Final Closure Report of African Agricultural Capital Ltd (AAC)

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From seed to harvest: the impact of East Africa's first agricultural SME investment fund

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Prepared by Onward Resources International Ltd for Pearl Capital Partners (PCP)

August 2020

Pearl Capital Partners

African Agricultural Capital

Onward Resources International

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Foreword

In 2004, we set up African Agricultural Capital (AAC) with the ambition of stimulating investment in agricultural businesses in East Africa. AAC was one of the first agricultural impact investment vehicles in the region. It inspired others and we learned many lessons along the way. I would like to commend most highly the shareholders, Gatsby Charitable Foundation and Volksvermorgen, who had the courage and vision to venture into financing relatively and inexperienced African agricultural enterprises.

In 2019, we marked the formal closure of AAC. This report documents the remarkable growth of so many of the enterprises AAC supported and the wider impact of these businesses on agricultural markets that are so important to livelihoods and economic security of East African citizens. There is no doubt that many of these companies would not have existed or grown into the industry leaders they are today without patient, early stage support from AAC in various forms.

Many lessons learned have been discussed in this report. Perhaps the biggest lesson has been the importance of mentoring the investee companies and the entrepreneurs behind them. Experience can be acquired. A fund like AAC should have a Business Development Support (Technical Assistance Facility) component, to fund formal business trainings, team capacity development and one-to-one mentoring for SME entrepreneurs.

Since I first joined AAC's Board of Directors, the impact investment landscape in East Africa has expanded and changed. I have since been involved in the governance of a series of funds targeting East African agricultural businesses, several of which built directly upon AAC's pioneering efforts. AAC's story and lessons from its journey continue to be relevant to our work as impact investors in the region and beyond.

I am very pleased to share this report which captures lessons from AAC's experience that remain instructive today and in the future.

Dr. William S Kalema
AAC Board Chairman

Message of appreciation

This study is the culmination of a fifteen-year journey for all actors involved: the AAC and PCP teams, our investors, our investees, business communities and, last but not least, smallholder farmers. It is with great pride that we look back at how AAC has changed the investment landscape for agri-businesses in East Africa, and especially, brought about change for rural communities. This has only been possible because of the tremendous commitment, support and backing of the many people who played a role throughout the life of AAC.

From the earliest stages of building AAC as an organisation, we benefitted from the strong support and involvement at various stages of our Board of Directors, initially under the leadership of Hatim Karimjee, and latterly under William Kalema, and with members including Laurence Cockcroft, Joe De Vries, Joseph Kibe, Ralph Christy, Grace Rubambey, Walter Vandepitte, Michael Turner and Simon Rutega. In the same spirit, we too appreciate the ongoing support of various Board observers and the engagement of Justin Highstead, Michael Geers and earlier Robert Jenkins. We are indebted to Tom Adlam, AAC's first Managing Director, who, with the guidance of the Board, led the process of building a team, developing a strategy, and building a portfolio of investments which has proven that, in this most essential of sectors, it is possible to invest in and build competitive agri-businesses delivering products, services, and providing access to markets for smallholder farmers across the region.

We are immensely grateful for the support and patience of our investors throughout the life of the fund: Gatsby Charitable Foundation, Rockefeller Foundation, Volksvermorgen NV and, in the early stages of AAC, the Kilimo Trust team. They believed in the power of investment in small and medium-sized enterprises to positively impact rural communities, both directly and indirectly. We are grateful to our investee company team leads and owners, including Nicolai Rodeyns, Saleem Esmail, Samuel Mukasa, Henry Wainwright, Ruth Nyagah, Maria Odido, Chris Kaijuka, James Parsons and Mark Stephenson among others. They trusted AAC as a financial partner in building their businesses, even in the early stages, when the concept was still new and unproven. We would also like to extend our gratitude to all the PCP and AAC staff, both past and current, for their immense and committed efforts over the life of the fund. Finally, we appreciate the efforts of Erastus Kibugu and Sarah Hanssen in compiling this important report.

This letter can only capture a small fraction of the people whose support has been vital to AAC. We send our deep thanks to all of our stakeholders and partners.

Dr. Edward Isingoma
Managing Partner, PCP

Wanjohi Ndagu
Partner, PCP

Acknowledgements

This report was written by Onward Resources International's Sarah Hanssen and Erastus Kibugu. The authors would like to thank Pearl Capital Partners' staff and AAC's investors for facilitating the research and providing valuable input into the study. In particular, Tom Adlam (former Managing Director of AAC), Justin Highstead (Director of Africa Programmes, Gatsby Charitable Foundation), Edward Isingoma (Managing Partner, PCP) and Wanjohi Ndagu (Partner, PCP) provided input into the research process and design and also reviewed the report. We are also grateful to AAC's portfolio companies for taking part in the research and sharing information and insights that enabled us to document AAC's impact and lessons learned. Finally, we appreciate the guidance of AAC's Board of Directors and the input of other industry experts and impact investors into the report.

Acronyms

AAC	African Agricultural Capital
AACF	African Agricultural Capital Fund
AGRA	Alliance for a Green Revolution in Africa
ASIF	African Seed Investment Fund
APR	Annual Percentage Rate
BDS	Business Development Support
CGIAR	Consultative Group on International Agriculture
DFI	Development Finance Institution
DOC	day old chick
EAFN	East African Food Network
EU	European Union
IPM	integrated pest management
IRR	Internal Rate of Return
KEPHIS	Kenya Plant Health Inspectorate Service
M&A	Mergers and Acquisitions
mt	metric tonnes
NAADS	National Agricultural Advisory Services
NGO	Non-Governmental Organisation
NSSF	National Social Security Fund Uganda
ORI	Onward Resources International
PPO	Product Placement Officer
PCP	Pearl Capital Partners
R&D	research and development
SME	small and medium-sized enterprise
UK	United Kingdom
UN	United Nations
US	United States
USAID	United States Agency for International Development

Introduction


Photo: Roses growing at Real IPM's facility in Kenya

Background to AAC

African Agricultural Capital Limited (AAC) is an investment company set up in 2005 with a focus on investing in small and medium sized agricultural businesses in East Africa. From the outset, AAC aimed to foster social and economic gains by supporting businesses that would bring agricultural innovation as well as social and economic benefits to smallholder farmers. Capitalised with US$ 9 million from the Gatsby Charitable Foundation, Rockefeller Foundation, and Volksvermogen NV, from 2005 to 2009 the AAC invested in 16 companies. In 2019, AAC fully exited its portfolio and officially closed.

AAC's journey

Study into East African agriculture conducted by Gatsby and Rockefeller	2002-3
AAC setup and recruitment of management team	2004-5
First investments	2006
Total of 16 investments made	2009
First complete exit	
PCP formed as fund managers	2010
First distribution	2011
AAC investments managed and harvested	
AAC fully divested	2019

AAC was the first agricultural impact investment[1] vehicle in East Africa. It was dedicated to developing agri-businesses at a time when banks and private investors perceived the risks to investing in agriculture to be too high and the returns too low. Investors identified one of the constraints to the development of agricultural markets to be the lack of capital to SMEs. Yet, SMEs often play an essential role, and are in many cases the only actors, in promoting the adoption of new technologies and taking agricultural products to market.

Funding to the agricultural sector, however, didn't support this vital segment of enterprises. Public sector funding tended to focus on research, education and "public goods", broadly defined. Private finance was delivered either through microfinance (< US$ 1,000), or commercial banks (> US$ 2 million) with high interest rates and a history of loan write offs in the agricultural sector. Therefore, little or no investment capital was available to SMEs who typically needed under US$ 2 million. AAC addressed the 'missing middle' between large-scale commercial finance and micro-loans. It focused on SMEs that could not access bank finance either because they did not have a credit history, or had no significant asset base to act as collateral.

Furthermore, AAC was uniquely structured to provide finance that was well aligned with the needs of agricultural SMEs. It was set up as an open-ended investment company, allowing it to take a longer-term view on investments. The structure gave it the flexibility to finance agricultural businesses, including start-ups, which typically take more time to grow and are higher risk than companies in other sectors.

AAC's investors established it as a pilot initiative that aimed to 'prove a concept.' AAC set out to show that investors could achieve a reasonable return over the long term by investing in agricultural SMEs and have a substantial, positive impact on farmers and rural communities. In doing so, it sought to catalyse additional private investment into the East African agricultural sector.

"The impact investing element of this is in the amount of risk the fund is acknowledging it will take to make investments in this sector. After that, the gloves are off, and the deals are done on commercial terms." **Michael Turner, Director, AAC'**

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[1] When AAC was established, the term 'impact investment' had not yet been coined. AAC was an early pioneer of this concept.

Overview of East African investment market, 2011

US$ 2 million

Commercial banks
- Annual Percentage Rate (APR) 13% in Kenya, 18% in Tanzania and 20% in Uganda
- Very low interest rates paid to depositors

Private equity / venture capital
- > USD 2 million
- 0.75-0.91% monthly interest
- APR approx. 9-11%

Funding gap
- US$ 200,000 – 2 million
- 0.75-0.91% monthly interest
- APR approx. 9-11%

Where AAC targeted to invest

Microfinance
- < US$ 1,000
- 2% monthly interest
- APR approx. 27%

US$ 25,000

Purpose of this study

This study marks the closing of AAC in 2019. Its closure represents a unique opportunity to capture the story of this pioneering investment company and the businesses it financed after 14 years have elapsed. The purpose of this study is to review AAC's experience and the journey of the companies it financed, and to capture AAC's social and developmental impact and the wider lessons learned. The report focuses in particular, on AAC's transformative impact, addressing the following questions:

- To what extent did AAC attract additional investment to East African SMEs, both directly (e.g. through co-investment in portfolio companies) and indirectly (e.g. by inspiring the creation of other impact investment vehicles)?
- What was the social and development impact of the businesses in which AAC invested?
- To what extent did investee companies influence the broader industries and markets within which they operated?
- What are the lessons from AAC's experience that can inform (a) future investments in agricultural SMEs (b) efforts to impact agricultural markets (c) the structure and focus of impact investment funds?

Methodology

The methodology of the study included the following:

Desk review – ORI reviewed relevant documents including:

- AAC's internal and external reports covering the fund's life including documentation of its investment strategy, investment term sheets, board meeting records, and other documentation of investee companies,
- Existing company documentation, where available, such as business plans and other materials prepared for investors,
- Data and reports relating to the sub-sectors and markets within which investee companies operated to understand the wider industry impacts.

Interviews with key stakeholders – ORI carried out interviews with portfolio company founders and current management, AAC and PCP staff, investors and Board members, industry experts, and other impact investors.

Case studies – ORI selected 5 portfolio companies for in-depth case studies: Africado, Biyinzika, Real IPM, Naseco, and Western Seed. In addition to practical considerations relating to the availability of information and ability to meet with company founders and management, these were selected based on the following criteria:

- Representative of the sectors and types of companies in which AAC invested,
- Potential to document a positive social and development impact, and particularly a broader industry or market impact within the sub-sector invested,
- Ability to demonstrate AAC's influence on commercial success and growth of the company.

Portfolio overview

Photo: Packaging seed, NASECO

AAC's investment strategy and portfolio

Between 2005 and 2009, AAC invested in 16 companies across East Africa. AAC's investment strategy reflected four broad aims:

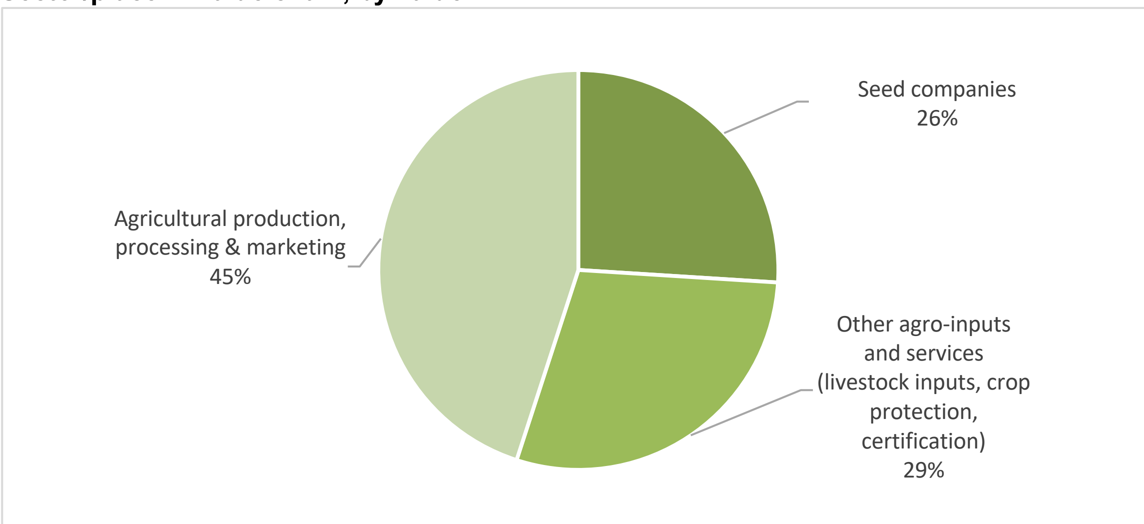
- To increase farmers' access to productivity enhancing agricultural technologies, including improved seed varieties and other inputs.
- To expand access to markets especially for small-scale farmers.
- To provide agricultural SMEs with access to better-aligned growth capital.
- To provide investors with a reasonable, positive financial return.

AAC invested in companies where commercial banks and other investors would not. The portfolio was high-risk in a sector already considered to be risky. Within AAC's overall portfolio-building strategy, AAC made efforts to ensure that concentration by sub-sector and by geography were actively managed. AAC also took steps to build in diversity and inclusion processes and to ensure that its portfolio included businesses owned and/or managed by East African nationals. This was in a context in which the types of finance offered by AAC were relatively new to the region.

- Over half (9) of the companies were start-ups/early stage businesses operating in new and untested markets.
- AAC was the first external investor for nearly all of the companies. The majority lacked assets or conventional forms of collateral and so they could not borrow from commercial banks.
- Investment in each company ranged from US$ 100,000 to US$ 1.2 million.
- In aggregate, the initial portfolio comprised 24% equity and 76% debt. In some instances, the debt had equity-like features or was later converted to equity.
- About half of the companies supplied agro-inputs and services and half were involved in agricultural production, processing and marketing.
- The portfolio covered diverse sub-sectors. It included 8 agricultural production, processing and marketing businesses spanning a variety of products (honey, vanilla, avocado, rice, amaranth, dried vegetables, oils for cosmetics, leather manufacture), 4 seed companies, 2 crop protection companies (integrated pest management solutions and agro-chemicals), an agricultural certification firm, and a poultry and grain-milling business supplying day-old-chicks and feed.
- Half (8) of the companies were owned or managed by East African nationals, 6 of whom were black East Africans. The remaining 8 businesses were owned by white expatriates. The overall survival rate of East African-owned businesses was higher than for expatriate-owned businesses.

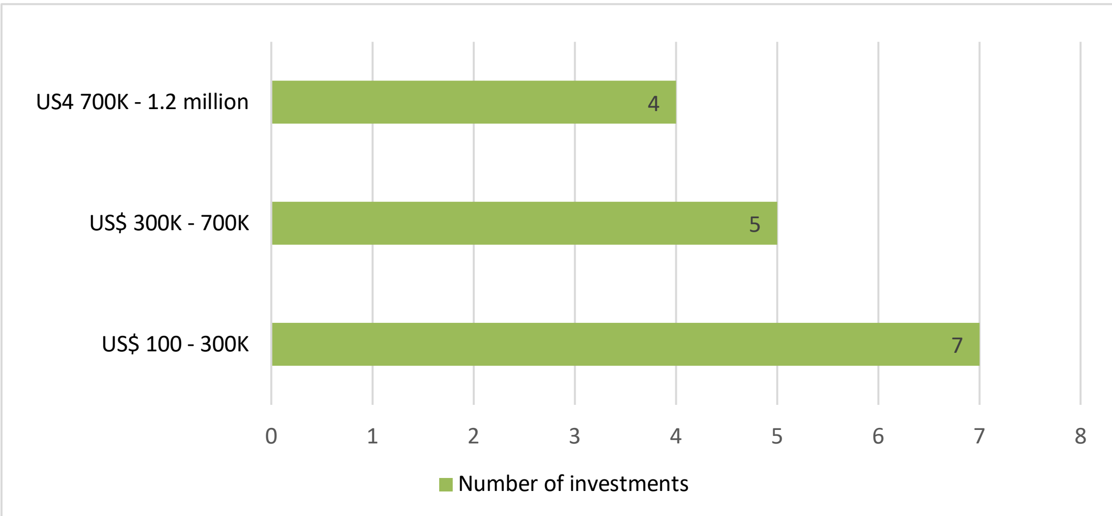
AAC could take on riskier loans. They wouldn't loan to companies that a bank could. That wasn't the mission of AAC. … At the time of AAC's first investment we had no assets to use as loan security. AAC gave us access to early credit facilities, which was critical."
Henry Wainwright, Real IPM

Sector/place in value chain, by value

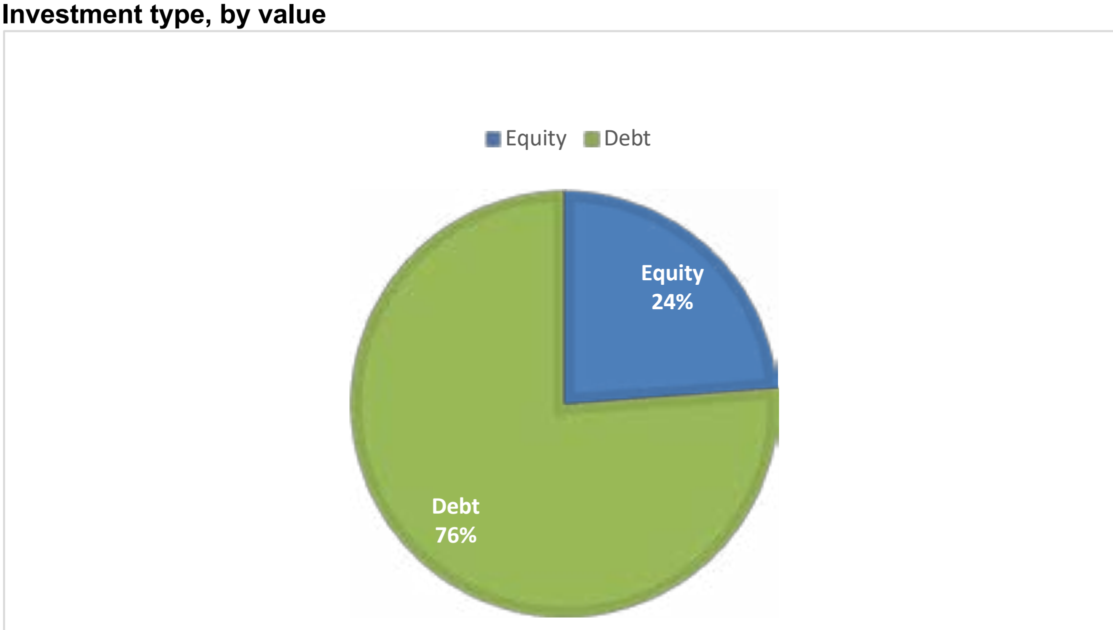


Geographic coverage, by value

Investment size per company[2]



Investment type, by value



[2] Several companies received more than one investment. This shows total investment per company.

AAC's financial performance

AAC's goal was to develop strong agri-businesses that would have a positive development impact, while also achieving a reasonable return on investment. It wanted to show that it was possible to make a positive return in the agricultural sector and that the fund could stand on its own. However, there were trade-offs between impact and financial return. Its approach was different from that of a typical private equity investor focused upon maximising financial return.

- AAC placed the company's financing needs at the heart of its approach when structuring deals. This was key to building trust with SMEs who were often sceptical about external financiers.
- AAC played a very active role in investee companies and supported them to put in place governance and management systems, even in cases where there was little or no financial upside for AAC (e.g. where it had no equity stake or loans had already been fully repaid). This was critical to the long-term success of many businesses and a number of companies may not have survived or seen such accelerated growth without AAC.
- AAC tailored its approach to meet the needs of agricultural SMEs, for example allowing for repayment periods that were aligned with seasonal cycles.
- AAC was willing to do small deals, despite the fact that in this industry, the time, cost and expertise required to manage small deals is similar to that for larger deals. The price that AAC paid for pursuing small deals was higher administrative costs, thereby creating inefficiencies.
- AAC assumed high risks without expecting commensurate returns. It extended loans in situations in which the risk profile would have justified taking equity. This is because the market was not yet familiar with equity financing models, and someone had to pay the price to build the long-term profile of equity investing.
- AAC was willing to subordinate its financial interests to other investors in order to bring them on board – e.g. ranking behind other investors in the event of a default.

AAC's target was an annual net post-tax return of 5%.[3] The following is an overview of the financial performance of the portfolio:

- The portfolio as a whole achieved an Internal Rate of Return (IRR) of 4.8%.
- Investments in 9 out of the 16 companies achieved a positive return. Of these, 3 were investments in early stage companies and 6 were expansion/growth capital.
- One high-performing debt and equity investment in a successful start-up (Africado) accounts for 40% of the portfolio's total cash inflow and had a holding period of 13 years.
- Five investments were total write-offs or discounted exits where less than 30% of the initial investment was recovered. These were all early-stage investments.[4]

[3] AAC Information Memorandum, January 2008.

[4] Three investments were total write-offs and in two cases AAC realised a substantial loss.

AAC FINANCIAL SUMMARY	
Total funding	US$ 9.0 million
Total invested	US$ 8.0 million
Realised	US$ 10.7 million
Disbursed to shareholders	US$ 6.6 million
IRR	4.8%
Lifetime cost of fund	US$ 5.8 million

Photo: Hand sorting seed, Western Seed

AAC's development impact

Photo: Africado packhouse, Kilimanjaro region, Tanzania

Perhaps the most direct demonstration of AAC's impact is in the survival and growth of its portfolio companies. Of the 16 businesses that AAC supported from 2006 to 2010, 12 have survived to the present day and make a positive contribution to the broader market. Ten (10) out of these 12 companies have grown substantially in size. These businesses support their stakeholders in numerous ways: as employers, as customers and suppliers, and as taxpayers. While it is difficult to attach precise monetary value to the contribution they make, it is indisputable that their continued survival and growth is highly beneficial to their stakeholders and, by extension, to the overall health of the East African economy.

"It is hard to over-estimate the positive role that businesses in the agriculture sector play in rural communities, both directly and indirectly. They create jobs for young people, deliver farming inputs which improve agricultural productivity, and create markets for agricultural produce. Those are measurable direct impacts. But it's the indirect, systemic benefits which make the real change, the systemic change. They bring money into local economies, enabling other small businesses to develop. Education improves, as more children go to school. Food security improves, because of purchasing power. Health improves, with better food security and wider education. And young people, in particular, have much improved access to opportunity. We certainly didn't get everything right at AAC, but when I look at the relatively modest net cost of AAC to our financiers, the Gatsby Charitable Foundation, the Rockefeller Foundation, and Volksvermogen, I certainly feel that it shows the power of investment in small and medium-sized enterprises to drive high social impact to the underserved rural communities who are most in need of opportunities." **Tom Adlam, former Managing Director, AAC**

This section explores AAC's development impact in more depth, focusing upon AAC's achievements in four key areas that reflect its aims at the time it was established. The four themes are drawn from AAC's investment strategy, as described above, as well as the goals of AAC's founders and investors, as expressed during interviews:

1) Expanding access to high-yielding seed varieties and other yield enhancing technologies and agro-inputs,
2) Expanding access to markets and stimulating demand for small-scale farmers' produce,
3) Building commercially successful small and medium sized agri-businesses that could access strategically-aligned growth capital,
4) Pioneering East African impact investing by setting up the first East Africa-based fund manager and piloting an investment model that would attract new investors.

Expanding access to high-yielding seed and other agro-inputs

Investment in the seed sector

One of the major limiting factors in agricultural productivity growth in Africa (historically) has been the lack of access by farmers to locally adapted, higher-yielding seed. With grant funding from a variety of donors,[5] over many years, progress had been made in breeding and developing new seed varieties at the time AAC was established. However, public and parastatal seed companies had historically dominated the sector and there was a vacuum in private seed multiplication/producers, marketers and suppliers that could get improved varieties to farmers. Given the fragmented markets and a tradition of using home saved grains, there was little private sector appetite to invest in seed companies. AAC's investors/founders had the explicit goal of supporting the growth of private seed companies in Africa[6] and viewed AAC as a pilot to test the approach. AAC was the first investment vehicle to provide loans and equity finance to small and medium sized East Africa-based seed companies.

Seed sector impact

AAC's impact in the seed sector in East Africa includes:

- **Attracting additional capital to private, local seed companies.** Leveraging AAC's experience, key investors dramatically scaled-up investment in private, local seed companies as a means to bring new, high-yielding varieties to the small-scale farmer market. AAC's experience helped make the case to the Rockefeller and Gates foundations to support African entrepreneurship and seed companies on a larger scale with the creation of the Alliance for a Green Revolution in Africa (AGRA). AGRA launched a US$ 150 million Programme for Africa Seed Systems in 2006 which in turn supported the creation of new funds targeting seed companies. These included the US$ 12 million African Seed Investment Fund (ASIF), managed by PCP and focusing across Eastern and Southern Africa, and Injaro, focused in West Africa.

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[5] These include but are not limited to the Consultative Group on International Agriculture, the United States Agency for International Development (USAID), and private foundations, including the Rockefeller Foundation.

[6] Bigirwa & Kapran, "Setting up Seed Companies in Sub-Saharan Africa," in AGRA, 2017. Seeding an African Green Revolution: The PASS Journey.

- **Fostering the growth of market-leading East African-based seed companies that target small-scale farmers.** Naseco, Western Seed and Highland Seed's commercial success and viability were directly enabled by AAC's investment.[7] Today these companies account for 25% of the Ugandan market, 10%[8] of the Tanzanian market, and 20% of the mid-altitude market in Kenya. They are major players bringing high-quality seed, particularly hybrid maize, to small-scale farmers. (See Boxes 1 & 2 and the annexed company case studies for detailed analysis.)
- **Increasing rural incomes and food security**. Improved seed increases crop resilience and produces considerably higher yields than farm-saved seed. Because Naseco, Western Seed, and Highland Seed's target market is small-scale farmers, the expansion of their customer base has a direct, positive impact on rural incomes. Seed companies estimate that farmers using their seed achieve yields around double those for farm saved seed under similar input management, and that potential yields are at least three times as high.

Photo: Hand sorting seed, Naseco

[7] AAC also invested in Victoria Seed however its impact on the commercial success of the company was limited. Victoria Seed repaid its loan early in the context of misalignment between the company and AAC on the terms of the investment.
[8] Estimates by FICA. Decline in the market share for Highland Seed is due to strong competition from several multinational companies.

Box 1: Naseco Seed Company

AAC's investment in Naseco helped create a Ugandan-based market leading seed business that supplies small-scale farmers with high quality field crop seeds. A series of investments, first by AAC in 2006 and subsequently by ASIF in 2010 and 2012, enabled Naseco to expand and upgrade its production facility, increasing its production capacity and improving the consistency and quality of its products.

Naseco transformed from a small player primarily supplying relief seeds to non-governmental organisations (NGOs), to one of the leading suppliers of commercial seed in Uganda and has expanded to the Great Lakes region. By 2011, it commanded about 25% of Uganda's seed market.[9] Naseco has achieved this by investing in marketing to small-scale farmers and demonstrating consistent, high germination rates and gains (i.e. yields, early maturity). From 2006, when AAC invested, to 2011, when AAC exited, Naseco's annual production increased from 1,760 mt to 2,500 mt[10]. Furthermore, high-yielding hybrid maize varieties make up an increasing proportion of Naseco's sales (from 8% in 2009 to 61% in 2015). This reflects the fact that Naseco's customers, who are largely small-scale farmers, have gradually adopted hybrid varieties, increasing their yields, food security and incomes.

In a context in which over 80% of Ugandan small-scale farmers use home saved seed, Naseco stands out as a Ugandan-based company that has made inroads in supplying quality seed to small-scale farmers, while remaining profitable. Naseco supplies an estimated 125,000 smallholder farmers annually.[11] A substantial percentage of its products are distributed through direct sales via its own agro-dealers (compared with government and United Nations (UN) aggregators) and by working with self-employed agro-dealers to market its products. Naseco has helped strengthen these businesses. It is also the only Ugandan-based seed company with an established breeder programme,[12] and thus contributes to the development and safeguarding of seed varieties unique to Uganda's ecosystems.

[9] Gatsby Charitable Foundation, 2011.

[10] PCP, ASIF data.

[11] This is extrapolated from annual production of 2,500 mt based on an assumption that an average farmer is on 2 acres and uses 10 kg per acre.

[12] PCP, 2020. Naseco – Updated Final Investment Paper.

Box 2: Western Seed Company

AAC's investment in Western Seed has helped to ensure the supply of high-quality hybrid maize seed to the mid-altitude region of Kenya, which was underserved by seed companies. AAC's investment in 2007 enabled Western Seed to purchase equipment and invest in research and development in order to expand production and improve the quality and consistency of its seed. When AAC invested, Western Seed had installed capacity to produce up to 1,000 mt seed per year and it was producing and selling below this level. Despite initial set-backs due to Kenya's post-election violence, Western Seed more than doubled seed sales from 934 mt to 2,254 mt[13] from 2009 and 2011. The company's overall growth was strong during the first 5 years of AAC's investment. From 2007 to 2011, Western Seed's total revenue nearly doubled and its gross profit increased by 50%. Building on this track record, between 2010 and 2012, Western Seed raised US$ 5 million from ASIF, Voxtra and Acumen. The company's plans to increase production to 7,000 mt over 5 years by increasing on-farm production proved to be over-ambitious and detracted from its previously successful focus on production through outgrowers. As a result, Western Seed underperformed and AAC exited at a loss in 2012. Despite these challenges, AAC's investment helped Western Seed grow to be a significant player in the mid-altitude market. To this day, Western Seed continues to supply approximately 100,000 small-scale farmers annually[14] with high-performing seed varieties that are adapted to the mid-altitude region, and has expanded its market to Rwanda.

Photos: Western Seed production plant and packaged maize seed, Kitale, Kenya

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[13] PCP, ASIF volumetric data.

[14] This is estimated based upon sales of 2,000 mt per year. An average farmer planting hybrid maize in western Kenya is on 2 acres uses 10 kg per acre.

Investment in other agro-inputs

In addition to lack of access to high-yielding seed, low agricultural productivity in East Africa is also driven by limited availability of other agro-inputs, including fertiliser, crop protection solutions, livestock feed, and breeding stock. The inputs available on the market were often imported and too expensive to be viable for smaller-scale producers. In addition, the quality of inputs was often poor and they were not packaged and sold in the small sizes demanded by small-scale farmers. Furthermore, shifting towards more input intensive agriculture also required greater management skill and knowledge on the part of farmers (e.g. timing, use of inputs in combination, etc) and therefore the transition needed to be supported with marketing, field demonstrations and training.

Beyond its investments in seed companies, AAC also invested in other agro-input suppliers that had the potential to address some of these challenges. There were relatively few opportunities to invest in agro-input businesses that matched AAC's deal size. For example, most fertiliser businesses would have required large-scale capital. Nonetheless, AAC made several very successful agro-input investments that were both commercially successful and transformative from a development perspective.

Key impacts of agro-input investments

- **Helped make integrated pest management (IPM) practices and technologies affordable and accessible in East Africa and beyond.** AAC's investment in Real IPM (see Box 3 and the full case study in the Annex) helped it grow from a small training and service focused business, to a leading producer and promoter of bio-control agents with global distribution. Real IPM provides inputs that are critical to the success of East African floriculture and horticulture industries and have reduced their use of pesticides, which is good for the environment and for worker health.
- **Stimulated the growth of Uganda's poultry industry.** AAC's investment in Biyinzika (see Box 4 and the full case study in the Annex) enabled it to dramatically scale up its production of hybrid day old chicks and poultry feeds. These were essential inputs that enabled small-scale broiler and layer businesses to grow to meet Uganda's increasing demand for chicken and eggs.
- **Increased availability of crop protection and fertiliser products targeting small-scale producers.** AAC's investment in Lachlan, a profitable and growing importer and distributor of agro-chemical inputs across East Africa, supported one of the first companies to repackage and market agro-inputs to small-scale producers. AAC's loan helped Lachlan to strengthen its balance sheet and reduce its trading risk, purchase its offices and warehouse and invest in machinery to repackage bulk chemicals for distribution to agro-dealers and stockists throughout Kenya and elsewhere in East Africa. Lachlan is unique in that it offers a range of products specifically tailored and packaged to meet East African requirements, targeting not only horticulture companies and larger-scale farmers, but also small-scale farmers. Lachlan was one of the first companies to re-package bulk inputs in the quantities demanded by small-scale farmers and to develop a small-scale marketing strategy.

Box 3. Real IPM

AAC's investment enabled Real IPM to expand from a small training and consultancy services firm into a pioneering developer and producer of biological control agents in East Africa. Initially focused only in Kenya, Real IPM became a reputable international bio-control player with a market that extends across Africa as well as to Europe. In 2019, exports accounted for approximately 50% of Real IPM's sales. Real IPM was one of the first players in the biological control industry in Kenya and helped establish the regulatory framework for the industry, enabling new actors to enter the market. This included working with KEPHIS and other regulatory bodies to register bio-control products which were completely new to the market. It also was instrumental in the adoption of bio-controls by East Africa's flower and horticulture industries. It did so by producing biological agents locally, so that they could be supplied in sufficient quantities to be effective at a cost affordable to growers. Because IPM requires a high level of management skill in order to work, Real IPM sees the delivery of training and management techniques to customers as a core offering of its company, with the products themselves coming along with it.

Bio-control is a key input for Kenya's export-focused flower and horticulture industry because it enables exporters to meet the European Union (EU) maximum residue level requirements. The technology has also helped Kenya's floriculture industry overcome challenges related to pesticide resistance, to improve health and safety for workers, and reduce the negative environmental impact of pesticide run-off, including air and soil pollution, for example in the shores of Lake Naivasha where a large number of flower farms are located. Real IPM's bio-control systems were rapidly adopted within Kenya, reducing the use of chemical pesticides and benefiting the horticulture sector. Today, flower farms make up 65% of Real IPM sales and spend 25-50% of their crop protection budget on bio-controls. In addition, bio-controls have been widely adopted in the production of cuttings (small plants), herbs, vegetables and some fruits, particularly berries, for export.

Photos: Real IPM insectary and greenhouse, Thika, Kenya

Real IPM's journey

2003
- Formation of Real IPM in Kenya by Louise Labuschagne and Henry Wainright

2004
- Real IPM establishes Kichozi farm in Thika, clears coffee and begins construction of a greenhouse

2005
- First predatory mite (Phytoseiulus persimilis) produced at Kichozi farm

2006
- Office and canteen construction
- First bio-pesticide, bio-fungicide and bio-fertiliser product produced (Trichoderma asperellum)

2007
- AAC provides first loan to Real IPM to construct facilities and expand bio-control production
- Farm house completed on Kichozi farm

2008
- First export of predators to the EU market
- First sales of the bacterial bio-fungicide, Bacilius subtilis

2010
- AAC provides second loan to Real IPM
- Two new products introduced: Metarhizum anisopliae and Amblyseius cucumeris

2011
- Richel greenhouse built at Kichozi farm

2012
- Reservoir built at Kichozi farm

2014
- Real IPM lease Lulu farm in Mbeere and begin construction

2015
- Real IPM repays its loans to AAC
- AAC remains on Real IPM's Board

2016
- Launch of vertical bag gardening as a solution for small-scale producers
- Founder, Louise Labuschange retires

2017
- Biobest Group acquires Real IPM Kenya

2018
- Real IPM has a global distribution
- Henry Wainright retires as General Manager

Box 4. Biyinzika Enterprises Ltd

AAC helped Biyinzika Enterprises Ltd grow from a small, family owned hatchery and grain milling business into a market leading integrated, poultry business. Biyinzika scaled up its hatchery for day old chicks (DOCs) to meet the rapidly growing demand among small-scale and large broiler farms. In 2013, PCP made a further investment in the company through a follow-on fund, African Agricultural Capital Fund (AACF), teaming up with Voxtra East Africa. Biyinzika further scaled up its production of poultry feeds, which had become a key constraint to the growth of the poultry market, as well as to scale up its rearing of mature poultry. Biyinzika's market share for DOCs increased from approximately 30% in 2006[15] to over 60% in 2012[16] making it the largest player in the DOC market in Uganda. As Uganda's commercial poultry market grew and Biyinzika's operations expanded, the business began to broaden its downstream activities to become the leading, integrated poultry company in Uganda.

Biyinzika had a substantial impact on the growth of Uganda's poultry industry, which is dominated by small-scale broiler and layer farms. It did so by making consistently high quality, genetically superior DOCs available at an affordable cost, and promoting the industry with free training and vet visits. In addition, its grain milling and feed production business helped to ensure reliable feed supplies for the emerging industry. This, in turn, created demand for maize and soyabeans, some of which which Biyinzika grows on its own farms and also sources from small-scale farmers. Uganda's poultry industry formalised and expanded from 2000 to the present. Chicken and eggs are now produced commercially and have become a significant source of protein in the Ugandan diet.

Photos: Biyinzika grain storage, feed processing and hatchery

[15] Interview with Biyinzika

[16] Biyinzika Enterprises Ltd, 2012

Biyinzika's journey

1991
- Formal registration of Biyinzika, a family-owned business

1991 - 2006
- Import of DOCs for sale
- Purchase of hatchery equipment and import of hatching eggs
- Imports parent stock and begins rearing its own parent stock
- Purchase of grain and production of corn-soya blend for the World Food Programme

2006
- AAC provides first loan to Biyinzika

2007 - 2011
- Construction of new hatchery site at Kambembe Farm in Mukono
- Purchase of grain milling equipment
- Purchase of additional farm land for poultry rearing and growing maize and soya for the mill

2010
- AAC provides second loan to Biyinzika

2011
- Installed capacity of 540,000 DOCs per week

2012
- Biyinzika commands 60% of the market for DOCs in Uganda
- Business includes the hatchery, feed mill, and commercial layer farm, with the hatchery making up 72% of revenue

2013
- PCP and Voxtra make a joint US$ 4 million equity investment to enable expansion of feed production

2012
- Reservoir built at Kichozi farm

2014
- Establishment of a subsidiary entity Biyinzika Poultry International Ltd where all poultry operations are housed
- Increased focus on commercial broiler production

2014 - 2016
- Construction of a poultry feedmill
- Construction of commercial broiler farm
- Establishment of a new breeder farm

2016
- Biyinzika acquired by a UK based investment fund

2019
- Biyinzika is Uganda's leading, integrated poultry company with a commercial broiler farm, hatchery, and livestock feed business

Increasing access to markets and demand for small-scale farmers produce

AAC invested in a number of businesses that had the potential to increase demand for small-scale farmers produce or improve their access to markets. This included investments in a range of processors, aggregators and marketing businesses that sourced inputs from small-scale farmers or had outgrower schemes engaging small-scale farmers. These companies spanned a broad range of sub-sectors and products: avocado, honey, vanilla, dried vegetables, amaranth, leather manufacture, and rice. AAC also invested in Africert, which provides agricultural certification services required for farmers to access international export markets.

These investments were a particularly high-risk part of AAC's portfolio: all were early stage investments and the majority of companies were the first of their kind, operating in new, untested markets. While several companies grew and had a transformative impact in the markets within which they operate (Africado and Africert), the remaining businesses failed or underperformed. Two companies, Bee Natural and Sandstorm, have survived as small businesses that occupy a niche market and have a local development impact. However, AAC lost money and there is limited potential to achieve greater scale due to the nature of the businesses. Three businesses (East African Food Network, Amaranth International and Coetzee Natural Products) failed to make it through the start-up phase. Agrica (the holding company for Kilombero Plantations) attracted over US$ 40 million from other investors (substantially diluting AAC's equity) and it took more than five years before it became clear that the business was destined for failure. This illustrates the risks associated with establishing new businesses in new and often niche markets, and the importance of having deep, market-specific knowledge, especially when supporting start-ups.

Impact on farmers' access to markets

- **Creating Tanzania's first avocado exporter** – AAC's early investment in Africado helped create the first commercial avocado farm in Tanzania and the first to export to European markets (see Box 5 and case study). The firm is Tanzania's largest fruit exporter and has helped create Tanzania's avocado export industry. It has transformed a disused coffee plantation into a profitable business that employs 350 permanent workers and engages over 2,000 small-scale outgrowers.
- **Making agricultural certification services affordable and accessible to small-scale farmers** – Prior to 2005, certification services in the agricultural market were mainly performed by certifiers based in Europe. AAC's investment in Africert helped create sub-Saharan Africa's leading agricultural certification business. Africert was able to bring down the cost of certification services to African clients, making this more accessible to small-scale farmers. Certification is a necessary regulatory hurdle for farmers to access international markets. Furthermore, it helps to professionalise and improve agricultural practices, including improving agronomical practices, informed use of agro-chemicals and better health and safety. The number of producers that Africert certified grew from less than 3,000 in 2006 to 250,000 in 2010.

Box 5. Africado

In 2007, AAC provided start-up capital to Africado, Tanzania's first large scale avocado producer and exporter to the European market. AAC invested when Africado was only a concept and supported it through a three-year start-up phase, during which it planted 137 hectares of Hass avocado orchards at its farm in Kifufu Estate in west Kilimanjaro. Africado was the first Tanzanian avocado exporter to European markets and established a relationship with the South African firm, Westfalia, to market and distribute its avocados internationally. Since 2015, Africado has exported 2,400 to 3,000 mt of avocados to Europe each year. In 2018, Africado began developing a new 175 acre farm site that will double its production. Since AAC's investment, the company has brought in many investors and partners, including Norfund, AgDevCo, Finnfund, and USAID.

Africado is helping to revitalise a region that had suffered from the collapse of the coffee industry due to price volatility and mismanagement. It has converted a former coffee growing estate into an integrated avocado farm, nursery, and packhouse, with efficient export logistics and marketing channels in Europe. This provides employment and offers small-scale farmers in the surrounding areas an alternative cash crop to coffee. In addition to its own farm production, Africado runs an outgrower scheme that includes over 2,000 small-scale farmers. Africado supports its outgrowers with training to improve agricultural practices and Global GAP certification which is required for export to Europe. Africado is one of the largest taxpayers and employers in the region, paying approximately US$ 1 million in salaries annually.[17] Africado introduced avocado as a new, high value export crop to Tanzania, demonstrating that the conditions were suitable for avocado growing, the logistics could work, the export market could grow, and the business was profitable. Africado is now the largest fruit exporter in Tanzania, generating important export revenues to the country. Building upon Africado's experience, Rungwe Avocado Company established a commercial avocado export business in 2009 with a large outgrower network in the Mbeya region. By 2018, Tanzania's total commercial avocado production reached around 7,000 mt, and Africado accounted for about half of Tanzania's avocado exports.[18]

Photos: Avocado orchard workers, Africado

[17] Interview with Africado

[18] Farand, 2019. Avo-can-do: How avocado farming is helping Tanzanian communities flourish, The Independent.

Africado's journey

2005
- James Parsons' market research concludes avocados are a high-potential export crop
- West Kilimanjaro identified as a suitable region to grow, pack and export Haas avocados

2007
- Africado negotiates lease of the 185 hectare Kifufu Estate, an abandoned coffee plantation
- AAC backs the concept and commits to invest US$ 900,000

2008
- Built pipeline to supply water to the farm, replacing a leaking furrow, prepared ground for planting
- Imported cloned Haas avocado trees from South Africa and transplanted to the nursery

2009
- 42,000 avocado trees planted with micro-irrigation
- Cash crops, seed maize and seed beans, planted to provide income while avocados mature
- Africado receives US$ 2 million investment from Norfund to expand pilot outgrower scheme

2010
- First avocado harvest of 5 mt
- Seed maize is the main source of income

2011
- Avocado harvest of 86 mt
- First harvest from outgrowers
- Reservoir constructed

2012
- Avocado harvest of 488 mt

2013
- Avocado harvest of 831 mt
- Packhouse built
- First Tanzanian avocados exported to France, Holland, the UK and Denmark

2014
- First 26 outgrowers receive Global Gap certification

2015
- Africado exports 2,600 mt to Europe as mature trees at Kifufu produce at full capacity
- Packhouse operating at maximum capacity
- Over 2,000 farmers engaged as outgrowers

2016
- Africado plans expansion to the 175 acre Gararagua Estate, which will double its production by 2022

2018
- Africado secures investment from Finnfund and AgDevCo to expand to the Gararagua Estate and increase packhouse capacity
- Africado supports construction of a new school on Gararagua Estate

2019
- Africado is on a growth trajectory to double its exports, building upon its tested model and capacity
- AAC exits its equity investment

Attracting strategically-aligned capital

AAC invested in start-ups and early-stage businesses, when other investors would not. AAC was the first external investor in nearly all of the portfolio companies.[19] AAC sat on the boards of nearly all portfolio companies, and played an advisory role in this capacity. Particularly in cases where AAC made equity investments, AAC worked closely with the companies to strengthen their governance and management systems and restructure shareholding arrangements. It was also directly involved in negotiations with new investors during the exit process for some companies. In several instances, AAC management provided intensive hands-on technical advice (e.g. strategy, audit, accounting) to companies. However, AAC lacked a formal technical assistance/Business Development Support (BDS) facility, and the capacity of its small management team to provide hands-on support was limited.

AAC helped portfolio companies attract investors in two main ways:

- **Supporting start-ups to grow to scale and build a track record** -- Firstly, AAC supported companies through the early start-up phase until they had grown to a scale that they became acquisition targets, could secure commercial loans or could attract impact investors looking to do larger deals. Several companies highlighted that AAC stood out compared with other impact investors and development agencies, in that it was willing to support start-ups and do smaller deals. Although many new East African agriculture focused impact investors came onto the scene after AAC, the majority focus on larger deals and companies with a stronger track record. Africado and Real IPM are both examples of companies that AAC supported through an uncertain start-up phase, until they were able to attract additional capital from impact investors in Africado's case and commercial banks in Real IPM's case.
- **Acting as a first mover and building confidence of other investors** -- Secondly, by backing certain companies, AAC helped certain companies build their 'impact case' and the confidence of other impact investors to co-invest. In a few instances, AAC management helped make introductions to investors or was directly involved in negotiations as a co-investor. Furthermore, in several cases, PCP itself made additional investments in portfolio companies through ASIF (Western Seed, Highland Seed Growers/FICA Seeds, Naseco) and AACF (Biyinzika). However, in general, portfolio companies attracted new investors based upon their business plans and AAC's influence was more indirect.

Portfolio company examples: Mergers and Acquisition (M&A) events

Several portfolio companies were acquired or partially acquired by multinational firms during or after the tenure of AAC's investment. In all of these cases, AAC had not structured its investment to capitalise on these events. In several cases they took place after AAC had exited through the repayment of loans. On the one hand, these examples point to the potential that existed to realise equity upside from its investments with a different structure and a longer time-horizon. With a more commercial, rather than impact-oriented deal structure, a fund such as AAC might realise a greater return, and one that is more commensurate with the risk. On the other hand, for some companies, AAC was the first external investor in a family business and the promoters highlighted that they

[19] The exception was a few commercial loans that some companies had previously secured.

would have been resistant to bringing in an equity investor. A more commercial approach might have undermined trust and alignment or precluded certain deals entirely, potentially reducing the fund's impact.

- **Real IPM** was acquired by the Belgian bio-control firm, Biobest, in 2017, when its owners decided to retire. AAC had already formally exited at the time, but was still active on Real IPM's Board.
- **Biyinzika** was purchased by a firm based in the United Kingdom (UK) in 2016. Its loan from AAC had been repaid in 2012, but PCP made an equity investment in the firm in 2013 through AACF, which it continues to hold.
- **Earthoil** was acquired by Treatt PLC, a UK-based publicly listed global flavour and fragrance manufacturer, in 2008. The company prepaid its loan to AAC and AAC did not realise any upside from the acquisition.
- **Lachlan** was partially acquired by a Jordanian agro-chemical inputs multinational during AAC's tenure. Due to the structure of the terms of the loan, AAC did not benefit from the acquisition.

Portfolio company examples: Attraction of growth capital

The following examples illustrate that attraction of growth capital, in itself, is a poor indicator of success. In several cases, portfolio companies raised larger scale capital after AAC's initial investment, based upon the strong track record of growth and business performance. In the cases where the capital was well-managed, the businesses were able to expand into new markets or scale production. However, in other cases, companies developed overambitious growth plans and then subsequently underperformed. A key reason for this was that capital became too easily available as the number of funds grew and investors were keen to deploy capital.

- **Biyinzika** grew substantially during the period of AAC's investment and by 2012 was Uganda's largest producer of day-old chicks. In 2013, the company raised US$ 4 million from PCP, via AACF, and Voxtra East Africa to further expand the business into feed production and broiler raising.
- AAC's investment in **Africado** helped the company make it through a 3-year start-up phase during which the company wasn't profitable, was waiting for trees to mature and needed to prove it could get the logistics right to export avocados to Europe. In 2009, Africado raised EUR 2 million from Norfund, enabling it to scale-up its outgrower scheme. In 2018, after the first farm site reached full production and was operating profitably, Africado raised additional funds from Finnfund and AgDevCo to develop a new farm site that would double its production.
- **Agrica** raised over US$ 40 million from development agencies and impact funds, including Capricorn, AgDevCo and Norfund after receiving a catalytic, start-up investment from AAC. AAC's initial backing helped the company sell the concept to larger impact investors. At the time, the business case for investing in a regional staple crop for which there were deficiencies appeared very convincing. However, the appeal of the concept and the fundraising ability of the promoters, combined with investors desire to disburse large scale funds, may have blinded investors to the risks associated with the business management capability and growth strategy. The company grossly underperformed and defaulted on its loans.

- **Western Seed** raised US$ 5 million from ASIF, Voxtra and Acumen after AAC's initial investment. This supported an ambitious growth strategy to expand production and sales from around 1,500 mt to 7,000 mt over 5 years, by increasing on-farm seed production, in a context in which it was not clear that there was sufficient demand, and the company struggled to manage the expansion.

Photo: Biyinzika's facility in Uganda

Pioneering East African agricultural impact investing

AAC was a pioneering investment business that leveraged other funders and led to the creation of Pearl Capital Partners (PCP).[20] AAC was a first mover in the East African agricultural impact investment space that helped others see the need to address the 'missing middle' in agricultural finance and the importance of support to African agricultural entrepreneurs. By demonstrating that it was possible to set up an East African-based investment vehicle, and highlighting the potential impact of its investee companies if its strategy succeeded, AAC helped build the confidence of others to enter the East African impact investment space.

From 2008 onward, the number of agriculture-focused impact investment funds in East Africa began to grow. Governments, international development institutions, and private foundations began to incorporate support to impact investment vehicles targeting SMEs into their agricultural development strategies. These included Msingi East Africa, the Africa Enterprise Challenge Fund, the Voxtra East Africa Agribusiness Fund, DOB Equity and AgDeVCo.

AAC has influenced the East African impact investment space in the following ways:

- **PCP was established as the first Uganda-based fund manager.** To provide the structure needed to raise additional funds, PCP was established as a fund management company (see Box 6). It is now a fully African-owned fund manager led by partners from the region who were long-time staff of AAC. This is critical because building successful investment relationships with investee firms requires trust and having a deep understanding of local market conditions. Without this trust, it is hard to develop a strong working relationship with business sponsors and managers. It is particularly important because many SMEs are family-owned businesses that are unaccustomed to opening themselves up to invasive due diligence processes or technical advice that comes with external investment. Although funds may come from foreign sources, having a local fund manager that can build trust with potential investee companies over time, know the markets and the sectors, and understand East African businesses is critical. PCP has raised three subsequent funds which brought in new investors, including the first East African investor – the National Social Security Fund of Uganda (NSSF).
- **AAC's investors gained confidence to incorporate similar investment vehicles into their strategies to promote African agriculture.** Two of AAC's core investors, Gatsby Charitable Foundation and Rockefeller Foundation, leveraged the experience with AAC, which was a small scale 'trial', to inform their strategies to develop African agriculture and establish new investment vehicles. AAC's experience with seed companies was instrumental in Rockefeller's decision to create AGRA, to support private seed businesses and African entrepreneurship in agriculture. AGRA, in turn, built directly on AAC's experience to create Injaro, a US$ 50 - US$ 100 million private equity fund based in Ghana that invests in African agribusinesses and ASIF, to invest exclusively in seed companies across Eastern and Southern Africa (see Box 6). Similarly, Gatsby's experience with AAC

[20] In 2010, AAC management formed Pearl Capital Partners, an investment management firm that managed the AAC portfolio through to completion.

also helped shape its thinking in the formation of Msingi East Africa by highlighting how investment in certain businesses, located in attractive growth industries could be catalytic for a whole sector and in building the confidence to incorporate similar types of investment instruments into Msingi's model.

- **AAC helped development agencies understand the need for early stage capital and offered a model they could follow.** AAC helped development agencies and other investors appreciate the need for, and potential impact of, strategically aligned finance for agricultural SMEs, given the shortage of Development Finance Institution (DFI) finance in this area. It also offered a model for addressing this gap that others could follow. AAC showed others that it was possible to set up a Ugandan-based investment vehicle and to make investments, which if successful, would have a substantial development impact. This helped development agencies, such as the UK Department for International Development and the Norwegian Agency for Development Cooperation, to gain confidence to enter the impact investment space. At a more practical level, investors such as Voxtra and AgDevCo, learned from AAC's model and approach when setting up in the region.

"AAC was symbolic of not just giving Africans a chance and then retreating in a neo-colonial fashion. It was real, actual business, and it had the potential to change Africa for the better in a big way. … Without AAC in the background making commercial investments and giving visibility to seed companies, I don't think AGRA would have ever happened. And AGRA has become a US$ 600 million entity. … AAC showed us how to take technologies to scale and served as an example for the rest of the world. It was a proof of concept – and it was a huge concept." **Joe DeVries**

Box 6. Pearl Capital Partners' (PCP) formation and the raising of new funds

As AAC's investors and management started exploring how to deepen the impact investment approach, it became evident that there was an opportunity to set up a long-term fund management company. It was clear that investors would be willing to invest in East African agri-businesses building on AAC's experience, but AAC was organised as an open-ended investment vehicle rather than as an independent fund manager able to act as the General Partner and Manager of a closed-end investment fund, generally the structure preferred by most investors. Therefore, a different structure was needed. PCP was established in 2010, becoming the first Ugandan-resident fund management company. It was set up as a partnership (AAC's managers had been employees of AAC, but transferred to owner-managers of PCP). Building on AAC's model and leveraging its experience, PCP went on to raise three new funds, with total commitments of approximately US$ 59 million.

African Seed Investment Fund (ASIF), 2010-2021 – A US$ 12 million fund managed by PCP on behalf of AGRA, the sole investor, to invest in seed companies across Eastern and Southern Africa. ASIF is invested in 13 seed companies across Eastern and Southern Africa.

African Agricultural Capital Fund (AACF), 2011-2018 – A US$ 25 million fund raised to invest in agricultural SMEs with funds from Gatsby Charitable Foundation, Rockefeller Foundation, Bill and Melinda Gates Foundation and JP Morgan. To be attractive to a wider investor community, AACF aimed to achieve higher returns (targeting 14-15%) and was structured as a closed-end private equity fund, with guaranteed timeframe for return of capital and transparent fee structure. In addition, it sought to increase returns by increasing the deal size (US$ 1 to US$ 2.5 million), focusing on businesses that had a stronger track record and market share within their industry segment, and structuring deals to realise higher returns from successful companies. At the same time, AACF aimed to take a more explicit approach to measuring social impact, including screening deals at the outset by an Impact Committee and formally evaluating some investments.[21] Finally, building on lessons from AAC, a separate US$ 1.5 million technical assistance facility was established and funded by USAID. AACF has invested in 8 businesses in Kenya, Uganda and Malawi.

Yield Uganda Investment Fund (Yield), 2017-2027 – A € 20 million fund dedicated to small and medium sized agribusinesses that carries on AAC and AACF's strategy. This was set up in 2017 with €10 million from the EU through the International Fund for Agricultural Development and € 2 million committed by the NSSF. In 2019, Open Society Foundation and Finn Church Aid Investments joined the fund, committing an additional € 8 million. To complement the fund, the EU has also funded a separate € 3 million Business Development Support (BDS) facility as a grant that enables technical support to investee companies.

[21] Gatsby Charitable Foundation, 2011.

Lessons learned

Photo: Africado's avocado orchard in the Kilimanjaro region of Tanzania

Lessons for investing in early stage SMEs

Investors have a responsibility to promote sensible, staged growth plans for SMEs – Private equity investment often aims to achieve phenomenal growth within a limited time period. This, combined with the availability and ease of access to capital with soft terms, can incentivise SMEs to develop overambitious growth plans, which they do not have the necessary management, operations or experience to execute. This can lead to underperformance and even failure of otherwise well-performing small businesses. Investors have a responsibility to promote sensible growth plans for SMEs that allow time to build the necessary management and operations to support expansion, are based upon the company's past performance and tested business models, and are compatible with the owners' purpose.

There is a continued need for, and lack of, patient, small-scale, early stage capital – Many investee companies highlighted that AAC filled a critical gap in small-scale, early stage capital for SMEs that is not adequately addressed by impact investment funds that were subsequently established. The trend among impact investment funds has been to try to increase financial return by moving towards larger deal sizes, companies with a stronger track record, and shorter holding periods. However, as a consequence, there is still insufficient capital for small, early stage SMEs. Many of AAC's successful portfolio companies would have been excluded in the current impact investment landscape because they were very early stage and the deal size would have been too small. Nonetheless, AAC's experience shows how transformative small-scale, genuinely early stage capital can be. This segment should not be left behind particularly as many impact-focused investors and donors would be willing to accept the trade-off of potential lower returns for the long-term economic and social gains created.

Building trust with SMEs is critical, especially for family owned businesses – Trust and alignment between the investor and the investee company are very important, however their aims and interests often diverge or are contradictory. The divergence in goals is often more pronounced for family businesses, where the owner's interest in maintaining the business as a source of financial security may be at odds with the equity investor's interest in the rapid growth of the company. Furthermore small, privately held businesses often value confidentiality and exercise a high level of control over their operations and are hesitant to open their boardrooms, bring in external shareholders, or disclose information as part of due diligence processes. One of AAC's strengths, from the perspective of investee companies, was that it put the company's needs and goals at the heart of its approach, even if this meant reducing potential financial returns. For example, AAC was willing to extend loans even when the risk would have justified taking an equity stake. This approach limited its potential upside, but also enabled AAC to make investments and build relationships that otherwise would not have been possible. In some cases, businesses like Biyinzika and Western Seed did eventually open up to new equity investors over time.

"The agri-SME sector in East Africa is largely dominated by family owned businesses. Balancing alignment of business owners' (family) lifestyle objectives and private equity growth ambitions is a key ingredient for business success which can sometimes prove elusive. The flexibility offered by impact investing coupled with a dose of patience are critical in accommodating family dynamics and in ensuring sustainable business growth." Wanjohi Ndagu, PCP

Lessons for achieving market impact

Support to pioneering firms can transform the sectors/industries within which they operate – Several investee companies became market leaders in sub-industries that previously did not exist, and thus played a central role in commercialising the industries within which they operated. For example, Africado, Biyinzika and Real IPM helped create Tanzania's avocado export market, Uganda's poultry industry and East Africa's bio-control industry respectively. A common trend across successful investee companies was that they operated in subsectors where demand was growing and where there was strong growth potential. In addition, successful businesses had the management and operational capability to deliver consistently high-quality products and services even as they scaled-up their operations. These businesses were better positioned to capitalise on local labour, climatic conditions and logistics, in order to be internationally competitive. Agro-input suppliers with strong marketing and training strategies to promote adoption (e.g. Naseco, Real IPM) as well as companies that integrate services across the product value chain (e.g. Biyinzika spans DOCs, feed and broilers) have had a particularly strong market impact.

There is continued need for impact capital in sectors such as seed, with a high potential impact on agricultural markets and rural incomes, but there exists a range of challenges that deter commercial investors – Impact capital plays a particularly important role in the seed sector, which has a strong potential impact on commercialising agricultural markets by increasing productivity, as well as a direct and positive impact on rural incomes. However, seed companies have long working capital cycles and are affected by uncertainties related to weather, government interventions and other events that can make demand unpredictable. Developing a new variety and producing it at commercial volumes takes several years, making it challenging to justify investment in research and development from a purely commercial perspective. Furthermore, seed companies targeting the small-scale market face the challenge that it takes several seasons for farmers to see results and adopt new varieties. For all of these reasons, impact capital is the type of investment that best matches the financing needs of seed companies.

Investment decisions should be grounded in strong knowledge of the sector and local market conditions – Companies that operated in niche markets or markets with unreliable demand, or where the business model was difficult to scale, often struggled or failed. There were a variety of reasons for underperformance, especially poor execution and management capabilities, however this often coincided with business strategies that weren't sufficiently informed by market analysis. Those companies that did succeed, but where there was less potential for scale, had a local impact but were less transformative. In general, AAC made better investment decisions and was more able to provide strategic advice to investee companies when it had a strong understanding of the industry.

Over-emphasis on narrow impact indicators can distort businesses and obscure real market impact – AAC generally saw impact as a natural consequence of the commercial success of investee companies; it didn't have clear metrics for assessing impact at the outset and began recognising the need to capture its social and development impact after investments had been made. While some saw this as a weakness, a number of investee companies felt it was positive. Companies expressed concern that other impact investors focused on overly narrow targets, such as the number of smallholders engaged in outgrower schemes or the number of employees, rather than the broader market, sector and developmental impact of the business. They expressed concern that investor targets sometimes pushed businesses to make decisions that didn't make commercial sense. For example, one company felt that investors' narrow focus on the number of outgrowers as a measure of success had encouraged the business to take on a large number of very small-scale outgrowers, when a smaller number of larger growers would be more commercially successful and also make a more 'life-changing' difference for those farmers engaged. Some companies also felt that impact investors overburdened them with additional levels of reporting and compliance that were not directly relevant to the business' performance. They recommended that if impact needed to be measured and tracked, the indicators should be intrinsic to their business models and should focus on parameters that it measures anyway (e.g. sales volumes, numbers of customers and suppliers, employment numbers, etc).

Lessons for fund structure and management

Technical Assistance/Business Development Services support is key and needs to be resourced – Sustained advisory and technical support is critical to the long-term success of investee businesses. In AAC's case, this role was filled directly by PCP/AAC's management, however this was a heavy burden. The needs, time and costs involved were greater than anticipated, and in some cases, companies may have performed better if they had been followed up more closely or had access to specialist strategic and technical support. Learning from this, subsequent funds have established separate technical assistance/business development services facility to provide the level of support needed in a more sustainable fashion.

Recognise the need for long holding periods in the agricultural sector – Investors typically prefer closed-end funds. However, the timeframe within which they expect to exit and achieve both financial return and development impact is often unrealistic for the agricultural sector. At the outset, AAC was set up as an investment company, enabling it to take a longer-term view on investments. Nonetheless, AAC still anticipated a holding period of approximately 5-8 years for its investments, which in practice proved to be too short. Agriculture differs from other faster moving sectors in part due to its volatility, its seasonal/cyclical nature, and the long duration to maturity for certain products, e.g. tree crops. In addition, it takes time for very early stage businesses to grow to a certain level. In some cases, AAC exited before businesses were ready and before the full potential to maximise return was realised. It took 12 years to close AAC and it is notable that the best performing investment was realised after 12 years.

Define impact and financial objectives to address trade-offs – In AAC's case, there were trade-offs between impact and financial return and therefore it was important that its investors were aligned on how to balance the two. However, some stakeholders felt that AAC could have achieved a higher financial return if it had been able to structure deals to capture value growth and with more aggressive terms. On the other hand, others felt that AAC's approach had been critical to building trust with the companies and a number of investments would not have been possible with a more typical private equity approach.

Determine how impact will be measured from the outset – Investors and businesses may have different interpretations of social impact as well as diverging views on how to measure it. Similarly, investors have different views on how to capture their social and developmental impact. Some investors favour an approach that is similar to monitoring and evaluation of grants which includes articulating clear impact related investment criteria at the outset, identifying and tracking key indicators, and carrying out baseline studies and end line evaluations. Alternatively, some investors and businesses see impact as a natural consequence of the success of the company's existing business model. In practice, impact investment funds may need to find a balance between the two approaches.

Annex. Company Case Studies

Naseco Seed Company

Investment overview

AAC's investment in Naseco helped create a Ugandan-based market leading seed business that supplies small-scale farmers with high quality field crop seeds. Naseco is involved in research and development, production, marketing and distribution of certified seed. Its products include maize (hybrid and open pollinated varieties), beans, rice, sorghum and other seeds. The company produces seed both on its own farm and through contract outgrowers. Once harvested, the company cleans, dries and treats the seed for distribution to various outlets.

A series of investments, first by AAC in 2006 and subsequently by ASIF in 2010 and 2012, enabled Naseco to expand and upgrade its production facility, including through the installation of packaging machines and improvements to seed processing and drying units, while also improving working capital to sustain its expanded capacity. In 2006, AAC invested US$ 300,000 in Naseco through a five-year loan. It exited in 2011, realising an IRR of 10.2%.[22] In 2010 and 2012, ASIF made additional debt and equity investments in Naseco, totalling US$ 800,000, fully exiting in 2016 with an IRR of 11.14%. In 2020, PCP, through the Yield Uganda Investment Fund, made an additional investment of approximately US$ 1.2 million to further strengthen Naseco's production capacity and market development.

Post-investment growth

At the time AAC invested, Naseco was a small player primarily supplying relief seeds to NGOs. It has since transformed into one of the leading suppliers of commercial seed in Uganda and has expanded to the Great Lakes region. According to Uganda Seed Traders Association (USTA) and Access to Seeds, Naseco is one of the main players in the Ugandan seed market and ranks among the top five suppliers of field crop seeds in Uganda.[23] It is also one of the leading players in Burundi.[24] From 2006, when AAC invested, to 2011, when AAC exited, Naseco's annual production increased from 1,760 mt to 2,500 mt[25]. In 2011, it commanded about 25% of Uganda's seed market.[26] In

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[22] USD equivalent of UGX denominated loan.

[23] According to Access to Seeds, the other leading Ugandan seed companies are FICA Seeds, Victoria Seeds, Equator Seed and Pearl Seeds.

[24] Access to Seeds, 2018. Leading Seed Companies in Eastern and Southern Africa, accessed at https://www.accesstoseeds.org/app/uploads/2018/03/Leading-Seed-Companies-in-Eastern-and-Southern-Africa_DEF.pdf

[25] PCP, ASIF data.

[26] Gatsby Charitable Foundation, 2011.

addition, Naseco has become increasingly focused on higher margin hybrid maize varieties. Hybrid maize production and sales represented about 8% of total production in 2009. This increased to 12% by 2011 and 61% of total production by 2015.

The company's focus has shifted from supplying low cost seed to the relief market, to supplying quality seed to farmers. This strategy depends upon winning farmers' repeat business by improving their performance and profitability. Naseco has done so by investing in marketing to small farmers and demonstrating consistent, high germination rates and gains (i.e. yields, early maturity). This has been critical to maintaining and building a loyal customer base. Naseco employs 12 agronomists as Product Placement Officers (PPOs) to market its products in 44 maize-growing districts in Uganda. The PPOs play a central role in setting up village-level demonstration plots and organising field days where local farmers are invited for demonstrations for planting, maintenance and harvest. Naseco sets up over 10,000 demonstration plots annually.

Naseco's turnover has grown from US$ 1.3 million in 2006[27] to US$ 2.5 million in 2011 and over US$ 4.4 million in 2015.[28] It has remained profitable despite the challenges of operating in the seed sector, although it has also been affected by crashes in grain prices in 2011/12 and 2018/19.

Development impact

Naseco's development impact includes the following:[29]

- **Food security and productivity gains to small-scale farmers** – Naseco supplies an estimated 125,000 smallholders annually.[30] The main benefit of Naseco seed is that it increases crop resilience and produces considerably higher yields compared with farm saved seed. Naseco estimates that farmers using Naseco seed achieve yields that are around double those for farm saved seed, under similar input management, and that potential yields are 3 times as high. This translates into a revenue gain of an estimated US$ 250 per hectare. Because Naseco's target market is small-scale farmers, the expansion of its customer base has a direct, positive impact on rural incomes and food security.
- **Creating permanent and seasonal employment and stimulating local development** – The town of Kazekolero did not exist before Naseco set up there. The town grew with construction of an all-weather access road that serves the factory and the creation of seasonal and permanent employment. Naseco currently employs 47 permanent staff and 150-500 seasonal laborers per day depending upon the season. A range of businesses and services emerged, including schools, shops and churches.
- **Predictable income for outgrowers** – Around 60% of Naseco's production is through contracted seed growers and the total value of its payments to growers is close to US$ 1 million. Naseco provides extension services to outgrowers and offers them a guaranteed market with predictable income. Naseco currently has approximately 750 growers. This includes smaller

[27] PCP survey, 2009.
[28] PCP, ASIF tracking data
[29] PCP, 2020. Naseco Updated Final Investment Paper.
[30] This is extrapolated from annual production of 2,500 mt based on an assumption that an average farmer is on 2 acres and uses 10 kg per acre.

growers for beans (0.5 to 1.5 acres) and rice (1.5 acres) and larger growers for maize (from 5 to 50 acres). Naseco employs 6 field staff to coach the growers. The company believes in mutual partnership and provides growers with seeds as well as some of the capital-intensive farming inputs interest free. Its agreement with growers ensures a minimum price and minimum guaranteed supply.

- **Strengthening agro-dealers** – Naseco's products are distributed to small-scale farmers through direct sales by agro-dealers, distribution via farmers groups linked with aggregators, and indirect sales through National Agricultural Advisory Services (NAADS). (NAADS accounted for approximately 33% of sales in 2018). Naseco works with 625 self-employed agro-dealers to market its products, which in turn strengthens their businesses.

Market and sector impact

Naseco stands out as a Ugandan-based company that has made inroads in supplying quality seed small-scale farmers, while remaining profitable. Over 80% of Uganda's small-scale farmers use home-saved seed. This low uptake is due to multiple factors: on the demand side, small-scale farmers cannot afford to buy improved seed and other farm inputs and lack know-how, while on the supply side, there has been limited capacity and interest in developing genotypes that are adapted to the smallholder production environment. Naseco's unique selling point is its ability to supply varieties that are affordable enough to encourage small-scale farmers to switch to improved seed because of consistent product performance.

Naseco is unique in that it has invested in its research and development (R&D) activities in collaboration with public research institutions, in a context in which few private seed businesses are doing R&D. It is the only Ugandan-based seed company with an established breeder programme.[31] As such, the company contributes to the technological advancement of Uganda's seed sector and helps to safeguard technical knowledge of seed varieties unique to Uganda's agro-ecological zones.

[31] PCP, 2020. Naseco – Updated Final Investment Paper.

Western Seed Company

Investment overview

Western Seed researches, breeds, markets and distributes hybrid maize seeds, based in Kitale, western Kenya. Its products are primarily medium and late maturing seeds, suitable for a range of agro-ecological zones, particularly those of the western Kenya region, where it has a strong market position. It differentiates itself in that it has a strong seed breeding programme, that enables it to produce consistently high-quality seeds. In 2007, AAC invested US$ 1 million in the company, in the form of two five-year loans.[32] This investment came in at a time that the company was looking for aligned financing to grow the business and wanted capital sources that could understand the business better than the commercial banking sector. Western Seed used AAC's initial investment to increase its production capacity by acquiring more equipment, i.e. seed processing (drying and conditioning) to produce sufficient seeds for customers' needs, as well as to support further hybrid seed research and development. In 2008, both of the AAC loans were converted to a 20% equity stake in the company.

In 2010, ASIF made an additional investment of US$ 2 million in the company. In addition, Voxtra and Acumen invested approximately US$ 3 million. These investments further supported Western Seed's growth plans, which aimed to triple production within 10 years. The company's growth plans were over-ambitious and it underperformed. AAC ultimately negotiated a debt settlement in 2017 and did not fully recover its initial investment. Despite these challenges, AAC's investment helped Western Seed establish itself as a leading supplier of hybrid maize in western Kenya and to expand small-scale farmers' access to high-performing seed varieties that are adapted to the mid-altitude region.

Post-investment growth

When AAC invested, Western Seed had installed capacity to produce up to 1,000 mt seed per year and it was producing and selling below this level. Despite initial set-backs due to Kenya's post-election violence, Western Seed more than doubled seed sales from 934 mt to 2,254 mt[33] from 2009 and 2011. The company's overall growth was strong during the first 5 years of AAC's investment. From 2007 to 2011, Western Seed's total revenue nearly doubled and its gross profit increased by 50%.

However, Western Seed struggled to manage the influx of US$ 5 million in investment from ASIF, Voxtra and Acumen and to execute its expansion plans. The company invested in infrastructure and equipment to process and store up to 7,000 mt of packaged seed annually. However, its production and sales did not deliver to expectations in 2019, in part due to limited demand and marketing. Although volumes have remained flat, the company reports that the quality of the seed it produces has improved dramatically since AAC's investment.

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[32] The initial investment was structured as a US$ 400,000 five-year term (9.5% interest rate) senior loan and a US$ 600,000 five-year term loan with an 8% interest rate plus an annual interest premium of 5.5% profit after tax.

[33] PCP, ASIF volumetric data.

Development impact

Western Seed's development impact includes the following:

- **Food security and income gains to small-scale farmers** – Western Seed's core business is to supply hybrid maize to small-scale farmers in the mid-altitude regions of Kenya, increasing yields and incomes. Western Seed supplies approximately 100,000 small-scale farmers annually.[34] Farmers using hybrid maize seed achieve yields that are 2-3 times higher than farm-saved seed, enabling subsistence farmers to sell a surplus to generate additional income.
- **Employment creation and local development impact** – Western Seed had approximately 70 permanent employees in 2019. Seasonal workers vary from 100-500 depending on season. However, Western Seed does not utilise an outgrower seed producer model.

Market impact

Maize is an important staple crop in Kenya, serving as both the primary source of food for small-scale farmers as well as a primary source of rural household income. Large-scale agricultural production in Kenya has focused in the high-altitude regions, which offer optimal rainfall and growing temperatures. As a result, seed research and technological developments have concentrated on these areas and smaller, poorer mid-altitude farmers had not benefited from seed development. Western Seed has focused on supplying under-served mid-altitude farmers with hybrid maize varieties that are suited to local conditions. It is the only independent Kenyan seed company to have its own research and development programme where hybrid varieties are bred at mid-altitudes.

At the time that AAC invested, the parastatal Kenya Seed Company dominated the seed market. Western Seed brought important competition to the market. By 2011, Western Seed commanded about 30% of the mid-altitude seed market. Since that time, multi-national seed companies such as Monsanto, Seed Co and Pannar/Pioneer (now Corteva) have come to play a growing role in Kenya's seed sector. In 2019, Western Seed's share of the mid-altitude market was about 20%, as multi-nationals seed companies had captured a greater share of the market.

[34] This is estimated based upon sales of 2,000 mt per year. An average farmer planting hybrid maize in western Kenya is on 2 acres uses 10 kg per acre.

Real IPM

Investment overview

In 2006, AAC invested in Real IPM, a developer and marketer of biological and holistic pest management solutions and fertilisers that provide an alternative to exclusive use of chemical products.[35] Real IPM was a family-owned bio-control business incorporated in Kenya in 2003. The company initially focused on consultancy and training, but had the ambition to research, produce and sell bio-control agents. In 2004, it set up its first green house and began construction of offices and a facility on leased land. The company needed investment capital in order to complete construction of greenhouses and the facility and to begin producing bio-control agents, but lacked security that would be required to access conventional finance. AAC was Real IPM's first external investor and supported them until they reached a scale that they could access conventional bank loans.

AAC extended two loans to Real IPM in 2007 and in 2010 totalling approximately US$ 500,000. AAC exited when these loans were fully repaid in 2015, achieving an IRR of 16.1%. AAC remained on Real IPM's Board of Directors even after the loan was repaid. In 2016, the founders retired and sold the business to Biobest, a Belgian multi-national bio-control firm.[36]

Company growth and development impact

AAC's investment enabled Real IPM to expand from a business that primarily provided training and consultancy services, into the research, development, production and sale of bio-control agents. The business grew from a turnover of approximately US$ 850,000 in 2007[37] to US$ 5.5 million in 2019.[38] Real IPM produces two groups of products: predators and microbes. The predators are mites and insects, which had been used around the world. By producing them in Kenya, Real IPM was able to bring down the cost of production of flower, fruit and vegetables, and make them affordable and accessible to Kenyan agri-businesses. The microbes are new strains and organisms originating in East Africa that Real IPM discovered, registered and sold. Real IPM was a major innovator in this regard, not only in identifying new microbial agents but in innovating the way in which they are used.

Initially focused only in Kenya, Real IPM grew into a reputable international bio-control player with a market that extends across Africa as well as to Europe. In 2019, exports accounted for approximately 50% of sales, of which about one-third is to Europe, one-third is to southern Africa, and one-third is to Ethiopia, Uganda and Tanzania. The export business grew because Real IPM's production costs in Kenya were cheaper than competitors elsewhere and because Kenya is a good hub for air freight. Both the microbes and predators can be exported within sub Saharan Africa. Only the predators can be exported to Europe at this time due to registration issues.

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[35] Since 2006, AAC extended three debt facilities totalling over US$ 600,000 to the company.

[36] In 2016, Biobest acquired Real IPM for EUR 6.6 million. AAC Exit Write-Offs and Lessons Learned, July 2019.

[37] PCP, 2008. Development Survey data for Real IPM.

[38] Interview with Real IPM.

Development impact

- **Enabling Kenya's floriculture and horticulture producers to meet export requirements** – Bio-control is a key input for Kenya's export-focused flower and horticulture industry. The adoption of IPM practices and technologies enables exporters to meet the EU's maximum residue level requirements as well as to comply with the EU ban in certain chemicals, particularly neonicotinoids. In this regard, bio-control products are an important part of IPM practices. Flower farms make up 65% of Real IPM sales and spend 25-50% their crop protection budget on bio-controls. Producers of cuttings (small plants) are the next largest customer group and herbs are a new and growing market.
- **Making the workplace safer and improving the environmental impact of the horticulture sector** – Commercial flower and horticulture producers that adopt IPM are able to reduce chemical pesticide use, improving health and safety for their workers. Within Kenya, flower farms directly employ an estimated 90,000 workers nationally and a total of 500,000 workers depend upon the industry indirectly.[39] It also reduces the negative environmental impact of pesticide run off, including soil and water pollution, for example of Lake Naivasha, a major flower growing area.
- **Developing bio-control products for the smallholder market** – Although large commercial flower and horticulture producers are Real IPM's main customer base, the company has also developed products targeting market-oriented small-scale farmers. This includes a bio-fertiliser used primarily in maize cultivation and a nematode control product used for tomato and beans. Real IPM also established the Smallholder Enterprise Centre, a demonstration farm for training small-scale farmers on how to produce vegetables on small plots, using vertical bag farms and other sustainable agricultural technologies.
- **Employment creation and local development impact** – Real IPM has created significant employment, growing from 70 contracted employees in 2007 to 280 contracted employees in 2019. Real IPM prides itself on maintaining positive relationships with its employees and offering a good working environment. Whereas many businesses run on a casual employment basis, the vast majority of Real IPM's employees have contracts, and with that benefits such as paid maternity leave. Real IPM pays above agricultural minimum wage rates, provides transportation to its main production site in Thika and has an on-site medical clinic and canteen, among other benefits.

Market impact

Real IPM was instrumental in creating the bio-control industry in Kenya and in expanding the adoption of IPM in East Africa and eventually elsewhere in Africa. Real IPM was the second bio-control company to be established in Kenya (and its founders had helped set up the first). Previous efforts by European bio-control companies to import products into Kenya had failed because the products were too expensive and the quality was poor. Real IPM's model was to produce large quantities of bio-control agents locally so that they could be introduced in sufficient numbers to be effective in combatting pests and so that growers could afford them. Their products were cheap by

[39] Kenya Flower Council estimates, 2018.

world standards (10x cheaper) and therefore growers could afford to use them. In addition, Real IPM was an innovator and discovered and produced entirely new bio-control agents. As a pioneer in the industry in East Africa, Real IPM helped establish the regulatory framework for the industry including by working with the Kenya Plant Health Inspectorate Service (KEPHIS) and other regulatory bodies to register bio-control products. Once the industry was recognised and various products were registered, it became easier for new bio-control players to enter the market.

Real IPM also was instrumental in the adoption of bio-controls by East Africa's flower and horticulture industries. In addition to supplying bio-control agents in quantities that would work and at prices that were affordable to growers, Real IPM needed to address the challenge that IPM requires a high level of management skill in order to be effective. Real IPM regarded itself as a service company that delivered the required training and management techniques to customers in order to make the technology work, with the products themselves coming along with it.

With this strategy, Real IPM's bio-control systems were rapidly adopted within Kenya, reducing the use of chemical pesticides and benefiting the horticulture sector. Real IPM's customers are conventional farmers that integrate bio-control as well as chemicals. The EU is the largest market for East African horticulture and IPM technology enables flower and horticulture producers to meet its minimum residue requirements. Today, at least 50% of the pest control at many of Kenya's advanced flower farms is biological and 25-50% of their crop protection budget is spent on bio-controls. In addition, bio-controls have been widely adopted in the production of cuttings (small plants), herbs, vegetables and some fruits, particularly berries, for export. The technology has also helped the industry overcome challenges related to pesticide resistance.

Horticulture is one of Kenya's top foreign exchange earners, generating US$ 1 billion annually.[40] Kenya's cut flower exports have increased steadily, from 86,480 mt in 2006 to 173,700 mt in 2019.[41.] Horticulture is a growing sub-sector across East Africa: today there are 3,000 hectares of cut flower production in Kenya, 1,500 hectares in Ethiopia, 100 hectares in Uganda and 100 hectares in Tanzania. There are approximately 600 hectares of cuttings and 500 hectares of herbs in East Africa.

40 http://www.kenyarep-jp.com/business/flower_e.html

41 Kenya National Bureau of Statistics (KNBS), Economic Survey 2020

Biyinzika Enterprises Ltd

Investment overview

In 2006, AAC invested in Biyinzika Enterprises Ltd, a family-owned hatchery for day old chicks (DOCs) and grain milling business based near Mukono in Uganda. By 2006, Biyinzika had been supplying DOCs for more than 10 years, however it was severely constrained in its ability to meet rapidly growing demand at its existing two hatchery sites. The business was also involved in grain milling for relief supplies as well as for animal feed to meet it is own needs. In 2006, AAC extended a US$ 800,000 five-year loan that enabled Biyinzika to expand and scale up the hatchery business. It purchased incubators and equipment used in feed production and built chicken houses at a new site located at Kabembe Farm in Mukono. In 2009, AAC provided an additional US$ 375,000 working capital loan to safeguard the grain supply and ensure feed reliability for the growing hatchery business. AAC exited in 2012 when these loans were fully repaid, achieving an IRR of 12.2%.

Building upon the track record and relationships established through AAC, in 2013, PCP made an additional US$ 2.5 million equity investment in Biyinzika through AACF. It also helped bring an additional US$ 1.5 million equity investment by teaming up with Voxtra East Africa Agribusiness Fund, a Norwegian-based impact investment fund set up in 2011. Biyinzika used this for capital expenditure to expand its production of poultry feeds as well as its production and sale of mature poultry. The expansion included constructing a commercial broiler farm, establishing a new breeder farm, and further enhancing the reliability and capacity of its feed mill, for example by building grain storage facilities and purchasing a generator to ensure continuous power supply.

Post-investment growth

While Biyinzika had been in the poultry business since 1991, it's growth began to take off when AAC invested registering a 33% annual increase in revenue from 2007 to 2011.[42] Biyinzika increased its production capacity for DOCs to meet growing demand at a critical time for the emerging poultry industry in Uganda and also began to export DOCs to other countries in the region, particularly Kenya, Rwanda and Burundi. In 2006, Biyinzika had the capacity to produce upto 50,000 DOCs per week and its production was under 2 million DOCs annually.[43] By 2012, its installed production capacity had reached 600,000 chicks per week, or 31 million annually.[44] Biyinzika's market share increased from approximately 30% in 2006[45] to over 60% in 2012.[46] It became the largest player in the DOC market in Uganda; the only other large player, Ugachick, accounted for about 35% of the DOC market in 2012.

As Uganda's commercial poultry market grew and Biyinzika's operations expanded, the business began to widen its downstream activities to become the leading, integrated poultry company in Uganda. By 2011, Biyinzika's business included the breeder/hatchery, feed mill, and small-scale

[42] PCP, 2011. Byinzika Enterprises Ltd (BEL) Final Investment Paper.
[43] Interview with Biyinzika.
[44] Biyinzika Enterprises Ltd, 2012.
[45] Interview with Biyinzika
[46] Biyinzika Enterprises Ltd, 2012.

commercial production of chicken and eggs, although 72% of its revenues came from DOC sales. With additional investment from AACF and Voxtra, it scaled up its feed production business, which had become a key constraint to DOCs sales. This enhanced its capacity to serve the growing number of small-scale farmers raising broilers and layers. As the market and operations grew, Biyinzika re-organised itself by establishing a subsidiary entity Biyinzika Poultry International Ltd where all poultry operations were housed from 2014. It then attracted more capital and became increasingly focused on the production of mature poultry by establishing rearing houses for commercial broilers and later setting up a broiler production facility.

In late 2016, Biyinzika's founders sold the business to a UK-based firm.[47] The business continues to be a leading producer of DOCs and poultry feeds not only in Uganda but also in the East Africa region, and has started producing other livestock feeds, including dairy and pig feeds. The commercial broiler farms are in full production and the business has continued its growth trajectory, including rolling out an outgrower scheme with considerable participation from smallholders.

Development impact

Biyinzika's development impact includes:

- **Growth of small-scale broiler and layer businesses by supplying DOCs** – Biyinzika brought consistently high quality, genetically superior DOCs, with an efficient feed conversion ratio, to small-scale farmers and emerging broiler and layer businesses at an affordable cost. It also promoted the industry by providing free training and vet visits. Between 2009 and 2011, Biyinzika supplied DOCs to an estimated 1,600 small-scale broiler and layer farmers per year.[48] As the business grew, it became increasingly focused on small and medium scale farmers.
- **Improved quality and availability of poultry feed to support the growing poultry industry –** As its DOC business began to take off, Biyinzika recognised that demand for DOCs was directly related to the availability of poultry feed and the grains used to make it at affordable prices. Biyinzika began to scale up its grain milling and feed production business to provide more reliable feed supplies, helping to address this constraint to the growth of the poultry sector. Biyinzika became the first producer of pelleted feeds in Uganda, which represented a significant advance by allowing for more accurate feed ratios.
- **Purchases of grain from small-scale farmers** – To supply its poultry feed and relief grain business, Biyinzika grows maize and beans on its own farms. It also purchases maize from small-scale farmers via middle men. It purchases approximately 20,000 mt maize per year, which impacts 20,000 small-scale farmers if each produces 1 mt per year.[49]
- **Employment creation and local development impact** – In addition to its 7 breeder farms, two hatcheries, its feed mill and commercial broiler farm, the company has a retail network with 34 outlets throughout Uganda, generating direct and indirect employment. Biyinzika employed 300

[47] Biyinzika Poultry International Limited, http://www.biyinzika.co.ug/about-us/

[48] PCP, 2011. BEL Final Investment Paper. According to this paper, Biyinzika supplies 1,600 farmers annually and each farmer purchases approximately 1,400 chicks. This puts annual production of DOCs around 2.2 million. By 2012, Biyinzika had a capacity of producing c. 600,000 DOCs per week or 31 million annually at full capacity, if realized. This implies a market of over 22,000 farmers assuming each farmer continued to purchase around 1,400 per year.

[49] Interview with Biyinzika.

permanent workers in 2006 and by 2010, this had grown to 450 permanent employees.[50] Small towns developed around Biyinzika's major farms, Kigunga and Kabembe in Mukono. Every farm that Biyinzika established required the construction and maintenance of access roads. As roads opened up, trading centres, businesses, shops, schools and small villages began to emerge. The villages also benefited from electrification due to the electrification of the farms and land values increased.

Market impact

At the time AAC invested, the Ugandan poultry sector was largely an informal, "backyard chicken" system. Beyond this, a handful of businesses imported chicks and fattened them up for sale to restaurants around Kampala. Uganda's poultry industry formalised and expanded from 2006 to the present. Broilers and eggs are now produced commercially, fuelled by demand from the growing middle class and urban population. Chicken and eggs went from being a relatively scarce source of protein to being a significant source of protein in the Ugandan diet.

Now the largest, integrated poultry business in Uganda, Biyinzika has been a leading player in this transformation. Biyinzika stimulated the growth of broiler and layer businesses in Uganda by locally breeding high quality, hybrid DOCs and supplying them affordably to small-scale farmers at a time when demand for chicken and eggs was growing. Furthermore, it scaled up its feed production to help address the industry's requirement for reliable feed at reasonable cost. This enabled the poultry sector to grow.

As the poultry sector has grown, this has also fuelled the grain market due to increased feed requirements. Over 95 percent of maize and soya is grown by small-scale farmers in Uganda. The expansion of the poultry sector has been accompanied by the establishment of feed mills, majority of which are small and medium enterprises, as well as backyard mills, all serving the thriving poultry business.

[50] In addition, Biyinzika employs casual workers. This increased from 40 to 50 from 2006 to 2010.

Africado

Business and investment overview

In 2007, AAC provided start-up capital to create Africado, Tanzania's first large-scale avocado producer and exporter to the European market. In 2007, AAC invested US$ 410,000 for a 33% equity stake in the company and in 2008, it extended a further US$ 500,000 loan. This was a very early stage investment when the company was only a concept. The concept, developed by the company's founder, James Parsons, was that the coffee growing region provided optimal growing conditions for Hass avocados that would be exported to Europe to meet growing demand. AAC's investment was used as start-up capital to finance the business through a three-year start-up phase, until additional investment could be secured. AAC held its equity investment in Africado until 2019, realising an IRR of 23.5% on its equity investment and 11.7% on its debt.

The investment enabled Africado to plant 137 hectares of Hass avocado orchards at its nucleus farm in Kifufu Estate in west Kilimanjaro. This would provide capacity for 1,700 mt of avocado when the trees reached maturity, typically within 3-5 years.[51] The investment was used to procure saplings, cover planting costs, set up irrigation systems, construct buildings, and provide working capital. Until the trees reached maturity, Africado earned income by growing maize, coffee and bananas. In addition, Africado began setting up an outgrower scheme to supplement its own production. This involved recruiting small-scale farmers to grow avocado trees as a cash crop alongside subsistence staple crops, including providing them with training, finance to acquire trees, and certification to meet European export standards (Global GAP regulation).

Post-investment growth

AAC supported the first three years of Africado's growth, until it reached a stage that other investors would be willing to come on board. Even 'impact investors' saw start-ups such as Africado as too risky; AAC was the only investor willing to make a greenfield investment of this kind and its initial commitment to Africado was critical to de-risking the investment for others. In 2009, Norfund made a EUR 2 million equity investment in Africado to further expand its on-farm avocado production as well as the outgrower scheme.[52]

Africado was the first Tanzanian avocado exporter to European markets and established an exclusive relationship with the South African firm, Westfalia, to market and distribute its avocados internationally. It takes 3-5 years for avocado trees to mature and 7 years for them to produce at full capacity, so Africado began to reach its full production capacity in 2015. Since 2015, Africado has exported 2,400 to 3,000 mt of avocados to Europe each year. In 2018, Africado received additional finance from Finnfund (EUR 2.5 million) and AgDevCo to start production on a new 175 hectare farm and to expand its packhouse capacity[53]. The new farm is expected to double Africado's production capacity to reach 6,000 mt in exports.[54]

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[51] Gatsby Charitable Foundation, 2011.
[52] USAID also supported the expansion of the outgrower scheme by subsidising the sales of avocado trees to small holders.
[53] https://www.finnfund.fi/en/investing/investments/africado/
[54] Farand, 2019.

Africado began piloting its outgrower scheme in 2009 and began scaling this up with large-scale plantings taking place between 2011-2014. Africado had recruited about 250 small-scale producers in 2010[55] and its outreach extended to over 2,000 farmers by 2015.[56] Since 2015, its focus has been on supporting its existing outgrowers to improve productivity and gain access to export markets. Africado supports its outgrowers with training to improve agricultural practices and Global GAP certification which is required for export to Europe.[57]

The outgrower scheme has taken time to develop for multiple reasons. Initially it was challenging to convince small-scale farmers that there was a market for this new crop, however once the nucleus farm began to demonstrate success this became easier. Furthermore, it takes time for the trees to mature and for farmers to realise the full income benefits from their plantings. In addition, there is a learning curve – yields are lower and poorer quality and new plantings fail at a higher rate for small-scale producers compared with commercial farmers. The outgrower scheme is not yet a profitable part of the business, however Africado projects that this will change as it moves out of the early production phase.

Development impact

- **Local development and employment creation** – By 2011, Africado had 160 contracted employees and 100 seasonal workers.[58] With the establishment of the second farm, Africado has increased its workforce to about 350 permanent staff across the two sites and it expects to employ an additional 200 seasonal workers when the new farm comes into production.[59] About 60% of all employees are women.[60] Africado is one of the largest taxpayers and employers in the region and pays approximately US$ 1 million in salaries annually.[61]
- **Reliable cash income and access to export markets for small-scale outgrowers** – Africado currently engages about 2,000 small-scale producers in its outgrower scheme. Avocado farming has the potential to provide small-scale farmers with an alternative cash income to coffee in the context of sharply falling coffee prices. By 2015, outgrowers had planted approximately 140,000 trees and since then, Africado has focused on training and certifying existing farmers and bringing those trees into full production. The potential income benefit to Africado's small-scale producers varies with their size and their performance. In 2015, the best performing farmers with mature plantings achieved yields comparable to a good commercial farmer and earned an income of up to US$ 17.50 per tree. With these results, a more commercially oriented small-scale farmer with 126 trees planted on one acre can potentially earn US$ 2,205 per acre. This is ten times the US$ 224 average annual earnings for per acre for a small-scale coffee grower in the region and four times the national minimum wage of US$ 552/year.[62] Assuming the same yields, a farmer with 20 trees to supplement subsistence crops can earn up to US$ 350/year.

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[55] Gatsby Charitable Foundation, 2011.
[56] https://www.finnfund.fi/en/investing/investments/africado/
[57] https://www.globalgap.org/uk_en/Profiles/b41f41b1-42c0-11e6-8751-6805ca037347/
[58] Gatsby Charitable Foundation, 2011.
[59] Interview with Africado.
[60] Farand, 2019.
[61] Interview with Africado
[62] Africado 2016, Business Plan.

Market impact

"Without AAC, there would be no Africado. And without Africado, there would be no avocado business in Tanzania." James Parsons, Africado CEO

Africado is helping to revitalise a coffee-growing region that had suffered from the collapse of the industry due to price volatility and mismanagement. It has converted a former coffee growing estate into an integrated avocado farm, nursery, and packhouse, with efficient export logistics and marketing channels in Europe. This provides employment in the region and offers small-scale farmers in the surrounding areas an alternative cash crop to coffee, which supplements subsistence farming. While the focus of the outgrower scheme to date has been on reaching the largest number of farmers, over time, Africado is looking to support the emergence of a smaller number of larger outgrowers as a more commercially viable model.

Africado introduced avocado as a new, high value export crop to Tanzania, demonstrating that the conditions were suitable for avocado growing, the logistics could work, the export market could grow, and the business was profitable. When Africado first began planting avocados, Tanzanian farmers saw avocado as a crop with little market value. Local avocado varieties were sold cheaply and fed to animals. Initially, the cooperative that leased the land to Africado didn't understand the value of growing avocados and wanted the company to grow coffee. However, over time, local people began to realise that new avocado varieties were valuable and would bring jobs and money to the area.

Africado is now the largest fruit exporter in Tanzania, generating important export revenues to the country. Building upon Africado's experience, Rungwe Avocado Company established a commercial avocado export business in 2009 with a large outgrower network in the Mbeya region, and has secured investments from AgDevCo, African Enterprise Challenge Fund and African Wildlife Capital. In 2015, Africado exported 2,600 mt of avocado to Europe and accounted for about 80% of Tanzania's exports.[63] By 2018, Tanzania's total commercial avocado production reached around 7,000 mt, and Africado accounted for about half of Tanzania's avocado exports.[64] According to Tanzania Horticultural Association, while avocados have primarily been exported to Europe, demand in Asia, particularly China, has grown and the Tanzanian industry is now working towards a bilateral agreement that would give them access to this market.

[63] Africado, 2016. Business Plan.

[64] Farand, 2019. Avo-can-do: How avocado farming is helping Tanzanian communities flourish, The Independent. Available at: https://www.independent.co.uk/life-style/food-and-drink/avocado-farming-tanzania-africa-food-drink-a8975496.html

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