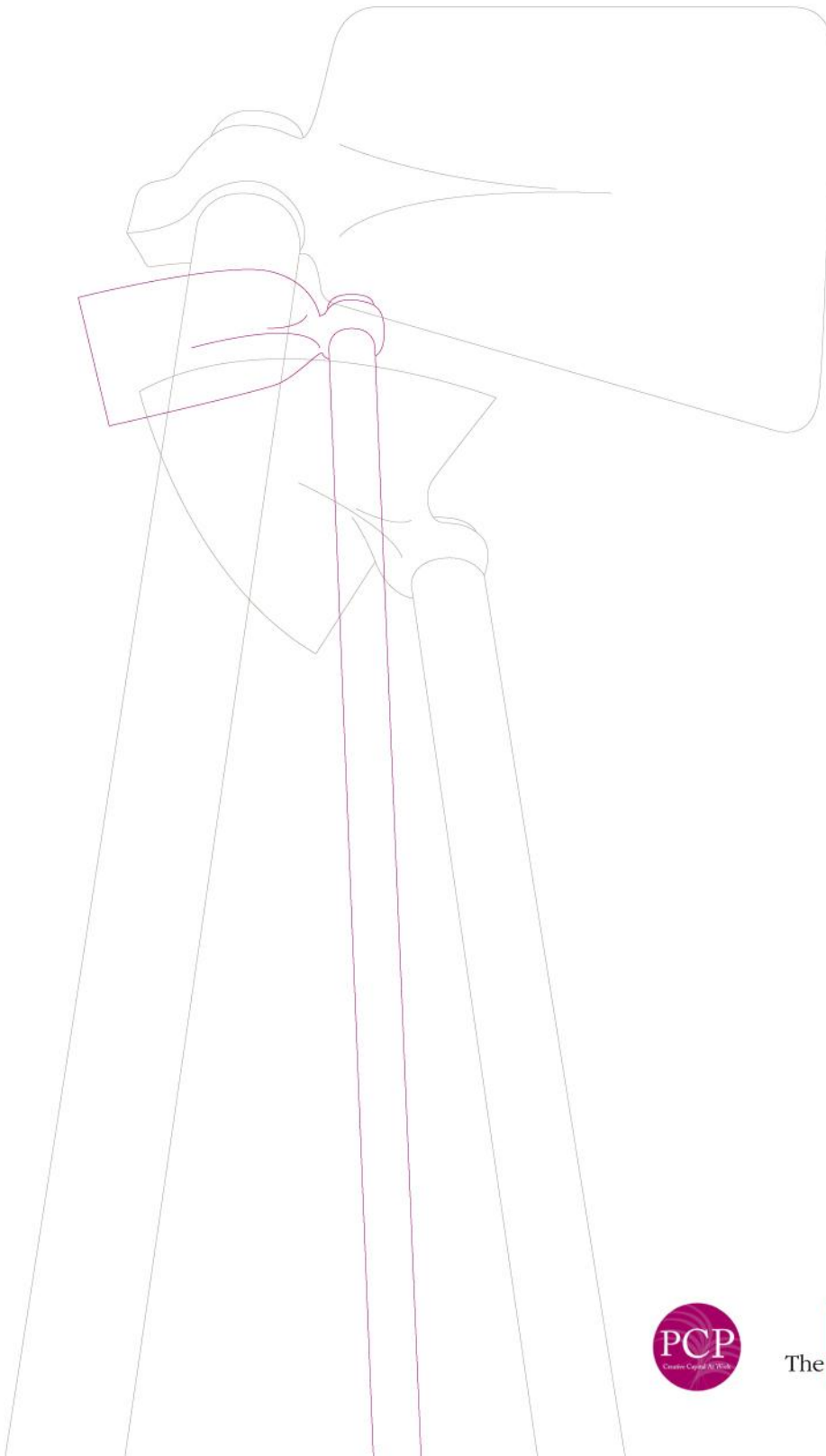


# Impact investment

Understanding financial and social impact of investments in East African agricultural businesses



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### Acknowledgements

The Gatsby Charitable Foundation commissioned the research and development of this study. As founding investors in the African Agricultural Capital Fund, they along with Pearl Capital Partners have pioneered the type of African agricultural investment found in this report.

The investee management teams of the businesses featured in the study, contributed greatly by granting significant time and access to their businesses as well as providing quantitative and qualitative information, enabling the study team to fully evaluate both the financial growth and social impact from their businesses.

The Pearl Capital Partners investment team, particularly managing partner Tom Adlam, contributed by providing insight and by being open to completing such an extensive study of their investments.

Editor: Paul Fletcher

Pearl Capital Partners welcome any comments you may have about the issues raised in this study; if you would like to contact the team, please email Tom Adlam, managing partner: [tom.adlam@pearlcapital.net](mailto:tom.adlam@pearlcapital.net)

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## IMPACT INVESTMENT: UNDERSTANDING FINANCIAL AND SOCIAL IMPACT OF INVESTMENTS IN EAST AFRICAN AGRICULTURAL BUSINESSES

*“In a world where government resources and charitable donations are insufficient to address the world’s social problems, impact investing offers a new alternative for channelling large-scale private capital for social benefit.”*

J.P. Morgan, Impact Investments: an emerging asset class, 2010

**The challenge for impact investors, if they are to continue to capture increased and varied sources of liquidity, is to demonstrate that the investment model is sustainable, that it creates strong businesses, it provides positive social impact and that the returns to investors are competitive.**

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On the face of it, this seems understandable and perfectly reasonable. However, gaining the necessary information is easier said than done. Impact investors, like other alternative asset classes, work in an environment where returns are guarded secretly and only revealed to current and potential investors, at a point in time, usually during fund raisings. Therefore this paucity of information creates, from an outsider’s perspective, an incomplete picture of the asset class as a whole.

By comparison to other alternative asset classes, the impact investment model is still immature and financial return claims not yet proven. Investments are made gradually and investee companies take time to realize value. It will require some shaking out yet to prove that the model is sustainable.

Quantifying positive social impact is both complex and cumbersome. There are many stakeholders involved, such as suppliers, customers and ancillary businesses. A seed business, for example, may supply hundreds of thousands of farmers, providing each with enhanced yields; employ hundreds of staff; be supplied by a considerable number of outgrowers; and create profit for ancillary businesses such as equipment and fertilizer providers, driving the broader development of its industry or value chain. The only way to categorically evaluate the financial benefit from all the activity would be to interview all of the related stakeholders. The time and resource required makes the task almost impossible.

However, as an agricultural impact investor since 2006, Pearl Capital Partners (PCP) has long-term experience and deep relationships with investee businesses which make it well positioned to attempt to quantify this type of impact. In 2008, PCP completed a study of its investee companies to determine their progress along governance, social and financial criteria. This latest study is a continuation of that work and aims to support the thesis that investment in agricultural small and medium sized businesses (SMEs) can:

- create robust, sustainable companies, delivering consistent growth
- strengthen agricultural sub-sectors across Africa
- produce positive social return for smallholders, employees, suppliers and regional economies
- generate competitive risk adjusted returns to PCP and its investors; in turn, positively impact extremely high numbers of people

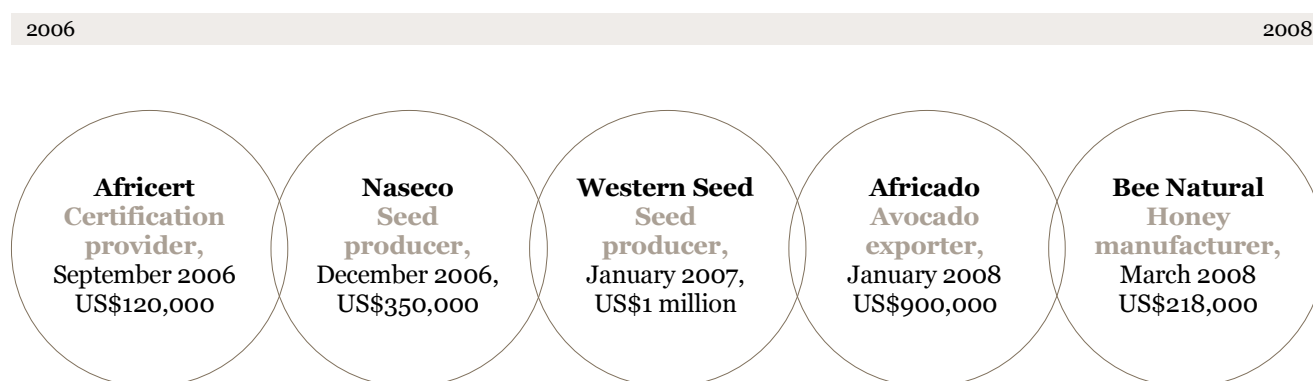
**IMPACT INVESTMENT: UNDERSTANDING FINANCIAL  
AND SOCIAL IMPACT OF INVESTMENTS IN EAST AFRICAN  
AGRICULTURAL BUSINESSES**  
CONTINUED

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**Why these five investee companies were chosen**

The sample has been kept deliberately small; just five agricultural investee companies of varying size and performance. Where possible, statistical analysis has been undertaken to prove direct impact of PCP's investments on the investee company, its employees, its suppliers and its customers – in essence to capture the “multiplier effect” of the investment. The companies are representative of the PCP portfolio, reflecting the diversity of industry type, geographic location, size, financial success, social impact and growth characteristics. They are all typical of agricultural businesses currently operating in East Africa.

**Investment timing**



## INTRODUCTION

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### **About Pearl Capital Partners**

The Pearl Capital Partners group (PCP) is an African investment management firm with offices in Kampala, Uganda. The firm administers portfolio management on behalf of African Agricultural Capital (AAC or the fund), an agricultural fund set up through the provision of US\$7 million investment from The Gatsby Charitable Foundation, The Rockefeller Foundation and Volksvermogen NV. Since 2005, the Gatsby Charitable Foundation has provided a further US\$2 million to the fund.

PCP invests in growing agricultural small and/or medium-sized businesses in East Africa, typically using a combination of equity, quasi-equity, equity-related and debt investments; delivering competitive financial returns to its investors while creating significant positive social impact on smallholder farmers. The investment range has typically been between US\$100,000 and \$1 million per individual investment. As of 2011, the fund was fully invested with PCP managing the unrealized investments.

Initially and in accordance with direction from the fund's investors, PCP's investments focused mainly on supporting businesses with significant social impact rather than creating market-leading financial returns. In recent years and in light of positive financial returns from earlier investments, the focus has shifted towards considering potential investments equally along social and financial lines. PCP's next fund, which is likely to be US\$25 million in size, will be invested under a classical venture capital fund structure and involve larger investments (US\$200,000-2million) with target return expectations of around 15% annual compounded return; while continuing to meet PCP's demanding social impact criteria.

## INTRODUCTION

### CONTINUED

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#### **Economic importance of agriculture in East Africa**

Kenya, Tanzania and Uganda are among the world's least developed countries. All the economies are characterized by low incomes per head, an inadequate rate of both domestic and foreign investment and major balance of trade deficits which are financed through aid flows.

According to the Food and Agriculture Organization (FAO), more than 17 million people confront serious food insecurity in East Africa due to the combined effects of below-average harvests, high food prices, conflict, and insecurity. In recent years, Kenya has been particularly vulnerable to drought experiencing outbreaks in 2011 and 2008-09 and parts of Northern Uganda continue to suffer from food insecurity primarily due to the effects of previous conflicts.

In 2011, Gross National Income (GNI) per capita in Uganda is US\$1,300, US\$1,400 in Tanzania and US\$1,600 in Kenya; half the population live on less than \$1 a day. Investment rates ranged from 20.7% of GDP in Kenya and Uganda compared to 46.2% in China and 30.2% in India.

Economic policy for more than a decade has sought to reverse the central role played by governments in the early years of independence and to introduce a liberalized economy. This has had some success with GDP growth rates in 2003-2011 averaging 8.6% in Uganda, 7% in Tanzania and 5.6% in Kenya but the distribution of growth has been uneven, and there remain many examples of market failure.

The following table, based on World Bank and CIA country data, summarizes population demographics in Tanzania, Kenya, Uganda and serves to demonstrate the critical importance of the agriculture sector in the region.

#### **Key indicators**

|                                 | Tanzania | Kenya | Uganda |
|---------------------------------|----------|-------|--------|
| Population (m)                  | 42.7     | 41    | 34.6   |
| GNI per capita (US\$)           | 1,400    | 1,600 | 1,300  |
| Rural population (%)            | 74%      | 78%   | 87%    |
| Agriculture share of GDP (%)    | 28%      | 22%   | 24%    |
| Labour force in agriculture (%) | 80%      | 75%   | 82%    |

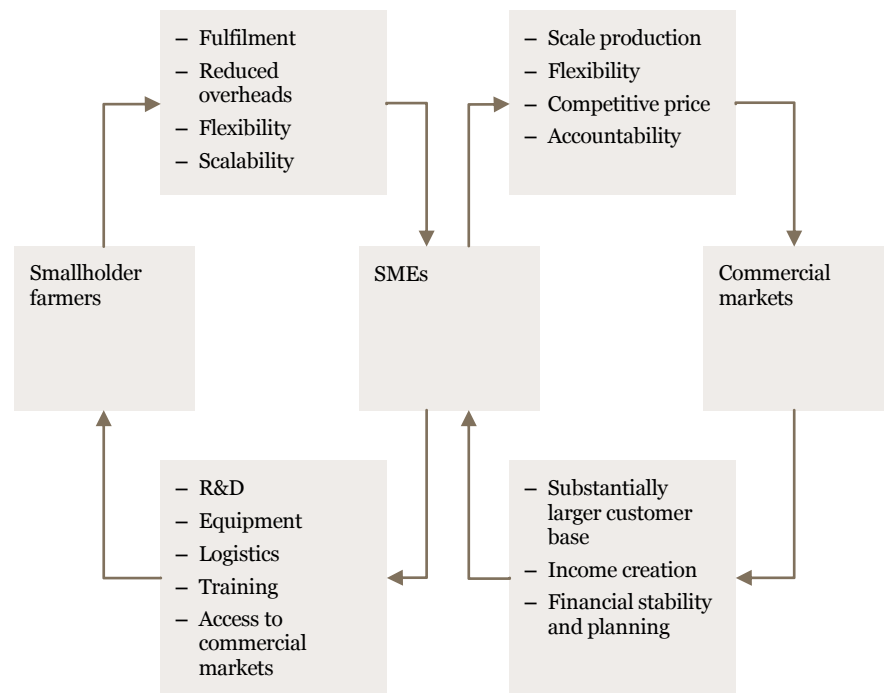
#### **The importance of SMEs and smallholder farmers**

Globally, the fastest rates of economic growth have generally occurred where agricultural productivity has risen the most. This is because growth in agriculture benefits the poor most. Private sector investment in the agriculture sector in East Africa has been very low since the 1970s and has tended to focus on plantation-led export crops and, in recent years, on horticulture. Smallholder farmers have been neglected, despite the fact that they are the principal contributors to food security in the regional economy. It is estimated that a 1% increase in agricultural yields reduces the percentage of people living on less than \$1 per day by between 0.6% and 1.2%<sup>1</sup>. No other economic activity generates the same benefits for the poor, both in providing income and in ensuring household food security.

<sup>1</sup> World Development Report 2005, World Bank

The agriculture sector must become more productive, efficient and attractive to a variety of investment sources. The private sector and SMEs specifically, have a critical role to play in stimulating the growth and development of agriculture value chains in East Africa. SMEs help marry subsistence farming practices with commercial viability, providing access to markets for smallholder farmers by stimulating new value chains, adding value to agriculture products and connecting smallholders with buyers and customers.

### The African agricultural value chain



### The funding gap

The financial sector in the region remains bi-polar with relatively large-scale commercial banks at one end of the spectrum, and small-scale micro-finance institutions at the other. The formers' portfolios in the past have included very significant levels of loan write-off, particularly in the agriculture sector. This historic experience, often brought about through excessive political interference in the agriculture sector, has led to extreme reluctance on the part of commercial banks to lend to medium-sized enterprises in the agriculture sector.

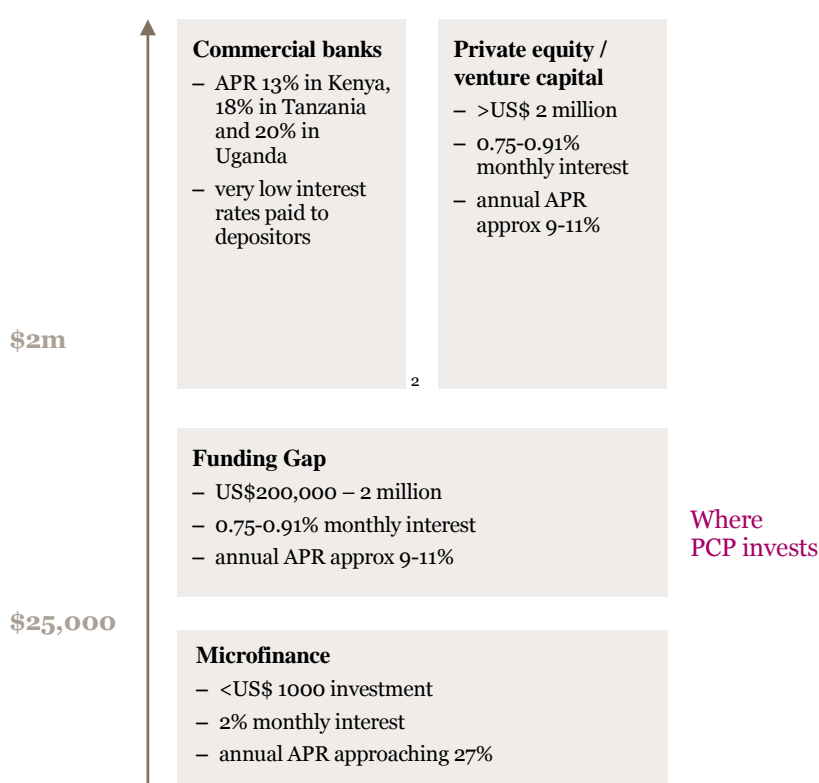
Microfinance institutions, on the other hand tend to be based on the group guarantee system developed by the Grameen Bank in Bangladesh. Most of their portfolios therefore concentrate on loans of less than \$1,000, and they are unlikely to seek customers with a borrowing requirement much above this. In any case, very few micro credit institutions have succeeded in developing on a significant commercial scale.

**INTRODUCTION**  
CONTINUED

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Over the past 3-4 years a range of private equity funds have been raised on a stated investment thesis of addressing this “funding gap”. However, the vast majority of these funds are still focused on larger deals and target companies at the more bank-friendly end of the spectrum. With an average deal size of US\$1 million, using investment instruments which do not over-burden businesses with expensive short-term debt finance, PCP’s investment size is below the majority of the new private equity / venture capital funds currently active in the market. As such, it is more closely targeting the unmet funding needs of SMEs in the region.

**Overview of the East African investment market**



Various sources on 2011 commercial bank and venture capital terms

<sup>2</sup> The Kenya Commercial Bank’s 2008 published accounts showed that on customer deposits of KES 86 billion, KCB’s interest paid to depositors amounted to approximately 1.4% of total customer deposits.



## EXECUTIVE SUMMARY

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### Headline figures

US\$ 2,567,000 invested in five businesses

US\$6,213,000 projected gross return to investors

US\$370 million accumulative wealth creation from the core activities of each investee business<sup>3</sup>

Positively impacting 1.4 million families in East Africa

### Post investment growth across all five investee companies

30% turnover increase

170% profit improvement

15% customer growth

### Developmental impact from core activities

#### Smallholders

- Estimated 684,000 smallholder farmers benefited at the time of the initial investment, increased to 1,035,000 in 2011, a 51% increase
- 4/5 investee companies provide smallholders with access to finance or credit
- 4/5 investee companies provide smallholder farmers with access to agricultural training
- 4/5 investee companies provide access to improved logistics or better equipment

#### Suppliers

- The number of suppliers to investee companies has increased from 1,590 at the time of investment to 5,625 in 2011, a 254% increase

#### Employees

- 5/5 have health & safety and human resource policies in place compared with 1/5 at time of investment
- 5/5 investee companies provide internal or external training to employees compared with 2/5 at the time of investment
- 5/5 investee companies provide performance related bonuses in addition to annual salary compared to 2/5 at the time of investment

*“Post-investment growth: 30% turnover increase, 170% profit improvement and 15% customer growth”*

<sup>3</sup> Accumulation breakdown available on page 8, individual case studies and methodology section within the appendix

*“SME agriculture remains unpopular with commercial banks and large private equity houses”*

### **Funding gap exists for East African agricultural SMEs**

- Investment demand from East African agricultural SMEs currently outstrips supply
- In all five investments, PCP was the only willing investor – the companies had exhausted all existing forms of finance and were, in some cases, relying on personal finance
- The size of required investment appears to be a barrier; US\$200,000-2 million<sup>4</sup> is perceived to be too small for many private equity investors, while too large for microfinance companies
- SME agriculture remains unpopular with commercial banks and large private equity houses; it requires significant upfront capital and close monitoring while providing sub-optimal risk / reward characteristics
- Lack of competitive tension has resulted in an inefficient investment market

### **Investment and post investment support from understanding partner creates rapid growth**

- East African SMEs are typically managed by small teams, covering many functions
- PCP has supported management teams with financial, strategic and operational input – this support is placed at a premium by the management teams and viewed as a key reason for market outperformance
- PCP is different to other investment houses – solely investing in East African agriculture has provided specialism and insight which translates to a more measured and flexible involvement with management in both monitoring and structuring investments
- PCP’s input is recognized as “value add” by the management teams in the sample and viewed as highly relevant to the needs of agricultural East African SMEs

### **Direct multiplier effect from original investment is significant and widespread**

- The trail of impact from the initial investment is significant and has led to value creation through the agricultural chain, not just with the investee business
- The core activities of the five PCP investee companies has had a positive direct impact on nearly 1.4 million smallholder farmers (this figure does not include benefit to the significant number of suppliers and ancillary industries who have also benefited)
- Aggregated PCP investment is US\$2,567,000, direct value creation as part of investee company core activity totals US\$370 million (144x multiple on initial investment) – source includes additional income through increased yield to smallholder subsistence farmers from Naseco and Western Seed, Bee Natural’s raw honey suppliers and smallholder farmers receiving access to markets through Africert certification

<sup>4</sup> Note Africert, being the first investment from the original AAC fund, was lower than US\$200,000, which is now set as PCP’s minimum investment level

*“PCP prioritizes investments in sub-sectors where there are no other market participants of scale; where possible, creating “fresh” wealth creation and regional development”*

**Individual company investments can grow entire markets**

- PCP prioritizes investments in agricultural sub-sectors where there are no other scale market participants, where possible trying to create “fresh” wealth creation and regional development
- PCP has created two important industry players in the Ugandan and Kenyan seed markets. Naseco occupies a 25% share of Uganda’s commercial seed market, Western Seed has a 30% market share of Kenya’s mid-altitude market, both operate in regions where farmers predominately use farm-saved seed rather than high performing seed varieties
- PCP’s investment in Bee Natural established a dominant market player and helped commercialize the East African honey industry; the investment in Africado creates Northern Tanzania’s first large-scale commercial avocado exporter; PCP’s investment in Africert has created the dominant fresh produce certification provider in East Africa and resulted in improved production standards across the continent

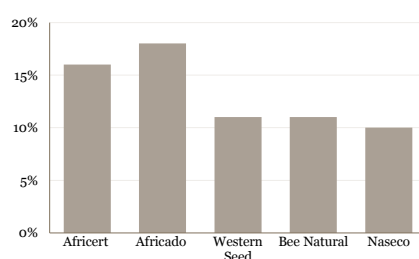
**Governance has improved as a result of PCP involvement**

- PCP has encouraged better governance practices in all five investee companies
- All the companies provide management accounts on either a monthly or quarterly basis, annual accounts receive external auditing
- All the investee companies successfully operate boards, holding scheduled and recorded meeting with board strengthening a characteristic of post PCP investment. Each investee company has in place HR and health and safety policies
- All the businesses have a culture where they up-skill and promote from within (often employing previously unemployed and unskilled workers) and have performance related bonus schemes in place

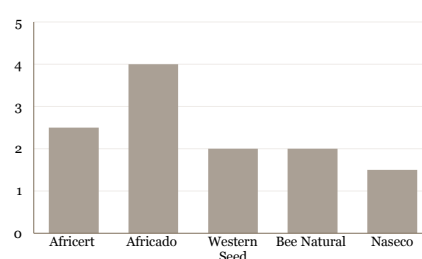
**Projected financial returns to investors are strong**

- From the five investments, cash to cash return is 2.4x and 14% weighted annual internal rate of return (IRR)
- Natural conservatism in the size of the first few investments has reduced overall returns from the sample investees
- Start-ups should not be rejected out-of-hand – Africado’s positive performance and the comparative size of investment has helped increase IRR to 14%
- Continued focus is required to ensure returns are commensurate with the risk profile of the investment. PCP’s early investments such as Naseco, undertook private equity risk for debt returns. This was recognized and subsequent investments were structured to capture more of the future return upside for PCP

**Projected IRR**



**Projected Cash-to-Cash Multiple**



**Catalyst for further third-party investment**

- In all five investments, PCP invested when others would not, although all have gone on to successfully raise further third-party investment

**Exit routes are possible**

- Debt structures have been put in place to self liquidate over time on all five investee companies
- Of the five investments, two have received regional and international trade buyer interest and similar interest is expected in the remaining three. Public markets also provide another route; if Western Seed or Naseco realize their current production targets they will be of sufficient scale to be eligible for domestic public markets

**Conclusion**

As stated earlier, the study has looked to support the thesis that investment in agricultural SMEs can:

**Create robust, sustainable companies, delivering consistent growth**

Historically, the investment market's reticence to invest in African agricultural SMEs has largely centred on its reputation as a high risk, low return sector. The reputation mainly derived from its long lead time to return on investment, typically significant upfront cost and several variables such as commodity volatility, climate change and political influence on agricultural policy. The five investee businesses have each shown robust characteristics in meeting market challenges and maintaining growth. The long term nature of the private equity investment model combined with support from a specialist agriculture investor, has helped the investee businesses absorb periodic issues while maintaining overall growth. Bee Natural Uganda is an example of this, the challenge from the collapse of raw honey outgrower production in the second year of the investment was met by management action to take out cost from the business, an appropriate investment structure and an understanding investor. The company has since returned to pre-investment production targets.

**Strengthen agricultural sub-sectors (across Africa)**

PCP's investment has helped create five quality organisations that have grown into either market leaders or strong market challengers, generating further competition in their respective markets. Bee Natural and Africert have grown from a low base to become the dominant players in both their markets. Africado is establishing an avocado network in Northern Tanzania and the investments in Western Seed and Naseco are having a significant impact in providing smallholder farmers with access to seed technology. The study suggests that these businesses have also contributed to a reduction in price volatility, increased supplier and customer confidence and overall more efficient sub-sectors.

*“The long-term nature of the private equity model combined with support from a specialist investor, has helped the investee companies absorb periodic issues while maintaining overall growth”*

**Produce positive social return for smallholders, employees, suppliers and regional economies**

Evidence from the report suggests significant fresh smallholder income creation has been generated from PCP's investments. Three of the five investee businesses (Bee Natural, Naseco and Africado) have created outgrower structures designed to provide over 6,000 smallholder farmers with access to commercial agricultural markets and an estimated US\$2,891,000 of additional income annually<sup>5</sup>. Africert has helped 370,000 smallholder farmers gain access to commercial markets and both Western Seed and Naseco have helped on average 850,000 smallholder farmers annually achieve increased yields to move from subsistence farming to generating income from selling to local markets. Overall, the number of smallholder farmers benefitting from the core activities of the five businesses has risen 51% since the time of the initial investment. All five companies have a culture of paying suppliers on time and offering credit to customers, substantial evidence suggests that ancillary businesses have increased revenue as a result of the investments in the original businesses. The income creation across all stakeholders, the significant employment and tax contribution from all five companies has produced positive economic returns to each of their local regions.

**Generate competitive risk adjusted returns to PCP and its investors**

The five investee investments have generated a 14% weighted annual internal rate of return, 2.4x projected gross cash return. In monetary terms, US\$2,567,000 was invested in five businesses and it is projected that the investors will receive US\$6,213,000 gross return.

**Positively impact an extremely high number of people**

The core activities of the five PCP investee companies have directly positively impacted nearly 1.4 million smallholder farmers (this figure does not include benefit to the significant number of suppliers and ancillary industries who have also benefited).

<sup>5</sup> According to 2011 figures

## **AFRICERT**

The leading independently-owned and managed African agricultural certification company

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### **Africert's reach**

- The dominant player in African agricultural certification
- In the last five years the company has performed certification services for nearly 200 agricultural exporters
- Over 370,000 smallholder farmers have received annual certification for export since 2007
- Estimated US\$117 million of export income for smallholder farmers certified by Africert since 2007
- 16% annual rate of return to PCP and its investors

### **Investment overview**

In September 2006, PCP invested US\$120,000 in a six year senior debt and equity instrument, to create a sub-Saharan Africa's leading agricultural certification business. At the time of investment, Africert was generating KES10,280,000 of revenue but was loss making. PCP's investment restructured the shareholding and expanded operations to create a scale operator.

Within Africa, certification has helped agriculture professionalize and mature as an industry. Certification provides legal clearance for smallholder farmers to access international markets. International food markets provide valuable additional income to African smallholder farmers who receive a net income of between £98 and £1,250 per annum<sup>6</sup> from export. Certification has also helped improve agricultural standards of smallholder farmers across Africa.

PCP's investment met Africert's funding needs as it had been unable to obtain third-party investment from either commercial banks or other private equity investors. It is anticipated that PCP's investment in Africert will generate an internal rate of return of 16%.

### **Importance of certification for agricultural businesses**

Over the past decade, the binary affect of consumers demanding more information on the provenance of the food they consume as well as several notable and high profile food scandals has tightened legal procedures around food production. Globally, this has affected food businesses throughout the supply chain. Food operators have gone beyond the legal requirements, mostly as a means to standardize products and differentiate themselves from their competitors<sup>7</sup>. For developing countries, where access to international food markets is important, certification provides the necessary legal bridge to demonstrate the required hygiene and production standards have been met.

### **Business description**

Incorporated in 2003, as a collaboration between ICIPE (International Centre of Insect Physiology and Ecology) and chief executive, Ruth Nyagah. The business began certification on fresh fruit and vegetable (GlobalGAP) and UTZ Certified Coffee. Since then the company has expanded its certification portfolio to include additional certifications such as: Rainforest Alliance / Sustainable Agriculture Standard, Common Code for the Coffee Community, 4C, Leaf Marquee, Ethical Tea Partnership, MPS-GAP/SQ/ETI, Organic Agricultural and Cotton Made in Africa (CMiA).

Africert's customers mainly consist of local and international agricultural businesses that either produce or source from smallholder farmers. Certification is completed according to a set of international standards and once a production system is compliant, a certificate is issued or verification licence / approval is granted by the standards owners.

<sup>6</sup> Impact of EurepGAP on small-scale vegetable growers in Kenya: Andrew Graffham, Esther Karehu and James MacGregor, 2007

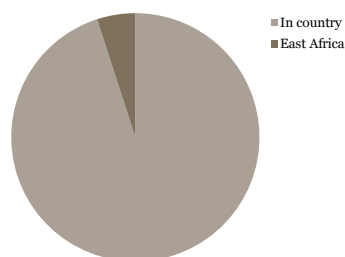
<sup>7</sup> An introduction to GLOBALGAP Option 2 Smallholder Certification, 2008

Prior to 2005, certification services in the agricultural market were mainly performed by certifiers based in Europe. Africert has tended to concentrate on regions where the company has a footprint, providing clients with lower costs (such as lower certifier travel costs) as well as benefitting from language and cultural fit during certification.

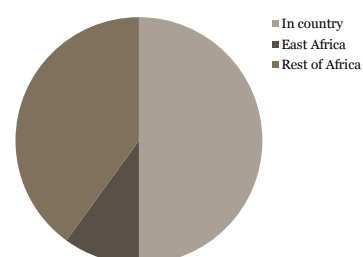
This approach has worked well. In 2006 Africert was a challenger in the market but has increased market share over the last 3 years to become the dominant player in East Africa for coffee and fresh produce certification (it occupies almost 100% of the coffee and tea certification market in Kenya).

The company has also expanded its geographic reach by adopting a regional hub model, opening an office in Ghana to cover West Africa. This has broadened Africert's revenue base which in 2006 consisted of 95% coming from within Kenya and the remaining 5% from elsewhere in East Africa. In 2010, the revenue income had spread across sub-Saharan Africa and other export markets.

Africert geographic revenue income (2006)



Africert geographic revenue income (2010)



Source: Africert management

### Governance

The Africert board includes Ruth Nyagah (chief executive), David Gray (director), Zackary K. Chege (chairman), Geoffrey Wathigo (director) and Wanjohi Ndagu (PCP, director).

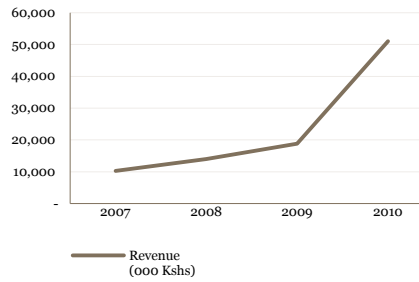
### How the investment was structured

The investment involved both equity and debt, through an US\$85,000 six year senior debt loan at an 8.5% interest rate per annum and a US\$35,000 equity investment to acquire a 36% stake in the business. The investment was used to buy out Africert's cofounder investor ICIPE, while also providing working capital to expand the certification team. Extensive due diligence by PCP and a third-party local advisory group, reviewed growth strategy, financials, management backgrounds, sales and marketing, compliance, external relationships as well as a SWOT analysis.

**Post-investment growth**

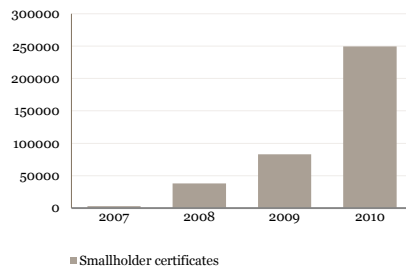
*Financial development* – in 2006, Africert was insufficiently scaled and was loss making. By 2010, Africert’s revenue had quadrupled, largely through a combination of increasing team size to meet demand, regional expansion (primarily from West Africa) and by more than doubling its portfolio of certification licences.

**Africert revenue increase since 2007**



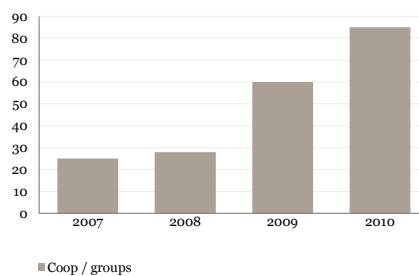
Since 2007, the number of certificates Africert issues annually has risen 80x while the company has kept its prices mainly flat during that time. The number of individual smallholder farmers that have benefited from certification and subsequent access to international markets has also grown exponentially.

**Annual smallholder certificates issued**



It’s thought that Africert’s capability as the “on the ground” player within the market has helped support ongoing confidence in the region. The company enjoys a 99% client retention rate and since 2006 has seen a dramatic increase in the number of exporters applying for certification.

**Annual client growth**

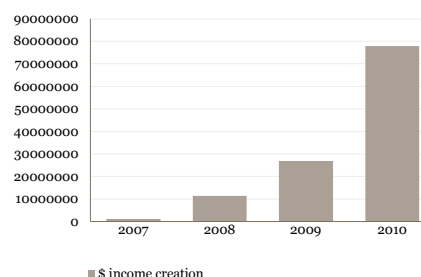




### Development highlights

Based on the average income benefit generated from access to international markets stated earlier<sup>8</sup> (£200 per annum) extrapolated across all the smallholder farmers that have received certification from Africert (using annual US\$ conversion), the additional revenue coming into the region from export is significant.

Estimated smallholder income benefit



Although obtaining certification is a cost for smallholder farmers, in most cases the majority of cost is met by exporters rather than the smallholder farmer.

The International Institute for Environment and Development (IIED) suggest that with GlobalGAP certification for example, “1,978 smallholders cost at least £1,502,560, which was £760 per grower in simplistic terms. Farmers paid 14% (£205,310) and exporters paid 86% (£1,297,250) of this cost.

The average contribution per smallholder farmer is £104 but actual contributions range between £1.10 and £175 per grower for smallholder (0.1-1.0ha) groups<sup>9</sup>. Therefore the net benefit to smallholder farmers is typically £656 (US\$1072).

In addition to exporter financial subsidy, grant funders such as USAID have in the past contributed between 25-50% for selected farm sites and centralized facilities.

This study has focused mainly on the direct benefit certification has brought to smallholder farmers; there is considerable anecdotal evidence to suggest that the improved farming processes demanded by certification (such as reduced and informed use of pesticides) has created considerable economic benefit to the ancillary industries that support smallholder farmers. Obtaining quantifiable data to support the anecdotal evidence is difficult. It is however reasonable to assume that the indirect financial benefit derived from the 370,000 small producers certified between 2007 and 2010 is considerable.

*Employment & environment* – since 2006, Africert has expanded the team to include 15 full time auditors compared with 2 at the time of PCP’s investment. The average salary for the full time auditors has nearly doubled since 2006 from US\$189 (KES17,000) per week to US\$322 (KES29,000) currently. The company also supports local charities, particularly a local charity for the blind, donates computers to local schools and pays school tuition fees for 3 children in Nairobi.

<sup>8</sup> Impact of EurepGAP on small-scale vegetable growers in Kenya: Andrew Graffham, Esther Karehu and James MacGregor, 2007

<sup>9</sup> Impact of EurepGAP on small-scale vegetable growers in Kenya: Andrew Graffham, Esther Karehu and James MacGregor, 2007

*Smallholder welfare* – evidence from the Africert management team suggests that certification has a notable effect on professionalizing agricultural practices across Africa. Smallholder production standards improve after the smallholder farmer receives its first certification. This includes better health and safety, more informed use of agro-chemicals and general improved agronomical practices.

**Summary of development highlights:**

- Producers receiving certification from Africert has increased from 2,926 in 2006 to 250,000 in 2010
- Africert certification and the subsequent access to international markets has helped generate an estimated US\$117 million for the 370,000 smallholder farmers certified between 2006 and 2010

**Realising value**

The opening of additional regional hubs across Africa combined with Africert's dominance as the sole certifier in key agricultural categories is likely to result in significant turnover increase over the next 2-3 years. Obvious working capital constraints from increasing the size of the team have been eased through the positive financial performance of the business as well as the introduction of 3 new shareholders; validating PCP's original investment in the business. New categories such as cotton certification (introduced in 2010) are showing significant growth potential across Africa.

The business has recently attracted interest from an international certification business as well as several East African investors and it is anticipated that when PCP realizes its equity stake the overall compounded debt and equity return will be 16% annual return rate (2.5x cash to cash return) to PCP and its investors.

**Lessons learnt**

The investment in Africert was very much a characteristic of the type of investment PCP completed in 2006. At the time, PCP were pioneering this type of investment in East Africa and the focus was mainly on supporting agricultural industries and opening up new markets rather than delivering emerging market private equity returns.

Africert's post-investment growth and performance has met expectations and its annual internal rate of return and multiple have been strong. However, the structure of the original investment meant that it will not provide PCP and its investors with an overall optimal return despite the company achieving 4x revenue growth during the investment period.

The investment characteristics of PCP's new fund, will preclude investments below US\$200,000 and therefore prevent PCP completing a similar type of investment to Africert in the future. Another funding gap has emerged below US\$200,000 for East African agricultural businesses which will need to be met to maintain an efficient investment and agricultural market.

**Value added by fund manager**

At the time of investment, PCP was the only viable funding option for Africert. The company had approached many commercial banks but found that appetite towards funding agricultural investments, particularly ones that are loss making, was seen as too risky. Several large buyout groups were also approached but found that the required US\$120,000 capital investment didn't provide a sufficiently strong returns profile. PCP recognized Africert's strategic importance to agriculture in the region as well as providing sufficient financial returns to PCP and its investors.

PCP's investment recapitalized and brought strategic direction to the business. At the time, ICIPE and founder Ruth Nyagah, had differing views on the future direction of the business. ICIPE wanted to commercialize certification research rather than grow and specialize on the certification delivery services. PCP's investment provided an exit route for ICIPE and a return on their investment. With fully aligned shareholders and a clear growth strategy, Africert was well positioned to take advantage of the market opportunity.

In addition to providing strategic support to the Africert board, PCP has also continued to provide financial support, granting a US\$10,000 (KES800,000) short-term loan to help manage its growing pains. The company's continued growth also resulted in third-party investment from three new minority shareholders. This new investment places Africert in a much stronger financial position to continue its current growth.

### Key facts

|                            |  |
|----------------------------|--|
| Investment characteristics | <ul style="list-style-type: none"> <li>– US\$85,000 six year senior debt loan at an 8.5% interest rate per annum</li> <li>– US\$35,000 equity investment to acquire a 36% stake in the business.</li> <li>– Projected 16% annual blended internal rate of return to PCP and its investors</li> </ul> |
| Outreach                   | <ul style="list-style-type: none"> <li>– Completed certification services for nearly 200 agricultural exporters</li> <li>– Provided annual certification for 370,000 smallholder farmers</li> </ul>  |
| Social development         | <ul style="list-style-type: none"> <li>– Helped generate estimated US\$117 million of export income for smallholder farmers</li> </ul>   |
| Business growth            | <ul style="list-style-type: none"> <li>– Turnover has increased from KES10,280,000 in 2007 to KES51 million in 2011</li> <li>– Africert completes 80x more annual certificates compared to the time of the original investment</li> </ul>  |
| Lessons learned            | <ul style="list-style-type: none"> <li>– Original investment size was too small to generate strong overall return, the new fund will preclude this size of investment</li> </ul>   |
| PCP value add              | <ul style="list-style-type: none"> <li>– Invested when other investors would not</li> <li>– Recapitalised and brought strategic direction to the business</li> <li>– Provided short-term overdraft facility</li> </ul>   |

**NASECO**  
**Producer of high-performing seeds**  
**to Ugandan smallholder farmers**

18

**Naseco’s reach**

- In 2010, benefitted over 600,000 smallholder farmers
- Naseco hybrid seed performs up to 3x better than farm-saved seed
- US\$70 is the average annual additional income received from better performing seed
- US\$350,000 investment created over US\$173 million of additional income to smallholder farmers
- Turnover has doubled during PCP’s investment period
- 10% annual rate of return to PCP and investors

**Investment overview**

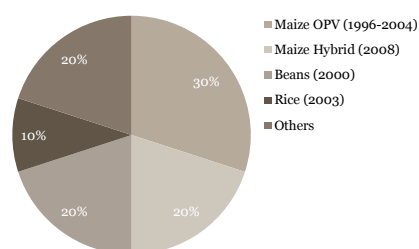
In December 2006, PCP invested US\$250,000 (UGX 500 million) 5-year senior loan, as well as a US\$100,000 (UGX 200 million) short term loan facility. The investment has helped create a market-leading Ugandan seed business, providing smallholder subsistence farmers with up to 3x more crop yield. The investment was primarily used to upgrade and expand production, creating capacity for up to 7,000 metric tonnes of seed production per annum. Projected return expectation is 10% internal rate of return, deriving from both the senior and short-term facility.

PCP’s investment came at a critical time for the business; in 2006 input prices had increased and the company was severely capital constrained having already fully invested its existing funding. The business required significant investment to solve its immediate working capital issues and increase production capacity if it was to fully realize its ambitious growth plans. Alternative sources of finance were not forthcoming; local banks were either reluctant to invest or too expensive and the size of investment was perceived to be too small for larger investment houses. Therefore, at the time, PCP was the only credible financing option for the business.

**Business description**

Incorporated in 1996 with original investment from the Belgium Government and the Roman Catholic Diocese of Hoima, Naseco is now one of the leading producers of commercial seed in Uganda. In 2011 the business produced 2,200 metric tonnes of seed (roughly 25% of Ugandan commercial seed market). It produces maize, rice, beans, groundnut and sorghum seed.

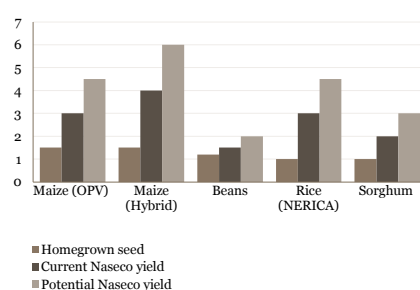
**Naseco products by revenue (2010)**



Since PCP’s investment, new product development has concentrated on the highly profitable maize hybrid varieties which account for 20% of Naseco’s revenue and will continue to be an area of focus for the business.

The business manages most aspects of the value chain from production, processing and also marketing, with its sales split almost equally between NGOs and commercial retail seed distributors. The company runs a proprietary relationship with its 750+ outgrowers, this is maintained by providing outgrowers with a number of services as well as a commitment to paying above market price for all the seed they produce. In turn this proprietary relationship and a continued focus on innovation through research and development, has guaranteed seed quality and enhanced yield returns for smallholder farmers. Naseco seeds are, in the vast majority of cases, sold to smallholder subsistence farmers who in the past have relied on farm-saved seed. Naseco seed's enhanced yields (up to 3x greater yield compared to farm-saved seed) has enabled smallholder farmers to sell surplus production and generate additional household income. In 2010, it was estimated that Naseco seed benefited up to 600,000 smallholder farmers in Uganda.

2010 Naseco seed yield benefits (tonnes / ha)



Currently 95% of Naseco's revenue is generated from within Uganda with the remaining 5% from export. Future production increase creates potential to increase revenue both domestically as well as export to neighboring markets. Although export does present some challenges as both supply and demand will need to be geared up to create a lasting income stream.

The Ugandan seed market has undergone significant change since PCP's investment in 2006, at the time there were 7 seed companies, now there are 23<sup>10</sup>. Of those 23, 8 have a scale presence and 5 operate a similar model to Naseco in terms of sales and volume. Naseco is however one of the few Ugandan seed companies with a consistent approach to innovation through research and development. Due to the significant number of smallholder subsistence farmers who use farm-saved seed and the geographic presence of high-quality seed alternatives, since 2006 Naseco has played an important role in providing smallholder farmers across Uganda with access to high performing seed.

### Governance

Current board members are Nicolai Rodeyns (managing director), Fr. Joseph Birungi (chairman) / Tibaita Fabian (director, Hoima Diocese), Christine Karingithi (director, PCP) and Monique Uytterhaegen (company secretary).

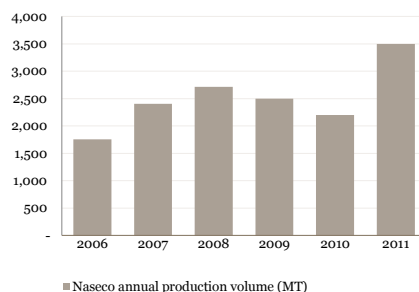
### How the investment was structured

The investment was a blend of both long term 10% fixed interest senior loan with 5-year maturity as well as a short loan variable 7% interest premium linked to profitability. No equity stake was taken in the initial investment. Extensive due diligence was undertaken prior to investment, this included both commercial and financial diligence as well as lengthy discussion with senior management to refine the business plan.

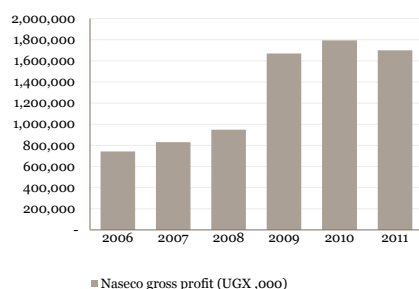
10 Source: management

## Post-investment growth

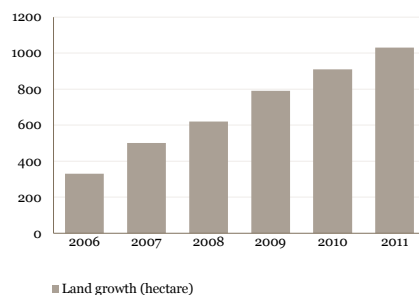
Since PCP's investment, Naseco has doubled its annual production volume.



Gross profit has trebled since PCP's investment



Local land growing Naseco seed has increased fivefold since PCP's investment



Following initial investment in 2006, the company was adversely impacted by the global financial crisis which significantly increased input costs to the business. Outgrower suppliers responded to the crisis by contracting production and increasing pricing which led to working capital issues for Naseco as it was not able to source sufficient quantities of primary seed. Naseco was also at that time unable to pass on price increases to its NGO and retail distributors. With PCP's support, Naseco has since managed these working capital constraints and strengthened its outgrower network so that the management team now believe that the company has the potential to double turnover every two years.

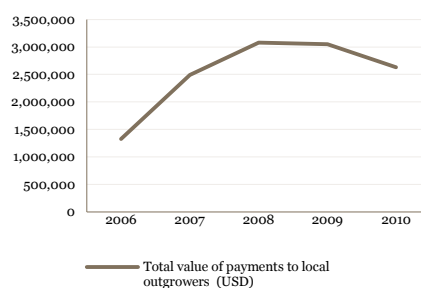
### Development highlights

*Local development* – Hoima, Naseco’s local region, is a trading town and employment is primarily through subsistence farming, with few large employers operating in the area. Naseco has consistently employed over 200 contracted and permanent staff per annum for the past 5 years. The company is committed to paying 30% above the average salary and employees also have the potential to earn performance-related bonuses; in 2010 this ranged between 70-80% of the annual salary. Staff receive specific and transferable training which is delivered both on site and externally. Of the 200+ employees, 60% are female.

As such, Naseco is one of the largest employers in the region. Around 80%<sup>11</sup> of Naseco expenditure is spent locally and when accumulated annually post PCP’s investments amounts to US\$12,641,000. It is estimated that Naseco’s workforce spend around 70-80% of their income locally, which is US\$121,747 (UGX314,716,480) annually.

*Outgrower development* – Naseco provides its 750+ outgrowers with free seed, free transportation, advice during planting, external resources such as fertilizer for hybrid seed, sprays for beans and access to four technical field advisors which are full-time employees of Naseco. Naseco has also organised outgrowers into farmer groups and appointed group leaders who are provided bicycles to carry out fieldwork. Despite inflation, Naseco has maintained its commitment to pay its outgrowers above market rate; in 2010 Naseco paid UGX600 per kg for non-hybrid seed (market price was 300 per kg) and 900 Ushs per kg for hybrid seed (market price was 700 per kg). Additional margin is also supported with a commitment that the company will procure all quality seed from the outgrower. Naseco also pays 50% cash on delivery and the remaining 50% within 3 months as well as paying seed certification costs for the outgrower.

**Payments to local outgrowers has increased by one and a half times since PCP’s investment**

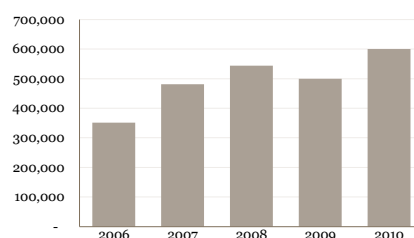


Naseco’s payments to outgrowers has reduced in the last two years because of a combination of outgrower production contraction due to inflation and the fact that Naseco has increased production on its nucleus farm.

<sup>11</sup> Management 2011 estimates

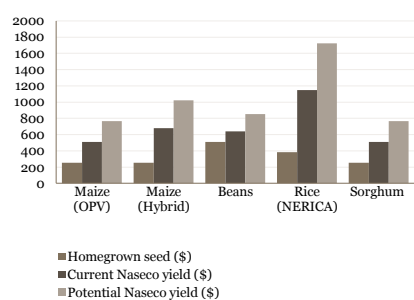
*Smallholder development* – the primary benefit of Naseco seed is that it provides considerably better yield compared with farm-saved seed, enabling formerly subsistence farmers to gain increase revenue from selling surplus produce.

**Estimated number of smallholders using Naseco seed**

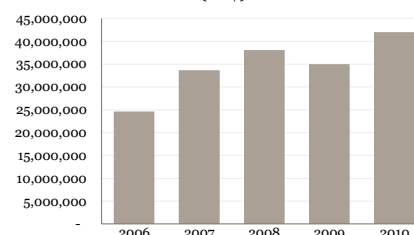


Based on the yield benefit shown earlier extrapolated across the estimated number of smallholder farmers that have used Naseco seed since PCP's investment, the additional income benefit to smallholder farmers in the local area is extensive.

**Per annum, per-smallholder income benefit from Naseco seed**



**Combined additional income to all smallholder farmers (US\$)**



Since 2006, Uganda has continued to operate at a seed deficit, particularly certified seed in remote regions. Naseco seed has created, particularly in Hoima and surrounding regions, over US\$150 million additional wealth to Ugandan subsistence farmers since 2006

**Summary of development highlights:**

- Number of outgrower suppliers has increased from 350+ in 2006 to 750+ in 2010
- Payments to local outgrower suppliers has increased from US\$1,328,008 in 2006 to US\$2,633,000 in 2010
- Smallholders benefitting from high yields has increased from 300,000 in 2006 to 600,000 in 2010
- Each smallholder receives on average US\$70 extra income from additional yield per annum
- As a result, combined additional income to all Ugandan smallholder farmers from improved yields has risen from US\$25 million in 2006 to US\$42 million in 2010
- Naseco local expenditure since PCP investment is estimated to be US\$12,641,000



### **Realizing value**

Naseco expects to double turnover every two years. This is likely to be achieved through increasing production volume, realizing potential from previously neglected varieties such as sorghum and also concentrating on the higher margin hybrid varieties. It's thought that the market will be able to absorb this growth largely through converting the high percentage of subsistence smallholder farmers located in Uganda and neighbouring Democratic Republic of Congo, Southern Sudan and Kenya to using better performing hybrid seed. This obviously creates both working capital and an education challenge for the business. The working capital challenge has been reduced primarily due to an overdraft facility, obtained at competitive rates, which was secured, in part, as a result of PCP's investment in the business. Naseco is looking to overcome the education challenge by introducing marketing-led complimentary seed samples, more informative packaging and educating retail distributors more effectively. The company is also aiming to increase its regional reach with better distribution and logistics. PCP will exit Naseco in early 2012 through full repayment of the loan.

### **Lessons learnt**

The investment in Naseco was seen as pioneering at the time. In 2006, PCP was the only investment house operating at this scale within the East African agricultural sector and Naseco was its first seed business transaction.

The focus at that time was very much on investing in businesses that generated maximum social return. Naseco's social aggregator effect on smallholder farmers, providing thousands of smallholder farmers with more advanced seed and in turn better yields, fitted the original investment focus. As well as this, while the "investing in agricultural SMEs for positive social and financial return" thesis was still being proven, PCP initially invested conservatively and with terms that were supportive to immature agricultural businesses. The terms of the investment helped Naseco grow and provide the expected social benefit although they have provided solid but not emerging market private equity returns to PCP and its investors.

By structuring the investment solely on debt, the upside was capped and PCP received debt returns for what was private equity risk. The investment proved very successful in fulfilling PCP's social criteria but the deal structure was seen as a lesson learnt in demanding more commercial terms in future.

### **Value added by fund manager**

At the time of investment, PCP was the only viable investor in Naseco. The investment has helped Naseco meet the challenges of the 2007 downturn and also create capacity for increased production. Subsequent increased production has had significant direct social and financial impact.

In addition to financial support, PCP has also provided input on the company's business plan, financial structure and sought to improve the financial reporting practices. PCP has encouraged the strengthening of the management team through the hiring of a production manager, marketing manager and finance professional. This has created sufficient managerial resource for future growth within the business.

**Key facts**

|                            |  |
|----------------------------|--|
| Investment characteristics | – US\$250,000 (UGX 500 million) 5-year senior loan, as well as a US\$100,000 (UGX 200 million) short-term loan facility. |
| Outreach                   | – Naseco supplies an estimated 600,000 smallholder farmers annually  |
| Social development         | – Increased yield has helped smallholder farmers generate an estimated US\$173 million of extra income                   |
| Business growth            | – Since PCP’s investment, Naseco has doubled its annual production volume, trebled its gross profit and doubled turnover |
| Lessons learned            | – Do not cap upside by investing solely debt, blended debt and equity investments for future investments                 |
| PCP value add              | – Invested when others would not and encouraged the strengthening of middle management                                   |

**Western Seed’s reach**

- Created a leading Kenyan seed business introducing more competition into the market
- Seed production increased from 1,200 metric tonnes in 2007 to over 2,700 metric tonnes in 2011
- On average 280,000 Kenyan subsistence farmers use Western Seed annually
- Annual income benefit per smallholder farmer is US\$94 compared to farm-saved seed<sup>12</sup>
- Around US\$80 million of additional income to Kenyan smallholder farmers since 2007
- Annual local expenditure has reached KES80 million in 2011
- 11% annual rate of return to PCP and its investors

**Investment overview**

In January 2007, PCP backed Western Seed’s founder, Kenyan entrepreneur Saleem Esmail, by providing a US\$1 million 5-year senior loan. The investment created additional capacity with the view to tripling production within 10 years as well as support further hybrid seed research and development. Western Seed produces high performing hybrid maize seed, supplying West Kenya’s large proportion of mid-altitude subsistence farmers. Over the last 5 years, the company’s seed was used by an average of 280,000 smallholder farmers annually, helping farmers achieve 3x more yield compared with farm-saved varieties.

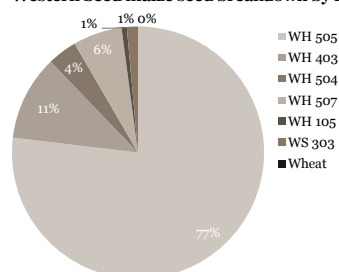
In 2007, Western Seed had struggled to obtain funding from local banks and other sources and were relying on self funding to finance growth. The investment helped create a very successful seed business and introduced further competition into the Kenyan seed market, which has historically been dominated by the part state owned Kenya Seed Company (which has 85% market share).

Western Seed’s 2007 turnover was KES160 million, latest financial year turnover is expected to be KES312 million. PCP’s expected returns from this investment are 11% annual internal rate of return.

**Business description**

Incorporated in 1990, Western Seed is a private seed business, based in Kitale, Western Kenya. The company produces a variety of hybrid maize seed and manages all parts of the value chain from research and development, production, marketing and distribution.

Western Seed maize seed breakdown by revenue



<sup>12</sup> The yield benefit disparity between Western Seed and Naseco is attributed to Western Seed being more expensive (50% more expensive according to 2011 pricing) but with slightly higher yield estimates than Naseco.

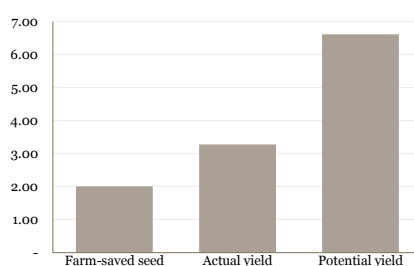
Nearly all of Western Seed’s revenues are derived domestically, mainly from its neighbouring regions of West Kenya. Its customers are typically low income smallholder subsistence farmers, in the mid altitudes regions, who use between 2-6 kgs of seed per season<sup>13</sup>.

In Kenya, Maize is an important staple crop, with over 1.7 million hectares under cultivation. Maize serves as both the primary source of food for many smallholder farming families with each person consuming on average 98kg each year; but it is also the primary source of income, representing approximately 14% of rural household income<sup>14</sup>.

The disparity between potential and existing consumption is mainly due to the lack of buying power from Kenyan subsistence farmers, who in the main, rely on farm-saved seed. In Kenya, large-scale agricultural production is focused in high altitude regions as a result of their optimal rainfall and growing temperatures. In the past, seed research and technological developments have concentrated on these areas, meaning that the smaller and more impoverished mid altitude farmers have tended not to benefit from seed developments. Since inception, Western Seed has focused on the mid-altitude farmers, supplying an underserved niche.

Western Seed is the only independent Kenyan seed company to have its own research and development programme where hybrid varieties are bred at mid altitudes, enhancing the upside of increased yield and protect against the downside threats of drought and disease. All of Western Seed’s new varieties are submitted for testing at the national performance trials. Seed may not be sold in Kenya prior to release in the performance trials which is announced by the Minister for Agriculture. Seed for sale is regulated by the Kenyan government regulator KEPHIS, where they must satisfy, among other quality criteria, a purity rating of 98% and germination of 90%+ before being granted certification.

Western Seed yield benefit (tonnes / ha)



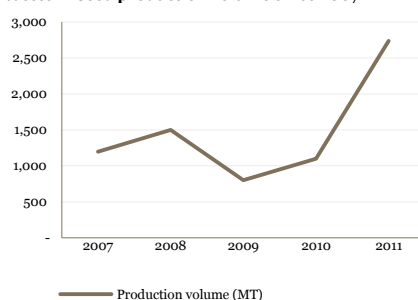
The quality and effectiveness of its seed for improving mid altitude farmer’s yields has helped the company grow market share within this segment; Western Seed now has 30% market share of the mid altitude Western Kenya and Nyanza provinces of Kenya.

<sup>13</sup> Based on marketing team estimates

<sup>14</sup> Jayne, TS, Jilian Kiriimi and James Nyoro. “Competitiveness of Kenyan and Ugandan Maize Production: Challenges for the Future.” Tegemeo Institute of Agricultural Policy and Development, Egerton University, 2006

In light of continued regional dominance and improved customer retention, Western Seed has steadily increased production. In 2010, the company produced 1,100 metric tonnes of hybrid seed, in 2011 it produced around 2,700 metric tonnes and supplied over 360,000 smallholder farmers.

Western Seed production volume since 2007



Kenyan smallholder farmers tend to be on the whole fairly traditional in their farming methods and due to the importance of their crops, risk averse. Kenya Seed Company's dominance (local and multinational seed companies currently compete for the remaining 15% of the market) and farmer unwillingness to change habits mean that it takes significant effort to persuade farmers to switch to new seed varieties. In this context, marketing drives, improved distribution links and increased production are vital to establishing greater brand and increase market share.

Western Seed's pricing strategy has sought to provide mid altitude farmers with superior performing seed at an affordable price. The company's seed varieties are marginally more expensive than the Kenya Seed Company but below that of multinational seed providers operating in Kenya.

To safeguard the quality of its seed, Western Seed works with 4 outgrowers, typically commercial farmers cultivating between 40-50 hectares of appropriately isolated land. By doing this, Western Seed ensures that correct agricultural practices are being followed, quality is preserved and Kenyan seed quality standards are met.

### Governance

Founded by Saleem Esmail (chief executive), current board members are Syed Osman Bokhari (director of operations), Tom Adlam (director, PCP) and Biju Mohandas (director, Acumen). Shareholders Saleem Esmail, Samina Esmail and PCP (on behalf of AAC and ASIF) own 100% of the company's issued and outstanding stock.

### How the investment was structured

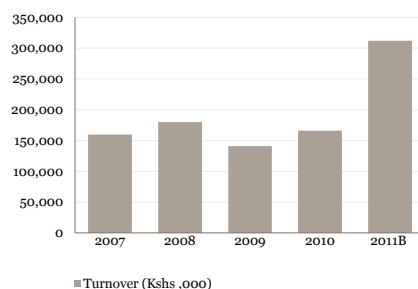
The US\$1 million investment included a US\$400,000 5 year term (9.5% interest rate) senior loan as well as an US\$600,000 5 year term loan carrying an interest rate of 8% plus an annual interest premium of 5.5% profit after tax. In 2008, both loans were converted into a 20% equity stake in the company.

### Post-investment growth

*Commercial and financial growth* – since PCP's investment the company's growth has been variable in terms of production and profitability. This has largely been due to the impact the economic downturn has had on West Kenya's subsistence farmers. It seems economic difficulty bred further conservatism among Kenyan subsistence farmers with many preferring to remain with tried and tested farm-saved seed rather than switch to other, more expensive hybrid certified seed.

However in the past year, a combination of successful marketing campaigns and improved distribution has increased customer appetite for Western Seed products; the company has met demand by doubling production in 2011. The production increase has been reflected in turnover with the company achieving KES312 million in 2011, more than double its 2007 turnover.

Western Seed turnover since 2007



Through its consistent approach to research and development, the company has continued to produce a wide range of varieties for mid altitude farmers and brought several new revenue streams into the business. As well as this, the company has worked closely with the International Maize and Wheat Improvement Center (CIMMYT) to pioneer controlled seed technologies in Western Kenya to combat Striga (a parasitic weed that infests 200,000 hectares of Kenya’s farmland and causes crop losses worth an estimated US\$50 million each year<sup>15</sup>). In 2011, Western Seed is one of the few Kenyan seed companies to develop seed technology that combats Striga.

The company has also become much more commercially minded in terms of its relationship with its customers. Initially, the company’s growth strategy could be described as “product led”, whereas the business now follows a more “customer led” approach. This includes the immediate withdrawal, refund and issuing of credit to any smallholder who has experienced problems with the seed it has received from Western Seed. In a market where conservatism is widespread and growth reliant on positive referral, this is important.

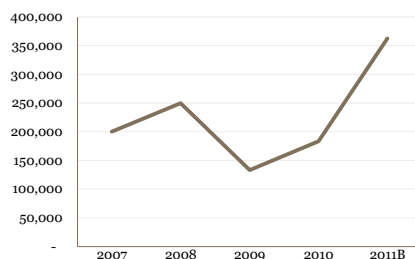
In many regions of West Kenya, the company has improved its logistics to offer farmers the option to acquire seed directly from the company rather than going through local distributors. This approach guarantees price and quality for smallholder farmers and has enhanced Western Seed’s brand presence in existing regions and just as importantly in new target regions.

<sup>15</sup> Promoting Striga control technologies in western Kenya, CIMMYT, 2008

**Development highlights**

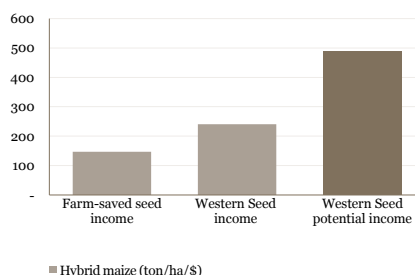
*Smallholder development* – since PCP’s investment, Western Seed has annually supplied on average 280,000 smallholder farmers. In 2011, the number of smallholder farmers using Western Seed has risen to over 360,000.

**Smallholder customers using Western Seed**



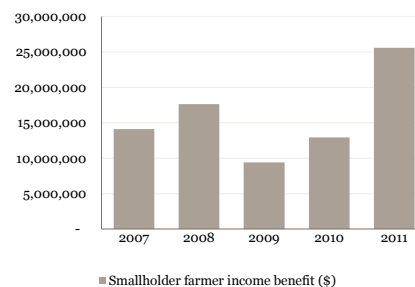
The potential income benefit from using Western Seed for subsistence smallholder farmers (based on 3x more yield compared with farm-saved seed and based on 2011 maize pricing) is US\$94 extra per acre with the potential of up to US\$341 per acre with the correct method of planting and fertilization.

**Western Seed income benefit per acre**



When applying the base case income benefit per smallholder farmer and extrapolating this across all smallholders farmers using Western Seed, the financial impact is significant.

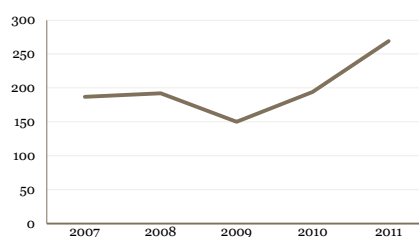
**Combined income benefit to all smallholder farmers**



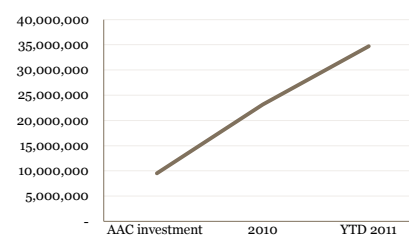
Overall, using conservative yield and income estimates, Western Seed’s high performing seed has helped generate over US\$80 million additional income since 2007 for subsistence farmers who previously relied on farm-saved seed.

*Employees* – since PCP’s investment, the company has significantly increased the number of employees and annual wage cost, paying above market rate compared with other local employers. The company provides its employees with significant on the job training as well as specific external training for the research and development, finance and marketing functions of the business. Employees receive additional performance-related bonuses which in recent years has been a minimum of 8-10% of annual salary and 15-20% for the best performers. The company also provides its workers with significantly discounted food maize.

Employment growth since 2007



Western Seed wage costs since AAC's investment



— Employees

— Total wage cost (KShs,000)

*Community and environment* – since PCP’s investment Western Seed has grown substantially, employing nearly 300 permanent and contracted staff annually, and has now become one of the top 10 employers in the Kitale region of Kenya. The company pays around US\$554,000 (KES50 million) annually to suppliers. The company also supports a number of local charities, providing local child, elderly and homeless care homes with free maize on a weekly basis.

In recent years, Western Seed has looked to reduce the negative environmental impact from the business. The company operates a zero wastage policy throughout the production process such as using bio degradable fuels during the maize drying process. This approach is providing both financial and environmental benefits to the business.

**Summary of development highlights:**

- Western Seed benefits on average 280,000 Kenyan subsistence farmers annually
- Average income benefit per smallholder farmer is US\$94, resulting in nearly US\$80 million of additional income to smallholder farmers since 2007
- Western Seed's employment has increased from 187 in 2007 to 269 in 2011 with wage costs tripling over that time
- Annual local expenditure has reached US\$882,000 (KES 80 million) in 2011

**Realising value**

Marketing drives such as increasing the number of demonstration plots, improved packaging and display materials, radio advertising and an incentivized and motivated specialist team of marketing professionals is having a significant impact on convincing farmers to switch to Western Seed varieties. This is augmented by continued product improvements and new Western Seed varieties coming onto the market. Production has increased considerably in the past year and is set to continue with improved production methods and equipment creating capacity for up to 7,000 metric tonnes of annual production. It is anticipated that education and brand presence among the large number of Kenyan subsistence farmers will provide the necessary demand for Western Seed’s additional production.



If Western Seed's production levels reach their annual targets over the next 2-3 years, the company will be of sufficient scale to qualify for public listing on the Nairobi Stock Exchange.

#### Lessons learnt

The investment in Western Seed has provided many positive lessons for PCP's other investments. The company owns intellectual property of its products, has strong knowledge of its market and has worked hard to establish and maintain a niche. It has also invested heavily in growth, either through its own profits or bringing on board third-party investment at critical points. The company has invested heavily in its marketing and sales functions and both are helping to drive growth.

#### Value added by Fund Manager

At the time of the investment, PCP was the only viable funding route for the company. The subsequent growth of the business has had a significant social and financial impact.

PCP supported the company to bring in third-party investment from Acumen Fund, to increase production capacity and further accelerate growth. PCP now work alongside Acumen and the rest of the board in the current equity structure.

Since PCP's investment, Western Seed has received significant strategic and financial support to help the company through its growing pains. PCP has contributed to an improved governance structure by encouraging the business to professionalize its management structure, particularly in relation to middle management of the business.

#### Key facts

|                            |  |
|----------------------------|--|
| Investment characteristics | <ul style="list-style-type: none"> <li>– US\$400,000 5 year term senior loan carrying an interest rate of 9.5%</li> <li>– US\$600,000 5 year term loan carrying an interest rate of 8% plus an annual interest premium of 5.5% profit after tax.</li> <li>– Both loans were converted into a 20% equity stake in 2008</li> </ul> |
| Outreach                   | <ul style="list-style-type: none"> <li>– On average 280,000 Kenyan subsistence farmers use Western Seed annually</li> <li>– Average annual income benefit per smallholder farmer is US\$94</li> </ul>  |
| Social development         | <ul style="list-style-type: none"> <li>– Western Seed has created an estimated US\$80 million of additional income to Kenyan smallholder farmers since 2007</li> </ul>   |
| Business growth            | <ul style="list-style-type: none"> <li>– Western Seed has doubled turnover since PCP's investment from KES159 million in 2007 to an estimated FY2011 turnover of KES312 million</li> </ul>   |
| Lessons learned            | <ul style="list-style-type: none"> <li>– The importance for all investee companies to follow Western Seed's lead in understanding their markets and strong intellectual property rights on key products</li> </ul>   |
| PCP value add              | <ul style="list-style-type: none"> <li>– Supported company through growing pains and helped it achieve scale and introduced third-party investor</li> </ul>  |

## **AFRICADO**

### **Northern Tanzania's only large-scale avocado exporter**

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#### **Africado's reach**

- By 2015, at least 1,500 smallholder farmers will receive around US\$200,000 annually from Africado
- Africado currently employs 200 staff and will by 2013 employ 500 people locally
- PCP's equity investment is currently valued at a 3.5 multiple
- 18% annual internal rate of return to PCP and its investors

#### **Investment overview**

In January 2008, PCP provided a US\$900,000 investment in a mix of debt and equity to create Africado, northern Tanzania's first large-scale Hass avocado producer. Unusually for PCP, it backed a start up that had been unable to secure support from local banks and other private equity investors. The concept, developed by Africado managing director James Parsons, was that the region provided optimal growing conditions, labour and logistics to produce and export nearly 2,000 metric tonnes of avocado per annum to Europe by 2015.

PCP's investment was used as start-up capital for the project, to finance the business for two years; although this was subsequently stretched to three years until further third-party investment could be secured.

Africado's production is sourced through a nucleus farm and an ambitious outgrower scheme which provides considerable social benefit to a region that has suffered extreme price volatility to its main cash crop, coffee.

The investment, combined with US\$200,000 of start-up capital from James Parsons and Leon Christianakis, procured plant material, planting costs, building development and irrigation as well as further working capital. The company's valuation is already a considerable multiple on the initial investment and return expectation from the business is 18% annual internal rate of return.

#### **Business description**

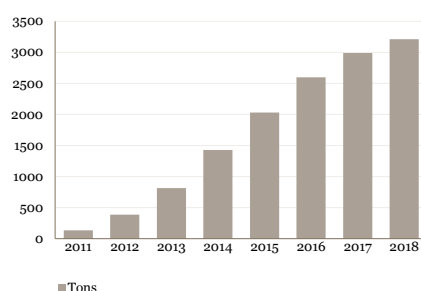
Over the last fifteen years, global trends towards healthy eating and avocado's place as a top 10 super food, has resulted in avocado consumption increasing considerably. In the last 10 years UK avocado consumption grew from 250gms per capita per year to 1.1kg. France, Europe's largest consumer of avocados, consumes 1.6 kg per person per year. In 2010, average consumption in mainland Europe was 350 gms per person per year; this compares to Mexico (9kgs), Israel (4.5 kgs), Australia (2.2 kgs) and US (1.6 kgs)<sup>16</sup>. For reference, 1 kg equals approximately 4 avocados which means that across Europe only 1.4 avocados are consumed per person per year. It is thought that greater supply, cost-effective sourcing and trends towards healthier eating will result in avocado consumption increasing considerably in the short term across mainland Europe.

Timing, price and proximity to the European market provide considerable competitive advantage for avocado production in North Tanzania. Historically, the European market has imported its avocados from Peru and South Africa and to a lesser extent, Chile. Labour costs in Peru and South Africa are 4x that of Tanzania, both are further away from Europe with higher export costs. Peru, by far the largest supplier outside of Europe, will have US trade restrictions lifted in 2012, which may result in some of its volumes being diverted to the US. Production timing is also a factor with Africado supplying the European market between August and October when prices are high after the Peru and South African season and before the Chilean season.

<sup>16</sup> Africado business plan for Norfund third-party investment

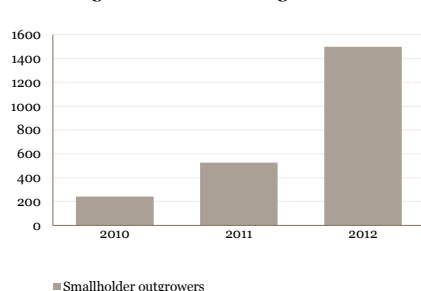
In 2008, Africado obtained a 30-year lease to plant on the Kifufu Estate in West Kilimanjaro. Since 2008, Africado has planted 110 hectares of Hass avocado orchards at Kifufu providing sufficient capacity for 1,700 metric tonnes of future Hass avocado production. Hass avocado trees typically require between three to five years to reach optimal production maturity; since 2008, Africado has created income from the growing of seed maize (40 hectares), coffee (6 hectares) and bananas (2 hectares) which will be phased out once the Hass avocados have reached maturity. The company currently employs 160 contracted employees and up to a further 100 casual staff.

Africado export volume projections



*The outgrower scheme* – Africado has developed an outgrower scheme in the immediate locality that will by 2015 account for at least 25% of the company’s avocado production. The structure of the outgrower scheme is based on “horticultural societies” where one outgrower manager manages the societies. Each individual society is managed by a “market intermediary” who is responsible for 10 cells of 40 farmers, each growing 12 trees each. Since 2009, Africado has identified the regions where for logistical reasons, most of the outgrower farmers will be recruited and set ambitious recruitment targets.

Annual outgrower recruitment targets



The outgrower scheme marries subsistence farming practices with commercial viability, enabling farmers to grow avocados as a cash crop for the European market. The scheme asks farmers to dedicate 20% of their farm for the production of avocados while enabling farmers to continue to grow traditional subsistence staple food crops on the remainder of their land. Optimal avocado tree spacing is 8 metres, during the maturing phase farmers are able to intercrop avocado trees with food crops. Once avocado trees are established, continued intercropping with leguminous crops is encouraged. Avocados are a seasonal crop and do not require excessive attention, leaving farmers significant time for alternative agricultural activities.

Africado has established a 10-year agreement with Westfalia to manage the marketing of its avocados to the European market. Westfalia is the biggest avocado grower and breeder of rootstock in Africa and is involved in marketing 15% of the avocados consumed annually in the European market (roughly 28,000 tonnes). Westfalia provide avocado rootstock (which are highly developed and disease resistant) and agronomic advice in exchange for project marketing rights.

#### **Governance**

Africado's current board members are Andrew Tillery (chairman), James Parsons (managing director), Leon Christianakis (director), Gorm Gundersen (director) and Tom Adlam (director / PCP).

#### **How the investment was structured**

The investment was a blend of both equity and debt investment. The equity investment consisted of US\$400,000 to purchase a 33.33% stake in the business. PCP also provided a further US\$500,000 in the form of a 10-year shareholder loan carrying an interest of 10%, rolled-up, compounded and payable at the end of the term.

#### **Post-investment growth**

Following PCP's investment in 2008, the company has expanded rapidly the number of hectares currently under plantation.

#### **Achievements (2008 to 2010)**

| <i>Item</i>                     | <i>Description</i> |                        |
|---------------------------------|--------------------|------------------------|
| Hass avocado – new planting     | 63 ha              | Under micro sprinklers |
| Hass avocado – new planting     | 27 ha              | Hand irrigated         |
| Coffee – rehabilitated          | 7 ha               | Overhead irrigation    |
| Williams banana – new planting  | 2.5 ha             | Overhead irrigation    |
| Mainline supply pipe 225mm (8") | 2,500 metres       |                        |
| Mainline supply pipe 90mm (4")  | 3,000 metres       |                        |

Africado's original investment plan included finding third-party investment to expand the hectares under cultivation, build a pack house and export centre for produce both from the nucleus plant and also outgrower relationships.

In 2009, PCP worked closely with Africado to obtain the investment and introduced the business to Norwegian investment house, Norfund. Norfund subsequently invested EUR 2,000,000 to acquire a 40% stake in the business. The new capital expanded the outgrower scheme, and number of hectares under cultivation.

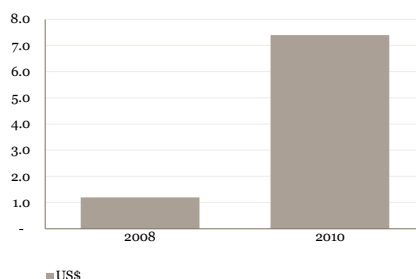
| <b>2011 Planting</b> | <b>Ha</b> |
|----------------------|-----------|
| Kifufu               | 34.3      |
| New Farm             | 17.3      |
| Total                | 51.6      |

## AFRICADO CONTINUED

Norfund's 2009 investment of EUR2 million values Africado's equity at (EUR5 million compared with PCP's valuation as of January 2008 of US\$1,231,230 (EUR822,575). Based on Norfund's valuation and PCP's diluted equity stake of 20%, the implicit cash on cash return to PCP is 3.5x.

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**Africado valuation increase**  
(based on Norfund follow-on investment)



The next stage of growth for the business is to find funding to complete the building of the pack and export house to meet expected outgrower supply. The company is already in discussion with several grant-based funders who are interested in partnering with Africado.

### Development highlights

*Local development* – despite benefitting from excellent resources in terms of soil, water and climate smallscale farmers have often failed to prosper because of lack of access to lucrative agricultural markets.

For example coffee, historically West Kilimanjaro's premier cash crop, in 2011 experienced a price spike following its near collapse in 2008, peaking at US\$4.5/ kg at auction. However, lack of infrastructure, poor pricing from merchants and co-operative malpractice, has resulted in smallholder farmers receiving only US\$2.2/ kg at farm-gate for their coffee production. The volatility of the coffee market has had a considerable detrimental effect on the regional economy.

Although the price per kg for coffee is still higher, yields for avocado are at least 7x higher than for coffee, providing more than 20% more income for avocados than for coffee, despite a recent rebound in coffee prices. Compounding this, inputs for avocado are far less than for coffee as pest and disease control requirements are lower.

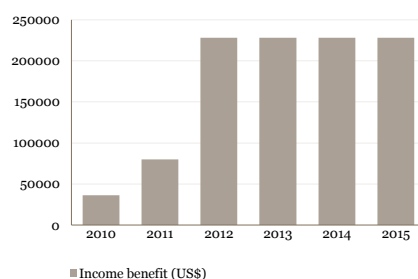
### Financial Impact

| <i>Crop</i>                           | <i>Coffee</i> | <i>Avocado</i> |                |
|---------------------------------------|---------------|----------------|----------------|
| <b>Yield (tonnes / ha equivalent)</b> | <b>0.5</b>    | <b>5</b>       | <b>8</b>       |
| Income / acre                         | 202           | 666            | 1,066          |
| US\$ / KG                             | 2.20          | 0.44           | 0.44           |
| Trees                                 | 51            | 12             | 12             |
| Net KG / farmer                       | 19            | 144            | 230            |
| <b>Total income (US\$)</b>            | <b>42</b>     | <b>52</b>      | <b>84</b>      |
| <b>TSX</b>                            | <b>66,880</b> | <b>83,895</b>  | <b>134,232</b> |
|                                       |               |                | <b>201,348</b> |

Africado’s outgrower scheme has provided access to international markets for a crop that was previously undervalued by local farmers who tended to throw excess stock away or use it for animal feed. With farmers receiving very little money at farm gate for ‘wild’ seedling avocados, the project will pay more than 4x the local price; combined with considerably higher yields and better agronomic management, returns per tree will be much higher than local avocados.

Through the nucleus orchard and pack house, each farmer is provided access to infrastructure (packing facility and logistical expertise), agricultural accreditation (compliance with Global GAP regulation), plant training and tree acquisition finance (US AID pay US\$2 subsidiary per plant which Africado matches). Each farmer within a nucleus is likely to grow at least 12 avocado trees. Once mature, each tree produces on average 345 kgs of avocado per annum, providing an income of US\$152. Applying this average income across the smallholder recruitment targets stated it amounts to US\$1,029,000 of value creation locally among smallholder outgrowers by 2015.

Annual smallholder income benefit projections



*Employment* – Africado currently employs 160 contracted employees and a further 100 casual staff. The nucleus orchard and pack house will create over 100 permanent jobs and a further 200 seasonally. In addition to this the outgrower scheme will provide further employment opportunities created by the smallholders within the outgrower scheme. Africado’s employees earn on average salary of US\$2.2 (TSX2700) per day as well as a weekly attendance bonus. The company also pays 20% national social security fund for its employees and the each permanent employee has the opportunity to gain performance related bonus which is usually 10% of annual salary.

*Environmental* – An avocado tree is a perennial tree crop and is therefore a significant carbon sink. With the development of the outgrower scheme Africado encourages small scale farmers to plant avocado trees, often replacing crops that have little or no environmental benefits such as maize and coffee.

Prior to Africado taking over Kifufu, the estate was denuded of trees. In the first phase 20,000 avocado trees were planted at Kifufu, a further 15,000 avocado trees will be planted in the second phase. Africado is also planting timber and windbreaks.

**Summary of development highlights:**

- Significant support from Africado through the outgrower scheme network
- By 2015, the company's outgrower scheme will include nearly 1,500 smallholder farmers
- Average income benefit per smallholder farmer is US\$152, resulting in over US\$200,000 of annual local income
- Africado currently employs 200 people which is likely to rise to 500 by 2013

**Realising value**

It's expected that PCP will exit from its investment in Africado through the maturity of the debt investment and by selling the equity, likely through the buy-back provision outlined in the original investment agreement which enables the sponsor to acquire the stake or any other interested third-party investor / trade buyer. As mentioned, PCP's investment return forecast is a 18% annual internal rate of return.

**Lessons learnt**

It is important not to be deterred from investing in start-ups if the investment meets three criteria. The first is that there is sufficient confidence in market demand for the product, the second is that the sponsor must have a successful and relevant track record in the type of activity (in most cases with a larger organization) and third, that the sponsor invests a considerable amount of his own capital in the business. All three criteria were met and the likelihood is that Africado will become one of PCP's most successful investments.

**Value added by Fund Manager**

PCP's investment was important in helping Africado go from concept to reality. At the time of investment, James Parsons had been unsuccessful in obtaining funding for his concept, the plan was either too risky or provided insufficiently exciting returns to entice larger investment houses.

PCP's investment provided further stability and credibility to the Africado project and was important to provide comfort for third-party investment from Norfund. PCP worked closely with both Africado and Norfund to secure the follow-on investment to help the business progress to the next stage of its development.

Since inception, Africado has operated with a compact management team. Day-to-day management is handled mainly through James with the support of an external finance professional. As a committed investor, PCP has spent considerable time and resource to work closely with James on both the financial and strategic direction of the business. PCP has also collaborated with James to ensure correct governance is followed, such as timely and quality financial reporting and the effective running of a board.

**AFRICADO**  
CONTINUED

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**Key facts**

|                            |  |
|----------------------------|--|
| Investment characteristics | <ul style="list-style-type: none"><li>– US\$400,000 equity investment to acquire 33.3% stake, subsequently diluted to 20%</li><li>– US\$500,000 10-year shareholder loan carrying 10% rolled-up interest</li></ul> |
| Outreach                   | <ul style="list-style-type: none"><li>– By 2015, Africado will positively impact nearly 1,500 smallholder farmers</li><li>– Average annual income of US\$152 per smallholder farmer</li></ul>                      |
| Social development         | <ul style="list-style-type: none"><li>– Annual income creation for local smallholder farmers will be US\$200,000 by 2012</li></ul>   |
| Business growth            | <ul style="list-style-type: none"><li>– Planted 110 hectares of Hass avocado orchards creating capacity for 1,700 metric tonnes of production</li></ul>  |
| Lessons learned            | <ul style="list-style-type: none"><li>– Don't reject start-ups out-of-hand if they meet certain criteria</li></ul>   |
| PCP value add              | <ul style="list-style-type: none"><li>– Invested when others would not and introduced company to third-party investor</li></ul>  |



## **BEE NATURAL UGANDA**

The leading producer of honey products in East Africa

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### **Bee Natural's reach**

- Bee Natural has become the leading honey business in East Africa
- The company's market share is 50% of the Uganda market
- Honey production and revenue has doubled in two years, 6x profit improvement in three years
- Provided US\$277,000 (UGX720 million) of additional income to farmers in the region since 2008
- 11% annual rate of return to PCP and investors

### **Investment overview**

In March 2008, PCP provided an US\$218,000 (UGX420 million) equity and debt investment to acquire Bee Natural's assets out of receivership. At the time of the investment, the business was no longer trading and with no buyers forthcoming, was likely to be broken up and its component parts sold.

PCP saw value in creating a leading Ugandan honey brand and the potential to establish a commercial honey industry in East Africa. With a proposed outgrower model, there was also considerable financial benefit to smallholder farmers in the region, who had previously relied on Bee Natural as a buyer, providing ancillary income to their existing agricultural practices. Other factors were taken into account such as the positive impact honey pollination has on other crop production; favourable global trends towards healthy eating and Europe's significant honey shortage. These provided sufficient evidence that Bee Natural could prove successful both domestically and through export.

The investment has helped create the leading honey business in East Africa, while providing smallholder farmers with an additional valuable source of income. At the time of investment, PCP was the only interested party to acquire the business. The projected return from this investment is 11% annual internal rate of return.

### **Business description**

Based in Arua, Northern Uganda, Bee Natural is the country's premier honey business. The company processes an average of 8.6 tonnes of honey per month which is roughly 50% of the estimated 15 tonnes of honey in Uganda's formal commercial honey market<sup>17</sup>. The company sells 3.5 tonnes per month to Kenya which is roughly 15% of the formal Kenyan commercial market. Operationally, the company sources all its raw produce from the Arua district and surrounding areas. It sources from smallholder farmers who, due to the low maintenance and small amount of space required, produce honey in addition to their other activities such as maize production. The company operates a small staff at the production plant and head office in Kampala, with 12 staff in total.

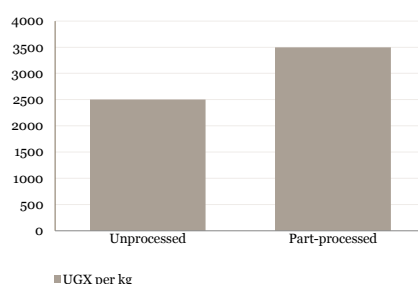
Bee Natural's product is recognized for its high quality and is typically consumed by middle income Ugandan and Kenyan families who use the honey as a sweetener or breakfast preserve.

<sup>17</sup> Market estimates from company management team and distributors

Domestic demand for honey currently outstrips supply. The challenge for Bee Natural is to obtain sufficient quantity of raw material from local smallholder outgrowers. To meet this challenge, PCP helped Bee Natural team up with grant funder, Kilimo Trust, to provide smallholder outgrowers with access to finance to acquire high performing hives such as Top Bar and Langstroths. Both hives produce greater quantity than traditional hives and in the case of Langstroths are able to have 3 harvests per year. The process is that Kilimo Trust guarantee the loan which is issued by Centenary Bank. Bee Natural pay cash on delivery by depositing money into Centenary Bank with the bank withholding some of the capital to repay the loan (on agreed terms) with the remainder paid out to the smallholder.

Bee Natural sources its produce from approximately 3,800 smallholder outgrowers and it is expected that the existing smallholder network will increase production capacity to help meet consumer demand. Bee Natural is working with its outgrowers to encourage them to “part process” (remove bees) the honey before delivering it to Bee Natural, greater income is available for part processed honey. Outgrower suppliers are generally low income families, usually earning between UGX30-50,000 and typically supporting large families.

2011 honey pricing



### Governance

The company’s board includes Maria Odido (chief executive officer), Sabiiti Kisebo (chief operating officer), Anne Abeja (company secretary, legal background), Dr Salim Nahdy (agricultural expert), Isaac Sseguya (chairman, accountancy background) and Patrick Oketa (director, PCP).

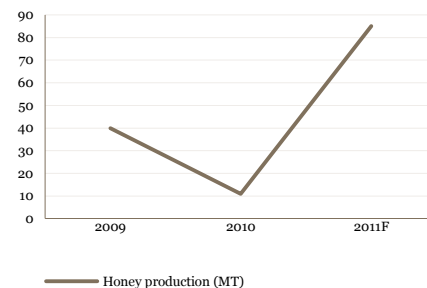
### How the investment was structured

The US\$218,000 investment was a blend of both equity and debt instruments involving UGX160 million to purchase a 33.33% stake in the Company; as well as UGX260 million 5 year shareholder loan carrying a fixed interest rate of 9% per annum plus an interest premium payment of 14% of annual earnings before interest, tax, amortization and depreciation. PCP used an external due diligence provider (ASPS Uganda) to complete an analysis of the business prior to investment. The analysis included an evaluation of the company’s growth strategy, current financials, management structure and buyer relationships / contracts. Critically, the analysis included identifying the root cause of why the business had failed previously. The analysis concluded that this was primarily due to Bee Natural’s inability to service its debt, mainly because the debt instrument was ill suited to the needs of an agricultural start up. The terms of the PCP debt structure are more appropriate for Bee Natural’s business. Despite this, Bee Natural’s risk characteristics are higher than other investments in the PCP portfolio.

### Post-investment growth

After initial strong levels of production in the first year, the company's production was adversely affected in the second year by regional drought. Conditions improved significantly in year three and the company increased production back to near original investment expectations.

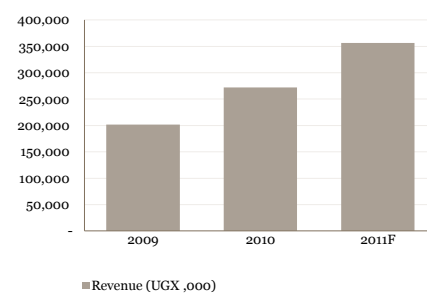
Bee Natural post-investment production



Steps have been taken in the last year to reduce production volatility, such as improving the productivity of the current outgrower programme. A separate team has been set up to improve outgrower relationships, increase the number of participating outgrowers using the Kilimo Trust/ Centenary Bank finance programme, increasing per outgrower production. The company has looked to reduce risk by setting up improved logistics to make it easier for farmers from neighbouring districts to the supply Bee Natural.

Bee Natural's turnover performance does not correlate exactly with production levels; this is mainly due to excess stock in the first year of trading being sold the following year.

Bee Natural revenue growth post AAC investment



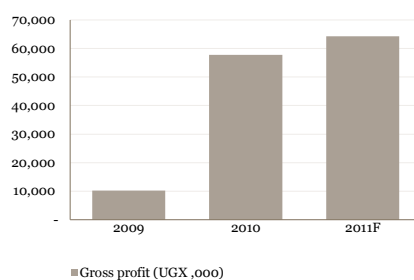
## BEE NATURAL UGANDA

### CONTINUED

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Bee Natural is becoming more profitable. When setting up the business Maria Odido spent considerable time to identify and invest in the best production equipment, importing machinery from Northern Europe. The set up costs for this were considerable but PCP and Maria Odido believed that if they were to create an industry leader, it was critical to incorporate the best practices from the outset. The company is now realizing the cost benefit from this as well as the fact it can manage production using a small core team.

**Bee Natural gross profit post AAC investment**



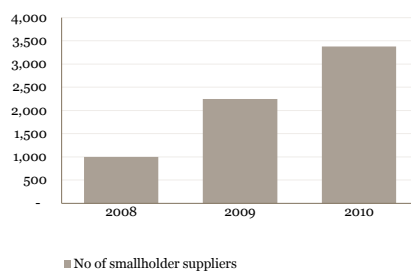
As well as increasing honey production, the company has expanded its product range beyond standard jarred honey. New products include: “chunk’ honey (blend of soft honey and comb), cream honey (churned honey) and several bee wax products such as candles and sculptures. The bee wax products in particular provide an attractive revenue stream as the wax is a natural by-product of the honey making process and can be acquired cheaply. Bee Natural plans to capitalize on healthy eating trends among East-African middle income families; combining its product with fruit and nuts and other high energy health foods.

### **Development highlights**

*Outgrower development* – according to Arua Rural Community Development (ARCD), 95% of households in Arua rely on subsistence farming as the principal livelihood. Production in the region consists of Tobacco (British American Tobacco are one of the largest local employers), cotton (although production has decreased significantly in recent years due to marketing issues) and coffee. Food crops include cassava, millet, sorghum, maize, groundnuts, beans, peas, sweet potatoes and rice. Due to poor infrastructure, energy access and capital, Arua has been unable to attract many large corporate companies which has hampered the economic growth of the region. As well as this, according to the ARCD, local farmers have been unable to access additional revenue streams for their farming activities. Over the last 3 years, the mobilization of the honey industry has positively affected the local economy. Farmers can now sell either directly to Bee Natural or if they are in remote areas, to intermediaries who will most likely supply Bee Natural. Bee Natural is the only entity that guarantees to buy at market price and quantity as well as paying full cash on delivery.

This commitment to its outgrower suppliers has resulted in Bee Natural tripling the number of its outgrowers in the past 3 years. **43**

**Bee Natural's outgrower growth since AAC investment**

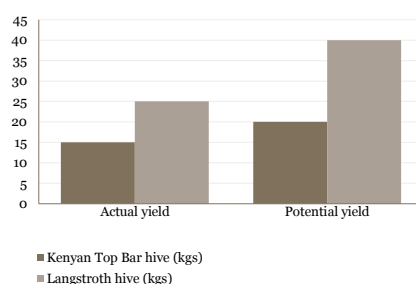


In addition to Bee Natural's commitment to buy, the company has put in place significant supporting resource to its outgrowers. Bee Natural employs a team of overseers whose remit is to manage the network outgrower farmers. Individual farms have been put into groups of farms with a farm representative. The representative is given sufficient apiary training to help others farmers increase production. Individual outgrowers are visited either directly by Bee Natural or a farm group representative.

Ascertaining exact additional income figures for all outgrowers is difficult. However, we are able to use base case performance of the various mature hives (hives typically take 2-3 years to reach maturity) combined with the typical size of an outgrower.<sup>18</sup>

The average production from a non participating outgrower who uses a local hive is around 5kgs of honey per hive per season. Whereas participating farmers, who have access to apiary training and higher performing hives, is considerably more.

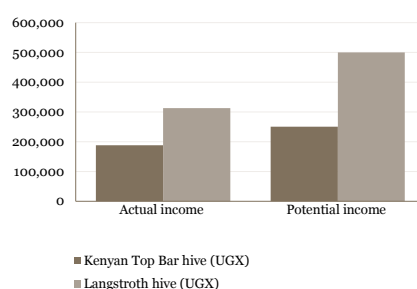
**Participating outgrower yield benefit**



<sup>18</sup> number of hives operated / 2011 honey price figures

A typical smallholder outgrower using 5 local hives, produces 25kgs of honey per season which is US\$24 (UGX 62,500) per season<sup>19</sup> (using local hives). Participating farmers who use higher performing hives can expect to achieve substantially more income.

**Bee Natural participating outgrower income benefit**



Honey production does not require significant time or land resource. To maintain five hives typically requires about four hours per week maintenance. The hives can be set up on existing land, while honey production is complimentary to other farming activities, enhancing surrounding area pollination.

As mentioned, typical monthly income for local farmers is between US\$12-19<sup>20</sup> (UGX30-50,000), meaning base case estimates suggest outgrowers can earn between 30-50% more annually from honey production.

Between 2008 and 2011, Bee Natural has paid local suppliers nearly US\$277,000<sup>21</sup> (UGX720,000,000) for its supply of honey. If honey demand is maintained (which current trends suggest) and outgrower production continues, Bee Natural will be producing 100+ tonnes of honey per annum. They will triple Bee Natural's contribution to the local economy within the next 2-3 years.

*Employment* –Bee Natural's core team of 12 production staff are all fully trained in quality control standards through external training provided by both the Ugandan National Bureau of Standards and Kilimo Trust. The senior operational team receives external management training. All staff are paid market rate and above; all receive additional performance related pay which is usually the equivalent of an additional month's salary.

**Summary of development highlights:**

- Bee Natural benefits on average 3,800 subsistence farmers annually
- Average annual income benefit per smallholder farmer is US\$24
- Bee Natural has paid nearly US\$277,000 to local smallholder farmers since 2008

<sup>19</sup> 2011 pricing (UGX 2500 per kg for unprocessed honey)

<sup>20</sup> 2011 currency conversion

<sup>21</sup> 2011 currency conversion

### **Realizing value**

It is expected that Bee Natural's growth will be driven on the supply side as the company looks to meet current East African honey demand. The relationship with Kilimo Trust is important, providing existing and new outgrowers with finance to acquire more and better performing hives. Of the 3,800 outgrowers, 750 are core suppliers which have the potential to produce an average 120kgs of honey per annum. Bee Natural is eventually aiming to increase annual production to as much as 250 tonnes per annum which current estimates suggest can be supported by existing demand in Kenya and Uganda as well as further geographic expansion in Rwanda, Southern Uganda and Eastern Congo.

### **Lessons learnt**

The creation of such a dominant market player poses significant challenges in terms of realizing the investment in Bee Natural Uganda. The likely trade sale will need to come from a larger international food processor that is able to achieve the marginal production synergies.

The key lesson is around the terms of the investment and the need to put in place a structure that incentivizes the sponsor to realize PCP's investment at a faster rate.

### **Value added by Fund Manager**

PCP invested in Bee Natural when others would not. The business, in its previous structure had failed and due to the fact that this was an agricultural business, operating in an immature sector with limited commercial players, meant that the investment was highly unattractive to potential investors.

Setting up the business the correct way – PCP backed female entrepreneur Maria Odido to do things the right way the second time round. They put in place the correct debt structure for the business, invested in the appropriate production machinery to create capacity for a much larger business and recruited an excellent board that each brought something additional to the business.

As well as strategic and financial support, PCP also supported the business through providing a short term credit facility during the second-year drought when the company experienced significant working capital issues.

**Key facts**

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|                            |  |
|----------------------------|--|
| Investment characteristics | – US\$218,000 investment to purchase a 33.33% stake , including UGX260 million 5 year shareholder loan carrying a fixed interest rate of 9% per annum plus an interest premium payment of 14% of annual earnings |
| Outreach                   | – Bee Natural sources its produce from nearly 3,800 smallholder farmers who each earn an average of US\$24 per annum   |
| Social development         | – Bee Natural has paid local suppliers nearly US\$277,000 since 2008   |
| Business growth            | – The company has more than doubled annual production<br>– Increased turnover by 40% and improved profit margins by 6x   |
| Lessons learned            | – Structure future investments so that they incentivise the sponsor to realize the investment at a faster rate   |
| PCP value add              | – Invested when other investors would not, expanded capacity for future production growth  |

---



### **Agriculture in East Africa, a personal perspective**

While completing the study, I travelled extensively throughout East Africa. It quickly became clear how important agriculture was to the region.

Agriculture permeates through all tiers of the economy from large businesses, to SMEs and the individual activities of smallholder farmers, both urban and rural.

Agriculture is a key part of the region's heritage and offers in many ways the clearest route to future economic development. I saw how the emergence of stable and sound agri-businesses have directly and indirectly improved infrastructure, developed affordable and better-performing agri-products, increased employment and provided the link to larger commercial markets.

I interviewed a number of people connected to the 5 investee companies and they each gave their views on how they had benefitted.

*Bbosa John-Baptiste* – an outgrower who has supplied Naseco exclusively for nearly 8 years.

John-Baptiste receives agricultural training from Naseco on how to plant, weed and harvest seed and also receives a commitment from Naseco to acquire all his seed at or above market rate.

Supplying Naseco has enabled John-Baptiste to gradually increase the size of his farm from 1-2 acres to 10 acres in the last 8 years. The additional income from the land has mainly been spent on school fees for his 12 children; his eldest child is currently studying agriculture at university, the cost of which is just over UGX6 million per annum. This is John-Baptiste family's first generation that has had access to formal education. John-Baptiste hopes that his son will return to manage the farm, increasing its size to become a major outgrower to Naseco.

*Kyomuhendo Monica* – finance assistant at Naseco, worked at the business for nearly 3 years.

In her previous role, Monica received a monthly salary of UGX400,000, on joining Naseco her monthly salary increased to UGX600,000. She receives external training to achieve a Diploma in Accountancy.

Monica says she feels more secure in this role and is able to plan her finances more effectively. The additional money is helping to acquire more land for her family and housing improvements.

*Frederick Chipondo* – smallholder farmer who uses Western Seed.

Chipondo owns four acres of land, 2.5 of which are used to produce maize. With other seed varieties, he used to yield 10-12 bags of maize per harvest with Western Seed he regularly produces 20-25 bags of maize.

The additional income from selling the excess maize is spent on school fees for his 4 children.

*Felix Aeyaa* – honey outgrower for Bee Natural Uganda.

Aeyaa receives apery training from Bee Natural such as queen rearing and hive management. Finance for the better performing hives came from Bee Natural's financing arrangement with the Kilimo Trust and Centenary Bank.

Honey production provides his family with an additional 20% of income while helping pollination of his other crops. The extra income is used solely for school fees for his 6 children.

### **Paul Fletcher, editor**

An example of the quantitative and qualitative management team questions

**Qualitative**

1. Business and history
  - a. Walk us through a brief history of the business before AAC's involvement
  - b. Walk us through briefly what the business does and what differentiates it from its competitors
  - c. What are your growth aspirations for the business?
  - d. What is the overall strategy for the business?
  - e. Has your strategy changed since AAC's involvement?
  - f. Which markets do you operate in and have you expanded the number of markets which you operate in since AAC's investment?
  
2. AAC's investment
  - a. How did you come across AAC?
  - b. How did the business finance growth prior to AAC's involvement?
  - c. What were your financing needs and what alternatives did you have at the time?
  - d. Why was AAC your chosen partner?
  - e. How was the deal with AAC structured? Was any equity taken by AAC?
  - f. What due diligence did AAC perform?
  - g. How did you use the capital that was invested?
  - h. Was there an agreed business plan prior to the investment and how was this discussed / agreed?
  - i. Have you brought any other investors on board since AAC's involvement? If so, please talk us through the process?
  
3. Market
  - a. Can you give a brief overview of the market in terms of size and competition?
  - b. Has the company generated a new market?
  - c. How has the market changed since AAC's investment? Has this change been in response to the company's activities in:
    - i. Pricing
    - ii. Quality/service
  - d. What was your market position at the time of AAC's investment and what it is now?

4. Customers & suppliers
  - a. Can you describe the characteristics of your typical customer?
    - i. Type of business, size
    - ii. Buying behaviour
  - b. What are the benefits to your customers of dealing with you?
  - c. What are the benefits to your smallholder/outgrowers of dealing with you?
  - d. Can you describe the characteristics of your typical supplier?
  - e. What proportion of your purchases are from smallholders?
  - f. How many of your suppliers did you provide trade credit to at time of AAC investment and how much do you do now?
  - g. Do you provide your customers and suppliers with access to new technology or products?
  - h. Are there any other benefits to your customers as a result of your relationship e.g training?
  - i. Are there any other benefits to your smallholder / outgrower as a result of your relationship e.g training?
  - j. Have you or the suppliers you work with obtained any product certification / verification based on how it was made, its content, labour or environmental practices e.g. ISO certification.
5. Employees
  - a. What non-salary benefits do you provide to your employees and has that increased since AAC's investment?
  - b. Do you have HR and health & safety policies in place?
  - c. How does your salary and benefits package compare to the market?
  - d. Do employees share in success through bonuses/ options?
6. Community
  - a. Describe your local community in terms of employment and economic situation.
  - b. What impact has the business had on the local community?
  - c. Is there any charity donations/activities performed by the company?
7. Environment
  - a. Is there an environmental policy in place and was there one at the time of AAC's investment?
  - b. Is there positive environmental impact from your business?

8. Reporting
  - a. Who is in the finance team and how has it developed?
  - b. How often do you produce management accounts?
  - c. How often are financial reports/management accounts shared with AAC?
  - d. Has the frequency/content changed at all since AAC became involved?
  - e. What information do you use to manage the business, are there any key metrics you particularly look at? How do you manage cash?
  - f. Are your annual accounts audited? Were they audited prior to AAC's involvement?
  - g. Do you set an annual budget, how is it put together? What involvement does AAC have in the budgeting process?
  - h. Do you have any anti-corruption policies/financial controls to prevent bribery/corruption?
  
9. Management
  - a. Who are the key members of the management team? How long have they been with the business?
  - b. Have AAC encouraged any further recruitment into the management team?
  
10. Board and Governance
  - a. Who sits on the board of the company?
  - b. Is there a Chairman – what role does he play?
  - c. Has the board been strengthened as a result of AAC's involvement?
  - d. How often does the board meet?
  
11. Relationship with AAC
  - a. How would you characterize AAC as an investor?
  - b. What do you view AAC's style as?
  - c. How often do you speak with the team at AAC?
  - d. What is AAC's day to day involvement?
  - e. What are AAC particularly good at?
  - f. Would you like to see any improvements in the way AAC do things?
  - g. What do you think makes AAC different to other investors you have come across?
  - h. How often do you discuss your strategy with AAC and what is their involvement in setting the strategy?
  - i. Has AAC offered you or encouraged the use of external operational experts?
  - j. Has AAC helped with establishing customer and supplier relationships?
  - k. Are there any restrictions on the way you run your business due to AAC's investment?

Employee questions:

1. Do you know the company's mission statement?
2. What was your previous job?
3. How much were you paid?
4. How much are you paid now?
5. What other benefits do you receive?
6. How secure do you feel in your job?
7. How has your employment with the company changed your situation?

Smallholder / outgrower questions:

1. How long have you supplied x?
2. Have your volumes increased over time?
3. Do you have confidence that you will have a buyer?
4. Has your relationship resulted in consistent orders and pricing with X?
5. What is the benefit of supplying to X versus other potential customers?
6. Has the additional revenue from X enabled you to invest further in your business? If so, in which of the following ways:
  - a. Recruit more staff
  - b. Invest in machinery
  - c. Invest in training
7. Has the additional revenue from X enabled you to invest in the community? If so, estimate how much?
8. Estimate how many families have benefited from the additional revenue from X.

Smallholder customer questions:

1. How long have you been a customer of x?
2. Have your volumes increased over time?
3. Do you have confidence that you will have a supplier?
4. Has your relationship resulted in consistent orders and pricing with X?
5. Have your yields increased over time?
6. Has the relationship with X enabled you to invest further in your business? If so, in which of the following ways:
  - a. Recruit more staff
  - b. Invest in machinery
  - c. Invest in training
7. Has the relationship with X enabled you to invest in the community? If so, estimate how much?
8. Estimate how many families have benefited from your relationship with X.

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**CONTINUED**

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**Quantitative**

**Business and history**

1. Can you provide a breakdown of revenue by product?

| Product   | Name | Year introduced | Revenue<br>UGX |
|-----------|------|-----------------|----------------|
| Product 1 |      |                 |                |
| Product 2 |      |                 |                |
| Product 3 |      |                 |                |
| Product 4 |      |                 |                |
| Product 5 |      |                 |                |

2. In percentage terms where is your revenue derived from?

|                | Time of AAC investment | 2010 |
|----------------|------------------------|------|
| In country     |                        |      |
| East Africa    |                        |      |
| Rest of Africa |                        |      |
| Rest of world  |                        |      |

**Market**

1. What is your estimate of market size and your share?
2. What units does the investee measure the market in (UGX/US\$/tonnes of product)?

|                   | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|-------------------|------|------|------|------|------|------|------|
| Market Size       |      |      |      |      |      |      |      |
| Investee          |      |      |      |      |      |      |      |
| Competitor 1      |      |      |      |      |      |      |      |
| Competitor 2      |      |      |      |      |      |      |      |
| Competitor 3      |      |      |      |      |      |      |      |
| Competitor 4      |      |      |      |      |      |      |      |
| Total market size |      |      |      |      |      |      |      |

**Customers and suppliers**

1. What is your customer profile?

|   | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|------|------|------|------|------|------|
| No of ADs                                     |      |      |      |      |      |      |
| No of NGOs                                    |      |      |      |      |      |      |
| No of government programmes                   |      |      |      |      |      |      |
| Total value of sales to ADs                   |      |      |      |      |      |      |
| Total value of sales to NGOs                  |      |      |      |      |      |      |
| Total value of sales to government programmes |      |      |      |      |      |      |
| Total sales                                   |      |      |      |      |      |      |

|  | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|--|------|------|------|------|------|------|
| No of smallholder customers affected           |      |      |      |      |      |      |
| Total value of purchases by smallholders (UGX) |      |      |      |      |      |      |

2. What are yield benefits to smallholder customers?

| Commodity | Potential yield | Actual yield | tonnes/ha<br>Yield of non-participating farmers |
|-----------|-----------------|--------------|---|
| Maize     |                 |              |   |
| Rice      |                 |              |   |

3. What is the income benefit to average smallholder customers?

| Commodity | Potential income | Actual income | US\$<br>Yield of non-participating farmers |
|-----------|------------------|---------------|--|
| Maize     |                  |               |  |
| Rice      |                  |               |  |

4. What is the combined additional income to all smallholder customers?

|      | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|------|------|------|------|------|------|------|------|
| US\$ |      |      |      |      |      |      |      |

APPENDIX  
CONTINUED

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**Suppliers**

5. How many suppliers do you have?

|                           | Time of AAC investment | 2010 |
|---------------------------|------------------------|------|
| Smallholders / outgrowers |                        |      |
| Other suppliers           |                        |      |

6. What is the rough percentage of your total cost base spent in:

|                     |  |
|---------------------|--|
| The local community |  |
| Rest of the country |  |
| Rest of East Africa |  |
| Rest of the world   |  |

7. What is the value of payments to smallholders/outgrowers?

|  | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|--|------|------|------|------|------|------|------|
| Total value of payments to all suppliers |      |      |      |      |      |      | UGX  |
| Total value of payments to smallholders  |      |      |      |      |      |      |      |

8. What is the total income benefit to smallholder outgrowers?

|      | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|------|------|------|------|------|------|------|------|
| US\$ |      |      |      |      |      |      |      |

9. How stable is the buying/selling price for smallholders?

|            | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011   |
|------------|------|------|------|------|------|------|--------|
| Maize      |      |      |      |      |      |      | UGX/kg |
| Rice       |      |      |      |      |      |      |        |
| Beans      |      |      |      |      |      |      |        |
| Groundnuts |      |      |      |      |      |      |        |



**Employees**

1. How many employees do you have and what are your wage costs?

|                       | Time of AAC investment | 2010 |
|-----------------------|------------------------|------|
| Number of employees   |                        |      |
| Total wage cost       |                        |      |
| Basic contracted wage |                        |      |
| Basic casual wage     |                        |      |

2. What is the gender mix?

| Year       | 2006 |   | 2007 |   | 2008 |   | 2009 |   | 2010 |   |
|------------|------|---|------|---|------|---|------|---|------|---|
| Gender     | M    | F | M    | F | M    | F | M    | F | M    | F |
| Contracted |      |   |      |   |      |   |      |   |      |   |
| Casual     |      |   |      |   |      |   |      |   |      |   |
| Total      |      |   |      |   |      |   |      |   |      |   |

**Community**

1. Estimate the number of hectares of land affected by the business?

|                        | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|------------------------|------|------|------|------|------|------|------|
| Outgrowers             |      |      |      |      |      |      |      |
| NASECO farm            |      |      |      |      |      |      |      |
| Other 1000 contracted  |      |      |      |      |      |      |      |
| Customers              |      |      |      |      |      |      |      |
| Maize                  |      |      |      |      |      |      |      |
| Rice                   |      |      |      |      |      |      |      |
| G-nuts, Beans, Sorghum |      |      |      |      |      |      |      |
| Total                  |      |      |      |      |      |      |      |

APPENDIX  
CONTINUED

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**Business and Financial Performance**

Investee company:

Year end:

Currency:

Date of Investment:

Original AAC investment:

Source: 200X/200X Audited accounts  
2011 Budget

|                         | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011B |
|-------------------------|------|------|------|------|------|------|-------|
| <b>Sales</b>            |      |      |      |      |      |      |       |
| volume (MT)             |      |      |      |      |      |      |       |
| % Growth                | (%)  | (%)  | (%)  | (%)  | (%)  | (%)  |       |
| <b>Production</b>       |      |      |      |      |      |      |       |
| volume (MT)             |      |      |      |      |      |      |       |
| % Growth                | (%)  | (%)  | (%)  | (%)  | (%)  | (%)  |       |
| <b>Hectares</b>         |      |      |      |      |      |      |       |
| % Growth                | (%)  | (%)  | (%)  | (%)  | (%)  | (%)  |       |
| <b>P&amp;L</b>          |      |      |      |      |      |      |       |
| <b>Turnover</b>         |      |      |      |      |      |      |       |
| % Growth                | (%)  | (%)  | (%)  | (%)  | (%)  | (%)  |       |
| <b>Gross profit</b>     |      |      |      |      |      |      |       |
| % Margin                | (%)  | (%)  | (%)  | (%)  | (%)  | (%)  |       |
| <b>Operating Profit</b> |      |      |      |      |      |      |       |
| % Margin                | (%)  | (%)  | (%)  | (%)  | (%)  | (%)  |       |

**APPENDIX**  
**CONTINUED**

**Cashflow**

---

Depreciation

---

Prior year adj

---

Deferred inc realised

---

Loss on sale of assets

---

Movement in Stock

---

Movement in Debtors

---

Movement in Creditors

---

Capex

---

Operating cash flow

---

Tax paid

**Balance Sheet**

---

Total Assets

---

Of which Bank and cash

---

Current liabilities

---

Dividends payable

---

Funding

---

Conversion loan

---

UKS loan

---

AAC loan

---

Share Capital

---

P&L

---

Share premium

---

Check

---

Net Assets

---

EBITDA

### Methodology

Where possible the study tries to provide exact and quantifiable data to support the financial growth and social impact of the five investee businesses. However, as stated in the executive summary, obtaining data to accurately quantify wider social impact is sometimes impossible. To provide a fuller picture of the wider impact of the investments, educated assumptions have been applied using investee management team and key stakeholder input.

### Executive Summary

- US\$6,213,000 projected return to investors:  
Based on PCP's contractual debt provision and the call options held within the equity agreements outlined at the time of the original investment.
- US\$370 million additional wealth creation in East Africa from core activities:  
The study estimates direct impact of the individual investee core activities in generating additional income to the local economy, particularly those associated with smallholder farmer customers<sup>22</sup>. The study does not include Africado's income creation impact as this has not been materially realized or quantify income figures for ancillary businesses / sub-sectors as this would go beyond reasonable assumptions.
- Further detail on the individual company value creation is available in the case studies and later in this methodology section.

A breakdown of investee income creation

|              | Investment       | Direct impact from core activities |
|--------------|------------------|------------------------------------|
| Africado     | 900,000          | -                                  |
| Africert     | 100,000          | 117,000,000                        |
| Bee Natural  | 218,000          | 277,000                            |
| Naseco       | 350,000          | 173,358,000                        |
| Western Seed | 1,000,000        | 79,680,352                         |
| <b>Total</b> | <b>2,568,000</b> | <b>370,315,352</b>                 |

144x multiplier effect

- Positively impacting 1.4 million families in East Africa:  
The study estimated the number of smallholder farmers that currently benefitted from the five investee companies core activities rather than including the likely estimated number once all companies achieve further growth.

|              | Existing smallholders | Projected smallholders |
|--------------|-----------------------|------------------------|
| Africado     | -                     | -                      |
| Africert     | 500,000               | 1,000,000              |
| Bee Natural  | 10,000                | 15,000                 |
| Naseco       | 600,000               | 800,000                |
| Western Seed | 280,000               | 350,000                |
| <b>Total</b> | <b>1,390,000</b>      | <b>2,165,000</b>       |

<sup>22</sup> Combines annual income creation totals since PCP's investment

- 30% turnover increase across all:  
The information was taken from each investee company's annual audited accounts.
- 170% profit improvement:  
The information was taken from each investee company's annual audited accounts.
- 15% customer growth:  
The information was taken from each investee company's annual audited accounts.
- Estimated 684,166 smallholder farmers benefited at the time of the initial investment, increased to 1,034,549 in 2011, a 51% increase:  
The methodology outlined below was applied to estimate number of smallholder farmers benefitting at the time of investment and last financial year.
- The number of suppliers to investee companies has increased from 1590 at the time of investment to 5625 in 2011, a 254% increase:  
The supplier information was provided by the management teams of each of the five investee businesses.

#### **Africert**

Estimated number of smallholders receiving certification:  
The information was provided by the Africert management team after reviewing company records of individual certificates issued; 370,000 smallholder farmers received annual certification from Africert since 2007.

- Income benefit per smallholder farmer:  
To estimate overall income benefit, the study used The International Institute for Environment and Development's estimation of the individual average smallholder income benefit from GlobalGAP (Africert's most frequent certification), which is £200 per annum, applied the appropriate annual dollar exchange rate since 2007 and extrapolated this across 370,000 smallholder farmer certificates issued.

#### **Naseco**

- Naseco seed yield benefits:  
Estimates provided by the Naseco management team who have completed extensive trials to quantify yield benefit of their seeds versus farm-saved seed.
- Estimated number of smallholder farmers using Naseco seed:  
A significant quantity of Naseco seed is sold through intermediaries and Naseco does not keep records of all its smallholder customers. The study used management estimates, gained from direct sales and discussions with intermediaries, of the average annual smallholder consumption and divided this from Naseco's annual production - 2,476,534 smallholder farmers used Naseco seed since December 2006.
- Per annum, per-smallholder income benefit from Naseco seed:  
The study used Naseco seed yield benefit data to estimate annual income benefit versus farm-saved seed - US\$70 per annum per small holder farmer.
- Combined additional income to all smallholder benefits:  
The study used typical annual yield benefit per smallholder farmer and extrapolated this across all smallholder customers ie, 2,476,534 received US\$70 annual income benefit since December 2006 = US\$173,357,380.

**Western Seed**

The study used the same methodology applied to Naseco, the only variable was the yield estimates provided by the Western Seed management team, outlined in the study ie, 847,633 smallholder farmers receive annual income benefit of US\$94 = US\$79,680,352.

**Africado**

None required – statistics were projected and not used or from audited management accounts.

**Bee Natural Uganda**

- Bee hive income benefit:  
The study used estimates provided by the Bee Natural management team on base case performance of Top Bar and Langstoth hives versus traditional hives.
- Estimated number of smallholder suppliers:  
Information provided by Bee Natural's management team using its smallholder outgrower network data – 3,900 smallholder farmers.
- Estimated income benefit for a typical supplier:  
Bee Natural paid its honey outgrower suppliers US\$277,000 since 2008.

## NOTES

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