119   | 1.032   | 0.785   | 0          |
| Private sector investment (\$m)                                | T |               | 25      | 19.877  | 41.477  | 20.051  | 1       | 0.500      |
|  | A | 1.9           | 93.5    | 24.4    | 8.047   | 6.27    | 2.541   | 0.587      |
| Policy reform proposals submitted                              | T |               | 1       | 2       | 4       | 2       | NA      | NA         |
|  | A | 0             | 1       | 3       | 3       | 0       | NA      | NA         |
| Firms and producer organizations<br>benefited                  | T |               | 160     | 210     | 7,723   | 4,790   | 739     | 1,540      |
|  | A | 70            | 179     | 2,938   | 4,725   | 1,483   | 1,542   | 1,439      |
| Financing mobilized/value of ag and<br>rural loans (\$m)       | T |               | 25      | 2.52    | 2.765   | 3.24    | 2       | 0.500      |
|  | A | 1.1           | 1.0     | 2.5     | 5.541   | 1.01    | 0.776   | 0.098      |
| Number of PPPs established                                     | T |               | 8       | 18      | 13      | 4       | NA      | NA         |
|  | A | 0             | 13      | 21      | 9       | 3       | NA      | NA         |
| Hectares under new technology                                  | T |               |         |         | 29,826  | 50,800  | 15,700  | 15,700     |
|  | A |               |         | 19,120  | 44,382  | 14,272  | 23,157  | 16,013     |
| Organizations with new<br>technology                           | T |               |         |         | 7,381   | 477     | 675     | 1,410      |
|  | A |               |         | 2,938   | 4,694   | 1,327   | 1,410   | 1,439      |
| Farmers using new technology                                   | T |               |         |         | 51,971  | 125,006 | 26,180  | 26,180     |
|  | A |               |         | 43,202  | 115,178 | 45,362  | 35,414  | 12,533     |
| Members of coops and<br>associations assisted                  | T |               |         |         | 61,311  | 33,000  | 32,600  | 40,000     |
|  | A |               |         | 60,394  | 98,413  | 20,869  | 41,055  | 43,683     |

Table 2 shows the percentage of actual results divided by targets for each indicator for each year. At the bottom of this table, we show the average percentage, which provides a rough assessment of the project's overall accomplishments against targets for each year.

**Table 2: AgriFUTURO Percentage of Actual versus Targets**

| Performance Indicator                                      | FY 2010    | FY 2011     | FY 2012     | FY 2013    | FY 2014     | FY 2015<br>Qtr I |
|--|------------|-------------|-------------|------------|-------------|------------------|
| Purchases from smallholders/value of farm gate sales (\$m) | 21%        | 131%        | 167%        | 109%       | 105%        | 61%              |
| Jobs created   | 38%        | 50%         | 149%        | 26%        | 80%         | 72%              |
| - men  | 40%        | 53%         | 137%        | 21%        | 96%         | 69%              |
| - women  | 34%        | 40%         | 195%        | 37%        | 30%         | 76%              |
| Rural households benefited                                 | 25%        | 41%         | 153%        | 36%        | 132%        | 91%              |
| - male head of household                                   | 40%        | 25%         | 120%        | 49%        | 161%        | 93%              |
| - female head of household                                 | 2%         | 67%         | 208%        | 24%        | 245%        | 88%              |
| Total new exports (\$m)                                    | 20%        | 73%         | 67%         | 65%        | 199%        | 38%              |
| - International (outside of Southern Africa)               | 5%         | 57%         | 67%         | 66%        | 262%        | 38%              |
| - Regional (Southern Africa)                               | 72%        | 398%        | 78%         | 41%        | 104%        | 0%               |
| Private sector investment (\$m)                            | 374%       | 123%        | 19%         | 31%        | 254%        | 117%             |
| Policy reform proposals submitted                          | 100%       | 150%        | 75%         | 0%         |             |                  |
| Firms and producer organizations benefited                 | 112%       | 1399%       | 61%         | 31%        | 209%        | 93%              |
| Financing mobilized/value of ag and rural loans (\$m)      | 4%         | 99%         | 200%        | 31%        | 39%         | 20%              |
| Number of PPPs established                                 | 163%       | 117%        | 69%         | 75%        |             |                  |
| Hectares under new technology                              |            |             | 149%        | 28%        | 147%        | 102%             |
| Organizations with new technology                          |            |             | 64%         | 278%       | 209%        | 102%             |
| Farmers using new technology                               |            |             | 222%        | 36%        | 135%        | 48%              |
| Members of cooperatives and associations assisted          |            |             | 161%        | 63%        | 126%        | 109%             |
| <b>Average percentage (actual/target)</b>                  | <b>95%</b> | <b>243%</b> | <b>120%</b> | <b>62%</b> | <b>149%</b> | <b>78%</b>       |

Note: Indicator percentages highlighted in blue are ones for which the targets were set using an assumed data collection and reporting methodology that was not the same as the one actually used.

## 1.5 EXPLANATION OF VARIANCES

### 1.5.1 PHASE I (MAY 2009–SEPTEMBER 2011)

At the end of FY 2011, AgriFUTURO had achieved 243% of its targets. However, this average is skewed by the extraordinary 1,399% achieved in the number of firms and producer organizations benefited. That year, the project had begun to provide market linkages assistance to producer organizations under the Gates-supported ProSoja program implemented by AgriFUTURO subcontractor CLUSA, which had not been contemplated when targets were set. Excluding this indicator, the program achieved an average of 98% of the rest of the indicators—similar to the 95% average achieved during FY 2010.

In FY 2011, the ProSoja partnership also contributed to AgriFUTURO's exceeding the target for purchases from smallholders, particularly soybeans and maize. The project also exceeded targets for

private sector investment, primarily due to the forestry value chain, as well as for policy reform proposals submitted and number of PPPs formed.

Despite these successes, AgriFUTURO fell short of targets for jobs created, rural households benefiting, and exports. The first two were due to constraints in the cashew value chain, which accounted for half the target for jobs in the project's early stages—based on the experience under USAID's predecessor project, EMPRENDIA, which assisted cashew processors and then captured information on farmers supplying their operations. AgriFUTURO did not provide assistance to the processors and so could not get their cooperation in providing data. Additionally, the country's cashew industry sorely needs to replace old trees, and there was no effective organization of cashew producers. Export targets were set based on expected expansion of multinational banana operations, which was curtailed by regional export bans due to fruit flies (the project's enabling environment arm later successfully addressed this issue).

### **1.5.2 PHASE 2 (OCTOBER 2011–SEPTEMBER 2013)**

FY 2012 was one of AgriFUTURO's most successful years. The project achieved an average of 120% of results against targets. The project exceeded (by wide margins) the targets for farm sales, jobs, rural households benefiting, value of agricultural and rural loans, hectares under new technologies, farmers using new technologies, and members of cooperatives and producer organizations. Targets for exports and private sector investment were missed because of continuing fruit fly issues with the multinational banana value chain.

Targets were increased to adjust for inclusion of the ProSoja groups, as well as groups previously assisted through the USAID PL480 Title II Multi-Year Assistance Programs (MYAPs): number of firms and producer organizations assisted was set at 7,723 for FY 2012, and number of organizations using new technology was set at 7,381. However, these targets were overly ambitious, as AgriFUTURO did not have the resources to reach all these groups. Actual results for FY 2012 firms and producer organizations assisted were 60% higher than FY 2011, but the project still fell short. The number of new PPPs established also fell short of the target.

As noted earlier, FY2013 is an anomaly: data collection and reporting methodology for several indicators—targets for jobs, rural households benefiting, firms and producer organizations assisted, and members of cooperatives and producer organizations—changed, using “snapshot” surveys of actual program participants, but the targets had been based on the prior methodology. In addition, FY 2012 results reflected assistance provided to MYAP and ProSoja groups (75,319 of the 132,326 households reported), but support from other organizations to the MYAP and ProSoja programs ended in December 2012. USAID asked AgriFUTURO to continue supporting these groups, but the project no longer had the extensive MYAP/ProSoja organizational data-collecting structures (dedicated staff, data-recording mechanisms, vehicles, and a system of payment)—and these groups were not included in the snapshot data-gathering exercises. Again, the methodology assumed in setting the targets was not used in collecting results.

AgriFUTURO exceeded its target for farm sales, due primarily to the cashew sector. In FY 2012 and FY 2013, the project began assisting processors to meet the global quality standards set by the International Organization for Standardization (ISO), thus enabling the project to collect data on purchases. Fruit fly-related bans continued to dog the multinational banana sector and impact the corresponding results in value of exports and private sector investment. The target for agricultural and rural loans was not achieved, as the participating banks cut back on loans after delinquency in 2012. The target for hectares under new technology was increased based on the actual FY 2012 experience. However, the inability to collect data through the MYAP and ProSoja structures, as described above, meant that AgriFUTURO missed these targets.

### **1.5.3 PHASE 3 (OCTOBER 2013–FEBRUARY 2015)**

USAID approved a one-month, no-cost extension of AgriFUTURO in January 2014, followed by approval on February 27, 2014, of a one-year extension until February 28, 2014. Field activities had ended in November 2013 and most staff had departed in December. The project spent much of

March and April 2014 hiring new staff and reestablishing offices. Despite uncertainty during M&E planning about whether previously assisted organizations would still be active, most proved to be, and some of the previously assisted ProSoja and MYAP groups had even formed new producer organizations that welcomed AgriFUTURO assistance. In FY 2014, AgriFUTURO achieved an average of 149% against targets, exceeding nine of the 11 results indicator targets.

Two were missed. First, results for jobs were 80% of the target, as producer organizations did not record the full-time equivalent jobs during the first two quarters of the fiscal year after assuming the project was over. Secondly, results for value of agricultural and rural loans were significantly under target, as participating banks virtually terminated loan activity to smallholder agriculture.

Results for the first quarter of FY 2015 were on average only 78% of the targets, and only four of 11 targets were surpassed. Targets for five indicators had been increased based on the full FY 2014 experience, which did not provide a reliable guide (targets had never been set for a single quarter before). The project also shifted resources to implement the soy inoculant pilot, reducing other activities.

## **1.6 SUMMARY**

On average, AgriFUTURO substantially met or exceeded its targets, except during two periods: FY 2013 and the first quarter of FY 2015. However, these averages are only a rough measure of success, and each year there were significant variances for specific indicators. All M&E plans are subject to unpredictable changes in assumed implementation approaches and operating environment; AgriFUTURO weathered an unusually large number of these. Except for the indicator of agricultural and rural loans, which clearly fell short, the project achieved a solid record of achievement amidst shifting parameters.

## 2. HIGHLIGHTS: IMPACT OF PROGRAM COMPONENTS

### 2.1 IMPROVED ENABLING ENVIRONMENT

Initially one of AgriFUTURO’s central objectives—improving the enabling environment for agribusiness—targeted public policies constraining agribusiness growth; agribusiness representative structures; and public-private efforts to address inadequate infrastructure, technology and policy issues, legal structures of producer organizations, and non-tariff barriers to trade and trade promotion.

Enabling environment activities diminished in the project’s second and third phases, as FTF gave greater emphasis to direct interventions to boost small farmer incomes and nutrition, and because the mission sponsored a separate economic growth policy project, Support Program for Enterprise and Economic Development (SPEED), as a more appropriate vehicle to address public policy constraints to agribusiness development. Below, we detail AgriFUTURO’s most significant accomplishments in this arena.

#### 2.1.1 AGCLIR

The Agribusiness Commercial, Legal and Institutional Report (AgCLIR) analytical process was developed by USAID/Washington as an agribusiness-oriented analytical framework, based on the World Bank’s Ease of Doing Business Index. AgriFUTURO took this on in 2011 to map the legal and institutional environment for doing business in Mozambique’s agricultural sector. The study examined getting licenses, employing workers, getting credit, paying taxes, accessing marketing infrastructure, trading across borders, enforcing contracts, and closing a business. A team of seven consultants interviewed over 150 stakeholders in and near Maputo City and Gaza, Manica, Sofala, and Nampula, including national and local officials, farmers and their associations, owners of agricultural enterprises, business associations, nongovernmental organizations (NGOs), and the banking and lending community. The AgCLIR diagnostic culminated in a roundtable presentation and discussion on March 8, 2011, attended by more than 75 stakeholders, including several donors.

The final AgCLIR document, completed in August 2011, served as a foundation for agriculture policy development, a framework for donor intervention, a substantive resource for future projects, a benchmark for assessing change, a tool for academic instruction and most immediately, a “jumping-off point” for stakeholder discussion and consensus building. Among the seminal documents AgCLIR influenced were the policy matrix in the Comprehensive Africa Agriculture Development Programme (CAADP), the Government of Mozambique’s National Agriculture Sector Investment Plan (PNISA) of April 2013, and the Monitor Group’s review of the agribusiness sector for the Ministry of Agriculture’s *Centro de Promoção da Agricultura* (CEPAGRI).

To prioritize the long list of AgCLIR proposals and generate specific action agendas for follow up, USAID and AgriFUTURO established the Friends of Agribusiness group, which included select public, private sector, and donor representatives. However, the group did not gather consistent momentum and after a handful of sessions with little consensus, the effort was suspended. Six months later, in early 2013, the Agribusiness Working Group was co-founded by AgriFUTURO and the Netherlands Development Organization (SNV), with active support from the Canadian High Commission. Members from donor, government, and private sector entities gather on a monthly basis in Maputo to discuss specific topics pertaining to the country’s agribusiness development.



AgriFUTURO’s AgCLIR report has proven influential in Mozambique’s agricultural policy development. *Click on the above image to link to the document.*

Sessions have been well attended, with up to 30 people present, and the discussion is typically lively. These meetings have advanced the agenda of the donor community and its relationship with agribusiness in Mozambique.

### 2.1.2 REPRESENTATIVE AGRIBUSINESS ORGANIZATIONS

AgriFUTURO helped form commercial farmer groups to serve as lobbying entities vis-à-vis the government and as focal points for dissemination of new industry technologies. The most successful of these is FrutiCentro, representing fruit and nut growers and processors in the Beira Corridor.



“By defining FrutiCentro as an association, we are increasing our power to negotiate.”

*Pascoal Alves de Castro  
President of FrutiCentro*

The need for this organization became clear during the fruit fly crisis, which prompted Zimbabwe to close its export borders with Mozambique in 2011. This stranded multiple mid-scale (50-100 hectares) banana farmers and a group of commercial mango farmers who had invested assuming access to the Zimbabwe market. FrutiCentro took shape as the private sector voice for those concerned with fruit fly-related issues; AgriFUTURO paid for its legal formation and counsel, and covered the salary of a professional manager for a full year. Its members were commercial farmers, especially from Manica Province; growers in the far south were not affected by the embargo as the fruit fly is not present there.

As FrutiCentro matured into an active participant in the fruit fly mitigation and control effort, its services expanded: it now provides a monthly newsletter to its membership and a “classified advertisements” service for members to buy or sell goods or services. It also stages well-attended monthly field days to focus on issues in the banana, mango, litchi, and related sectors. FrutiCentro’s long-term sustainability remains to be proven (depending on whether or not members are willing to pay a fair membership fee for a prolonged period).

AgriFUTURO mounted a similar effort to form FrutiNorte for the Nacala Corridor, but this received an unenthusiastic response from the few commercial fruit growers there. However, CEPAGRI’s regional office in Nampula recently expressed interest in supporting this organization, following FrutiCentro’s successful example. Should FrutiNorte come into existence, it could join forces with FrutiCentro and the long-existing FrutiSul to form a national association, which would then become part of the agriculture arm of the Confederation of Business Associations of Mozambique (known as CTA for the Portuguese *Confederação das Associações*), giving it a high-profile platform to influence government policy.

The project also made initial strides toward forming a national soybean association by identifying a professional organizer with experience in the region—Peter Watt. USAID’s Southern Africa Trade Hub (SATH) project helped cover the costs of organizing the association. However, insufficient interest from key industry players such as major poultry producers made it infeasible to go forward.

Over two years, AgriFUTURO, jointly with the German Society for International Cooperation (GIZ), provided two specialists to strengthen the cashew program of the Association of the Cashew Industry in Mozambique (AICAJU) in Nampula.

### 2.1.3 ADDRESSING INADEQUATE INFRASTRUCTURE AND TECHNOLOGY

**Port efficiency and cost-effectiveness:** In 2010, AgriFUTURO conducted a thorough study of the Port of Nacala’s effect on agribusiness investment, particularly in the fruit industry, and hosted a sector-wide workshop to discuss the findings. The report found port charges were in line with other African and regional ports, but were exacerbated by inefficiencies, and that port infrastructure was obsolete and would need considerable investment to handle the increasing demand for services in northern Mozambique. Port owner CFM is working to upgrade infrastructure with financing from JICA.

In 2012, AgriFUTURO conducted a critical path review to assess improvement by tracking produce from the farm to aboard ship at the port, using Matanuska Bananas as a test case. This found some improvements and new hindrances, such as the recently added initial screening of containers at the port, which slowed down the loading process.

Later in 2012, AgriFUTURO and SATH conducted a broader logistics review of the Beira and Nacala Corridors, which examined farm-to-export markets as a whole, taking into consideration port conditions but also road conditions, trucking costs, railroad conditions and costs, document processing, and border crossings from adjacent countries into Mozambique. This extensive review found that the Beira and Nacala ports are close to performance levels of comparable ports in adjacent countries, apart from South Africa, where ports are more efficient. Cargo dwell time is excessive, but this may be as much a factor of the shippers using the port as a storage area as port inefficiency. Specific recommendations were made and reviewed with the Port of Beira authorities. Subsequently, improvements in cargo handling and port costs have been reported at Beira port.



“Before, exporters didn’t know how the port was operating. They were blaming the port for everything and ruining our image. Now, people understand that it’s not just the port, but also the shipping agents, customs, etc.”

*Inocencio Horcicio, Operations Manager of Nacala Port*

**Aflatoxin:** This dangerous fungus threatens Mozambique’s health and economic security. High levels of aflatoxins in the human diet can contribute extensively to child stunting, liver cancer, and possibly to susceptibility to HIV/AIDS. If aflatoxins are found in exported grains and oilseeds at levels above international trade standards, shipments are rejected and must be shipped back to the port of origin at enormous expense.

**AgriFUTURO helped establish the country’s first fully equipped and certifiable laboratory to test for aflatoxin contamination before export.** In early 2011, the project identified the *Universidade Lurio* (UniLurio) in Nampula as a logical home: the university was constructing a new campus and the city of Nampula is the epicenter of the country’s production belt for grains and oilseeds. AgriFUTURO partnered with the leadership of the university to galvanize interest within the GOM and among the international NGO and donor communities, leading to funds committed by the World Food Programme (WFP) and the GOM. The project approved a \$100,000 grant to support construction of the new laboratory, which was inaugurated on the new campus on June 29, 2013. The project also funded a consultancy to Mozambique by a laboratory expert from Portugal and a study by Dr. Tito Fernandes of the Mozambican Eduardo Mondlane University, an internationally renowned expert in nutrition issues—who subsequently became the head of the relevant department at UniLurio.

Full accreditation is still pending: the laboratory is addressing shortcomings identified by an initial evaluation, including the need for additional mycotoxin analyses, inter-laboratory aflatoxin tests, and the addition of chromatographic methods to the testing repertoire. Staff have developed a new quality manual based on ISO 17025 standards, and a new external audit is expected shortly. Once accredited, exporters from northern Mozambique will have a laboratory where they can send samples of their product prior to shipment, and public health initiatives will have a focal point for public awareness campaigns on proper post-harvest handling of grains and oilseeds (especially maize and groundnuts) to avoid aflatoxin contamination.

Also in Nampula, AgriFUTURO worked with the U.S. Department of Agriculture (USDA) and the International Institute of Tropical Agriculture (IITA) to introduce the USDA-backed “Aflasafe” product to Mozambique; previously, it was based only at Ibadan University in Nigeria. IITA is now overseeing this program with funding from USDA (to be administered by USAID); its head is a Mozambican PhD who trained at the University of Georgia and specializes in aflatoxin.



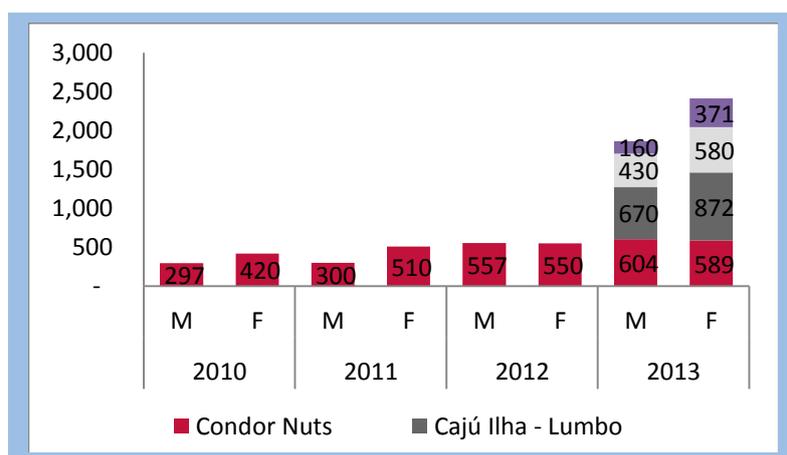
In June 2014, AgriFUTURO teamed with USAID's Southern Africa Trade Hub to host practical training at UniLurio in removing groundnut skins, a key step in preventing aflatoxin contamination.

In addition, from 2011–2014 AgriFUTURO helped fund several workshops on the prevention of aflatoxin, including practical training sessions for farmers and others dealing with groundnuts, organized jointly with SATH.

**Quality standards for cashews:** The project signed a memorandum of understanding with cashew processors Condor Nuts, IPCCM, Cashew Island Lumbo, Cashew Island Angoche, Molócuè Agro Processing and Korocho in which they agreed to adopt the quality management standards (QMS) process and implement the Hazard Analysis and Critical Control Points (HACCP) management system. AgriFUTURO's training and technical assistance in both these systems led to improvements in performance and production flow design.

The project trained 6,910 employees from these companies on QMS, which helped formalize 63 standard operating procedures and 28 implemented procedures, with particular success at the Condor Nuts processing plant. The documented process provides the basis for their quality

**Figure 1: Employees Trained on Quality Standards**



certification. As a result, new customers/buyers from America and Europe (including U.S.-based Caro Nut and Sunshine), as well as regional ones, visited their processing plant and showed interest in buying their nuts.

### 2.1.4 NEW COOPERATIVE LAW AND REGULATIONS

AgriFUTURO supported the *Associação Moçambicana para a Promoção das Cooperativas Modernas (AMPCM)* to

disseminate the new cooperative law and produce the corresponding regulations, which were completed in 2010 and submitted to the Council of Ministers for approval. The project helped convert 18 associations into legal cooperatives and also provided extensive business development services (BDS), including management training, for these and other smallholder farmer cooperatives, which are now able to operate as regular businesses. (See table in Annex C for the status of all project-supported cooperatives).

### 2.1.5 NON-TARIFF BARRIERS TO TRADE AND TRADE PROMOTION

**Fruit fly constraint to exports:** Fruit flies were detected in Nampula in 2008 and in Manica in 2009. The project did not anticipate that this would affect banana exports, as green bananas were not considered hosts to fruit flies; bananas have been exported from Central America to the U.S. for a well over a century despite the prevalence of fruit flies in that region. However, shortly after AgriFUTURO began, South Africa and Zimbabwe banned importation of bananas from northern Mozambique due to the presence of this pest. At the same time, the GOM banned shipments of bananas from northern to southern Mozambique.

The project worked with the GOM and private industry to address this constraint and fully funded research in Pemba that confirmed that green bananas do not host the fruit fly and that the presence of this pest should not impede circulation within Mozambique or shipment to regional and

international markets. **AgriFUTURO's work led South Africa and Mozambique to lift their embargoes;** Zimbabwe's remains in place for now.

The project also supported documentation of fruit fly locations to free up export of other fruits from unaffected regions. Fruit fly surveillance continues in Mozambique, especially in the northern and central regions, enabling the GOM and private industry to monitor and mitigate the effects of the fruit fly in production areas and in Mozambique in general.

AgriFUTURO's efforts led to other positive outcomes, including the creation of a critical mass of national technicians on pest management; establishment and release of natural enemies for biological pest control; and identification of a new species of fruit fly, allowing the Ministry of Agriculture to put in place mitigation plans in time to avoid its dispersion.

**Trade promotion:** AgriFUTURO actively supported attendance by Mozambican emerging agribusiness leaders at crucial meetings and conferences, enabling them to pursue new business opportunities and provide input into emerging international policies and programs concerning agricultural development in Africa. These include the following:

- Johannesburg, South Africa (October 2011): The project sponsored participation of Judite Macuacua Pinto, founder of the Wissa food processing company, in the agribusiness forum, "Engaging the Private Sector for Africa Agri-Food Growth."
- Dar es Salaam, Tanzania (November 2011): AgriFUTURO accompanied two project-supported agricultural entrepreneurs—Peter Waziweyi of *Sementes Nzara Yapera* (SNY) and Bakir Lozane of Lozane Farms—as well as Godinho Alves of the Mozambican Centre for Investment Promotion (CPI) and Abdul Cesar, head of CEPAGRI, to the inaugural meeting of Grow Africa, a partnership platform to help catalyze sustainable investment and growth in African agriculture, founded by the African Union Commission, the New Partnership for Africa's Development (NEPAD), and the World Economic Forum.
- Washington, D.C. (May 2012): The project paid for Ms. Pinto, Helia Ntsamboca of HELMAR Pty (Ltd) General Trading, Lucilio Gerson Daniel of the IKURU FOSC, and Roberto Mito Albino of the Zambezia River Valley Authority to attend the 2012 G8 Summit & The Chicago Council Global Agriculture and Food Security Symposium, at which the New Alliance for Food Security was launched.
- Dakar, Senegal (November 2012): AgriFUTURO accompanied Mr. Lozane and Olinda Fondo of *Agricultura e Comercio de Olinda Fondo* (ACOF) to the AgriBusiness Forum, the largest pan-African annual agribusiness forum held on African soil.

## 2.2 BUSINESS DEVELOPMENT SERVICE CENTERS TO SERVE FARMERS

### 2.2.1 FARMER-OWNED SERVICE CENTERS

Under Component 2 of the project, Expand and Strengthen Agribusiness Development Services, AgriFUTURO helped producer associations develop into FOSCs. The project cost-effectively provided production and marketing assistance to over 55,000 smallholder farmers. Over the life of the project, the FOSC approach enabled AgriFUTURO to achieve the following:

- **Efficient service provision:** Capitalizing on FOSCs' management structures, the project channeled assistance through them to disseminate productivity-enhancing technologies, improve harvest and post-harvest handling, and provide marketing linkages and support. AgriFUTURO worked through FOSC management, Production and Marketing Technicians (TPCs in Portuguese), and Production and Marketing Agents (APCs), who later went on to transmit the assistance to thousands of individual farmers.
- **Inclusive approach, especially with respect to credit for women:** The FOSC approach benefited women in particular by building social capital around groups and attenuating particular constraints faced by women. For example, typically, women are not eligible for loans due to their low levels of literacy and collateral holdings. By organizing in groups, women were able to

generate social collateral and establish trust needed by formal and informal financial institutions. Financial services included either advances in kind—seeds and other inputs—or loans for commercialization from buyers or formal financial institutions. The FOSCs provided the crucial framework to ensure that organizations getting loans benefit women as well.

- **Secure market linkages:** FOSCs enabled farmers to access various markets for inputs (seeds, fertilizers, and pesticides), outputs, and services that would have bypassed individual farmers. Today, many organizations are benefiting from purchasing contracts that stipulate volumes, quality measures, date of delivery, and price paid; FOSCs have proved efficient in meeting these new market stipulations.
- **Value chain improvements and developments:** The FOSCs proved to be a useful vehicle for introducing new crops and technologies. For example, pigeon pea, a non-traditional value chain in the Beira Corridor, was introduced through the Export Trading Group (ETG) agribusiness, which built a new processing plant in Sofala province. For the 2014/15 crop cycle, ETG advanced improved seed of pigeon peas to FOSCs in Barue on a credit basis, giving the Manica region a new cash crop with a secure market.

AgriFUTURO investment in the FOSC model resulted in:

**Enhanced business skills:** AgriFUTURO generated a cadre of effective managers, helping them gain management skills needed to effectively run complex businesses, despite limited educational levels. More remains to be done to enhance and consolidate their skills and ensure systems for transparent and accountable management, but the project laid the foundation for these new farmer leaders.

**Increased/improved market access:** Traditionally, agro-processors and exporters relied on informal small truckers who circulated in the production zones at harvest and paid below-market prices to the farmers and often cheated farmers by using altered scales. By shifting purchases to the formal FOSC



“This is the first year of USAID AgriFUTURO assistance, where 201 members and their neighbors produced groundnuts and sesame knowing the market demand in terms of crops and volumes.”

*José Saide, president Boa Esperança Forum, Nacala Corridor, who helped the group transition from a Multi-Year Assistance Program to an independent group with a business focus.*

structure, the buyers have a reliable, quality supply and can better meet new European and U.S.



*In 2014, Sandra Inácio of the association Agropecuária Samora Machel in Manica Province weighs soybeans to be purchased by major buyer Abílio Antunes.*

requirements to identify the source of each bag exported. The farmers benefited, too, as sales through the FOSC brought better and fairer prices. Some farmers still sold some or all their production to informal buyers (side sales) due to their urgent need for money, but on the whole, FOSC marketing services proved one of AgriFUTURO’s most valued interventions. Mutually beneficial relationships—for example, between FOSCs in Barue and Manica with Abílio Antunes, the country’s largest poultry farmer, or between ETG and the Samora Machel and Culima Cuacanaca FOSCs in Barue district—are transforming value chains, especially soybeans and pigeon peas where sales volumes are rising rapidly. The ripple effects of these relationships include:

- More participation of women in new markets such as soybean and pigeon peas; as shown in Table 3, 37% (20,567) of FOSC members are women. Female producers are usually less able individually to access formal buyers because they often cannot transport their produce to markets.

- Higher household incomes due to better sales prices, and subsequent improvements in food security and nutritional status.
- Economies of scale for buyers due to the role of the FOSC in aggregating large volumes and ensuring quality standards.

**Increased productivity:** Through the FOSCs, AgriFUTURO helped improve productivity and increase production by facilitating greater access to improved seeds and finance. FOSC economies of scale allow dissemination of new production technologies, inputs, and finance to large numbers of small farmers at a fraction of the cost of reaching them individually, resulting in improved yields per unit of area.

**Better post-harvest handling and storage:** Proper post-harvest handling is essential to reduce product loss and the risk of aflatoxin contamination of grains and oilseeds, the primary products of FOSCs assisted by AgriFUTURO. Improved storage facilities reduce contamination and allow farmers to withhold their production from the market when prices are low at time of harvest for later sale when prices rise. Disseminating these technologies to large numbers of smallholders would be costly and unwieldy without the FOSC structure.

More than 1,500 organizations were reached through the FOSC model (forums/association/clubs) aggregating 55,423 members. The highest number of beneficiaries was in Nampula province followed by Zambezia, Tete and Manica (See Table 3 on the following page.)



"I have my own money I can use for my own priorities, and one of them is to send my children to school."

*Angelina Muresse, member of FEPROG, the federation of producers of Gurue. In 2013-14, she and other members increased soybean yields after receiving inoculants and mechanized land preparation from the Rei do Agro company, which provided inputs on credit.*

**Table 3: Final Project-Supported FOSCs**

| Name of the FOSC  | Sex           |               | Total         | No. Associations |
|---|---------------|---------------|---------------|------------------|
|   | M             | F             |               |                  |
| <b>Beira Corridor</b>   |               |               |               |                  |
| <b>Manica Province:</b>   |               |               |               |                  |
| Barué/Manica  | 3,890         | 1,116         | 5,006         | 121              |
| Dombe   | 550           | 410           | 960           | 32               |
| Mossurize   | 303           | 50            | 353           | 1                |
| SIWAMA  | 666           | 375           | 1,041         | 54               |
| Gondola   | 210           | 150           | 360           | 32               |
| <b>Total—Manica</b>   | <b>5,619</b>  | <b>2,101</b>  | <b>7,720</b>  | <b>240</b>       |
| <b>Tete Province:</b>   |               |               |               |                  |
| FOSC de Angonia   | 4,626         | 4,532         | 9,158         | 229              |
| FOSC de Tsangano  | 1,041         | 777           | 1,818         | 50               |
| <b>Total—Tete</b>   | <b>5,667</b>  | <b>5,309</b>  | <b>10,976</b> | <b>279</b>       |
| <b>Nacala Corridor</b>  |               |               |               |                  |
| <b>Nampula Province:</b>  |               |               |               |                  |
| SANA* Associations  | 11,622        | 8,126         | 19,748        | 721              |
| SANA* Cooperatives  | 243           | 59            | 302           | 17               |
| IKURU   | 2,889         | 1,573         | 4,462         | 133              |
| <b>Total—Nampula</b>  | <b>14,754</b> | <b>9,758</b>  | <b>24,512</b> | <b>871</b>       |
| <b>Zambezia Province:</b>   |               |               |               |                  |
| ADRA Associations   | 1,872         | 1,479         | 3,351         | 11               |
| FedaMoz   | 869           | 359           | 1,228         | 55               |
| Associações da Alta Zambezia (which includes ProSoja that become Promac Associations) | 6,020         | 1,535         | 7,555         | 140              |
| Nicoadala-World Vision Associations   | 55            | 26            | 81            | 3                |
| <b>Total—Zambezia</b>   | <b>8,816</b>  | <b>3,399</b>  | <b>12,215</b> | <b>209</b>       |
| <b>Total</b>  | <b>34,856</b> | <b>20,567</b> | <b>55,423</b> | <b>1,599</b>     |

SANA refers to the CLUSA, Africare, and Save the Children Consortium

## 2.2.2 AGRIBUSINESS SERVICE CLUSTERS

The ASC approach rests on the relationship between a commercial farmer and emerging farmers, made possible by augmenting the capacity of the commercial farmers. AgriFUTURO applied this approach to help deliver services needed by new emerging farmers. Some ASCs still maintain business relationships with their emerging farmers, but more and more, FOSCs are standing in for the emerging farmer and establishing close ties with private enterprises. The ASC model benefited more than 6,000 emerging farmers (68% men and 32% women), who received assistance to increase sales and incomes.

**Table 4: Final Project-Supported ASCs and Producers Engaged**

| Name of the ASC             | Sex of Producers |              |              |
|-----------------------------|------------------|--------------|--------------|
|                             | M                | F            | Total        |
| <b>Beira Corridor</b>       |                  |              |              |
| 1. Phoenix                  | 8                | 1            | 9            |
| 2. Agro-Pecuaria de Manica  | 46               | 11           | 57           |
| 3. Sementes NZY             | 52               | 4            | 56           |
| 4. Siwama                   | 7                | 2            | 9            |
| 5. Njerenje                 | 16               | 0            | 16           |
| <b>Total—Beira</b>          | <b>129</b>       | <b>18</b>    | <b>147</b>   |
| <b>Nacala Corridor</b>      |                  |              |              |
| 1. Olinotu                  | 1,226            | 617          | 1,843        |
| 2. CAL                      | 495              | 29           | 594          |
| 3. Cister (Rapale)          | 846              | 354          | 1,200        |
| 4. Wissa                    | 56               | 24           | 80           |
| 5. Lozane Farm (Malema)     | 10               | 1            | 11           |
| <b>Total —Nampula</b>       | <b>2,633</b>     | <b>1,036</b> | <b>3,728</b> |
| <b>Zambezia</b>             |                  |              |              |
| 1. Africa Century           | 370              | 580          | 950          |
| 2. Rei de Agro              | 56               | 4            | 60           |
| 3. ACOF                     | 250              | 76           | 326          |
| 4. MADAL                    | 452              | 109          | 561          |
| 5. Cister (A. Molocue)      | 12               | 4            | 16           |
| 6. Lozane Farm (A. Molocue) | 326              | 82           | 408          |
| <b>Total—Zambezia</b>       | <b>1,466</b>     | <b>855</b>   | <b>2,321</b> |
| <b>Total for all ASCs</b>   | <b>4,228</b>     | <b>1,909</b> | <b>6,196</b> |

The ASC approach engendered the following:

- Better production technology (e.g., land preparation services)
- Value-added services (e.g., post-harvest handling and distribution)
- Strengthened linkages to domestic and external markets
- Profits for ASCs from larger operating scale due to emerging farmer production
- Improved access to finance and business plans development
- Organization of production, marketing, and exports of agricultural products



“Thanks to Dengo today, we have a secure market for output. ... We also get technical assistance from production to harvest, and this makes us feel secure in what we do.”

*Horácio Sixpence, one of 144 seed farmers working with Dengo Comercial, who have formed an association called ACAMUSA (Associação de Camponeses Multiplicadores de Sementes). Sixpence currently farms 10 hectares and works with 23 producers in his own right. All of his eight children are currently in or have completed school.*

ASCs also addressed the general lack of machinery (tractors, bulldozers, etc.) for land preparation services. Mozambique has extensive unused land that can only be farmed with mechanization, and some regions have a hard pan under the soils that must be broken with a mechanized plow to allow roots to penetrate. AgriFUTURO increased access to mechanization services through its grants program. *(See Table 7 in Annex C for detailed grants information.)*

The ASC approach helped accelerate the development of entrepreneurial farmers in Zambezia, Nampula, and Manica provinces. AgriFUTURO groomed many viable agricultural entrepreneurs, several of whom are now working with projects such as Inovagro and ProSavana.

Many commercial farmers as well as smallholder/emerging farmers increased productivity through the ASC approach, thanks to wider availability of certified high-quality seeds and fertilizers; adoption of good agriculture management practices; and locally available mechanization services, which expanded cultivated areas for various crops.

Finding good emerging farmers proved more difficult than expected, as many engaged in side selling and did not repay financing provided by the ASCs. When these relationships faltered, AgriFUTURO connected many commercial farms to FOSCs, which received many of the same services as had

emerging farmers.

### 2.2.3 IMPACT OF GRANTS ON AGRIBUSINESS COMPETITIVENESS

AgriFUTURO leveraged innovations and improvements in specific value chains by assisting rural agricultural enterprises to boost their capital and leverage credit from financial service providers. The project’s grants component helped address limited access to capital, one of the greatest impediments to starting or running a business in Mozambique and a handicap in accessing new technologies and new markets. AgriFUTURO provided \$1,286,249 in three categories of grants: ASC establishment, seed capital for investment, and discretionary. Major areas of investment were production equipment, seed processing plants, agro-processing equipment, and marketing facilities. *(See Annex C for a detailed list of grants.)*

The grants program got off to a slow start due to inefficient administrative processes, but this later improved. However, some ASCs that received grants to purchase equipment indicated that it would have been more useful if AgriFUTURO had dedicated resources to help with organizing and training the staff of producer organization and member farmers and with creation of sustainable linkages between the ASCs and these organizations. *(See Annex A, Lessons Learned, for more information.)*



*An AgriFUTURO grant helped Sementes Nzara Yopera in Manica Province build a warehouse and processing plant to increase local availability of improved seeds of soybean, maize, beans, and groundnuts. This ASC works with seven emerging farmers cultivating more than 100 hectares of maize seed and 12 hectares of soybean seed. In 2014, co-owner Elizabeth Waziweyi, above, posed with SNY’s new processing machine, which can process 1.5 tons of seed an hour.*

## 2.3 STRENGTHENED ACCESS TO FINANCE FOR AGRIBUSINESS

AgriFUTURO attempted to open greater access to rural financial services, particularly credit, for small-scale agricultural producers and processors through USAID’s DCA. This partially guaranteed loan program helped facilitate available working capital and liquidity to small- and intermediate-scale traders and producer members of associations, but it fell short of expectations. The program worked extensively with two private banks, *Banco de Oportunidade de Moçambique (BOM)* and *Banco Terra*, which participated in the DCA program, but both effectively withdrew from smallholder lending due to excessive delinquency, which reinforced banks’ onerous bureaucratic processes.

Later the project created the AgroCredito program to address one of the most glaring deficiencies in Mozambique’s agribusiness sector: lack of adequate liquidity for small and medium traders, cooperatives, producer associations, retailers, and anchor farms—the principal buyers for commercial and emerging smallholder farmers. The project sought to develop mutual trust between banks and small and medium agribusiness trading companies, therefore promoting sustainability.

With limited access to banks, many producers instead have obtained financing from input suppliers and produce buyers, who in turn are able to obtain bank financing. The provision of liquidity to traders increases their ability to buy, while having a secure buyer has increased the security of the farmers, many of whom are expanding their production areas and yields.

AgriFUTURO subsequently added other components to its program. The first of these was USAID’s FinAgro grants program, which was a complement to the AgriFUTURO grants program. Nine candidates from AgriFUTURO’s grants pipeline plus four ongoing programs are being supported and prepared to apply for grants under this program.

Additionally, *Gabinete de Apoio a Pequena Industria (GAPI)*, the World Bank’s Poverty Reduction Strategy Paper II (PRSP II), SENWES, a private South African company, and the District Development Funds (FDD), which promote agro-commodity trading, became part of AgriFUTURO’s portfolio of financial institutions available to beneficiaries.

## 2.4 CONTRIBUTION OF GDAs AND PPPs AND ASSISTANCE TO POTENTIAL INVESTORS

AgriFUTURO signed 50 memoranda of understanding (MOUs) with a variety of “clients” and partners in development initiatives, including ASCs and GDA partners. Through these relationships, new technologies were introduced, trading deals done or patterns established, financial ties explored, and in general linkages created to enhance the development of the country’s agribusiness sector. Among the most interesting of these relationships were the ones that involved technology transfer. (See Table 8 in Annex C for a complete list of MOUs.)

MOUs proved a useful mechanism to ensure that all partners in joint efforts understood their mutual obligations. AgriFUTURO generally provided coordination, technical assistance, training, and sometimes grants that served as effective mechanisms to mobilize private sector support in establishing new sales and purchasing arrangements with small producers, as well as the incentive to undertake public-private cooperation to improve the enabling environment (as described above).

The following are examples of successful GDA/PPPs:



Soil analysis lab at ISPM

- AgriFUTURO response to private sector demand for a soil-testing laboratory in Manica, resulting in the award of a \$100,000 grant for laboratory equipment to the *Instituto Superior Politécnico de Manica* (ISPM).
- Joint creation with SNV of the Agribusiness Working Group for donors, the government, and the private sector to debate and strategize on ways to support the agribusiness sector.
- Collaboration with IITA/N2Africa to produce pamphlets demonstrating the merits of applying soy inoculants.
- Collaboration with IFPRI on a mobile money pilot, in which farmers using mobile money for the purchase of inputs were given 10% rebates.

### 3. VALUE CHAIN IMPROVEMENT

AgriFUTURO was instrumental in the development of the target value chains of forestry, maize, mangos, cashew, pineapple, bananas, soybeans, groundnuts, sesame, and pulses. In general terms, the project helped increase the total value of these industries and increase the number of participating producers. For soybean, groundnut, sesame, and pulses, the project fostered formal and informal forward and backward linkages through contract farming schemes and buyer credit. AgriFUTURO helped professionalize relationships between producers and trading companies, which supplied inputs and extension services and bought produce, often at a premium for meeting specified volumes and quality standards. Support to firms also leveraged finance for production and marketing across the different value chains.

#### 3.1 FORESTRY

In its first phase, AgriFUTURO worked with five private sector forestry companies that in FY 2010 created 6,000 jobs (1,380 for women) and invested \$92.5 million. Another \$16.2 million was invested in FY 2011. The project also supported creation of the Forestry Plantation Agribusiness Association in 2010 and helped forestry companies meet the terms of their land lease contracts. Project support to this value chain was discontinued in 2011.

#### 3.2 MAIZE

By 2011, AgriFUTURO assisted over 38,000 maize-producing rural households (including 14,000 that were women-led), created over 2,000 jobs (778 for women), and facilitated over \$2.5 million in new investments, mainly in new chicken feed operations. As corn and soybeans are planted in alternating years the second-phase removal of the corn value chain proved troublesome, as the same rural households produce both crops.

#### 3.3 FRUITS: PINEAPPLES, BANANAS, MANGOS

**Pineapple:** One of the project legacies in this value chain was the introduction and propagation of the MD2 variety of pineapple, the preferred variety in international markets. AgriFUTURO imported 15,000 MD2 plants from South Africa; offered technical assistance for propagating the material; and demonstrated new pineapple production technologies, use of irrigation and periodic fertilization (using foliar fertilizers and hormones to induce flowering), and control of pests and diseases.



MD2 variety growing at Multifrutas pineapple farm

In partnership with World Vision, AgriFUTURO provided technical assistance to pineapple producers in the Nicoadala district of Zambezia Province. This assistance led to:

- Development of commercial production of pineapple
- Promotion of new techniques for pineapple cultivation
- Introduction of flowering induction technique
- Management of fertilizers and other chemicals in a safe manner using protective gear
- Increased density of plants per hectare, from 7,000 plants to 33,000 plants per hectare
- Improved post-harvest technologies
- Standardized techniques of planting (selection of seedlings by size and weight)

**Bananas:** AgriFUTURO funded research that proved that green bananas are not a host to fruit flies. This finding paved the way for shipment of bananas to be reopened from northern to southern Mozambique and to the South African market.

The project also helped train Mozambican banana companies in farm practices, quality assurance, and the selection of lands for farm expansion. Companies trained included Matanuska in Nampula, the country's largest banana exporter; Jacaranda on the banks of the Lurio River in Nampula; and ENICA, a new enterprise. AgriFUTURO encouraged development of a smallholder farmer group growing bananas in the Catandica area of Manica Province. In addition, the project's examination of port efficiency in Nacala led to improvements that directly benefit the banana industry.

**Mangos:** As with bananas, commercial production of mangos was significantly hampered by the presence of the fruit fly. AgriFUTURO supported the Plant Protection Department of the Ministry of Agriculture in identifying new treatment alternatives to reduce the incidence of fruit flies on mangos.

### 3.4 CASHEWS

AgriFUTURO invested in improvements in processors' quality controls to assure that they met international standards, which would expand sales options. In FY 2013, the sales value of smallholder cashews to these firms was over \$19 million, nearly double the target. AgriFUTURO also supported the development of the cashew master plan, a document that proposed privately run cashew nurseries. Unfortunately, there was no consensus for this proposition and it has not been adopted.

### 3.5 SOYBEANS



A farmer and her daughter buying soy inoculants in Angonia district, Tete province, Beira Corridor

Soybeans are new to Mozambique. There is ample room for the sector to grow, given the importance of soybeans as a cash crop and the demand for them in the expanding poultry sector. AgriFUTURO helped soybean farmers improve production, most recently launching an inoculant surge to expand adoption of this yield-boosting technology. This support resulted in an increase in production in project-targeted areas from near zero in 2008 to over 13,000 tons in 2014. This is still below local demand for soybeans—estimated at over 50,000 tons. Project support also improved technical and business management capacity; some producers were able to double their income.

In the Beira Corridor, associations working with the project increased yields from 375 kg/ha in 2010 to 800 kg/ha in 2014, as shown in Table 5 below. AgriFUTURO facilitated linkages that led to smallholder contract farming with private companies such as *Corredor Agro Lda* (CAL) and *AgroMoz*. The companies signed contracts with farmers and provided inputs, extension services, sacks, and transport before purchasing the farmers' produce.

AgriFUTURO's intervention enabled participating households to sell their produce at higher than market prices. In 2010, the project provided negotiation skills training to 18 producer organizations representing over

4,000 soybean producers through a partnership with ProSoja. By understanding domestic soybean pricing structures, these organizations were able to directly negotiate a price of 12 Mts/kg at the farm gate—compared to 7 Mt/kg the previous year. This nearly doubled the producers' total income, from \$380,000 to \$651,428.

Mozambique's poultry feed industry needs more than 50,000 tons of soybean per year. Around 90% of domestic soybean meal "cake" goes to the poultry sector. The remaining 10% is used to feed other livestock, primarily pigs. Very little soybean meal is used for beef or dairy production or for human consumption.

Major buyers are *Abilio Antunes* in the Beira Corridor and *Get Frango* and *Novos Horizontes* in the Nacala Corridor. As it is elsewhere in southern Africa, soybean production in Mozambique is

dominated by smallholders (through outgrower schemes or individual farmers) but promoted by large commercial farmers or private companies. Soybeans are typically grown on larger plots than sesame and beans. In the Nacala region, areas planted are bigger than those in the Manica region.

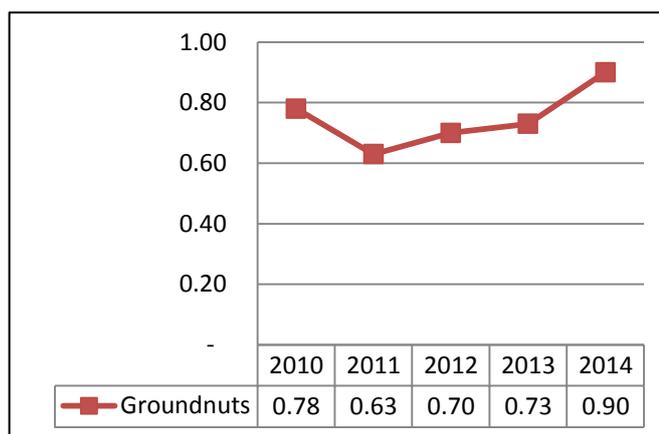
**Table 5: Soybean Performance in Two Groups**

| Samora Machel                                    | FY 2010 | FY 2011 | FY 2012 | FY 2013 | FY 2014 |
|--|---------|---------|---------|---------|---------|
| Number of hectares cultivated by smallholders    | 15      | 156     | 437     | 735     | 961     |
| Yields achieved (kg/ha)                          | 400     | 400     | 500     | 700     | 800     |
| Prices observed (Mts/kg)                         | 13      | 22      | 20      | 17      | 15      |
| Number of smallholder farmers producing soybeans | 203     | 188     | 506     | 926     | 1,370   |
| Culima Cuacanaca                                 | FY 2010 | FY 2011 | FY 2012 | FY 2013 | FY 2014 |
| Number of hectares cultivated by smallholders    |         | 151     | 288     | 729     | 740     |
| Yields achieved (kg/ha)                          | 350     | 500     | 500     | 700     | 800     |
| Prices observed (Mts/kg)                         | 13      | 22      | 20      | 17      | 15      |
| Number of smallholder farmers producing soybeans | 264     | 253     | 1,103   | 1,736   | 1,676   |

### 3.6 GROUNDNUTS

Mozambique’s climate and soil conditions are ideal for groundnuts, so they are widely produced, especially by smallholders in the Nacala Corridor. Women are more engaged than men in the groundnut sector, from production to post-harvest and processing, and they provide most of the production labor. Groundnuts are a diet staple throughout Mozambique, and the domestic market is dominated by small traders from the south who buy groundnuts during harvest. South Africa is the most important regional market and international markets are characterized by niche markets in Europe, with high returns in the fair trade and organic markets.

**Figure 2: Groundnut Prices (\$/kg) in Nacala Corridor**



Aflatoxin threatens the expansion of this value chain; the high incidence of this dangerous fungus closed access to international markets in 2014. Aflatoxin mitigation requires assistance with varietal trials and with harvest and post-harvest handling if groundnuts are to fulfill their role as an important cash and food crop.



Groundnut V dryer in the Nacala Corridor

AgriFUTURO tackled this issue by providing training in roasting, post-harvest handling, and drying techniques and by financing a testing laboratory at UniLurio to assure exporters of product acceptability before shipment. The project also promoted post-harvest technologies—particularly V dryers (see photo) that help minimize levels of aflatoxin contamination in groundnuts—in the regions of Angoche, Mogovolas, Moma, and Rapale in Nampula Province.

The project also helped bring Aflasafe to Mozambique, finding partners to set up the first East African center to develop this innovative “friendly fungus,” which was developed in Arizona with the help of the USDA. Aflasafe, which must be brewed in specially equipped industrial laboratories, is now widely used as an aflatoxin countermeasure by producers of grain and oilseed crops across the southern belt of the United States. Its use was first pioneered in Africa through USDA and IITA at Nigeria’s Ibadan University. AgriFUTURO helped establish an East African center, based at UniLurio and overseen by IITA, in northern Mozambique.

The project introduced mechanical harvesters that reduced women’s work in threshing groundnuts, soy, and sesame—a technology that helps alleviate some of the effects of gender inequality. AgriFUTURO also piloted manual shelling machines for six associations, but the adoption rate was low due to the high cost of available equipment.

AgriFUTURO partnered with other projects, such as the CLUSA, Africare, and Save the Children Consortium (SANA), and with the agribusiness firm Cister to increase soybean productivity and total production by introducing high-quality groundnuts in demonstration plots. Through project-facilitated contract farming arrangements, Cister introduced new varieties that are now in high demand in niche snack markets in the U.S. and Europe.

### 3.7 SESAME

Sesame has become a preferred non-traditional cash crop among many Mozambican farmers, in response to increasing demand from local export traders connected to an international market that is growing at about 6% per year. Most demand comes from India, China, Japan, and Turkey. Value-adding processes—including hulling, cleaning, and grading of seeds—further increase revenue. White seed varieties used in confections receive higher prices than darker varieties used primarily to produce oil. Most Mozambican smallholder producers still use a local seed variety, but even here there is an opportunity to increase productivity through use of inputs (fertilizer and pesticides). A major threat to productivity is the lack of a treatment program for control of the sesame flea beetle, which particularly attacks the Nicaraguan white seed variety developed and distributed by IIAM. Seeds for this variety are primarily available from NGOs and a few private companies, such as ETG and CAL.

Among AgriFUTURO value chains, sesame is the most profitable cash crop per hectare, but it requires production expertise and poses harvesting challenges. The project’s work to develop this value chain included helping expand access to inputs (e.g., the high-value white sesame seed variety) and disseminating new varieties such as Lindy, which buyers like because it is resistant to the flea beetle. The project also linked producers to extension services to increase productivity and fight the flea beetle pest, while boosting the capacity of processing facilities and increasing access to investment and working capital.

AgriFUTURO supported alliances between emerging farmers, FOSCs, and commercial farmers (through the ASC model) and provided intensive services to smallholders. This approach increased hectares cultivated, as well as the number of smallholder sesame producers, over the life of the project. Examples of project activities include the following:

- Through contract farming, ETG provided improved seeds and pesticides to 30 groups that are members of the FOSC de Norte de Nampula. Following AgriFUTURO assistance with price negotiation, ETG paid 2 Mts/kg extra, and then purchased all of the production, deducting the cost of the inputs it had provided.
- The project facilitated contracts between CAL and



CAL loads sesame for export in 2014

1,590 smallholder farmers to grow sesame on 835 hectares. The average yield was nearly 490 kg/ha, thanks to project technical assistance, including mechanized land preparation services and improved seeds.

- Through a partnership with the SANA project, AgriFUTURO financed IKURU’s organic certification process, while SANA helped the FOSC pursue new trading partners. This support led IKURU to export 18 tons of sesame to the Netherlands at \$1,450/ton. AgriFUTURO also facilitated an agreement with CAL for the company to rent IKURU’s sesame processing unit at the Nacololo Center, which had been non-functional for many years. CAL paid a fee of 500 Mts for every ton of quality processed sesame, which covered expenses such as electricity and equipment maintenance. It was also able to clean its sesame for export to Japan; as of 2014, over 500 tons of sesame had shipped.

Growth in the sesame value chain is still limited by the high cost of labor during weeding (January–February) and harvesting (April–May); this last period is most critical because an entire plot needs to be harvested on the same day. Post-harvest losses are also an issue, since typical techniques (such as manual threshing) result in the seeds being mixed with sand and dirt. AgriFUTURO facilitated training for farmers in harvest and post-harvest techniques for sesame. Sometimes the project did this jointly with firms such as ACOF, which trained farmers in harvest and post-harvest techniques to maintain sesame quality. Such techniques included handling, storing in a dry environment to prevent moisture, and avoiding threshing green sesame pods that are not completely dry. In the 2014/15 crop year, 1,236 sesame producers (509 of whom were women) working with ACOF sold 171 tons of sesame, valued at \$269,519.

### 3.8 PULSES: PIGEON PEAS, COWPEAS, COMMON BEANS

Pulses can be classified as producer-driven value chains because farmers produce these crops basically for their family’s consumption, and the excess production is sold. Local consumers have few demands in terms of quality; their main concern is availability and price. Overall production of pulses (pigeon peas, cowpea beans, and common beans) is still relatively small. Prices for these three crops are not as attractive as prices for soybean, sesame, and groundnuts, and nominal prices over the last three years remained low.



*In Manica Province, a woman and her children bring pigeon peas to sell to Culima Cuacanaca Association.*

AgriFUTURO’s strategy to improve these value chains focused on addressing two major areas: market linkages (inputs and output) and generation of demand. The most prominent linkages in the pulses value chain were between producers and Cister in common beans; between producers and the WFP, OLAM, Sunsmile, V&M (a private trading company in Chimoio), ETG, and Dengo Comercial in cowpea; and between producers and OLAM in pigeon peas.

The project helped disseminate improved production technology and linked FOSCs with exporting firms for common beans and pigeon peas. Due to these new markets, sales of common beans increased from \$155,357 in FY 2012 to \$1,308,641 in FY 2014, and sales of pigeon peas rose from \$116,071 to \$359,665 over the same period. Sales of cowpeas, conversely, decreased from \$133,929 to \$77,400 over this period due to low production volumes that were affected by late rains in some northern regions of the country.

**Common beans:** The main crop was butter beans. The project linked Cister, a private company, with 105 producers through a production contract and arrangements for pre-finance through input supply. Cister promoted a variety for export to Portugal, to be processed later as a canned product. Producer sales exceeded expectations, achieving a total of \$103,837 as a result of a high market price of 35 Mts/kg. Cister's contract farming scheme, which was supported by AgriFUTURO, enabled producers to establish formal, long-term relationships with a source of input credit and extension services, and with a steady market with a fair price.

**Cowpeas:** The project's assistance focused on linking producers with buyers—both large exporters (such as OLAM and Sunsmile) and local buyers (such as V&M and Dengo Comercial). The cowpea subsector decreased in value in 2014 because of low production volumes after late rains in some northern regions. AgriFUTURO worked with 16,778 producers in this value chain in 2014.

**Pigeon peas:** AgriFUTURO helped introduce the crop in districts of Manica by connecting the Samora Machel and Culima Cuacanaca associations with ETG and OLAM. In 2012, OLAM purchased nearly 130 tons at an average price of 25 Mts/kg, for a total of \$116,071. The firm exported close to 620 tons to Middle Eastern markets (including production from its own farms).

## 4. GENDER IMPACT

AgriFUTURO's activities, especially business development services delivered under Component 2, empowered women as well as men. Project training helped build women's awareness and ability to conduct market research and negotiate prices, increase women's participation in planning at the FOSC management level, make production information readily available to negotiate better prices, and encourage women to sell jointly to increase their collective bargaining power. In addition, the project helped broker several relationships between entrepreneurial women and buyers such as ETG and sources of credit such as FinAgro and GAPI.

In 2013, AgriFUTURO commissioned a gender assessment to explore how value chain development activities could be more gender-equitable. The assessment concluded that the project focused strongly on female economic empowerment but fell short in mainstreaming gender concerns into all aspects of its work and organization.<sup>3</sup>

To address these concerns, in 2014, during the last extension period, AgriFUTURO's gender consultant, Maimuna Ibraimo, trained project staff and some FOSCs on ways to make activities more equitable for men and women. Her gender equity strategy document, created for the project, offers a comprehensive analysis of challenges and proposes concrete solutions for addressing them. Ms. Ibraimo observed that working with women-only groups appears to translate into greater empowerment—something to bear in mind for future projects. Other recommended activities include promotion of savings and credit groups, use of donkeys for cargo transport by women's associations, and dissemination of information about laws and regulations that protect and promote women.

AgriFUTURO worked to empower women and redress the gender imbalance in the following ways:

**Technology to reduce manual labor:** Subsistence farming is physically strenuous and time-consuming. Frequently women are also involved in manual processing, which limits their time and ability to engage in other income-generating activities or participate in trainings, farmers' organizations, and decision-making. AgriFUTURO's interventions helped alleviate this constraint by introducing new production technologies for soil management and by connecting smallholders to mechanization services. Tractors alleviated the effort women put into manual plowing. In Zambezia, the project introduced six peanut peeling machines and a soybean processor to Nossara, a women's soybean cooperative. Through grants and cost-sharing mechanisms, the project also facilitated purchase and training in multi-cultivators, animal traction, drip irrigation systems, threshing machines, and maize and soybean mills.

**Market access:** The gender assessment validated AgriFUTURO's strategy to facilitate outgrower schemes as a way to provide more secure markets by tapping agribusiness companies, emerging farmers, and FOSCs as entry points. FOSCs in particular proved efficient in reaching large numbers of women: 37% (a total of 20,567) of their members are women, and FOSCs enabled them to sell to formal buyers, something they often cannot do individually. However, more is needed to promote gender equality: outgrower contracts must be signed with more women farmers and women's presence and active participation should be strongly encouraged during training and planning. The project made little progress in overcoming cultural practices in northern Mozambique where women were often physically sidelined and excluded during meetings with farmer organizations.

**Access to credit and financial services:** Funds and credit pilots introduced and promoted by AgriFUTURO aimed to reach different categories of farmers. Most the clients for credit, however,

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<sup>3</sup> One finding of the assessment was that it would have been more useful for AgriFUTURO to follow the Gender and Development approach (based on USAID's Gender Equality and Female Empowerment Policy of March 2012), which is a more comprehensive review of the power relationships between men and women, rather than to continue to employ the Women in Development approach that was specified in the 2008 RFTOP for the project.

are men. Many women farmers do not qualify for loans unless they are acquired through an association, and the associations are predominantly male-led. The project tried to redress this by identifying women who are credit-worthy and developing business and financial plans to allow them to take advantage of limited opportunities. One very successful example of this is the women-owned and women-managed ACOF.

**Support to women-only producer group:** Collective action can be a powerful means for women to increase productivity and access to markets while sharing knowledge and information on land, inputs, and credit. The Nossara cooperative in Gurué district, Zambezia Province, comprises 12 women who produce soybean and soybean derivatives and trade these products in the rural market of Gurué district. AgriFUTURO helped Nossara with business inputs, training, and a \$5,810 grant from the U.S. Embassy to purchase a soybean processing machine. With a U.S. Peace Corps volunteer, the project helped the cooperative create a space for its products in the market and advised members on ways to improve their negotiation skills, income, and savings.

**Household-based approaches to bring change:** Changes in relationships and gender role patterns are possible when men and women speak freely and act together. Organizations like Kixiquila—which AgriFUTURO worked alongside informally to build gender equality within the Kuchanda Kuguta Cooperative in Dombe, Manica Province—address gender-based constraints and seize opportunities to support gender equality. Men of this cooperative said they valued the discussion on gender and no longer consider women quasi-slaves. Both women and men in the group said that they owned telephones, bicycles and improved housing.

## 5. IMPLEMENTATION ISSUES, LESSONS LEARNED, AND RECOMMENDATIONS

Implementation challenges during the course of AgriFUTURO led to important lessons learned and to implicit or explicit recommendations for future assistance to smallholders in Mozambique. Please see Annex A for a more comprehensive discussion of lessons learned during implementation of various project interventions.

**Changing goal posts:** As detailed earlier, shifts in program focus and concomitant changes in the results frameworks were disruptive to steadfast implementation and had significant implications for AgriFUTURO results, particularly in job creation and investment promotion. When the project's funding and objectives shifted to FTF, a decision was made to take credit for investments already made and maintain the same results framework. In time, as the FTF framework became more refined, incompatibilities in result indicators emerged. In hindsight, a line should have been drawn through previous indicators and a new framework adopted in 2011. The changing results framework led to lack of continuous data, making it difficult to assess life-of-project impact.

**Staffing changes:** AgriFUTURO had five Chiefs of Party (COPs) during its almost six years of implementation. Despite legitimate reasons for each change, these led to lack of continuity of some initiatives and lack of time to see others to fruition. For instance, the second COP had introduced a methodology to assess the institutional strength of organizations, which would have given the project systematic and uniform standards to gauge the strength of farmer organizations and ASCs, but these were determined to be inappropriate by the third COP who, after discussions with project staff, decided to discontinue the assessments. The project should have identified a more suitable way to conduct these vital appraisals.

**Project advisory committee:** Although anticipated in the project proposal, a formal project advisory committee made up of the most crucial stakeholders, especially those in government, was not established due to disagreement over paying government officials sitting fees. Such a committee requires upfront investment and can appear to be a bureaucratic drain on resources. Its absence, however, incurs hidden costs. AgriFUTURO had difficulty lobbying against Zimbabwe's ban on Mozambican banana and mango imports, which might have been resolved if stakeholders had been properly concentrated in a forum. Likewise, the critical path analysis of the Nacala and Beira ports might have gained greater traction if private operators and government counterparts had been convened in a common forum.

**ASC and FOSC models:** Methodologically, the project put a lot of effort into defining its approach for reaching producers. Two similar models were adopted, designed to service distinct segments of the value chains. ASCs were meant to connect existing private enterprises and the emerging class of small producers, while FOSCs were meant to tackle organization of smallholder farmers. As it turned out, these models tended to meld together, as ASCs worked more and more with FOSCs in addition to emerging farmers. This represents a synergy not anticipated by the project at its outset and highlights how market-oriented some FOSCs have become. In addition to the ASC model, which has at its core a commercial farmer with links to small producers as outgrowers, the project evolved to work directly with buyers (i.e., companies interested in developing stable relationships with FOSCs) that demonstrated capacity to meet contract deadlines for specific quantities and quality. While technically not ASCs, these buyers are clearly effective agricultural service providers. Finally, any project working to develop small farmer organizations must place heavy emphasis on building the management capacity of the organizations' leadership and should establish systems to ensure transparency and accountability in the management of the organization.

**Grants:** Small grants were a useful tool in getting commercial farmers to set up outgrower networks. However, at the end of the project, several ASCs indicated that it would have been more beneficial to focus project resources on training and strengthening producer organizations' management capabilities. Also, grant award procedures need to be as expeditious as possible and

certainly need to meet deadlines imposed by the agricultural production cycle. Finally, to ensure recipient buy-in, grants need to require a minimum 1:1 matching component.

**Value chain framework and work plan development:** The value chain approach affords many benefits, not the least of which is the concerted effort to tackle binding constraints in an industry. AgriFUTURO inherited value chain analyses from its predecessor EMPRENDA project, but failed to update them and use them as instruments for planning. Consequently, some actions, such as the introduction of certain technologies (e.g. peanut decorticators and motocultivators) were pilots rather than systematic attempts to reduce the cost structure of production, processing, or marketing.

Secondly, some flexibility should be built into value chain projects to enable assistance for other economic activities. As the farming systems research of the 1970s demonstrated, small farmers everywhere are highly diversified to withstand climatic and market variances. A project limited to only one or a few commercial crops cannot address the range of issues that limit rural households' income and nutrition. Women's groups associated with the FOSCs asked for assistance with microenterprise activities that were not part of the value chain focus. While a project could focus on improving a small number of value chain crops, some resources should be available to respond to other opportunities among assisted groups.

**Attracting/generating investment:** While USAID has a strong interest in supporting President Obama's New Partnership for Africa's Development, which seeks significant new investments in Africa from major U.S. private firms, decisions concerning such investments are made by private firms on a timeline that is difficult to mesh with the time horizon of a project like AgriFUTURO. Projects should focus on smaller-scale, although still very important, investments by local firms in improved production and marketing equipment and technologies that will directly contribute to the objective of improved competitiveness. AgriFUTURO's results for private sector investment fell short of targets because the project had no real ability to influence multinational corporations' decisions on when to effect major new investments.

**Gender equality and female empowerment:** The 2013 gender assessment concluded that AgriFUTURO was reasonably effective in implementing planned initiatives to increase participation by women in program activities, in keeping with the USAID strategy that was in effect when the project was designed. However, the project did not respond quickly enough to the requirements of a new USAID policy for pursuing gender equality and female empowerment. AgriFUTURO lacked a full-time gender specialist who could have ensured that this concern was openly considered at all times.

**Technology transfer:** During its first phase, AgriFUTURO did not focus on transfer of production technology because constraints to value chain competitiveness typically lay in the enabling environment and in ASCs' and FOSCs' marketing and organizational capacities. The shift to FTF placed much greater emphasis on technology transfer, measured in terms of hectares under new technology, producer organization using new technology, and farmers using new technology. AgriFUTURO assisted with the dissemination of a number of important production technologies through its partnership with other organizations and projects. In its final months, the project undertook a massive expansion in the use of soil inoculants (sold for cash to participating farmers), based on the recommendations of USAID consultants. While this effort did not meet its ambitious targets, it did significantly expand the use of this technology. The resulting increased productivity will certainly motivate other farmers to adopt it in the future. Widespread adoption of new technologies can be accelerated but still requires time, careful planning, and realistic targets.

**Access to finance:** The formal banking system in Mozambique concentrates financing on consumption, service, and urban infrastructure loans, as well as on government bonds. It avoids investments in agricultural projects, which are considered risky and have high transaction costs. Despite several attempts, AgriFUTURO was not able to change this paradigm, one which USAID and other donors have tackled for at least 15 years with little success. The project did find a viable short-term alternative in getting buyers to provide advances so that FOSCs could purchase and

agglomerate members' production. It also encouraged short-term financing for agricultural inputs by ASCs and vendors, but even these were somewhat constrained during the first quarter of FY 2015 due to producer delinquency in previous years. USAID should consider a separate project dedicated to finding structural solutions to this Gordian knot.

**Enabling environment:** AgriFUTURO achieved remarkable successes in improving the enabling environment for agribusiness development in Mozambique, especially in the effort to show that green bananas are not a host for fruit flies. This finding is expected to generate large revenues for Mozambican banana firms and the broader economy through new employment, transportation, etc. AgriFUTURO also invested in efforts to promote the creation of agribusiness representative organizations that could serve as effective lobbyists for the sector. However, more needs to be done to achieve a critical mass of entities willing to invest in efforts to remove policy constraints.

## ANNEX A: LESSONS LEARNED, 2009–2015

As USAID/Mozambique’s flagship agricultural development project, AgriFUTURO spearheaded and supported new models to realize the hypothesis that stronger, more profitable farmer organizations and agribusinesses can also benefit smallholders by increasing their incomes; improving crop productivity; and increasing access to technology, finance, and markets. The project’s progress and setbacks in this arena offer lessons to those working to advance Mozambican agriculture.

Agriculture, which employs three-quarters of Mozambique’s population, has been largely shut out of the country’s economic boom. AgriFUTURO inherited a sector predominantly made up of smallholders farming a hectare or less—though there had been some recent trends toward more organized, market-oriented agriculture. Working in Mozambique’s main northern economic corridors, Beira and Nacala, the project sought to capitalize on these developments to move more farmers beyond subsistence.

Large-scale commercial farms, some begun by Zimbabweans fleeing that country in the early 2000s, were still relatively few, and most did not partner with surrounding farmers. A few producer associations were organized in late 1990s in Beira Corridor, mainly to supply tobacco companies. In Nacala Corridor, farmer associations were more common—particularly around Nampula in the cotton sector—and received considerable technical support from CLUSA (later an AgriFUTURO subcontractor to Abt Associates) starting in 1995, as well as from ADRA, ACDI/VOCA and World Vision.

In 2009, AgriFUTURO took the baton from the EMPRENDIA project, USAID/Mozambique’s first foray into commercial agricultural development. With a mandate to make the country’s agriculture sector more competitive, the project focused on value chains to generate more employment and higher incomes, tackling the soy, groundnuts, sesame, cashews, mango, banana, pineapple, maize, and forestry value chains. It pioneered two new organizational models: ASCs, which linked commercial farms to nearby “emerging” farmers (those producing above subsistence level), and FOSCs, which built smallholder associations into business enterprises through technology transfer, better business practices and market access. Ultimately, the project fostered commercial relationships between the two groups. It also addressed surrounding issues that had a strong impact on agriculture, including access to finance, the enabling environment, and gender roles.

In late 2011, AgriFUTURO was restructured under the new FTF initiative, which prioritized food security. Project changes included eliminating some geographic regions and adding others; dropping maize and forestry from the list of value chains and adding pulses (cowpeas, pigeon peas, and common beans); and adding, disaggregating, and redefining several indicators.

The project also underwent fundamental leadership shifts, including five COPs and four different USAID managers, although USAID’s COR remained largely constant. Originally a three-year, 10-month project, AgriFUTURO received two extensions near the end of each term (an 11-month extension in 2013 and a 12-month extension in 2014). These extensions added approximately \$9 million in funding, for a total project cost of \$28,290,686.12.

### **EXPANDING AND STRENGTHENING AGRIBUSINESS DEVELOPMENT SERVICES**

Working with and through Mozambique’s fledgling commercial farming sector, AgriFUTURO directed international buyers, investment, and technical assistance to private farms while also developing them as channels of technology transfer, input supply, and steady markets for individual producers and smallholder associations. These efforts, including the formation of ASCs and model farms, have generated promising results, unexpected outcomes, and cautionary tales.

## The ASC Model

AgriFUTURO linked “emerging” farmers (those farming at least five hectares) with nearby commercial farms to form ASCs, which were designed to become sustainable input suppliers, produce buyers, and providers of other support services to expand smallholder production and improve product quality. To jump-start these relationships, the project gave grants to commercial farms for equipment and infrastructure in return for their commitment to buy crops from emerging farmers and deliver services, including input supply, mechanized land preparation, training in crop management, working capital loans, post-harvest handling and transport. As ASCs took shape, AgriFUTURO assisted with technical training, technology transfer, business planning, and market linkages.

Over the life of the project, the ASC model evolved and definitions became more fluid. Emerging farmers proved rarer than expected, and some dropped out altogether. However, several commercial farms established new relationships with smallholders and producer associations—particularly FOSCs, thanks to AgriFUTURO connections. Today, 17 ASCs are working with nearly 6,200 smaller farmers, with commercial farms becoming the main suppliers of agricultural inputs (especially seeds) and reliable marketing vehicles for the FOSCs. They also provide good prices, sacks, and transport, and even premiums for meeting deadlines and volumes. These relationships have benefited both sides. Overall, ASCs report strong production and sales with some also exporting (particularly soybeans and sesame), while FOSC members have said they are pleased to have reliable buyers and purchasing contracts to help plan production.

Not all ASCs were successful. [Kurima Kunaphedza Urombo \(KKU\) cooperative in Gondola](#) and Prio Foods went bankrupt, and Vinson G&G first dropped its emerging farmers in favor of small outgrowers and then cut off all dealings with AgriFUTURO. Cister, while buying from over 1,200 smaller farmers, has been less receptive to providing support services.

On their end, many emerging and smaller farmers engaged in side-selling and others defaulted on loans or otherwise disregarded their commitments to the ASC. SNY reported that all its emerging farmers decamped *en masse* to sell to another farm—which then went bankrupt, so some have since returned. CAL has since taken on more intensive screening of its supplier farmers.

Lack of financing also dogged ASC producers throughout (see the *Access to Finance* section below for more on this topic), and the model was not always able to fill the gap. In late 2012, for instance, ASCs reduced production areas and types of crops. The high cost of production (plowing, sowing, applying fertilizer, etc.) also deterred some participants from continuing in the program.

### Lessons:

- *ASCs have proven be promising vehicles for transferring technology to small farmers and improving the competitiveness of a value chain by providing reliable market access, linkages to finance, higher levels of crop aggregation, and services to ensure quality.*
- *Rigorous upfront field assessments (and ongoing evaluations) of commercial farms should ascertain not only their capacity but also their commitment to the program’s goals and need for transparency.*
- *Future ASCs should build on the block farm concept, taking into consideration the geographic proximity of outgrowers and farmer groups to commercial farms and to each other to reduce the costs of inputs, land clearing, and other services. Servicing dispersed farmers has proved too expensive and unwieldy.*
- *Ongoing project support for ASCs should include capacity development of emerging farmers and other small outgrowers, with particular attention to setting and enforcing expectations to change behavior such as side-selling and defaulting. Future ASCs should include a specific organizational development component that is informed from the start with up-front action research (such as focus groups and surveys) to determine historical relationships, constraints, and goals. This research could also determine incentives to promote greater success, including rewards packages at the end of the season, which are later taken over by the anchor farm.*

## Other Buyer-Supplier Relationships

Outside the ASC model, AgriFUTURO successfully connected other agribusinesses (including ETG, Abilio Antunes, and more recently AgroMoz) to FOSCs, where they established buyer-supplier relationships. Although these agribusinesses did not receive project grants, they have provided some of the same benefits to their smallholder suppliers, particularly advance credit and premiums for meeting specified deadlines and volumes. AgriFUTURO helped FOSCs bridge other gaps to meet the requirements of these buyers' specifications as they arose, including by providing technical assistance to organize production and improve quality and fostering linkages to finance and input suppliers.

Another non-ASC model, intended to spur development of pineapples for export, has yet to see fruition. AgriFUTURO gave technical training and grant support to a local pineapple farm, MultiFrutas, to become the industry supplier of the MD2 variety in northern Mozambique. However, the project started slowly with the delivery of only 15,000 plants in 2011 rather than the expected 40,000, which meant the farm was unable to meet its original goal of propagating 100,000 MD2 plants within a two-year timeframe. Subsequently MultiFrutas has refused to disseminate the variety to other private sector producers.

### Lessons:

- *The private sector is eager to collaborate with a project if doing so significantly reduces its transaction costs and helps broker relationships with new smallholder providers.*
- *When supporting development of a new industry, it is important to work with more than one private sector representative to create a competitive environment from the start.*

## Grants and Investment

The sweetener and support for enterprises to work with smallholders, primarily under the ASC model, were grants that paid for tractors, planters, an irrigation system, and grain cleaning and food processing equipment. Three commercial farms and one FOSC also received warehouses or sheds. In all, AgriFUTURO awarded nearly \$1.3 million in 22 grants to commercial farms and agro-processors and to establish agricultural laboratory testing centers at the University of Lurio in Nampula Province and ISPM. Several of these grants had a 30 percent cost-share. Some grantees also leveraged project support to invest in their own expansion.

Following USAID approval of the project grants manual in April 2010, AgriFUTURO pre-identified grantees that met specific criteria related to their existing capacity, expansion potential, market analysis, initial business plans, and investment plans. Depending on the amount awarded, some grants required a 30% matching component. Field technicians nominated candidates and helped prepare their documents, which were reviewed by a separate project technical committee in Maputo, then by Abt Associates' contracts department, and finally by USAID. The procurement process, which began after all sides had signed the agreement, involved receiving bids in Mozambique, and then, if applicable, from the U.S. In addition, the documents had to be translated from Portuguese to English and back again.

The rollout of these processes delayed fulfillment of AgriFUTURO's first two grants in 2010 (to Phoenix Seeds and Vinson G&G), which meant equipment arrived after the planting season. This set off a disastrous chain reaction of missed production and nonpayment of pre-season financing that resulted in Banco Terra blacklisting the emerging farmers working with Vinson G&G—even though they had not received either the financing or the inputs.

Despite this disappointing start, the grants process gained in speed and efficiency, and the procurement process was streamlined to occur simultaneously in Mozambique and the U.S. Other equipment was delivered without extensive delays, allowing firms like CAL, SNY, Njerenje, Olinotu, Cister, and Wissa to expand operations, buy from more smallholders, and provide support services to these outgrowers.

Some hiccups continued. Construction proved problematic, as contractors often did not perform as scheduled. The project terminated the contract with Amisse Construction and extended the period of performance for Dengo Comercial.

Overall, grants had a mixed record in motivating firms to work with outgrowers. The owner of one commercial farm, Cister, has since said that support in the organization and training of small farmer suppliers would have been more helpful than equipment. A large buyer recently reiterated the need for more concentrated training of farmers—particularly young farmers, who often defaulted on contracts and who expected lots of service assistance and quick returns.

Grants did prove good vehicles for leveraging internal investment. Several agribusinesses expanded on the grants they received from the project for infrastructure and equipment, purchasing machines for cleaning, shelling, and packaging; metal silos; multi-cultivators; and warehouses. Different sectors also proved surprising candidates for investment: High-value cashew, forestry, and bananas fell short of expectations, while soybeans and sesame exceeded expectations as business opportunities multiplied, including exports to new countries. Despite project efforts to attract large multinational investment from global agribusiness players, these deals did not transpire before the end of the project. It proved more fruitful to encourage local investment.

### **Lessons:**

- *Grants can be powerful instruments to leverage private sectors players' involvement in program goals and give them additional capacity to engage more smallholders while expanding business.*
- *ASCs pose a special challenge for grant management, as the commercial anchor farm remains focused on its day-to-day business, sometimes at the expense of long-range viability and relationships with neighboring outgrowers. Before a grant is awarded, the review committee should make field trips to potential grantees to further assess true needs and commitment to project goals. Pre-award training to ASCs would help them design responsive and responsible incentive structures to encourage longer-range collaboration—and ensure that grants are just part of a longer chain of investment activities.*
- *All grants should have a matching component to encourage buy-in. They should also have strong and enforceable penalty clauses and performance-basis bonds. Construction should only be undertaken if the project has engineering capacity.*
- *To ensure buy-in from the beginning, grants should be competed versus awarded to pre-selected candidates. Grants should also be synced with the agricultural cycle to ensure inputs and equipment arrive in time for the planting season.*
- *Large corporations have substantial resources for investing in new markets. In forging public-private partnerships for investment, USAID should build from its strength—knowledge and relationships with local companies. It should connect those companies with global agribusinesses already committed to sourcing from outgrowers.*

### **DEVELOPING SUSTAINABLE FARMER ENTERPRISES**

AgriFUTURO successfully linked over 43,000 smallholders to guaranteed buyers through 14 FOSCs. This model for member-owned, service-driven associations was designed to take farmer associations to the next level so that they could offer their members services beyond simply aggregation while also negotiating directly with buyers to obtain the best deals. AgriFUTURO worked with FOSCs to provide services (including inputs, post-harvest handling, and transport) that would boost productivity, crop quality, and farmer income.

The project also connected FOSCs with buyers—many of them entrepreneurs and later, ASCs—who provided advance credit for working capital and paid premiums for meeting deadlines and specified volumes. The most successful FOSCs—Samora Machel, Culima Cuacanaca, Kugarique Tangué Ndamo, Ovukula Ohawa, Nsuzumire and Fedamoza—were able to obtain bank financing for production and commercialization, clear profits, and reinvest in their own expansion, the mark of true business enterprises. Through their work with AgriFUTURO, several of these organizations can

now prepare sound financial proposals and business plans. Many have improved their members' farming techniques and have raised the quality of their production, through better inputs and post-harvest handling, to meet the specifications of new buyers that AgriFUTURO linked to them. These new buyers included ETG, CAL, Abilio Antunes, Phoenix Seeds, and Insumos Agrícolas e Veterinários (IAV).

In spite of the social capital accumulated in farmer enterprises during the life of the project, mismanagement plagued some FOSCs. This was demonstrated during the soy inoculant surge in AgriFUTURO's final months, when project training of lead farmers, group managers, and association technicians on inoculant usage and seed banks failed to percolate to all members. The leadership of some larger FOSCs even took advantage of their status and raided the assets of the association.

Despite this mixed record, FOSCs remain an effective mechanism for connecting thousands of farmers with buyers; without them, the dissemination of agricultural technologies and access to inputs is simply too costly. Investment and training decisions should be based on a reasonable assessment of each FOSC's viability, including an analysis of the geographic dispersion of its members.

Successful FOSCs must achieve economies of scale to generate margins that guarantee their viability, professionalize their management to guide their development, and establish market connections beyond the support received by intermediaries. Persistent training in management and business skills is required.

### **Lessons:**

- *FOSCs are crucial to generating a critical mass for agribusiness transactions involving smallholders; there is simply no better way to get smallholders involved.*
- *ASCs and other buyers greatly valued project training and assistance to smallholders and FOSC members. Future projects should consider making this third-party support a formal part of buyer-supplier agreements, to incentivize FOSCs to participate and meet expectations.*
- *Different FOSCs have different developmental needs. A thorough pre-support evaluation of their organizational capacity helps direct training where it is most needed.*
- *Management skills training was well received by FOSC leaders. Future projects should make this mandatory for FOSC leaders and others within the group. Projects should also provide business mentoring (including basic business practices and negotiation skills), training on the nuts and bolts of contracts, and training-of-trainers activities to ensure knowledge transfer. Special attention should be paid to the associations and clubs that make up the base for FOSCs, to promote wider understanding of the supports that modern farmer organizations should provide to their members.*
- *Young farmers need special attention, as they tend to expect quick returns and are less inclined to follow contractual requirements. Projects should look for ways to tap their energy and willingness to try innovations, while focusing intensively on their need to learn new business practices, problem-solving skills, and professionalization in general.*

### **TECHNOLOGY TRANSFER**

AgriFUTURO promoted multiple new technologies in different value chains, many of these on an *ad hoc* basis. They included application of lime to the production of groundnuts; V-shaped dryers for groundnut post-harvest handling; mechanical harvesters for maize, soybean, and sesame; seed cleaning and treatment units; and new techniques to produce off-season pineapple. The project tracked three technologies in particular—mechanization, improved seed, and soy inoculants—and mostly exceeded its goals for farmers, organizations, and hectares using them.

The project's success in transferring these technologies was largely due to the participation of commercial farms in ASCs and to similar models, under which larger farms provided land-clearing and processing services and improved seeds to emerging farmers or smallholders in exchange for their produce. AgriFUTURO gave several of these larger farms the impetus and means to start this

process—via grants for tractors and other equipment and by linking farms to sources for improved seed varieties, such as IITA.

FOSCs proved less reliable vehicles for technology transfer. Demonstration plots fostered by AgriFUTURO at FOSCs worked well, and some pilot seed multipliers within FOSCs have gone on to become successful emerging farmers. But seed banks, which the project introduced as a way for associations to build up cash to buy improved seeds, largely foundered after technicians neglected to replenish the seed bank stores; at some larger FOSCs, managers plundered the stores.

In the project's final months, AgriFUTURO made a significant push to radically scale up the number of smallholder FOSC members applying soy inoculants—and have them pay for it at cost, an unprecedented proposition in a sector where such technologies are often given away by the government and donors. By the end of the soy surge, 3,160 smallholders purchased inoculants.

This achievement, however, fell short of the expected 13,000 farmers—the number that FOSC lead farmers and technicians had said would be willing to pay. Many farmers declined to invest because they did not have access to improved seed, which would have maximized the effect of the inoculants. Other farmers simply had not received enough information about the inoculants, because lead farmers with the FOSCs failed to share this information with the wider membership.

### **Lessons:**

- *Successful technology transfer under ASCs makes it even more important to find the right pairing of large commercial farms with nearby farmers and viable farmer organizations.*
- *FOSCs' organizational management is the weak link in their ability to transfer technology to members. In trainings (and trainings of trainers) to address this, USAID should emphasize the business case for technology adoption and should systematically promote selected technologies as part of a larger strategy for gaining competitiveness in a particular value chain.*
- *Seed banks should be established at the association level, where accountability between association leadership and production coordinators is more manageable than at the FOSC level.*
- *Competition among farmers may dampen information flows needed for technology transfer. Rather than depend on lead farmers to carry the word, future projects should include more diverse and widespread communication about new technologies, such as radio messaging, testimonials, cartoons, and posters.*
- *Direct communication with farmers is also crucial. AgriFUTURO did not have a network of extension agents who could deliver information effectively at the individual farmer level. The follow-on project, SAFRA, should be configured to deliver such messages directly to smallholders.*
- *Beware the overly ambitious pilot. The soy inoculant surge aimed to increase the number of users more than threefold, from 3,500 to 13,000—and on top of this, it asked them to pay on the spot instead of getting the usual credit.*

### **ACCESS TO FINANCE**

Private sector lending is rising in Mozambique—except in agriculture, which employs three-quarters of the population. With so many secure, high-growth sectors as well as high-yield government bonds to invest in, the urban-based banking system is wary of the risks of agricultural lending even when offered guarantees from USAID's DCA. Almost no financing is available for production credit, and even short-term loans for producer organizations to purchase members' production carry exorbitant interest rates. Limited credit for agricultural production and commodity trading dogged project-supported farmers throughout the life of AgriFUTURO—including its final months—and the project devoted huge efforts to securing financing via banks and other entities.

#### **Bank Financing**

Throughout the project, AgriFUTURO worked most intensively and consistently with BOM and Banco Terra. Both banks implemented USAID's DCA facility, although BOM proved a better fit for more AgriFUTURO clients, particularly in production and commercialization loans. The project's

role was connecting these clients to the banks and then helping them write a proposal and develop a business plan to be submitted along with the loan request.

AgriFUTURO also explored a variety of mechanisms to unlock further bank financing. A proposed partnership in 2011 between John Deere and Standard Bank identified a number of potential leasing candidates but fizzled when the bank refused to recognize the considerable risk dilution being offered. The project's AgroCredito initiative, which provided liquidity for traders, won initial raves for securing \$1 million in bank commitments, but most of these loans have yet to be made.

In FY 2013, AgriFUTURO facilitated over \$1 million in agricultural and rural loans, 45% of which were not backed by a DCA, indicating a growing relationship between loan recipients and financiers. Yet in mid-2014, the project's go-to banks both balked at further agricultural lending: BOM withdrew from Nampula Province and began charging 5% interest per month in Zambezia Province and the Beira Corridor, and Banco Terra announced it would completely stop providing loans to small farmers because the risks and administration costs were too high.

Of the two, BOM's financing model is the most efficient for agricultural lending, as its loans are relatively small. In a 2014 USAID evaluation of the DCA program in Mozambique, BOM gave AgriFUTURO high marks for its work to improve producers' management skills, loan management abilities, and financial literacy. Mozambique recently acquired three new DCAs (*Banco de Microfinanças de Moçambique*, known as SOCREMO; Banco Unico; and MozaBanco), two of which are designated for agriculture.

### Lessons:

- *DCAs have proved most successful in persuading banks to lend to smallholders—particularly if they are members of a FOSC—giving them access to otherwise-unreachable financing and allowing them to build relationships with financial institutions. But interest rates remain high and collateral requirements are still an impeding factor for many smallholders.*
- *Agricultural technical assistance projects will continue to play a crucial role in training associations, preparing documents, and building relationship. The inclusion of assistance from agricultural projects gives participating banks a much higher degree of comfort in making loans.*
- *A separate project that targets the structural constraints of banks and trains bank staff in risk assessment and the administrative aspects of the DCA would make more headway in resolving their reluctance to back smallholder agriculture.*

### Other Financing Avenues

While continuing to negotiate with banks, AgriFUTURO cultivated relationships with other financing mechanisms and encouraged producers to apply for loans and grants from a variety of sources. FinAgro is a Government of Mozambique and USAID investment support program that ultimately leveraged \$400,000 in grants to three project-supported businesses and four associations. GAPI, a Mozambican financial intermediary institution backed by other development institutions and bilateral and multilateral cooperation instruments, offers interest rates between 14% and 22%, depending on the type of warranties offered—lower than the usual commercial rates in Mozambique of 25% to 39%.

Other funding mechanisms explored by AgriFUTURO included the African Fertilizer and Agribusiness Partnership (AFAP), which enabled ACOF and SNY to build fertilizer warehouses; the Mozambique Agro-dealer Development Program (MADEP); and the International Fund for Agricultural Development's Rural Markets Promotion Program (PROMER) in northern Mozambique.

By far the most successful avenue, however, was the buyers themselves: cash advances and production inputs (seeds, fertilizer and inoculants) provided by buyers helped alleviate the constraint imposed by lack of bank financing. Purchasing contracts facilitated on-time delivery of the product and allowed organizations to involve more smallholder producers selling small quantities for immediate cash. This arrangement also helped build trust between associations and their members as more producers felt confident selling through their associations.

However, buyer advances typically only cover working capital and do not allow for much investment. Meanwhile, SNV cautions that its buyer credit program with ETG worked well for three years and then collapsed after a bad year. Within AgriFUTURO, at least one buyer credit program had difficulty recovering its credit when its outgrowers defaulted on their contracts and sold to other buyers due to higher prices in the market.

### **Lessons:**

- *During AgriFUTURO's term, buyer credit often made all the difference in enabling many FOSCs to purchase members' production and improve relations with them.*
- *Projects should continue exploring a full menu of financing options, including long-term ones that provide for investment in equipment and upgraded systems.*
- *Defaulting, like side-selling, is a common practice and deserves specific attention through training, messaging, and communications.*

## **ENABLING ENVIRONMENT**

To help improve the enabling environment for agriculture, AgriFUTURO completed comprehensive studies of legal and logistical obstacles to agricultural trade in Mozambique, including an AgCLIR assessment and examinations of conditions at the country's main ports, and addressed specific barriers to agricultural trade, including fruit flies and aflatoxin.

Until the end of 2013, AgriFUTURO retained a full-time enabling environment expert on staff. Most policy work was dropped from the project's mandate during the 2014 extension, the year agriculture (under the New Alliance for Food Security) was added to the portfolio of USAID/Mozambique's SPEED project, which is dedicated to enabling environment issues for the overall economy. Below we discuss four major enabling environment initiatives.

### **AgCLIR**

In 2011, AgriFUTURO presented results of an AgCLIR study—a deep dive into issues examined by the World Bank's Doing Business report—which identified legal, institutional, and social barriers to creating and sustaining successful agricultural enterprises in Mozambique. After interviews with more than 150 representatives and stakeholders of the agribusiness community in Maputo City and Gaza, Manica, Sofala, and Nampula, the study recommended 70 improvements in eight major categories: dealing with licenses, employing workers, getting credit, paying taxes, accessing market infrastructure, trading across borders, enforcing contracts, and closing a business.

The AgCLIR assessment was generally well-received, including by Mozambique's Minister of Agriculture, who publically declared that technical advisors to the Ministry would address some of its recommendations and incorporate its findings into PNISA, the national investment plan for agriculture. AgriFUTURO organized a working group called the Friends of Agriculture, a group of donors, government agencies, and private sector representatives dedicated to pushing through specific reforms in areas including fruit fly mitigation, agribusiness competitiveness, business development services, and exchange rates. Ultimately, however, this group proved too insular, and lacking strong government dialogue, eventually stopped meeting. The Agribusiness Working Group, organized by AgriFUTURO and SNV in 2013, has proved a more active successor group for donors, the government, and the private sector to exchange information about agricultural development. But it does not work within the larger AgCLIR framework, and at least one of its chairs was unaware of the study.

As an agribusiness development project working in the field, AgriFUTURO was not structured to push for most of the AgCLIR recommendations. USAID's policy project, SPEED, only began actively working in agriculture last year; its COP was unaware of the AgCLIR report, and its government partner, CTA, has largely focused on non-agricultural issues. Lack of a strong government champion and changing leadership and mandates relating to AgriFUTURO meant no one ultimately spearheaded prioritization of the AgCLIR's multiple recommendations and development of a common vision. As a comprehensive analysis of agricultural enabling issues, the AgCLIR did not fully

reach its potential as a guiding document for AgriFUTURO or any other entity, although it has been used to inform other studies, such as a 2014 World Bank analysis.

### **Lessons:**

- *Any large-scale policy study should identify and include champions as early as possible. Policy changes need the right balance of a champion organization, government champion, project mandate, and donor involvement. Lack of any of these weakens the process.*
- *Quantify positive results of reform and co-publicize (ideally with the government champion) consensus on priorities. Set a calendar for revisiting progress made on priority issues.*
- *The more public visibility there is on an issue, the more government and decision-makers can be pressured (or can take advantage of) the need for change.*
- *Desired outcomes must be prioritized, and some may need to be eliminated. Focusing on 70 different actions is just not feasible, and public tolerance and understanding diminish with each added “priority” change.*

### **Nacala and Beira Port Studies**

From 2010 to 2012, AgriFUTURO—frequently partnering with the SATH project and government agencies such as the Mozambique Institute of Export Promotion (IPEX), [Unidade de Coordenação de Desenvolvimento Integrada de Nampula \(UCODIN\)](#), and CEPAGRI—assessed conditions at Mozambique’s main ports of Nacala and Beira and pointed out areas for improvement. The studies included a case study on Matanuska, a banana exporting company and AgriFUTURO client, in which the project analyzed each step of getting a container of bananas from the farm to embarkation of the ship.

The accompanying action plan included creation of several new entities, including a “one-stop shop” for port exports, a continuous forum for dialogue between port stakeholders (management, shipping agents, government, companies using the port), and an exporters’ hub to address logistical issues. A steering committee was planned to address legal procedures and mobilize resources.

Unfortunately, a gaffe appears to have buried many of these recommendations. An embargoed draft went unexpectedly public in late 2013, embarrassing Mozambique’s president, who announced to the BBC that the report was unacceptable.

### **Lessons:**

- *Listening to and publicizing the concerns of the private sector gives projects a concrete mandate—and natural allies—in pushing for changes that will make it easier to do business.*
- *To ensure no powerful player is alienated, develop a full communications and advocacy strategy to accompany every study, including coalition-building around specific issues and public statements of support from a broad spectrum of stakeholders.*
- *Reports should not just point out shortcomings but also quantify positive results of improvement (e.g., \$10 million in additional tax revenue per quarter if more businesses are able to use the port).*
- *Build a critical mass of involved senior government actors likely to be affected.*

### **Fruit Fly Mitigation and Research**

AgriFUTURO’s most visible enabling environment success stemmed from concerns raised by Mozambique’s nascent banana industry and other fruit sectors after fruit fly was discovered in the country’s north, prompting internal export bans and neighboring Zimbabwe and South Africa to ban imports of Mozambican bananas.

AgriFUTURO shepherded the issue on several levels, starting with assistance in fruit fly trapping monitoring and reporting. Working closely with MINAG and UEM, the project funded a comprehensive situation report for the Council of Ministers and Parliament that included proposed

measures at the national level (control and studies on green banana) and international level (diplomatic protocols).

Taking on national priorities, AgriFUTURO purchased a computer, a microscope, and other laboratory materials in 2011 to support an analysis and study under the lead of MINAG and UEM in Pemba-Cabo Delgado province. Results from this study were published in the *Journal of Applied Entomology*, which allowed MINAG to propose allowing circulation of green bananas within the country in mid-2012.

In 2013, South Africa dropped its import ban; Zimbabwe has not done so yet.

#### **Lessons:**

- *Successfully addressing a specific obstacle rests on early collaboration and frequent coordination with (and lobbying of) government ministries and academic institutions, along with agreement on roles to complete concrete steps.*
- *The importance of scientific evidence, with full (and loud) credit given to local academic and scientific institutions, cannot be overstated.*

#### **Aflatoxin Mitigation**

To give Mozambique the ability to test crops for this dangerous fungus, AgriFUTURO provided a \$100,000 matching grant to build a full-fledged laboratory at UniLurio, which was inaugurated in 2012. The project also connected UniLurio with funds from the USDA (to be managed by IITA) to establish the AflaSafe research operation in Nampula—an East African counterpart to the West African program based at Ibadan University in Nigeria.

These steps proved prescient yet insufficient in 2014, when market concerns about aflatoxin contamination in Mozambique killed the entire year's export of groundnuts. AgriFUTURO teamed with the SATH project on an aflatoxin mitigation training program in Nampula, which demonstrated post-harvest techniques to reduce detectable aflatoxin below maximum permitted international market standards.

#### **Lessons:**

- *To combat aflatoxin, the project helped build a base of national testing capacity to identify and reduce this threat to health and agribusiness.*
- *What is needed next is coordinated and intensive attention to the issue at every level along the value chain, including farmers and associations, and buyers/traders—particularly those whose supply chains and livelihoods have already been harmed by perceived contamination. Consider a publicity campaign to broadcast their concerns and raise the profile of the issue.*
- *Early identification of private sector and government champions is vital.*

#### **GENDER**

As disadvantaged as Mozambique's farmers generally are, its female farmers tend to be even more so, as they face additional socially imposed limits on time, mobility, education, financial access, and full participation in farmers' organizations. Eighty percent of Mozambique's women work in agriculture, but they lag behind their male counterparts in income, assets, and leadership opportunities. In its mission to create more competitive value chains benefiting smallholders, AgriFUTURO inherited this long-standing gender imbalance, as detailed in the 2011 AgCLIR report, which included this memorable quote: "The more commercialized the crop," according to one observer, "the fewer women involved." The project made uneven progress in righting this balance, although it generated more promising results in its final year.

#### **Largely Gender-Blind Project Structure**

From its first quarterly report, AgriFUTURO disaggregated several key results by sex, regularly tracking men and women who attended trainings, got jobs, and benefited as heads of rural

households. The project gave technical and financing assistance to a handful of female entrepreneurs in grains processing and to the 10 women who make up the Nossara Women's Cooperative.

But chances to encourage broader changes for women were often sidelined by AgriFUTURO's overriding goal of facilitating more production, exports, and income for all Mozambican farmers. The project structure reinforced women's exclusion by targeting interventions to more established enterprises and groups, where women were generally underrepresented or absent. These included larger agribusinesses (only one of which, a family farm, was co-owned by a woman), emerging farmers with 5 hectares or more (only four female emerging farmers worked with AgriFUTURO), and forums (women are most active in smaller associations that feed into forums).

Feed the Future offered AgriFUTURO opportunities to support more value chains with high female participation, such as legumes. But FTF restructuring also excluded women by ending the project's support of maize, which many women farm, often alternating yearly with soy. It is unclear why this happened in Mozambique, as maize is a FTF value chain even though it also has lower commercial and export value.

A gender value chain assessment would have brought this angle to light by asking, crop by crop, questions like: *What work do women do versus men? Who's going to get put out of a job? What will reduce drudgery for women?* USAID's 2013 gender policy and FTF's Women's Empowerment in Agriculture Index should help raise gender as a priority within future agriculture development projects in Mozambique.

### **Lessons:**

- *Start new projects with a baseline study as well as a program-wide and value chain-specific gender analysis, to be reviewed regularly by all staff before each new strategic intervention. In addition to tracking men's and women's participation in all components, USAID projects should have a specific gender component with accompanying indicators.*
- *In choosing value chains, projects should consider the level of women's involvement and delineate gender engagement. Project targets may need to be modified to include more smallholders (and thus more women), versus focusing on emerging or commercial farm targets, where fewer women are represented.*
- *It may also be useful to structure a project to focus on both, so that smallholders or subsistence farmers receive support and there is also a plan to move some of them up to become emerging and commercial farmers and continue that support.*

### **Gender is Everyone's (Hence No-one's) Responsibility**

AgriFUTURO sporadically applied a gender lens to current and potential work. A 2010 gender needs assessment of production in Mogovolas and Nacaroa districts of Nampula Province led to intensive assistance for three female entrepreneurs; the 2011 AgCLIR detailed multiple opportunities to address gender inequality; and the project conducted a comprehensive gender assessment in 2013. This last assessment generated several recommendations to improve women's status and opportunities, some of which the project was able to act upon quickly (such as exploring a cost-share program for women's associations to help pay for cargo bicycles and cows that assist with transport and plowing).

Yet the project never had a full-time person designated to keep gender equality a consistent priority. After advertising unsuccessfully in 2010 for a gender specialist to help value chain leaders identify opportunities for gender interventions, AgriFUTURO finally hired a consultant in 2014 to train project staff and associations in the importance of women's participation in sales negotiations, business plan development, and production and marketing finance. Both this consultant and the 2013 gender assessment made valuable observations to guide the project and other USAID interventions, such as reducing the use of Portuguese at some association meetings (which excluded many women who spoke only the local language), and paying attention to the different levels of women's participation between Zambezia (where women were markedly outspoken at mixed meetings) and the more male dominated coastal Nampula region (where it proved more productive to separate

men and women for gender trainings). These observations could have helped guide project interventions if they had been made earlier.

### **Lessons:**

- *Designate a person within the project with responsibility and direct reporting to the COP to monitor gender equality in all interventions and to promote strategies to rectify gender imbalance.*
- *Require that all staff meet gender targets and undergo training, and that every statement of work for a consultant or an activity include a planning section on addressing women's needs and interests.*

## **INTERVIEWS**

### **AgriFUTURO**

Christine Ohresser-Joumard, COP  
Anabela Mabota, M&E Specialist  
Abel Lisboa, Nacala Corridor Coordinator  
Carlos Moamba, former Enabling Environment Director  
Stefano Gaspirini, Technical Director  
Randolph Fleming, former Business Development Director  
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Chris Landry, former DCOP  
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Destino Chiar, Beira Corridor Office Coordinator  
Maimouna Ibraimo, Gender Consultant

### **USAID/Mozambique's Agriculture, Environment, and Business Office**

Tim Born, Director  
Amanda Fong, Policy and Partnerships Team Leader  
Leyla S. Kester, Agribusiness Advisor  
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### **Others**

Elizabeth Waziweyi, Co-owner, Sementes Nzara Yapera (ASC)  
Simão Januario, President, Samora Machel Association (FOSC)  
Rik Overmars, Country Director, SNV  
Birgit Helms, COP, USAID SPEED project

## ANNEX B: DESCRIPTION OF ASSISTED FOSCS AND ASCS

### BEIRA CORRIDOR

**Sementes Nzara Yaperá** (SNY) is a valued ASC based in the Catandica area of Manica Province. Its owner, Peter Waziweyi, has been an important part of AgriFUTURO's client base since mid-2011 and his reach is growing rapidly. Presently, Mr. Waziweyi and his wife, Elizabeth Waziweyi, have 54 outgrower farmers under contract with a total area of 112 hectares. Mr. Waziweyi has been sent to international conferences by the project and Mrs. Waziweyi was sent to Kenya for a training program in agribusiness management. They have also been recipients of multiple components of a \$100,000 grant, including funds for a tractor and planter, a warehouse, and seed processing equipment. Mr. Waziweyi has been elected the President of FrutiCentro, an AgriFUTURO-started advocacy and technical outreach organization based in the Beira Corridor that serves the fruit and nut agro-industries. Most recently, he has championed the fostering of the Nhamaguda Smallholder Banana Farmer Association. The association's 15 members were also assisted by AgriFUTURO to establish themselves solidly in the domestic banana industry, targeting expanding markets in Tete and Manica. Mr. Waziweyi's main business, however, is the production and sale of improved seeds; it was for this activity that he received the warehouse and seed treatment equipment grants. His business, his outgrower farmers, and the agro-dealers to whom he sells seed were clients of AgriFUTURO's AgroCredito program.

**Agropecuaria de Manica** is another of the solid legacy ASCs of the AgriFUTURO project. Its owner, Mervyn Colyer, first came to the attention of AgriFUTURO in early 2011 when he was in the process of establishing his core farm in Manica Province and only beginning to consider a serious outgrower program. He currently has 139 hectares under cultivation on his own farm, with 15 Emerging Farmers (EFs) engaged on 122 hectares of soybean, 7 hectares of groundnuts, and 10 hectares of maize. More recently, Mr. Colyer has been in the process of establishing a processing plant based in the outskirts of Chimoio that will process maize, soybeans, and vitamin supplements into a variety of snack foods. To assist Mr. Colyer in this latter operation, AgriFUTURO awarded him a \$76,000 grant for equipment for a processing plant. The project also provided him with numerous linkages to markets, most prominently to the World Food Programme (WFP), which very much wants to utilize his production in its school lunch programs. Most recently, AgriFUTURO commenced a program of quality assurance training and orientation for Mr. Colyer's processing plant to ensure that he was on the right track to receive ISO and HACCP certification. The project also interceded on several occasions with financial institutions such as Banco Terra to ensure that he complies with bank requirements for proper market assessments, well-prepared bank documents, and the needed support to make his business a success. AgriFUTURO sent Mr. Colyer to participate in the NAMPO agricultural equipment show in South Africa, the largest such activity on the continent. And with AgriFUTURO's encouragement, USAID's SATH project assisted him with market penetration into Malawi.

**DanMoz** is a dairy operation in the vicinity of Chimoio in Manica Province. It first became a part of the AgriFUTURO project in late 2011. Its then-owners Brendon and Jenny Evans were well-known members of the agribusiness scene in Manica; Mr. Evans had been a very active participant in various CTA initiatives in the agriculture and agribusiness sector over the years and had been the regional head of the CTA subcommittee on agriculture. The Evanses were producing a variety of dairy products, most notably cheeses, for sale in the domestic market. They had an idea that appealed to AgriFUTURO—establishing a network of maize and soybean smallholder farmer-suppliers on the one hand and a network of smallholder dairy farmers on the other who could form a reliable base for growth of their company. They prepared a detailed proposal for a \$85,000 grant for processing equipment and a protective shed to convert the incoming grains into high-grade animal feed and oils. The feed would be used for the dairy cattle, both by the company and the outgrowers, and the oils

would be turned back over to the farmers for sale into the value-added domestic market. The grant went forward, the equipment was purchased, and the needed structure to house the equipment is under construction at this writing. Unfortunately, there was an outbreak of bovine tuberculosis in Manica in 2012 and the Evanses' herd was virtually wiped out, forcing them to sell their business to Danish investors who then converted the company from Evertz to DanMoz, the name under which it currently operates. It is too early to judge whether this venture will be a success, but it should be. The market demand for the company's products is solid, both in the central part of the country and in Maputo. The dairy cattle herd is slowly being rebuilt and the network of smallholder dairy farmers is expanding well, with further support from the Land o' Lakes NGO, which works closely with DanMoz. The concept of purchasing grains and oilseeds from outgrower farmers and the scheme for market penetration for the byproduct oils is theoretically solid. What remains is actual implementation.

**Phoenix** is a family-owned commercial farm and seed processing business based in Manica Province, close to Chimoio. Owned by Kevin Gifford, Phoenix was one of the first entities to be identified by AgriFUTURO as an ASC. It started working with the project in 2010/2011 under the Emerging Farmers approach, engaging seven EFs farming 106 hectares, including 41 of maize, 23.2 of sesame, and 30 of soybeans. At present, Phoenix is farming 414.5 hectares (268 of soybean, 15 of pigeon peas, 5 of sesame, 108.5 of maize and 18 of common beans) on its own farm. In the 2014/2015 crop cycle, Phoenix worked with 3 EFs engaged on 18.2 hectares. It is also well-established in the seed multiplication business and is selling cereals, grains, oilseeds, and tobacco.<sup>4</sup> At the end of 2011, Phoenix received a \$75,000 AgriFUTURO grant for a tractor, planter, and disc harrow. For a number of reasons, not least the late arrival of the equipment for that planting season but also perhaps even more importantly the late extension of loan money from Banco Terra, the first year's legacy was not especially positive. However, both Phoenix's outgrowers and the company itself have worked hard to claw back from the serious impact of that season. All are now in good standing in the bank's record books. Moreover, Phoenix has become a stalwart in the Manica agribusiness scene. With the perseverance and intelligence the firm has shown to date, it should have a successful and sustainable operation going forward.

**Centro Educacional Njerenje** is a commercial farm and close neighbor of the *Instituto Superior Politecnica de Manica* (ISPM). The principal of this company, Kota Benade, is another transplanted Zimbabwean farmer. He first came to the attention of AgriFUTURO in late 2011, at which time the project commenced discussing a scheme with him by which he would not only have a standard outgrower scheme but would also provide postgraduate training to selected students from ISPM on the school's farm and dedicate portions of the to this purpose. The administrative processing for this concept to actually commence took exceptionally long, hampered by problems identifying a bank to fund the proposed program's working capital needs. Eventually, in late 2012, Mr. Benade was granted \$80,000 worth of equipment, including a tractor and related field preparation equipment. With funding from the school, he initiated training of 4 students and 15 outgrowers. The program has so far evolved to the satisfaction of the school and, having obtained working capital loan support from the government-sponsored investment bank *Gabinete de Apoio a Pequena Industria* (GAPI), the program has increased the number of participating students in this second year to 7. In addition, Mr. Benade has taken on additional outgrowers; there are now 4 of them farming 99.5 hectares. This program is of special interest and is innovatively addressing a chronic need for skilled farmers and farm supervisors in Mozambique. AgriFUTURO expects that they will go on to real success and that their numbers will increase over time. One of the students in this program was contracted by Nzara Yapera Seeds to establish demonstration fields together with its own seed producers.

**Instituto Superior Politecnica de Manica** was working with AgriFUTURO (even before its now-active relationship with Mr. Benade was envisioned) on the idea of introducing a fully equipped and

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<sup>4</sup> Mr. Gifford was one of the first of a wave of formerly Zimbabwean farmers who crossed the border almost a decade ago and were persuaded to enter the tobacco farming business by the Mozambique Leaf Tobacco Company. He is also one of the last holdouts to still be engaged in the business as most of the rest have dropped the business and moved on.

functional soil analysis laboratory at the school. This concept dovetailed with an overall building construction and curriculum redesign operation at the campus adjacent to Chimoio. Mozambique has one of the lowest levels of fertilizer utilization in sub-Saharan Africa, which in turn is one of the lowest fertilizer-use regions in the agricultural world. Part of the problem is that farmers are not accustomed to using fertilizer, which to date has been expensive by world standards—a natural result of poor economies of scale. Another part of the problem, however, is that there have been no reliable domestic soil laboratories to indicate to farmers what supplemental nutrients their lands need, and simply applying broad spectrum fertilizers is costly and significantly suboptimal while sending soil samples to Zimbabwe or South Africa for analysis is both expensive and time-consuming. The introduction of a good certified soil laboratory in the central region of the country therefore seemed to be a logical step to take. But to do this optimally, it was necessary to bring on board a highly qualified technical partner that could give guidance to ISPM and help train laboratory technicians. AgriFUTURO successfully identified Intertek as just such a potential partner. Intertek is one of the largest (if not the largest) quality assurance companies in the world, and it was in the process of introducing laboratory capabilities in Mozambique to address the quality assurance needs of the nascent mining sector. Intertek was also in the process of installing a brand-new, \$4 million, multipurpose laboratory in Johannesburg, South Africa. The company was intrigued by the idea of helping ISPM and in the process developing a cadre of trained laboratory technicians. As the process evolved, Intertek offered guidance to ISPM and AgriFUTURO on what equipment to purchase for the soils laboratory. It also gave some supplementary equipment at its own expense, provided the laboratory with needed reagents for doing the analysis, and committed to training the needed technicians. Moreover, to make the process attractive for both itself and the school, Intertek plans to pass some of the expected but simple and standard overflow work from its new Johannesburg laboratory to the ISPM-based one while taking to the Johannesburg laboratory for analysis the requests that the new ISPM laboratory will not yet be equipped to handle (such as detailed minor element analysis or leaf analysis). While it is still too early to tell whether or not this scheme will perform as designed, the concept is solid. The key will be whether or not the GOM (the owner of the school) will allow an essentially commercial enterprise to operate logistically within one of its institutions. So far, however, the scheme has the commitment of all parties. The AgriFUTURO grant to ISPM covered \$100,000 worth of laboratory equipment, with Intertek handling the rest of the purchase cost.

## NACALA CORRIDOR

**Corredor Agro Lta** (CAL) is a subsidiary of the Rift Valley Group, which is headquartered in Harare, Zimbabwe. It is a farming operation, a trader (buying the production of outgrower farms under contract), an agro-dealer (advancing seed and agrochemical inputs to contracted farmers), and a source of short-term funding to trusted client farmers. CAL is based in Nampula Province but has also expanded its operations to Zambezia Province. As of this writing, it has 82 farmers under contract. CAL was identified by AgriFUTURO in early 2011 as a prime candidate for the ASC approach. Its first full-cycle operational season, in 2011/12, was fraught with common growing pains and misunderstandings between CAL and some of its growers and less-than-optimal results. Since then, under newer management directives, it has become a primary force in its operational areas and is well-regarded in the community. It is a successful ASC and should have solid sustainability, barring unpredictable blows from international commodity markets. CAL received an \$85,000 grant from AgriFUTURO for three tractors and two post-harvest (GrainPro) storage units.

**Lozane Farms** is a solid operation headed by Mozambican entrepreneur Bakir Lozane. Its core operations are located in the Alto Molocue District of Zambezia Province. Mr. Lozane first came to AgriFUTURO's attention shortly after the addition of Zambezia Province to the project's targeted geographic area in mid-2012. Since then, he has received frequent technical inputs, been sent to several international conferences, considerably expanded his area of operation (and is being courted by Nampula Province to expand his operations there), and become something of a "poster child" for both the GOM (CEPAGRI in particular) and the NGO community. Mr. Lozane currently has 26 hectares under his own cultivation and has 350 farmers under his ASC contract growing crops on 412 hectares.

**Olinotu** is located in the eastern part of Nampula Province. Teotonio Pereira Raice, the owner/operator of Olinotu, farms 596 hectares himself and has 65 outgrowers who farm 531 hectares. More importantly, Mr. Raice is a trader who has successfully incorporated deals in a number of different value chains of interest to AgriFUTURO, perhaps most significantly a roughly 3,000-ton deal in groundnuts with Madal for its new groundnut processing facility in Quelimane in Zambezia Province. Mr. Raice first became involved with AgriFUTURO in 2011, and was one of the first recipients of a loan under the AgroCredito program. He has received a \$67,600 grant for diverse agricultural equipment. Conceptually, Mr. Raice's operations come very close to the true ideal of an ASC, since he specifically provides services to smallholder farmers in his neighborhood, giving them technical advice and direct support (in particular land preparation), advancing seed and fertilizer on credit, and providing a reliable market outlet for what they produce.

**IKURU** is a large agribusiness cooperative based in Nampula Province but with outreach into adjacent Zambezia Province as well. With 4,326 farmer-members, IKURU is primarily engaged in grain and oilseed operations, as a trader with both domestic and international markets, and as an agro-dealer. It sells seed, agrochemicals, and farm implements, including multi-cultivators and post-harvest storage units, and serves as the domestic agent for GrainPro (a relationship fostered by AgriFUTURO). IKURU received multiple forms of assistance from AgriFUTURO, including a \$68,000 grant for its new warehouse and office (a work in progress). The cooperative also received active support from the AgroCredito program, exposure by attending international conferences, and many types of linkages over the life of the project. IKURU is a large, complex organization by Mozambique standards and it has also received many forms of assistance from other sources as well, especially Scandinavian NGOs, several other international NGOs, GAPI, and the GOM. Because there have been so many forms of support, it is difficult to assess which have been critical, but the project believes that AgriFUTURO's assistance was key. Whether or not it could now sustain itself without all this support is unclear, but IKURU is certainly much closer now than it was when AgriFUTURO began. Going forward, if IKURU retains its current momentum, it should be sustainable. A case has been made for breaking the overall organization into more manageable components, but that discussion is beyond the scope of this report.

**Cister** is a Portuguese-owned multinational agribusiness with operations in Nampula and Zambezia Provinces. It is primarily interested in grains and oilseeds but has also entered into production of pulses. As of now, Cister is farming 1,800 hectares with 400 outgrowers—180 in Nampula and 220 in Zambezia. It received a \$76,000 AgriFUTURO grant for two tractors and related equipment. AgriFUTURO sent the company's local manager, Constantino Sixpence, to a conference in South Africa. The project also recently conducted joint demonstrations of multi-cultivators with Maputo-based AfriTool to show smallholder farmers tied to Cister the benefits of such relatively modest mechanization. Another effort is underway to possibly introduce animal traction to these farmers. These smallholder farmers' problem is their very limited scale of operations (currently constrained by how much can be accomplished by an individual or family with a hoe) coupled with the monopsony enjoyed by Cister in the remote corner of Nampula where the larger operation is based. This does not mean that Cister's buying practices are abusive, but only that the smallholder farmers have little to no alternative but to sell to the company—not an optimal situation. A particularly encouraging component of Cister's program is its entry into the higher-value pulses market, allowing its client farmers more potential income than they could gain from grains and oilseeds alone.

**Wissa** is a small agribusiness owned by Judite Macuacua. Her business involves both small-scale farming in her own right and serving as a market outlet for client smallholder farmers in her neighborhood. She has established a rudimentary processing operation in which she adds value to a variety of grains and oilseeds and sells them domestically at the retail level. AgriFUTURO has sponsored Ms. Macuacua's attendance at international conferences and within Mozambique as a speaker at the formation of the national chapter of Women in Agribusiness in Sub-Saharan Africa Alliance (WASSA), a pan-African women's organization promoting initiatives in agribusiness. She received a \$7,400 grant for a small retail outlet in Nampula City, the inaugural opening of which was

recently attended by a sizeable delegation from AgriFUTURO. All indications are that her business should be self-sustainable going forward.

**Gramiter** is another woman-owned agribusiness based in Nampula. Its owner, Maria Nhantubo, has received a \$10,000 grant for grain processing equipment. She has 25 outgrowers under contract farming 190 hectares of grains and oilseeds.

**Matanuska Bananas Operation** started in Mozambique in partnership with Chiquita Bananas, with a plan for Chiquita to provide technical assistance and support with market access. Differences between the organizations has led to a rift in that relationship, but the more than 3,000-hectare banana operation in Nampula Province continues to try to establish itself firmly. AgriFUTURO was extensively engaged in the early stages of Matanuska's establishment in 2010. The project has provided less support since then, but has continued to assist with a limited range of technical activities, including staff training in quality assurance and especially the specifics of EurepGAP (a subset of GLOBALG.A.P. certification). Matanuska, which like CAL is a subsidiary of the Rift Valley Group, has had many growing pains, particularly those associated with a limited scale of operations, in trying to cope with the complexities of logistics through the port of Nacala to international markets. The firm's most logical market is the Middle East, but access to that market has been hurt by international events, especially by the predation of Somali pirates<sup>5</sup> and more recently the embargo placed on the Iranian market. Despite these challenges, and the problems associated with the arrival of the *bactrocera invadens* fruit fly, the Matanuska operation has continued to grow and eventually should be a profitable and self-sustaining business. All of the fundamental elements that induced the initial investment (good soils, availability of water, adjacency to a good natural port, and most importantly relative adjacency to major and growing international markets) still pertain.

**Jacaranda Bananas Operations** is a small international banana company with branches in Ecuador and Belize, as well as a 100-hectare start-up farm in Nampula Province on the banks of the Lurio River. AgriFUTURO extended a variety of technical support services to Jacaranda, especially quality assurance training for staff and specific training in components required to qualify for EurepGAP certification. By itself, with all of the complexities of trying to establish a sustainable Mozambican banana operation oriented towards the international market, Jacaranda would probably not be sustainable. However, as the industry grows, this company should be in a good position to become an integral part of the broader industry. Jacaranda's management has good ties with Fyffes, today the largest importer of bananas into the European market.

**ENICA Bananas Operations** is a nascent operation whose primary investors, headed by local entrepreneur Romeu Rodrigues, are Mozambican. AgriFUTURO assisted this start-up operation in a number of ways. The initial business plan for the business was funded by AgriFUTURO through subcontractor TechnoServe. The project sponsored Mr. Rodrigues' attendance at an international conference in Ethiopia and more recently facilitated a market familiarization trip to England to visit Fyffes' operations there, with the basic objective of helping him gain a better understanding of quality requirements and procedures for major international markets. AgriFUTURO technician Efrain Solano also provided ENICA with extensive support to devise its technical program, and ENICA executive Carmen Ramos accompanied a team of AgriFUTURO staff on a week-long visit to Zimbabwe to review successful smallholder banana operations in that country. The company is still in the very early stages of being established. It has good prospects, however, as a component of the growing banana industry in the northern part of the country. Any successor operation to AgriFUTURO should pick up where AgriFUTURO left off in providing support to this effort, thereby enhancing the likelihood of its success. With encouragement, the long term prospects for development of a solid banana industry in that part of Mozambique are very good. The two greatest natural advantages such an industry would have are 1) proximity to large and fast-growing

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<sup>5</sup> In 2010-11, over 80 percent of ships heading north from Nacala with Matanuska bananas aboard had "incidents" with Somali pirates, greatly increasing the overall cost of shipping to market.

international markets; and 2) very low disease pressures (especially Sigatoka) by the standards of the international industry, which automatically assists any operation in having low farm-gate costs.

**Agro Comercial Olinda Fondo (ACOF)** is a relatively new (two-and-a-half year-old) farming and agricultural commodity trading operation based in the Mocuba area of Zambezia Province. Its owner/manager, Olinda Fondo, manages the operation with her husband. She is fast establishing herself as a well-known player at the mezzanine level of trading between smallholder farmers and large trading firms like ETG and OLAM, both of which are now well-established in Mozambique. AgriFUTURO provided extensive technical support to Ms. Fondo since the project began working in Zambezia Province. Banco Terra assisted her with commodity trading in the 2013 season through AgriFUTURO's AgroCredito program, which helped her prepare all required documents to apply for a \$62,500 loan. In addition, in seeking a \$2,600 grant for a warehouse, she is a candidate (through AgriFUTURO) for the pilot stage of USAID's FinAgro program, which is administered by TechnoServe. ACOF farms 4,467 hectares in its own right, has 295 outgrowers who work 4,172 hectares, and is a trader with growing scope and reach for a variety of grain and oilseed commodities. It is also an agro-dealer, selling a range of seeds, agro-chemicals, and farm equipment through its retail outlet in Mocuba. While still in the early stages of development, this business should be self-sustainable.

**Mozambique Bio-Fuels Industries, Ltd. (MBFI)** is a family-owned agribusiness based near Mocuba in Zambezia Province. The Steenkamp family came to the attention of AgriFUTURO in mid-2012, shortly after USAID directed the project to work in this province. They have a large working farm (2,000 hectares) developed around a recently completed processing facility for bio-fuel alcohol. MBFI envisions extensive work with outgrowers. AgriFUTURO investigated and did the paperwork to process a number of different grant proposals for MBFI but none were consummated until very recently when the Steenkamps purchased, for a discounted cost that covered only introduction and transportation fees, a large Beltran eight-row planter from Prio Foods (the original grant recipient, which is no longer supporting an outgrower scheme and is hence not entitled to retain it). AgriFUTURO also introduced MBFI to several equity investment funds, at least one of which (Silverstreet Capital) is still in the process of negotiating a possible equity investment in the firm, and has facilitated bank negotiations with Banco Terra. The project introduced the Steenkamps to a number of possible business partners, most importantly Cargill and Dole Food Company; the latter holds the most promise for eventual development of a relationship centered on farming and exporting the MD2 variety pineapple. As a part of the relationship, and with encouragement from AgriFUTURO, Dole agreed to host members of the MBFI team at a several-months-long training session at its pineapple operations in Central America. The Steenkamps have invested well over \$4 million in this venture, with most of the funds coming from previous or ongoing family endeavors in South Africa. The family's philosophy of including its neighbors as program outgrowers is very attractive to AgriFUTURO. Overall, the program seems to have great promise for the future.

**Madal** is one of the oldest and largest traditional agribusiness operations in Mozambique. At one time, it was operating one of the largest copra operations in the world, with extensive coconut plantations in the coastal areas surrounding the city of Quelimane in Zambezia. Unfortunately for this company, the copra business has been in decline for several decades. Even more significantly, the Coconut Lethal Yellowing Disease hit its plantations very hard roughly a half a decade ago, leaving many kilometers of topless palm trees across its vast plantations. Several approaches have been taken to try to address this problem, from the so-far-fruitless introduction of presumably disease-resistant varieties of trees to experiments with diversified crops. It was in the latter context that the company came to the attention of AgriFUTURO. The project linked Madal's management with South African Groundnut Marketing (SAGM) which was trying to establish a foothold in Mozambique to address declining supplies of groundnuts in South Africa. A three-way MOU was signed among the parties, pilot trial plots were established on Madal lands to experiment with a number of groundnut varieties that have good market acceptance, and an ingrower/outgrower scheme was designed to try to persuade coconut gatherers to become groundnut farmers. The relationship started off well, albeit modestly at first. The trials proved successful and several varieties of nuts appear to hold excellent promise in the comparatively sandy soils of Madal's lands. The record of converting

gatherers to farmers has been mixed, as it implies a rather significant cultural shift in behavior patterns that are not customary. However, it is gathering momentum. Finally, earlier in this year, the SAGM-Madal partnership, despite some schisms in the corporate structure of the former, went forward with the installation of a 60,000-ton per annum processing facility for groundnuts in one of the large, previously moribund factory buildings owned by Madal in Quelimane. In addition, Madal entered into a number of purchasing contracts with farmers across Zambezia and Nampula Provinces, including Olinotu, from which over 3,000 tons of nuts were purchased. Barring a major financial setback for Madal caused by other aspects of its overall business, this enterprise is set to flourish in the years ahead.

**Africa Century** is a mid-sized, diversified multinational agribusiness and real estate investment company based in London with subsidiaries across eastern Africa, including in Mozambique. The company first came to the attention of AgriFUTURO in early 2012 when it was investigating investments in northern Mozambique. The project assisted Africa Century with multiple linkages in Nampula and Zambezia Provinces. Subsequently, its most dynamic growth business has been in real estate in the southern part of the country. However, following on early inquiries in the north, Africa Century has also become an agribusiness force in that area, particularly with acquisition of the Frango King poultry company, which is a major buyer for maize and soybean produced by AgriFUTURO-supported farmers in that part of the country. The project expects this operation to continue to be successful going forward.

**Rei do Agro** is a foreign-owned commercial farming entity based in the Alto Molocue District of Zambezia Province. It is at least partially funded by a religious foundation with a mandate to help smallholder farmers in its neighborhood by providing services such as fair-cost land preparation and by providing a market for the production of outgrower farmers. As of this writing, *Rei do Agro* is farming 930 hectares and has 330 outgrowers farming 600 hectares in its program. Lately, the operation has reportedly had some financial difficulties. However, it is believed that these have been addressed by a further injection of equity funds and, barring financial problems in the future, the operation should be successful. Neighbors of the operation are pleased with the agricultural services provided and generally do not complain about *Rei do Agro* as a recipient of sold commodities. The company has not received an AgriFUTURO grant, but has received significant support through strengthened linkages.

**Agribusiness de Moçambique S.A. (AgroMoz)** is a new company supporting more than 8,500 smallholder farmers working in the Nacala Corridor. It is owned by the Américo Amorim Group of Portugal, founder of the banks Millennium BCP, *Banco Único*, and Banco BIC of Angola; Pinesso of Brazil, which specializes in production of soybean, cotton, maize, and livestock; and Intelec of Mozambique, which has investments in various economic sectors. AgroMoz is also active in Sudan, where it has over 20,000 hectares of land devoted to production of soybeans, cotton, and maize. In 2014-15, it purchased soy from FEPROG members in Gurue, paying nearly \$40,000. AgriFUTURO linked it as a buyer with cooperatives in this corridor.

## ANNEX C: TABLES

Table 6: List of Cooperatives Supported

|                           | Name                        | District     | Locality         | Constitution Dates | Legalization Dates |
|---------------------------|-----------------------------|--------------|------------------|--------------------|--------------------|
| <b>Nampula Province:</b>  |                             |              |                  |                    |                    |
| 1                         | Moreno Netia                | Monapo       | Netia Sede       | 08/09/11           | 15.05.2012         |
| 2                         | Ossukana                    | Monapo       | Monapo Sede      | 27/02/2012         | n/a                |
| 3                         | Oruweira Sana               | Nacaroa      | Nacarôa Sede     | 09/09/12           | 27.01.2012         |
| 4                         | Monaleni                    | Erati        | Alua             | 09/10/12           | 20.04.2012         |
| 5                         | Uniao faz a Forca           | Meconta      | Nacavala         | 29/08/2011         | 11.05.2012         |
| 6                         | Ovarana                     | Moma         | Nailocone        | 09/01/11           | 20.04.2012         |
| 7                         | Amussi Nirue                | Mogovolas    | Muatua           | 30/08/2011         | 06.02.2012         |
| 8                         | Ophenta Olima               | Mogovolas    | Nanhupo Rio Sede | 25/08/11           | 27.04.2012         |
| 9                         | Namurraua                   | Mogovolas    | Nomeitil Sede    | 03/05/12           | 20/02/2012         |
| 10                        | Calipo                      | Mogovolas    | Calipo           | 03/06/12           | 15/02/2012         |
| 11                        | 1° de Maio                  | Angoche      | Luázi            | 25/08/2011         | n/a                |
| 12                        | Ochucuro Mali               | Angoche      | Canhaua          | 20/09/2012         | 14/05/2013         |
| 13                        | Namitoria                   | Angoche      | Namitoria        | 19/09/2012         | 14/05/2013         |
| 14                        | Matibane                    | Mossuril     | Mossuril         | 20/09/2012         | 20.04.2012         |
| 15                        | Wala Orera                  | Mossuril     | Mossuril         | 20/09/2012         | n/a                |
| 16                        | Pedreira                    | Mossuril     | Mossuril         | 19/09/2012         | n/a                |
| 17                        | Covo                        | Nacala Velha | Covo             | 21/09/2012         | n/a                |
| 18                        | Niwanane                    | Moma         | Ivate            | 16/10/2012         | n/a                |
| <b>Zambezia Province:</b> |                             |              |                  |                    |                    |
| 19                        | Assissa Ruace               | Lioma        | Tetete           |                    |                    |
| 20                        | Capeme                      | Lioma        | Tetete           |                    |                    |
| 21                        | Tetete                      | Lioma        | Tetete           |                    |                    |
| 22                        | Espanor                     | Milange Sede | Milange Sede     |                    |                    |
| 23                        | Nossara                     | Lioma        | Lioma            |                    |                    |
| <b>Manica Province:</b>   |                             |              |                  |                    |                    |
| 24                        | Cooperativa Kuguta Kuchanda | Sussundenga  | Dombe            | 22-Dec-11          | 1-May-12           |
| 25                        | Agro-Pecuaria Samora Machel | Barue        | Inhazonia        | 22-Jul-08          |                    |
| 26                        | Culima Cuacanaca            | Barue        | Nhampassa        | 8-Aug-08           |                    |
| 27                        | Batane Phaza                | Barue        | Honde            | 3-Mar-10           |                    |
| 28                        | Kugarike Tangue Nhamo       | Manica       | Mavonde          | 20-May-12          |                    |
| 29                        | Gotogoto                    | Mossurize    | Dacata           | 1-Aug-12           |                    |
| 30                        | Tineshungu                  | Mossurize    | Espungabera      | 2-Aug-12           |                    |
| 31                        | Muedzwa                     | Mossurize    | Chiurairue       | 3-Aug-12           |                    |
| 32                        | Nhamukuhu                   | Mossurize    | Chiurairue       | 4-Aug-12           |                    |
| 33                        | M'pengo                     | Mossurize    | Dacata           | 5-Aug-12           |                    |

Note: All with n/a have been submitted for legalization

**Table 7: Total Grantees**

| Grantee              | Type of Grant                       | Item   | Amount (in \$)     | Status                      | Corridor |
|----------------------|-------------------------------------|--|--------------------|-----------------------------|----------|
| 1. IKURU             | Seed Capital                        | Office construction and warehouse pavement       | \$64,250.06        | Delivered Jan 2015          | Nacala   |
| 2. CORREDOR AGRO LTA | ASC Establishment                   | Tractors, J. Deere 5503M                         | \$26,950.00        | Delivered Feb 2012          | Nacala   |
|                      |                                     |  | \$26,950.00        |                             |          |
|                      |                                     |  | \$26,950.00        |                             |          |
|                      | <b>Total</b>                        | <b>\$75,000.00</b>                               |                    |                             |          |
|                      | Discretionary Grant (AGRO/GrainPro) | Storage units for grains                         | \$10,000.00        | Delivered April 2013        | Nacala   |
| 3. OLINOTU           | ASC Establishment                   | Tractor, John Deere 5503                         | \$23,600.00        | Delivered on Aug 2012       | Nacala   |
|                      |                                     | Tractor, John Deere 5303                         | \$20,900.00        | Delivered on Aug 2012       |          |
|                      |                                     | Transport  | \$5,311.34         | Delivered on Aug 2012       |          |
|                      |                                     | Chainsaw (02)                                    | \$2,027.32         | Delivered on Aug 2012       |          |
|                      |                                     | Disc fixed plough                                | \$6,590.00         | Delivered on Aug 2012       |          |
|                      |                                     | Disc harrow mechanic                             | \$5,740.00         | Delivered on Aug 2012       |          |
|                      |                                     | Row seeder 9                                     | \$2,900.00         | Delivered on Nov 2012       |          |
|                      |                                     | Water pump                                       | \$480.06           | Delivered on Aug 2012       |          |
|                      |                                     | Helmet, other parts                              | \$28.06            | Delivered on Aug 2012       |          |
|                      |                                     | <b>Total</b>                                     | <b>\$67,576.7</b>  | Delivered on Aug 2012       |          |
| 4. CISTER            | ASC Establishment                   | Tractor John Deere 5503 (4X4)                    | \$26,300.00        | Delivered on Aug 2012       | Nacala   |
|                      |                                     | Tractor John Deere 5303 (4x2)                    | \$16,500.00        | Delivered on Aug 2012       |          |
|                      |                                     | Discs (Plough and Harrow)                        | \$33,211.34        | Delivered on Set 2012       |          |
|                      |                                     | <b>Total</b>                                     | <b>\$76,011.34</b> |                             |          |
| 5. UNILURIO          | Seed Capital                        | Laboratory construction                          | \$100,000.00       |                             | Nacala   |
| 6. GRAMITER          | Discretionary Grant                 | Equipment to calibrate & clean grains            | \$10,000.00        | Delivered on September 2012 | Nacala   |
| 7. OKHALIHERA        | Discretionary Grant                 | Six shelling machines                            | \$5,552            | Delivered 01/13/12          | Nacala   |
| 8. SAN               | Discretionary Grant                 | Feasibility study                                | \$5,000            | Delivered June 13, 2012     | Nacala   |
| 9. WISSA             | Discretionary Grant                 | Installation of the canteen and shelling machine | \$7,405            |                             | Nacala   |
| 10. HORFPEC          | Discretionary Grant                 | Irrigation system & water pump                   | \$3,481.34         |                             | Nacala   |
| 11. IDE              | Discretionary Grant                 | Micro irrigation demonstration plots--training   | \$3,491.61         |                             | Nacala   |

## USAID AgriFUTURO End of Project Report

| Grantee                     | Type of Grant     | Item   | Amount (in \$)        | Status              | Corridor |
|-----------------------------|-------------------|--|-----------------------|---------------------|----------|
| <b>Beira Corridor</b>       |                   |  |                       |                     |          |
| 12. NZARA YAPERÁ            | ASC Establishment | Planters JD 1010 2ROW  | \$6,950.00            | Delivered Jan 2012  | Beira    |
|                             |                   | Tractor JD 5303  | \$16,500.00           | Delivered Jan 2012  |          |
|                             |                   | Seed Cleaner   | \$40,363.35           | Delivered Jan 2012  |          |
|                             |                   | Warehouse construction   | \$34,704.30           | Delivered June 2013 |          |
|                             |                   | <b>Total</b>   | <b>\$98,517.65</b>    |                     |          |
| 13. AGRO-PECUARIA de MANICA | Seed Capital      | Food Processor   | \$75,986.60           | Delivered, Jan 2012 | Beira    |
| 14. Phoenix                 |                   | Tractor, New Holland TD80 and row planter & offset disc harrow Jumil | \$75,000.00           | Delivered, Nov 2010 | Beira    |
| 15. VISION G & G            | ASC Establishment | New Holland TD80   | \$ 22,567.00          | Delivered Nov 2010  | Beira    |
|                             |                   | New Holland TD80   | \$ 22,567.00          |                     |          |
|                             |                   | John Deere 5303  | \$ 15,514.81          |                     |          |
|                             |                   | John Deere 5303  | \$ 15,514.81          |                     |          |
|                             |                   | <b>Total</b>   | <b>\$76,163.61</b>    |                     |          |
| 16. ISPM                    | Seed Capital      | Laboratory Equipment   | \$100,000.00          | Delivered May 2013  | Beira    |
| 17. Priofoods               | ASC Establishment | Planters   | \$74,238.65           | Delivered Dec 2011  | Beira    |
| 18. NJERENJE                | Seed Capital      | Tractor New Holland  | \$37,769.38           | Delivered Aug 2012  | Beira    |
|                             |                   | Boomsprayer  | \$ 6,405.69           | Delivered Sept 2012 |          |
|                             |                   | 3 Tyne Ripper  | \$ 3,020.00           | Delivered Sept 2012 |          |
|                             |                   | Vicon Spreader   | \$ 1,000.00           | Delivered Sept 2012 |          |
|                             |                   | Disc Ceaser Harrow   | \$ 8,820.00           | Delivered Sept 2012 |          |
|                             |                   | Planter  | \$ 22,242.00          | Delivered Oct 2012  |          |
|                             |                   | <b>Total</b>   | <b>\$79,257.07</b>    |                     |          |
| 19. EVRETZ/Dan Moz          | Seed Capital      | Maize Milling Plant  | \$58,389.10           |                     | Beira    |
|                             |                   | Soya Extruder  | \$10,000.00           |                     |          |
|                             |                   | Shed Construction  | \$16,000.00           |                     |          |
|                             |                   | <b>Total</b>   | <b>\$85,039.12</b>    |                     |          |
| 20. DENGÓ                   | Seed Capital      | Construction (roof and paint)  | \$42,321.13           | Delivered Dec 2014  | Beira    |
| 21. KKU                     | ASC Establishment | Equipment and materials for commercialization                        | \$63,167.41           | Delivered July 2011 | Beira    |
| <b>Total</b>                |                   |  | <b>\$1,197,459.13</b> |                     |          |

**Table 8: MOUs Signed by AgriFUTURO Partners**

| MOU # | Period of Performance | Organization             | Location of Company/Corridor | Value Chain/Area of focus                         | Purpose   |
|-------|-----------------------|--------------------------|------------------------------|---|---|
| 1     | Oct/09                | TLC                      | Nacala Corridor              |   | Partner   |
| 2     | Nov/09                | BOM                      | Beira Corridor               |   | BDS   |
| 3     | Dez/09                | ADIPSA.                  | Both Corridors               |   | Partner   |
| 4     | Jan/2010              | CODFARM.                 | Beira Corridor               | Fruits (Mangoes)                                  | Value chain development                           |
| 5     | Jan/2010              | FRUTAS DO REVUE          | Beira Corridor               | Fruits (Mangoes)                                  | Value chain development                           |
| 6     | Jan/2010              | J.S.R.LANGA              | Beira Corridor               | Fruits (Mangoes)                                  | Value chain development                           |
| 7     | Jan/2010              | LUCITE EMPREITEIROS Lda  | Beira Corridor               | Fruits (Mangoes)                                  | Value chain development                           |
| 8     | Jan/2010              | MACS-IN-Moz Lda          | Beira Corridor               |   | Soybean and maize                                 |
| 9     | Jan/2010              | PINTO AGRO-PECUARIA Lda. | Beira Corridor               | Fruits (Mangoes)                                  | Value chain development                           |
| 10    | Jan/2010              | INCAJU                   | Both Corridors               | Caju  | Partner   |
| 11    | Jan/2010              | APAC.                    | Nacala Corridor              | Transformation of associations into coop.         | Partner   |
| 12    | Fev/2010              | MOÇFER, SA               | Beira Corridor               | Fruits  | Value chain development                           |
| 13    | Mar/2010              | Universidade Lurio       | Nacala Corridor              | Establishment of testing and certified Laboratory | Food safety and quality standards                 |
| 14    | Mar/2010              | CISTER Mozambique        | Nacala Corridor              | Oil seeds and Pulses                              | ASC   |
| 15    | Apr/2010              | SHERWOOD INTERNATIONAL   | Beira Corridor               |   | BDS   |
| 16    | Jun/2010              | Corridor Agro, Lda       | Nacala Corridor              | Oilseeds and Pulses                               | ASC   |
| 17    | Jun/2010              | INTELIMOZ                | Nacala Corridor              |   |   |
| 18    | Jun/2010              | ALIMI Cooperativa        | Nacala Corridor              | Oil seeds and Grains                              | FOSC  |
| 19    | Jul/2010              | IFC                      | Both Corridors               |   | Training package                                  |
| 20    | Jun/2010              | ALIMI                    | Nacala Corridor              | Oil seeds and Grains                              | Commercialization                                 |
| 21    | Jul/2010              | ADRA                     | Nacala Corridor              | Oil seeds and Pulses and cashew                   | Strengthen FOSC in the areas of Zambézia Province |
| 22    | Aug/2010              | PRIO                     | Beira Corridor               | Oil seeds and Grains                              | BDS cluster                                       |
| 23    | Sep/2010              | OLAM                     | Nacala Corridor              | Oil seeds and Grains and cashew                   | BDS   |

| MOU # | Period of Performance | Organization                | Location of Company/Corridor | Value Chain/Area of focus       | Purpose  |
|-------|-----------------------|-----------------------------|------------------------------|---------------------------------|--|
| 24    | Sep/2010              | IPCCM                       | Nacala Corridor              | Cashew                          | Promote a replanting program and quality standards |
| 25    | Sep/2010              | MAP                         | Nacala Corridor              | Cashew                          | Promote a replanting program and quality standards |
| 26    | Sep/2010              | IKURU                       | Nacala Corridor              | Oil seeds and Grains and Cashew | Seed production and marketing/FOSC                 |
| 27    | Nov/2010              | Matanuska                   | Nacala Corridor              | Bananas                         | Value chain development                            |
| 28    | Nov/2010              | Ussumane Miquidade          | Nacala Corridor              | Fruits (Mangoes and Chashew)    | Value chain development                            |
| 29    | Oct/2010              | BIOCHEM, LDA                | Both                         | All                             | BDS  |
| 30    | Oct/2010              | Fundacao Malonda            | Nacala Corridor              | Forestry                        | Forestry Agribusiness Association                  |
| 31    | Dec/2010              | Eduardo Mondlane University | Maputo                       |                                 | Material share and website management              |
| 32    | Sep/2010              | IKURU                       | Nacala Corridor              |                                 |  |
| 33    | Dec/2010              | AICAJU                      | Nacala Corridor              | Cashew                          | Capacity building and replanting program           |
| 34    | Mar/2011              | Condur Nuts                 | Nacala Corridor              | Cashew                          | Technical Assistance                               |
| 35    | Jun/2011              | SANA                        | Nacala Corridor              | Oilseeds and Pulses             | Seed production and FOSC strengthening             |
| 36    | Sep/2011              | Banco de oportunidade       | Beira Corridor               |                                 |  |
| 37    | Sep/2011              | Multifrutas                 | Nacala Corridor              | Pineapples                      | Provide vegetal material                           |
| 38    | Oct/2011              | Lozane Farm                 | Nacala Corridor              | Soybeans and pulses             | ASC and seed processing                            |
| 39    | November/11           | MADAL & SA G                | Nacala Corridor              | Groundnuts                      |  |
| 40    | December/11           | IFDC                        | Beira Corridor               | Input provider                  |  |
| 41    | May/12                | Grupo Soico                 | Both                         | All                             | Media coverage                                     |
| 42    | May/12                | AJAP                        | Both                         | All                             | Cooperative/training/                              |
| 43    | April/12              | Moz Tea                     | Beira Corridor               | Oil seeds and grains            |  |
| 44    | June/12               | IDE                         | Beira Corridor               |                                 |  |
| 45    | June/12               | Koroshio                    | Nacala Corridor              | Cashew value chain              | Quality control                                    |

USAID AgriFUTURO End of Project Report

| MOU # | Period of Performance | Organization             | Location of Company/Corridor | Value Chain/Area of focus | Purpose         |
|-------|-----------------------|--------------------------|------------------------------|---------------------------|-----------------|
| 46    | June/12               | Fábricas do grupo Yunuss | Nacala Corridor              | Cashew value chain        | Quality control |
| 47    | June/12               | Corvus - Mark Hassenkamp | Nacala Corridor              | Banana Value chain        | In pipeline     |
| 48    |                       | GAPI                     | Both                         | Microfinance              | In pipeline     |
| 54    |                       | PRODEZA                  | Nacala Corridor              | Cooperative/FOSC support  | In pipeline     |
| 56    |                       | John Deere/Standard Bank |                              |                           |                 |

# ANNEX D: PROJECT FINANCIALS

Abt Associates Inc., Raise Plus -The AgriFUTURO Program

Contract: EDH-I-00-05-00005-00, Order: EDH-I-10-05-00005-00

Approved Budget \$28,290,686.12

Period of Performance May 1, 2009 -February 27, 2015

| Contractually approved<br><br>Line Items                 | Approved Budget<br>per Modification<br>15 | INVOICED                        |                                 |                                 |                                 |                                   |                                       | Total Invoiced | Estimated Accrued Costs |                       | Projected Total<br>Spending |
|--|---|---------------------------------|---------------------------------|---------------------------------|---------------------------------|-----------------------------------|---------------------------------------|----------------|-------------------------|-----------------------|-----------------------------|
|  |   | Invoice 16175-11                | Invoice 16175-22                | Invoice 16175-34                | Invoice 16175-46                | Invoice 16175-52                  | Invoice 16175-65                      |                | Accruals                | Year 6<br>(remaining) |                             |
|  |   | Year 1                          | Year 2                          | Year 3                          | Year 4                          | Year 5                            | Year 6 (Partial)                      |                |                         |                       |                             |
|  |   | May 1, 2009 -<br>April 30, 2010 | May 1, 2010 -<br>April 30, 2011 | May 1, 2011 -<br>April 30, 2012 | May 1, 2012 -<br>April 30, 2013 | May 1, 2013 -<br>October 26, 2013 | May 1, 2014 -<br>December 26,<br>2014 |                |                         |                       |                             |
| I. TOTAL DIRECT LABOR                                    | \$3,897,893.19                            | 451,380.79                      | 645,892.38                      | 797,491.10                      | 818,628.63                      | 571,927.28                        | 476,198.74                            | 3,761,518.92   | 3,729.89                | 132,644.38            | 3,897,893.19                |
| II. FRINGE BENEFITS                                      | \$1,637,115.12                            | 189,578.94                      | 271,275.27                      | 334,946.60                      | 343,824.04                      | 240,209.70                        | 200,003.38                            | 1,579,837.93   | 1,566.55                | 55,710.64             | 1,637,115.12                |
| III. CONSULTANTS -                                       | \$921,855.05                              | 199,398.71                      | 165,894.88                      | 254,179.65                      | 178,614.92                      | 20,415.78                         | 6,875.42                              | 825,379.36     | 0.00                    | 96,475.69             | 921,855.05                  |
| IV. TRAVEL AND PER DIEM,                                 | \$1,134,184.40                            | 178,557.30                      | 227,308.12                      | 220,677.01                      | 187,439.95                      | 123,226.13                        | 111,999.18                            | 1,049,207.69   | 15,529.36               | 69,447.35             | 1,134,184.40                |
| V. EQUIPMENT   | \$762,980.69                              | 374,713.73                      | 127,564.94                      | 149,140.68                      | 108,727.66                      | -78,529.20                        | 4,879.85                              | 686,497.66     | 75,483.03               | 1,000.00              | 762,980.69                  |
| VI. SUBCONTRACTS and GRANTS                              | \$9,375,873.31                            | 492,186.75                      | 1,397,850.38                    | 1,863,451.28                    | 2,597,966.82                    | 1,718,458.29                      | 697,370.97                            | 8,767,284.49   | 16,783.23               | 591,805.59            | 9,375,873.31                |
| VII. ALLOWANCES  | \$906,529.64                              | 92,836.42                       | 106,096.55                      | 175,758.49                      | 161,395.32                      | 153,897.78                        | 145,561.80                            | 835,546.36     | 0.00                    | 70,983.28             | 906,529.64                  |
| VIII. PARTICIPANT TRAINING                               | \$0.00                                    | 0.00                            | 0.00                            | 0.00                            | 0.00                            | 0.00                              | 0.00                                  | 0.00           | 0.00                    | 0.00                  | 0.00                        |
| IX. OTHER DIRECT COSTS,                                  | \$3,823,016.48                            | 315,742.39                      | 707,266.60                      | 639,780.41                      | 830,220.80                      | 749,847.43                        | 234,873.41                            | 3,477,731.04   | 47,443.88               | 297,841.56            | 3,823,016.48                |
| X. OVERHEAD  | \$1,414,349.67                            | 177,754.76                      | 229,657.50                      | 274,537.88                      | 287,850.38                      | 202,235.86                        | 199,313.16                            | 1,371,349.54   | 1,544.75                | 41,455.38             | 1,414,349.67                |
| XII. OTHER INDIRECT COSTS                                | \$2,689,266.26                            | 341,676.99                      | 533,046.09                      | 539,959.46                      | 527,811.07                      | 393,137.28                        | 204,997.99                            | 2,540,628.88   | 6,815.37                | 141,822.00            | 2,689,266.26                |
| XIII. TOTAL ESTIMATED COSTS<br>(Exclusive of Fee )       | \$26,563,063.82                           | 2,813,826.78                    | 4,411,852.71                    | 5,249,922.56                    | 6,042,479.59                    | 4,094,826.33                      | 2,282,073.90                          | 24,894,981.87  | 168,896.07              | 1,499,185.87          | 26,563,063.82               |
|  |   |                                 |                                 | 5,249,922.56                    |                                 | 4,094,826.33                      | 2,282,073.90                          |                |                         |                       | 26,563,063.81               |
| XIV. FEE   | \$1,727,622.30                            | 182,898.72                      | 286,770.44                      | 341,244.95                      | 392,761.18                      | 266,163.71                        | 149,357.97                            | 1,619,196.97   | 10,978.24               | 97,447.08             | 1,727,622.30                |
| Burdened Salary CAP Excess<br>TOTAL ESTIMATED COSTS PLUS |   |                                 |                                 |                                 |                                 |                                   |                                       |                |                         |                       |                             |
| XV. FEE  | \$28,290,686.12                           | 2,996,725.50                    | 4,698,623.15                    | 5,591,167.51                    | 6,435,240.77                    | 4,360,990.04                      | 2,431,431.87                          | 26,514,178.84  | 179,874.31              | 1,596,632.95          | 28,290,686.12               |

## ANNEX E: INDEX OF SUPPLEMENTARY MATERIALS

- Administration–Approvals
- Annual Work plans
- AgriNews
- Branding Implementation Plan
- Dissemination Strategy
- Monitoring and Evaluation Plan
- Monthly Progress Report
- Press Releases
- Property Disposition Plan
- Quarterly Financial Reports
- Quarterly Progress Reports
- Schedule of Events
- Studies and Consultancies
- Success Stories
- Tracking Sheets
- Trip Reports