



CONNECT TO GROW

Supporting enterprise growth through innovation and partnership

Learning report

**Indian enterprise innovations enable
growth of African & south Asian SMEs**

April 2018

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1. Introduction

Connect to Grow (Connect) was a three year, DFID-funded programme that began in May 2015 with the overarching objective of “leveraging Indian expertise to help generate new solutions to tackle entrenched global challenges” and the more specific objectives of “building partnerships to facilitate diffusion of Indian innovations in selected low income countries [...] based on demand identified in the health and agri/food sectors”. We interpreted this to mean that there was a desire to support SME growth, through innovation transfer and partnership, that could lead to development impact in the agriculture and health sectors in sub-Saharan Africa and south Asia. We delivered this by facilitating partnerships between enterprises in sub-Saharan Africa and south Asia that had identified a market need and were seeking to grow, and enterprises in India with an innovation that could address that need and had a desire to enter new markets. Connect focused its support on the enterprises from sub-Saharan Africa and south Asia that had the ideas and determination to grow through partnership and innovation, and provided them with bespoke technical assistance and grant funding to:

- Find suitable Indian enterprises for mutually beneficial partnerships
- Develop a partnership & implement a pilot venture
- Access finance & create a plan to scale up & deliver greater social impact

Connect recognised that it was charting new territory in the development sector. While numerous initiatives exist that support SME growth and some that support either partnership or innovation transfer between enterprises, no other programme had focused on the mechanisms of innovation and partnership as a means to SME growth. Connect was unique in requiring prospective applicants to articulate a clear market opportunity, that is, to be clear about the demand for new or different products or services, before we began searching for an innovation that could fulfil that need. As a result, the Connect team had little to guide its process in terms of lessons and evidence from other programmes. The Connect to Grow Baseline Report reviewed the landscape of existing initiatives in this space and underlines this fact.¹

The programme, therefore, had to ‘learn by doing’ and to record lessons and insights along the way. We have previously published two interim learning snapshots, one focused on lessons from working with African and south Asian (A/SA) businesses and the other from working with Indian businesses.² This, final, learning report pulls together lessons from those two earlier reports but goes rather further in drawing conclusions from our work over the last three years.

Section 3 outlines the rationale that underpinned Connect to Grow, describes the Theory of Change and the process we put in place to implement the programme objectives.

Section 4 talks about the parameters within which the programme worked and the manner in which we defined and adapted to these.

Section 5 provides an overview of the programme portfolio delving into the data to demonstrate from where the enterprises came, their size, and the sub-sectors in which they were seeking innovation.

¹ Connect to Grow. 2016. *Supporting SME growth through innovation and partnership – a review of the landscape* London: Connect to Grow. See <http://bit.do/ConnectBaseline>

² Connect to Grow. 2017. *Lessons from supporting African and south Asian enterprises to grow through partnership & innovation* London: Connect to Grow. See <http://bit.do/ConnectLearningSnapshot>

Connect to Grow. 2017. *Lessons from engaging with Indian enterprises for potential partnerships with African and South Asian enterprises* London: Connect to Grow. See <http://bit.do/ConnectIndiaSnapshot>

Section 6 looks at how the mechanisms of innovation and partnership played out for the pilot ventures and what factors impacted how partners worked together and innovation transfer took place.

Section 7 focuses on how the outcomes and impact of the programme were measured across three areas (1) commercial results (2) development results and (3) value of Connect support and the effectiveness of the Connect model. The future of the pilot ventures is also covered here.

Section 8 offers some further lessons and insights from the considerable time we spent engaging with SMEs, specifically outlining the support enterprises needed most and lessons learnt from enterprises that dropped out of the programme.

2. Programme logic & approach

2.1 SMEs innovate and fill unmet needs

In addition to defining the overall objectives, DFID set a challenge to “design technical assistance grants to develop at least 10 new inclusive innovation pilot partnerships between India and LICs” in the agri/food and health sectors and to deliver a minimum of five scalable proofs of concept from across at least three low income countries. The availability of budget led us to conclude that the programme would be unlikely to be of interest to larger companies and thus that our focus should be on small and medium enterprises (SMEs) actively seeking growth. However, there are also positive reasons for supporting SMEs. There is considerable evidence that SMEs can make a difference:

- SMEs are widely accepted as an engine of economic growth and poverty eradication in the world, particularly in emerging economies.³ And many national governments, development banks and donor agencies prioritise SME support as part of their strategies for economic growth.
- The SME sector is gaining increasing recognition as a driver of social solutions. Impact oriented SMEs provide goods and services to low income populations at the base of the pyramid (BoP) and tackles problems such as lack of sanitation, inadequate healthcare and lack of access to energy.⁴
- Despite their potential for innovation and their contribution to job creation and social solutions, SMEs face a raft of barriers when they attempt to grow. Lack of access to finance is one: the World Bank estimates that 50 per cent of formal SMEs do not have access to formal credit. They estimate the credit gap for formal businesses alone in developing countries to be US\$1.2 trillion.⁵
- Evidence at the firm level, however, highlights the considerable amount of innovation that takes place informally in the south and the relevance of innovation to SMEs.⁶ Indeed, in emerging economies, a majority of enterprises are involved in some form of innovation.⁷
- Innovation is central to the ability of an enterprise to exploit a new market opportunity and grow.

³ World Bank. 2013. *Evaluation of the World Bank Group's targeted support for small and medium enterprises*. Independent Evaluation Group (IEG) approach paper. Washington DC: World Bank. <http://iga.fyi/wbsme>

⁴ See *Snapshot on African and South Asian enterprises* at <http://iga.fyi/lessons1>; also see Moreno, C.N. & Agapitova, N (2017) *Emerging social enterprise ecosystems in east and south African countries*, Washington DC: World Bank (at <http://iga.fyi/wbse>)

⁵ World Bank. 2015. *Small and Medium Enterprises Finance*. Washington DC: World Bank. <http://iga.fyi/wbsme2>

⁶ Ingvarsson, M. 2013. *North-South and South-South Technology Transfer- A conceptual framework*. Vienna: UNIDO

⁷ ODI. 2015. *10 things to know about innovation in LICs*. UK

2.2 Growing SMEs

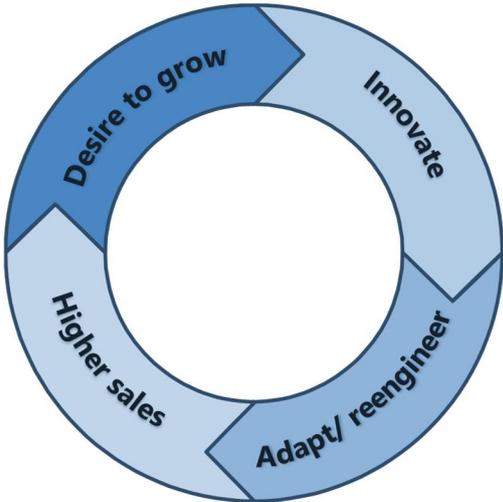
As described extensively in the programme baseline report, hundreds of programmes and initiatives exist to support SME growth, with a major focus on improving access to finance. A minority explicitly support innovation, and a handful explicitly support innovation transfer. Of these, most focus on supporting innovators to scale or replicate rather than supporting adopters of innovation to find and absorb innovations into their business. Of the multiple programmes that focus on supporting enterprise to engage in partnership, the majority focus on PPPs or multi-stakeholder alliances and relatively few on B2B partnership brokering. Those that support B2B partnerships include the objective of supporting innovation transfer usually amongst several other objectives.

Thus, while much has been said about the critical role that innovation and partnership can play in helping SMEs grow and scale, Connect was the first programme to focus explicitly on helping small businesses to find the partnerships and innovations they needed to grow their business and thus deliver development impact.

Our starting point, then, was to design a programme that would support enterprises to grow by helping them build mutually beneficial partnerships. Working in partnership makes sense because it can reduce many of the risks associated with growth: for example, the costs associated with testing an innovation that has already been proven elsewhere are much lower than starting from scratch; partners will bring other knowledge and expertise which can help a business, for example, improve its marketing and distribution; partnerships may even have access to more capital than a single business could find. It was therefore determined that the programme would support enterprises in south Asia and Africa that had identified a clear market opportunity by building partnerships with enterprises in India who had a proven innovation that could address the opportunity.

We quickly identified a further challenge which is that simply making a difference in one part of a business will not necessarily achieve much. That is because the decision to grow is likely to lead to rather more implications than simply the need to innovate to address a market opportunity. For example, automating a process to speed up throughput or to improve quality will lead to requirements to source more raw materials, to expand the volume of sales taken by customers, to be able to access more working capital, to train staff to use the new equipment, possibly to recruit additional staff, etc. In some cases, there may be a need to change other aspects of how the business works, perhaps to change the marketing or distribution processes. If expanded sales includes exports, there may be a need to meet additional health and hygiene standards. In some cases, customers may only be able to afford to buy if the seller can also provide credit arrangements, either directly or indirectly. These are all consequences of the decision to grow. Furthermore, the decision specifically to innovate may result in a need to re-engineer or adapt processes and activities within the business. If the business has everything right, the innovation, and the other adaptations will lead to more sales or more profitable sales – and thus encourage the business to want to grow further (see figure 1).

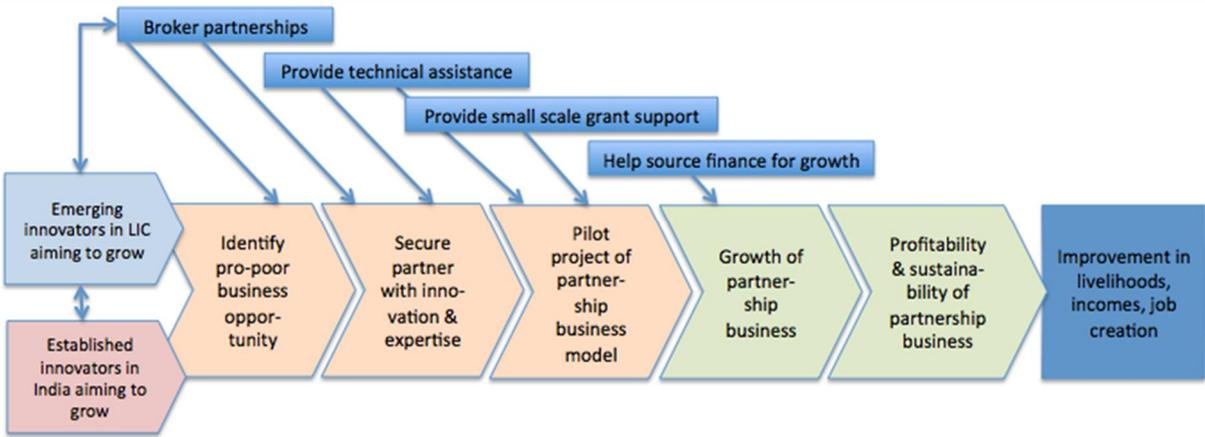
Figure 1: Growing business causal loop



2.3 Theory of change

There are many routes that a business can take when it decides to grow. As noted, we were specifically interested in those that wanted to take a shortcut by partnering with a business that already has a suitable innovation – because that would enable us to transfer the innovation. Many businesses already do this in developed countries but it is much less common in emerging economies.⁸ In an ideal world, as shown in figure 2, emerging innovators and established innovators would each identify a market opportunity. They would then, in some way, look for prospective partners. They would come together and agree to work on a joint venture, initially perhaps testing out ideas. If the pilot was successful, they would keep working together and would grow. This is illustrated in our simplified and linear figure, though in reality it is likely that there would be several iterations as the partners get to know, and then to work with, each other.

Figure 2: Theory of change



The challenge for businesses in developing countries, however, is that it is not easy to find innovations to address market opportunities and it is not easy to find potential partners, not least because of the asymmetry of information even for larger companies.⁹ Even if those can be overcome, access to finance is challenging and it is not easy therefore to secure the funding necessary to test out a new idea. Connect was therefore designed to address those market failures – as described in the small blue boxes at the top of the figure.

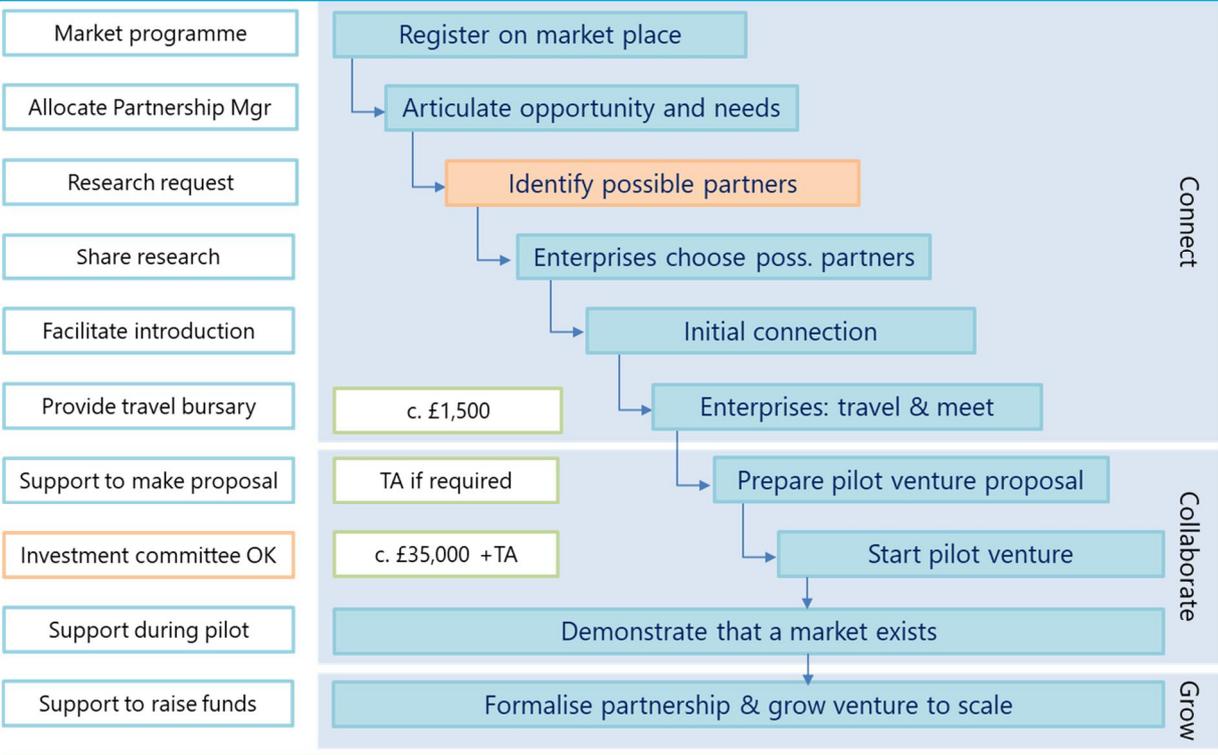
Specifically, the intention of Connect was to identify enterprises in developing countries which wished to grow through innovation and then to link them to enterprises in India with proven innovations and a desire to expand internationally. Alongside this support, it would additionally provide technical assistance and grant funding to the emerging partnerships to pilot the idea and demonstrate a market did actually exist and then provide assistance to raise the further funding required to scale the new ventures.

⁸ See OECD (2012) *Innovation for Development: a discussion of the issues and an overview of work of the OECD directorate for science, technology and industry*, OECD (<http://iga.fyi/oecd1>), Pells, R (2018) *Poor knowledge transfer a barrier to emerging economies' growth*, Times Higher Education (<http://iga.fyi/the1>), Apax Partners (2005) *Understanding technology transfer*, Apax Partners & Economist Intelligence Unit (<http://iga.fyi/apaxtt>)
⁹ Prashantham, S & Yip, G.S. (2016) *Engaging with startups in emerging markets*, MIT Sloan Management Review (<http://iga.fyi/sloan>)

2.4 The Connect to Grow journey

The starting point of the Connect process was that enterprises in African and South Asian countries (A/SA) registered for the programme on the Connect to Grow online marketplace. It was expected that these enterprises would already have an established business and an understanding of their market. They had identified opportunities for business growth and were looking for ways to capitalise on those opportunities. The programme provided support to enterprises in three stages (Connect, Collaborate and Grow) and details for each are shown graphically in Figure 3.

Figure 3: Connect to Grow stages of support and progress



In the 'Connect' stage, enterprises were encouraged to register on the online marketplace. A quick review was undertaken, the result of which was that some enterprises were allocated to a Connect Partnership Manager (PMgr), some were rejected and some were asked questions to allow them to convince us why they should be on the programme. Enterprises were then supported by their assigned PMgr – a role that combined mentoring, advising and guiding – to articulate their market opportunity and needs. Once that was done clearly and succinctly, Connect's Indian programme partner sought Indian enterprises that could potentially help the A/SA enterprises exploit the market opportunity. The A/SA enterprise was then introduced to one or more Indian enterprises and started a conversation. Usually, at least the first conversation was facilitated. If the enterprises decided that there was scope to talk further, a travel grant was provided, typically of up to £1,500, so that they could meet face to face in India to pursue partnership possibilities. In most cases, the A/SA enterprise met three or four potential partners on these trips to India. If they then decided that there was scope to work together with an Indian enterprise, they were invited (with support from their PMgr) to prepare a proposal for a pilot project, at which point they entered the 'Collaborate' stage. If the programme Investment Committee approved the proposal, then the pilot was supported with a grant, typically of approximately £35,000.

Partners started the pilot with the intention of demonstrating that a market existed and that they could work together. It was hoped that the partners would then want to continue, scaling up the business to take advantage of the market that they had proven to exist to enter the 'Grow' stage. We aimed to help

at this point as well, as much as was feasibly possible, with introductions to sources of growth capital, to enable the partnership to scale.

Whilst this programme was not formally an M4P programme, we were conscious that giving grants could distort the market and give some businesses an unfair advantage over other businesses. We therefore took steps to limit the level of support in an effort to ensure that market distortion was minimised and that we did not disadvantage any other business. These measures have been covered within the report, but include: minimising level of grant aid and requiring co-investment into ventures; aiming to provide a grant to cover additional costs of doing something on a pilot basis (so that buyers paid the price they would expect to pay if the venture was operating at scale); not restricting availability of grant to one business in sector; aiming to support businesses genuinely doing something different; and providing the grant as a one-off agreement and not subsidising running costs over a period.

3. Programme parameters

Connect to Grow had a key target to achieve five scalable proofs of concept (SPoC) along with subsidiary targets for development potential and additionality. However, there were also a number of constraints, in many cases imposed by Connect, within which we had to work. In some cases, it was difficult to be clear at the outset about where the constraints should lie and so we found it necessary to adjust some of these as we progressed. This section explains the parameters within which the programme worked and how these were defined and adapted as the programme progressed.

3.1 Scalable proof of concept and other targets

The target of five SPoCs required that we think quite carefully about what constituted a SPoC and how to ensure that we hit the target. On the basis that proposals for pilots had to demonstrate in advance that they had the potential to deliver development impact and that our funding and support was essential to their progress, we concluded that determining whether a pilot project had become a SPoC should be based on whether the pilot had demonstrated commercial viability (see section 6). The level of budget was such that we knew that we could only give relatively small sums by way of financial support so we took a venture capital fund approach. As a rule of thumb, venture capital funds assume that just 20 per cent of investments will come good.¹⁰ In our case, that meant funding 25 pilots. We did not believe that the budget would stretch that far so set a target to deliver 20 pilots and worked on the basis that the additional support that we would provide would help more pilots to deliver on their promise. We then set targets for the number of A/SA businesses that reached the point of Collaborate and then for the number that we thought we needed to register on the marketplace. Some of these were turned into log frame targets but informally we had concluded that we needed to have serious interest from around 1,000 A/SA businesses in order to deliver a minimum of five SPoCs.

3.2 Enterprise selection

At the end of the six-month programme inception period, in November 2015, we set out guidelines that enterprises needed to meet to be eligible for Connect to Grow support. These criteria were kept deliberately broad and were meant to be a guide rather than a list of absolute requirements. While we attracted interested enterprises, we found that a high proportion were not suitable for the programme

¹⁰ Shikar Ghosh of Harvard Business School says that 75 per cent fail (<http://iga.fyi/vc2>); this is supported by Mike King (<http://iga.fyi/vc1>); Seth Levine is more nuanced but effectively says that only 10 per cent succeed in any meaningful way (<http://iga.fyi/vc3>)

This prompted a change in outreach strategy and stricter criteria were applied in the selection process. This set of criteria was developed based on what the team had learnt about what made enterprises stronger candidates during early outreach efforts and enterprise engagements (see Box 1).

Box 1: Updated eligibility criteria for enterprises seeking support from Connect

African/ South Asian enterprises should ideally have:

- An annual turnover of at least \$50,000.
- Five or more full-time staff.
- Three or more years of operation.
- Evidence of market penetration and access to a customer base.
- Access to capital – which could be used for investment.
- Interest in scoping out proven innovation from India which can be adopted or adapted to their context. This may be a technology, a product, service or an approach.
- Interest in pursuing a commercially viable and socially beneficial partnership venture with an Indian enterprise.
- Operations in any sector, though the partnership venture must directly contribute towards improvements to people's health or livelihoods.
- Willing to drive the partnership forwards and invest the time and resources (including capital) required to make it a success.
- A competent English speaker as part of the management team or employed by management.
- Internet connectivity and access to email services.

3.3 Proven Indian innovation

The agriculture and healthcare sectors in India have seen immense growth in the last three decades, following the liberalisation of the Indian economy in 1991. The agriculture sector has benefited from being a focus area of all the five-year plans developed by the country since independence. The agricultural and processing sector contributes 12-15 per cent of India's GDP, and supports over 45 per cent of the working population. Two phases of agricultural innovation were of interest: (a) innovations in farm mechanisation, farm inputs, seed hybridisation and processing technology; and (b) innovation in related sectors such as aquaculture, dairy and poultry as well as post-harvest processing and cold chain technologies. Most of the demand from the African and south Asian enterprises was for innovation that fell in the first of these.

Unlike agriculture, healthcare has, for the large part, been neglected by policy makers in India. A World Bank report notes that less than two per cent of India's GDP goes into public healthcare¹¹ which, over the long term, has resulted in poor infrastructure and facilities for the public, particularly impacting the health access for the poor sections of the population. Given this lack of public spending, the sector has seen a rise of a large commercial ecosystem of healthcare delivery. A paper in the Harvard Business Review recognised India's economically viable healthcare facilities for its new-age innovation and cost-cutting techniques¹².

¹¹ <https://data.worldbank.org/indicator/SH.XPD.PUBL.ZS>

¹² <http://iga.fyi/hbr1311>

Under the Connect programme, the search for Indian enterprises followed a three-step logic: (a) finding through research recognised innovations in the particular sub-sector, value chain or demand area identified by the African or south Asian enterprise; (b) identifying Indian enterprises with established businesses in those areas with demonstrated impact, and those leveraging new innovations; and (c) identifying a subset of enterprises with a potential interest in partnering with an African or south Asian enterprise to develop and grow an impactful venture.

Data for the first two steps evolved from research and dialogue with partner organisations in India, and then, for each demand area, the Connect team spoke with a handful of selected Indian enterprises to understand their interest in partnership and business in the targeted regions. This was an iterative process. Data gathered from research and outreach conversations was shared with the Connect PMgrs¹³ and the African and south Asian enterprise who could then shortlist which Indian enterprises they wanted to explore further.

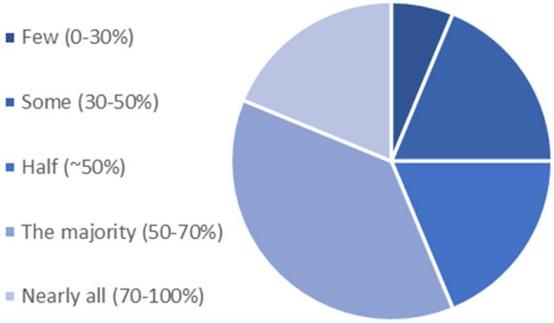
3.4 Social enterprise / social motivation

There was no specific requirement to work with social enterprises, though we anticipated that making a difference to people at the base of the pyramid was more likely to appeal to certain types of entrepreneur. We did therefore target social enterprises but did not in any way limit our search to them. In many cases, we found ordinary for-profit businesses with an entrepreneur with strong social motivation, both in Africa and south Asia (such as *Pure Products*) and in India (such as *Sara*).

3.5 Gender

We did not specifically target female entrepreneurs not least because we were looking for more established businesses, thus likely to have a management team, rather than sole entrepreneurs. However, amongst the pilots we had five businesses owned or co-owned by women (*Kings & Queens, Shreenagar, R&D, Mukusu and Greenovator*). Several of the pilots specifically supported women – with the most obvious being *Eco International Trading* making sanitary pads – but with several others supporting women farmers. More than 90 per cent of pilots had at least 30 per cent of their primary beneficiaries as women or girls. (Classifying the proportion of female beneficiaries was not straight forward: For example, for *Shreenagar*, men were typically the ones that purchased the feed but women tended to be the ones that managed the livestock. Examples like this were classified as half (~50%).

Figure 4: Pilots categorised by the proportion of primary beneficiaries who were women/girls



3.6 Grant funding

We recognised from the outset that it would be necessary to provide at least some financial support to undertake a pilot project. Inevitably the costs of pilots are higher than running at scale, not least because the amounts of raw materials being bought are lower; there may be a disproportionate amount of capital

¹³ See the Snapshot on African and South Asian enterprises at <http://bit.do/ConnectLearningSnapshot>

investment required; customers may buy in smaller quantities. The aim to the funding, therefore, was primarily to cover the difference in cost between doing the activity at scale and doing the activity on a pilot basis. It was not intended to subsidise either the partnership or the customers. However, we also recognised that many of the businesses in Africa and south Asia simply did not have enough reserves to be willing to take the risks associated with piloting a new activity. It was clear, therefore, that our funding was going to be critical to proving the concepts.

Philosophically, we would have preferred to offer funding in a way which both recognised the risk but provided a mechanism for funding to be repaid if the venture was successful. This would imply the need to offer funding in the form of equity or some other mechanism designed to behave like equity. Possible instruments would include equity, convertible loans, non-recourse loans and revenue participation agreements. All of these would have addressed our concern about being seen to undercut the market, since the funding would have a price attached to it, and the requirement to generate enough cash flow to be able to repay at some point.

However, given that the programme had a short timescale, that there was no mechanism to recover funds after the programme ended, and that the financial support available was likely to be low, we concluded that the only sensible mechanism on this occasion was to offer the support as a grant. Given the level of budget available, we set an upper limit (intended to be flexible) of £35,000, but we also anticipated having the freedom to be able to provide supplementary grants (as venture capital funds provide follow-on equity) should that prove to be necessary. This was much lower than most other grant funds supporting business activities in developing countries but we were trying to strike a balance between having enough to be attractive and being able to support enough pilots to deliver on the five SPoCs.

To avoid distorting the market too much, pilots were required to contribute to the cost of the pilot (see next section). And to impose a discipline and reduce the opportunity to defraud the programme, we specified that grants would be payable in instalments, dependent on agreed performance related targets.

3.7 Cost sharing

Cost sharing was a challenge because most SMEs in A/SA have little by way of reserves and find access to affordable capital difficult. Our published guideline was that we were looking for 50 per cent of the project cost to come from the partners, though our formal criterion was a minimum of 20 per cent, which gave us some flexibility. It was unusual for the A/SA business to have enough to cover this; it typically came as a mix of in-kind (from both partners), loan or other investment, or discounts on equipment from the Indian Partner. In a couple of cases, the investment committee made an offer subject to the A/SA enterprise finding their share of the funding, but the enterprises were unable to do so.

3.8 Additionality

All proposals that went to the investment committee had to justify the support. Of the 20 pilots, the assessment is that in 15 cases, the support was either critical (that is, the project would not have proceeded without our support) or it was 'bigger, better, faster (that is, we were able to speed up considerably a project that might conceivably have happened without our support). There was no expectation that Connect would work only with enterprises who had not thought of working with a partner or supplier before. In fact, those enterprises who might know of a potential partner already or be in initial discussions with a partner were eligible because they might be able to fast-track the process and prove more within the short time period of the programme. On the other hand, Connect was set up, in part, to test the process for partnership creation; most enterprises had not thought of working

with an international partner or supplier let alone started discussions. In the end, Connect ended up with a mixed portfolio, with a few partnerships supported who knew each other before or found each other independently of Connect, and most who did not. But even those that knew each other before, were not necessarily talking about innovation transfer or partnership prior to engaging with Connect.

3.9 Countries of operation

The original ToR foresaw that partners might come from 8 countries, but DFID decided that we could seek partners in any of the 44 low income countries. Given that the number of pilots that we could support, there was a natural limit to this, and in most cases, we were able to support more than one pilot in a country. As will be seen below, this meant that we had pilots across 10 countries. Whilst this was positive in that we could broaden the net, it also made it impossible to have a co-ordinator or PMgr in each country and thus reduced the effectiveness of the PMgr support.

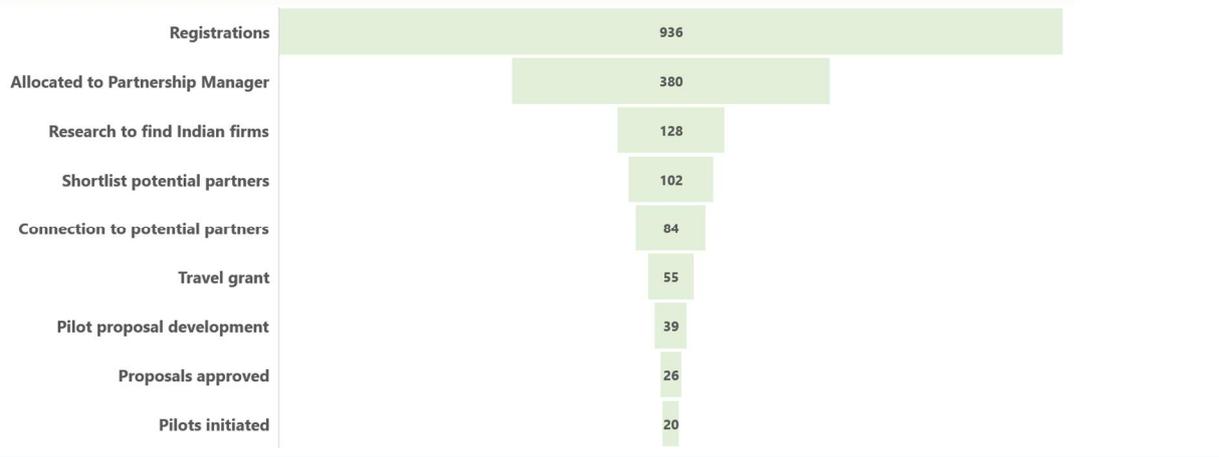
3.10 Working with enterprises (partnership management)

The team initially, as anticipated in the ToRs, expected that most of the support to enterprises would come from external technical assistance providers. However, soon after starting implementation, it became clear that the idea of partnership was so novel to enterprises that they needed comprehensive support and hand-holding through the process. Given this was now a core requirement of the team, it was necessary to bring this component in-house. As such, a new role was created, called Partnership Manager. These individuals, with a background in business support acted as points of contact, taking the enterprises through the Connect process. The role involved a combination of tasks and skill sets, including providing advice and guidance, helping think through the model both commercially and from a social perspective, providing financial support, monitoring and managing the enterprises and capturing insights and lessons. The role proved to work tremendously well, with a strong relationship developed between enterprises and their respective Partnership Managers, allowing deeper conversation to take place and a building of trust. It also meant that enterprises only had to deal with one person for everything, unlike other programmes whereby the grantee must engage with different functions of the programme for different reasons.

4. The Connect to Grow portfolio

Connect to Grow began its search for suitable African and South Asian businesses through an online marketplace in April, 2016 and by the time the registration window ended in March 2017, more than 900 enterprises had registered for support. Some 200 Indian enterprises also signed up with an interest in finding partners in other countries. The Connect team worked directly with the 380 A/SA enterprises (40 per cent) that were identified as suitable to be allocated a Connect PMgr, and eventually provided grants and technical support to 20 pilot ventures. This section provides a brief overview of the 380 'allocated' enterprises that Connect worked with looking at where they were located, the sectors they operated in and their size and age. It also provides a summary table of the twenty pilot ventures.

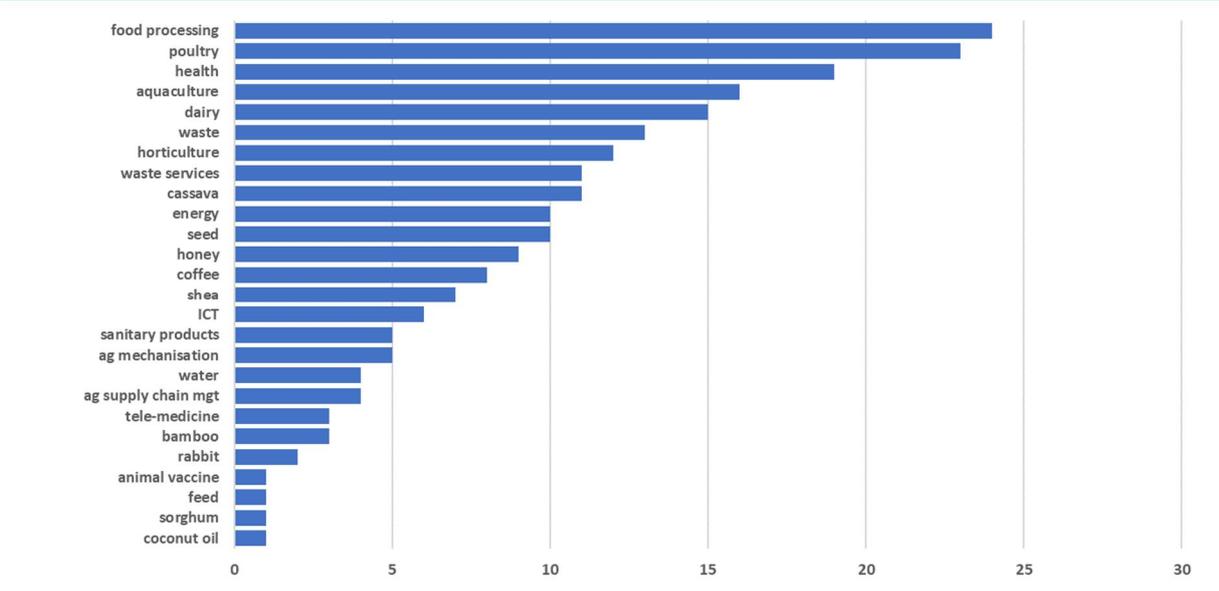
Figure 5: The Connect funnel: A/SA enterprises by programme stage



Source: Connect database

Approximately ten per cent (39) of the 380 allocated enterprises submitted pilot proposals to the Connect to Grow Investment Committee, though several more could easily have been accepted if timing permitted. The investment committee approved 26 partly because two early approvals could not then find their matching funding, and partly because in the end, the committee adopted a two stage process of deciding which proposals crossed their threshold and then ranking them to give the 20 pilots that reached implementation.¹⁴ Figure 5 illustrates the ‘funnel’ of A/SA enterprises showing the numbers from registration stage to pilot implementation.

Figure 6: Sub-sector of allocated A/SA enterprises



Source: Connect database (n=224)

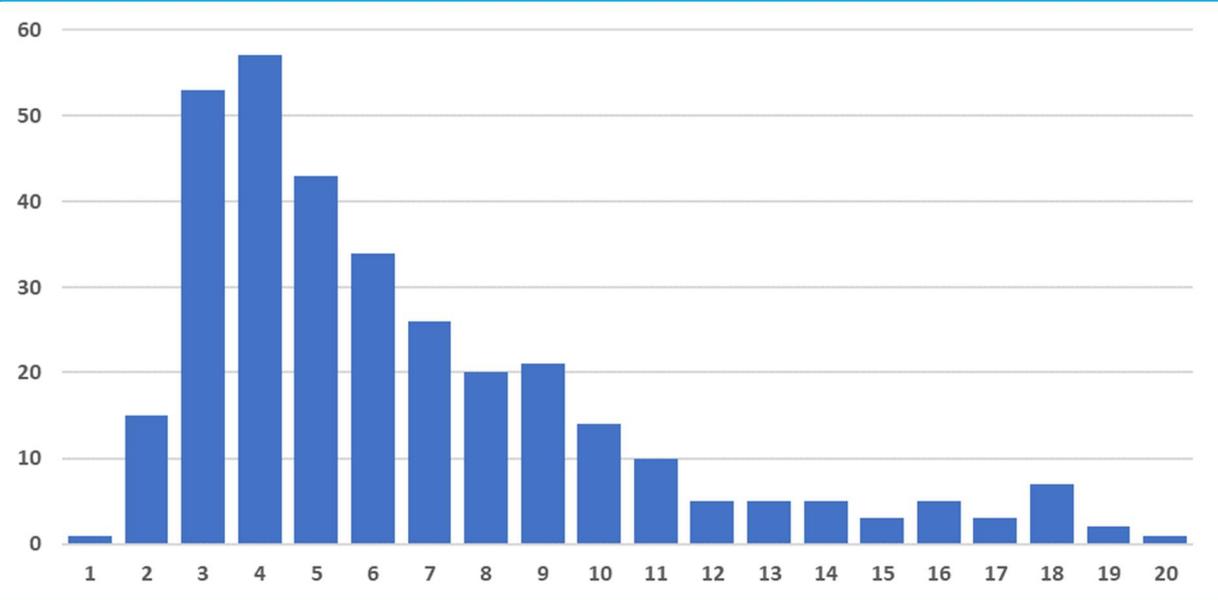
Analysis of the proposed ideas and market opportunities shows a diverse spread across sub-sectors based on information provided by enterprises at registration stage (Figure 6). Ideas were not always clear at the outset and changed as enterprises were prompted to think more clearly about what they wanted to do. So, it is not possible to read much into the absolute numbers in each category, but the relative proportions are more interesting, with poultry and food processing being the most popular.

¹⁴ Find out more about each of the pilots Connect to Grow is supporting by visiting the Partnership pilot ventures page at www.connecttogrow.org/partnership-pilots

Less than 12 per cent of the allocated enterprises proposed a need in health. However, six of the pilot projects, that is 30 per cent, were in health. Within agriculture and health, pilots were spread across a wide range of sub-sectors. In agriculture, three pilots, all in sub-Saharan Africa, focused on mechanisation (that is, introducing small scale agri-equipment and machinery in areas where smallholder farmers are still mostly farming manually). Poultry was common to four of the pilots – two on feed, one on supply of hybrid chicks for meat and eggs and another on improved vaccines. Four of the 20 pilots were testing IT applications to unlock inefficiencies and grow their businesses (one in health and three in agriculture).

The majority of A/SA enterprises that expressed an interest in Connect were fairly young but not in their infancy. Almost half (47%) of A/SA enterprises allocated to a PMgr that reported their year of foundation were between two and five years old. Those who had proposals approved, however, were slightly older with 2011 being the average year of foundation. With 2001 being the average year of foundation for the Indian enterprises involved with the approved proposals, Indian partners were noticeably older than their A/SA counterparts.

Figure 7: Age of business of allocated A/SA enterprises

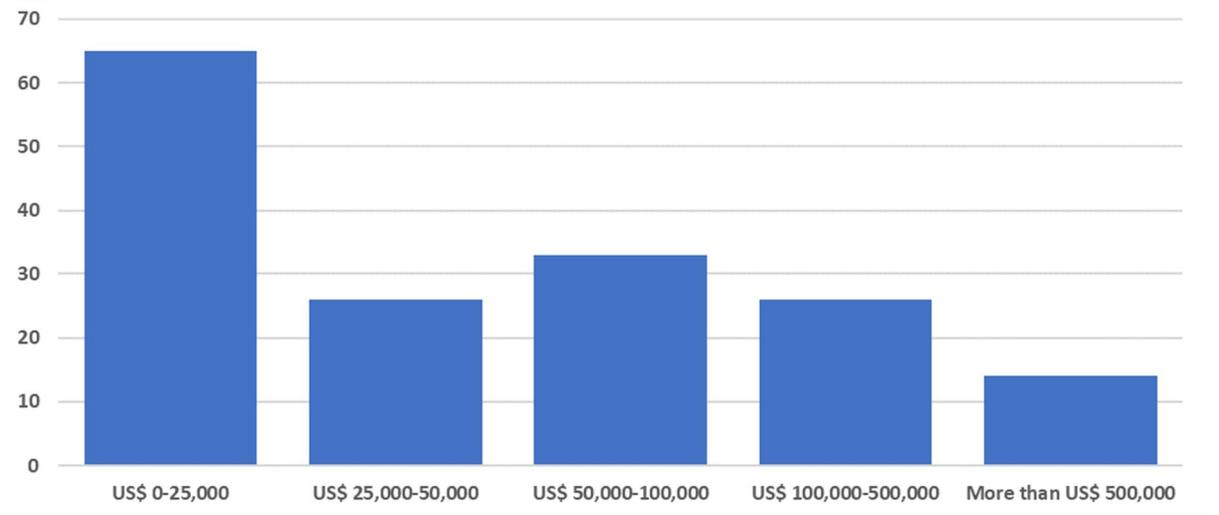


Source: Connect database (n=330)

Perhaps not surprisingly, given their young age, the majority of registered A/SA enterprises were also fairly small in terms of number of employees and turnover. Almost two-thirds (72%) of all allocated A/SA enterprises had 10 or fewer full time equivalent (FTE) employees. A/SA enterprises whose pilots were approved had an average of 11 FTE employees compared with 122 for the Indian enterprises that partnered with them. Some of these Indian companies had more than 100 employees while one had 1,000 people working for it.

In terms of annual revenue, 40 per cent of the 161 allocated enterprises that chose to report their annual revenue at the time of registration were in the lowest bracket of US\$0-25,000, and only eight per cent in the highest bracket of more than US\$500,000. However, more enterprises with a higher annual revenue were successful on the programme with 14 per cent of those in the highest bracket getting their pilot proposals approved and only 8 per cent of those in the lowest.

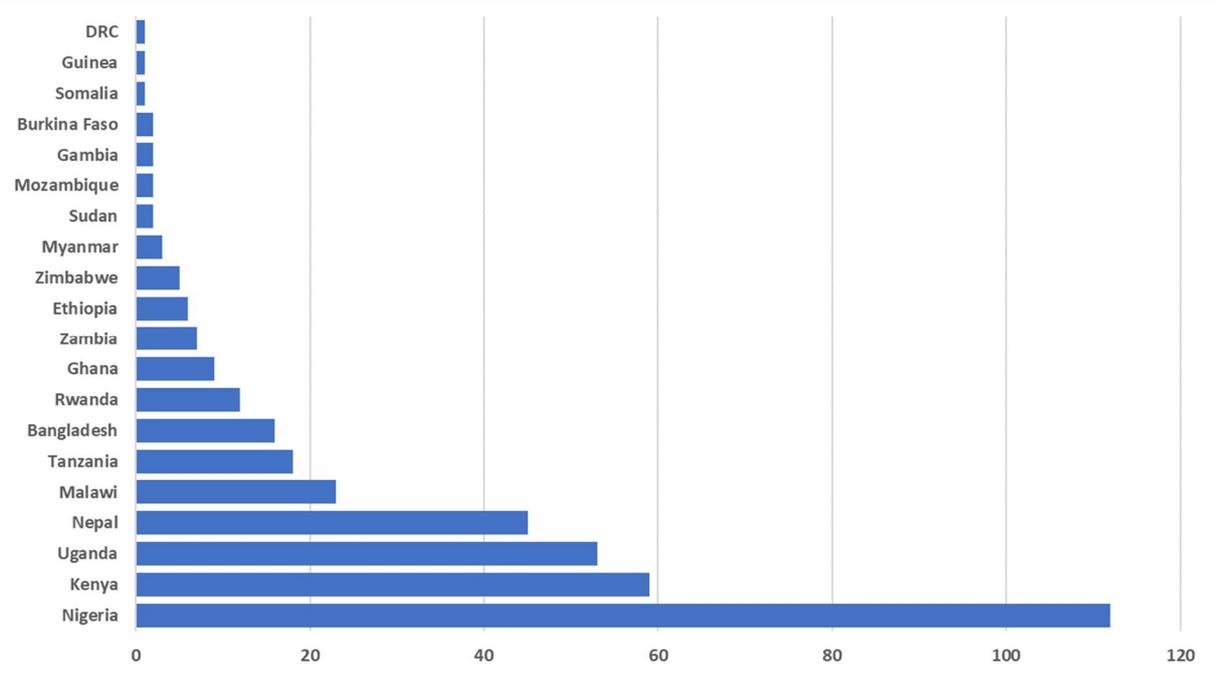
Figure 8: Annual revenue of allocated A/SA enterprises



Source: Connect database (n=164)

Allocated A/SA enterprises were spread across 25 countries, with the most enterprises being headquartered in Nigeria (36 per cent), followed by Uganda (13 per cent) and Kenya (12 per cent). Nepal (10 per cent), Bangladesh (5 per cent) and Myanmar (0.5 per cent) represent the only three countries with registered enterprises in South Asia.

Figure 9: Allocated A/SA enterprises by country

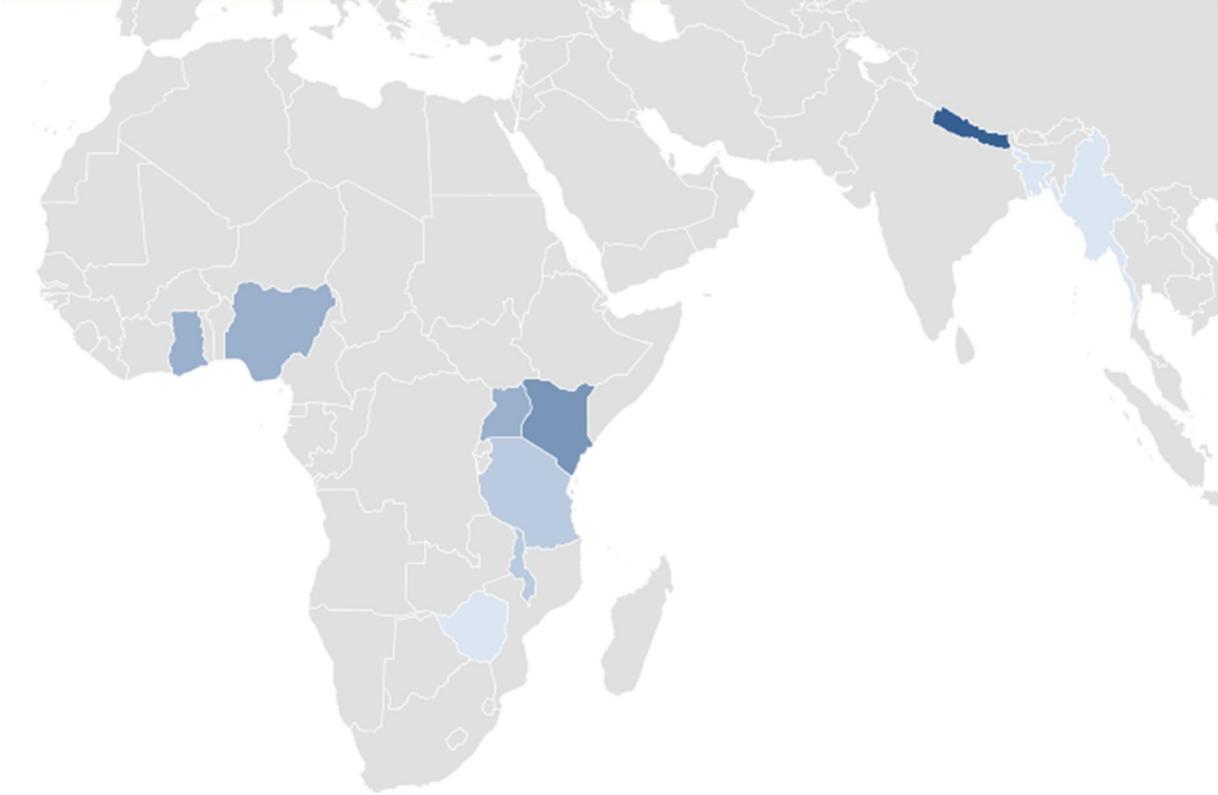


Source: Connect database (n=380)

The fact that there is a much higher proportion of registered enterprises from sub-Saharan Africa compared to South Asia can partly be explained by the higher level of outreach in Africa. Apart from launching the programme at the SEED Africa Symposium in September 2015, Connect team members visited several of the key African countries during the outreach phase of the programme and met face to face with more than a hundred potential enterprises. Two of the programme’s most effective outreach partners were also based on the continent and we were able to tap into their networks to find suitable candidates. Figure 9 shows the distribution of ‘allocated’ A/SA enterprises by country. The conversion rate of allocated enterprises that went on to develop approved pilot proposals was higher in South Asian

countries. For example, 14 per cent of all allocated enterprises from Nepal had their pilot proposal approved, that is, 6 out of 44 enterprises. In Myanmar, one of the three allocated enterprises had developed a pilot proposal that was approved. In Nigeria, the country with the highest number of allocated enterprises, by contrast, only two per cent had proposals approved (two enterprises out of 113) and in Kenya, five per cent (3 of 58). We had proposals from ten countries approved – Bangladesh (1), Ghana (3), Kenya (4), Malawi (2), Myanmar (1), Nepal (6), Nigeria (3), Tanzania (2), Uganda (3) and Zimbabwe (1) – as shown in the map below.¹⁵

Figure 10: Location of Connect to Grow pilots



Key: the darker the blue, the greater the number of pilots

Table 1 briefly describes the twenty pilot ventures supported by Connect to Grow. Boxes providing additional information about many of the pilots are incorporated in the next section.

Table 1: The Connect to Grow Pilot ventures

Pilot (A/SA enterprise/ Indian enterprise)	Country	Sector	Sub-sector	Pilot Activity
Melach/ Dimensions Eng. Tech.	Ghana	Agri	Coconut oil	Introducing processing machinery to increase production of coconut oil, an activity previously done manually
Shreenagar/ Lark Engineering	Nepal	Agri	Animal feed	Setting up agri-centres that provide integrated solutions to farmers in earthquake-affected areas

¹⁵ The Connect to Grow Learning Snapshot published in 2017 looks in more detail at the geographic spread of the programme and outlines outreach efforts in both targeted regions.

Nzua & Msigani JV/ Kegg Farms	Tanzania	Agri	Poultry	Introducing a hybrid chicken to the local market that was higher yielding and hardier than local varieties
Nyabon/ VST Tractors and Tillers	Kenya	Agri	Smart farming & mechanisation	Testing a contract farming model including mechanisation and smart practices to increase rice yields and income levels of local farmers
Kings & Queens/ New Bhavna Machines	Nigeria	Agri	Cassava processing	Introducing cassava processing equipment to speed up the production of cassava flour that was previously done manually
R&D/ eKutir	Nepal	Agri	Online agri-solutions	Developing a bespoke IT solution to digitise their operations and link farmers, input suppliers, and customers on one platform
Pure Products/ Akshay Swachh Jal	Uganda	Health	Water	Setting up water ATMs to provide easily accessible, affordable, clean drinking water to the community
eTrash2Cash/ Sahaas Zero Waste	Nigeria	Health	Waste management	Introducing an improved waste management model to collect, recycle and reuse waste
Afrillife/ Safa Honey	Tanzania	Agri	Honey	Improving the processing of honey to increase quality and production to meet local and international demand
LunivaTech/ Livehealth	Nepal	Health	Health management systems	Developing a cloud-based IT solution to streamline the information management systems of health care providers
Agriaccess/ MicroDrops	Ghana	Agri	Irrigation	Demonstrating the effectiveness of drip irrigation to improve the quality and quantity of sorghum yields
Insurance for All/ AOSTA	Kenya	Health	Micro-insurance	Developing a tele-medicine offering for its insurance clients and an info management system for healthcare providers
Eco International Trading/ Saral Designs	Bangladesh	Health	Sanitary pads	Introducing low-cost sanitary pads to be sold by women micro-entrepreneurs in local communities
Mukusu/ Captain Tractors	Uganda	Agri	Farm Mechanisation	Introducing small-scale mechanised farming equipment to help small holder farmers improve productivity
Ziweto/ Hester Biosciences	Malawi	Agri	Poultry	Bringing in improved poultry vaccines and method of distribution to help farmers prevent Newcastle disease outbreaks
Grain Solutions/ Bharat Agrovat	Zimbabwe	Agri	Animal feed	Setting up a feed mill to assist growers to convert grain into poultry feed
Greenovator/ CropIn & Jayalaxmi	Myanmar	Agri	Online agri-solutions	Developing IT solutions to improve access to information and markets for farmers
Masole Ammele/ Pioneer Aqua	Malawi	Agri	Aquaculture	Improving existing fish production practices and setting up a hatchery to provide fingerlings to local farmers
The Bazaar/ eKutir	Nepal	Agri	Online agri-solutions	Developing an IT solution to provide information and inputs to farmers and link them to customers
Agromite/ Bankura & Redlands	Ghana	Agri	Farm Mechanisation	Introducing machinery to support farmers in the rice sector to improve their yields

The A/SA enterprises that reached the pilot stage were very different and it is not possible to describe a profile of the 'ideal Connect enterprise'. But certain qualities and factors emerged through our engagement that clearly set some enterprises apart as more suitable for the programme and that made enterprises more attractive to potential Indian partners than others. The enterprises that have had their pilot proposals approved exhibited many, if not all of these factors.

Box 2: Factors that made enterprises more suitable for Connect support

- They were already accessing a market, had market knowledge and clear market potential. A promising enterprise had a market which they were already accessing, and ideally this market was already large. Other earlier stage enterprises had adequate knowledge of the potential market. Enterprises were able to define their would-be customers, and how they planned on accessing them. This meant they had a clear vision for growth which made them attractive to Indian partners who often needed assurance that there was an adequate market and that the A/SA enterprise had easy access to it.
- They had articulate, savvy entrepreneurs or people in senior management. These entrepreneurs often combined being innovative, with being commercially minded, articulate, logical and rigorous as opposed to those who were perhaps less articulate, lacked commercial acumen and demonstrated the need for earlier stage business support. The former was more easily able to answer difficult questions with logical answers such as the why, what and how of an opportunity. They clearly had the drive, acumen and ambition to grow their enterprise. Often, but not always, the entrepreneur had overseas experience or was foreign educated. The savvy entrepreneurs were able to answer financial questions more easily, perhaps in terms of average monthly expenditure and revenue, their profit margins, and perhaps their projections. These entrepreneurs were more easily able to develop relationships with potential partners and better convey the partnership opportunity.
- They understood the objectives of the programme and what partnership actually meant. A good test of how suitable an enterprise was for Connect was how quickly they could grasp the concept and objectives of the programme. It was clear that many enterprises that registered just wanted finance and found it difficult to understand what the programme was designed to do. In many cases, entrepreneurs had no idea about how partnership could benefit them.
- They already knew of Indian innovations. Enterprises that already knew of or had relationships with appropriate Indian enterprises were at an advantage. For example, *Mukusu Motors* in Uganda had already been in conversation with some Indian tractor companies before receiving Connect support and this helped speed up the partnership facilitation process.
- They were innovative themselves. Whilst the objective of Connect was to transfer proven innovation from India, the innovativeness and value proposition of A/SA enterprises was important too. There were many enterprises who were doing something that everyone else was doing and so those that could explain what differentiated them from their competitors were a better fit. These enterprises were often already engaged in innovation of some form to differentiate themselves and therefore saw the value of it. *THE BAZAAR* in Nepal, for example, had overcome the problem of intermediaries in supply chain management in the country by setting up a cooperative model of supporting farmers. Their innovative approach to overcoming inefficiencies in the value chain meant they were clear from the outset on what they wanted from a partnership

5. Innovation and Partnership

Innovation in advanced economies and mainstream markets often implies the introduction of new, path breaking technology or processes. However, in low-income countries, innovation is less about “new inventions” and is rather more about transferring, adapting and adopting existing technologies. A key reason for this is because developing new technology requires resources and risks that enterprises operating in low-income markets can ill-afford (See Connect Baseline report¹⁶). However, we also identified that there is little innovation transfer between developing countries; indeed, that was an underlying assumption in the original business case and Connect was designed to encourage innovation transfer from India to other developing countries. We anticipated that there may be need for some adaptation to address different markets but the objective was to avoid the need to develop new technologies, and thus to lower the risk. Adopting innovation did however lead some pilots to rethink business models and processes.

Connect was designed to be a demand-led programme and it was intended that businesses should come together in partnership to transfer innovation. We interpreted this to mean that the key players would be socially motivated businesses, in one case with a market opportunity, and in the other case with an innovation that might address the market opportunity. As a result, we broke down innovation and partnership into two different areas based on (1) how the end consumer saw changes to the end product/service based on the innovation and (2) the type of product/service offered by the Indian partner.

This section looks in detail at the two areas and how what emerged had an impact on the way partnerships developed during the pilots and how innovation transfer took place.

5.1 How the innovation impacted customers

Businesses need to serve customers so any innovation needs to help them to do that more effectively, either by producing more efficiently and thus more affordably or by offering better quality and perhaps a wider range of solutions to customers. Looking through the lens of the customer, there are three broad ways in which innovation might impact on a product or service:

- *Same/similar end product:* The A/SA business identified that the demand for an existing product or service was greater than it could deliver. As a result, it wanted to improve its delivery or manufacturing processes. That could be in the form of a new management information system or in new processing equipment technologies but ultimately the customer would see no difference. However, the innovation would allow the business to deliver the same or similar product or service to more customers.
- *Substituting or supplementing existing products with new but familiar products:* Here enterprises were substituting their existing product/service with something new and improved but still recognisable to customers.
- *Introducing new products and services:* In these cases, enterprises brought in a product/service that was completely new to the market and had not been used in the local context. These new products were marketed either to existing or new customers.

¹⁶ Connect to Grow. 2016. *Supporting SME growth through innovation and partnership – a review of the landscape* London: Connect to Grow. <http://bit.ly/ConnectBaseline>

Table 2: Examples of partnership pilots

Changes to product/services	Examples of partnership pilots
Same/similar end product	<i>Kings & Queens</i> , a small Nigerian cassava processing company, partnered with <i>New Bhavna Machines and Tools (NBM&T)</i> , a family run manufacturing company to design improved cassava processing equipment. The manual processes of peeling, washing, fermenting, grating and frying that would take 8 people 3 days could be done in 12 hours with the new equipment. The product, garri (processed cassava), was still sold to the same (plus additional) customers, but it was processed in a different way.
Substituting/supplementing existing products with new but familiar products	<i>Nzua Enterprises & Msigani Poultry Farms and Hatcheries</i> , two small poultry businesses in Tanzania partnered with <i>Kegg Farms</i> , a large Indian poultry business, to test the acceptability in Tanzania of the Kuroiler, a dual-purpose hybrid chicken, proven to work in India. Through the pilot the Tanzanian companies imported parent stock from Kegg Farms, and then sell day-old chicks in the local market. The objective was to test whether there would be demand for improved hybrids, which perform better than the indigenous chickens, whilst maintaining their culinary appeal to the local population.
Introducing completely new products and processes	<i>Agromite</i> , a Ghanaian agribusiness that provided agricultural mechanised services to smallholder farmers, partnered with two Indian agricultural equipment providers to introduce new rice processing technologies, in particular laser land-leveling, to farmers in Ghana that were not previously available. <i>Agriaccess</i> piloted the use of drip irrigation which they hoped would increase the quality and quantity of sorghum yields in a cost-effective way. This drip irrigation equipment had not previously been available in northern Ghana. See Box 2.

Box 3: Agriaccess

Agriaccess is the largest single sorghum supplier to Guinness Ghana Breweries Limited (GGBL) and works with a network of more than 21,000 smallholder farmers. In partnership with Micro Drops, an Indian drip irrigation company, their pilot focused on demonstrating the effectiveness of drip irrigation to improve the quality and quantity of sorghum yields.

Farmers that work with Agriaccess have an average yield of 1.75mt/ha and because of the lack of rain are only able to grow sorghum once a year. With irrigation, the potential yields are 4-5 mt/ha and farmers can plant 3 times a year. Even after accounting for loan payments, farmers estimated income could increase more than \$300 in the first year and increase significantly more once the cost of the equipment is paid off.

The first harvest using the irrigation will not happen until the beginning of May, but results are looking promising.



5.2 Innovation offered by the Indian business

The Indian businesses could be categorised in any number of ways, including size, attitude to social objectives and desire to expand internationally. In the Indian business learning snapshot, we categorised the Indian businesses on the basis of whether they were SMEs with a sales and distribution focus, social enterprises, large businesses with an expansion focus or consultants providing advisory services. This largely described the participating businesses, though not the possible universe and did not relate to the way in which the business might address the identified need. Given that the innovation is key to the commercial success of the pilot project, it makes sense to categorise the Indian businesses based on what they were actually contributing by way of innovation to the partnership and thus effectively to the customer. Essentially they fall into three categories:

- *Manufacturers of back-end systems:* These were mainly companies that manufacture machinery which can in turn be used for processing or companies that write software which can be used to improve a business process. Often these companies lacked sector specific knowledge. These technologies could influence the end product/service but generally the innovations themselves were not seen by the end consumer.
- *Manufacturers of products sold to the end customer:* These were companies that created the products that the end customer would see.
- *Providers of process expertise (e.g. consultancy services):* These were companies that had sector specific knowledge and were in a position to offer detailed advice and guidance on the process. They did not sell a product or equipment. In some cases, their business was a consultancy that existed specifically to sell the expertise.

Table 3: Examples of the types of Indian innovation & support

Changes to product/services	Examples
Manufacturers of back-end systems	<i>Lark Engineering</i> specialised in design, engineering and manufacturing of feed machines. <i>Live Health</i> built IT solutions and information management systems for the health care sector
Manufacturers of products sold to end consumer	<i>Captain Tractors</i> manufactured mini tractors, compact tractors, garden tractors, small tractors for sale in India and throughout the world. <i>Hester Biosciences</i> manufactured animal drugs and vaccines for global distribution.
Providers of process expertise (e.g. consultancy services)	<i>Pioneer Aqua</i> , a consulting and research company, offered training and advisory support to fisheries throughout India. <i>Safa</i> processed honey, including infused honey in India.

5.3 The intersection between need and provision

We can combine the type of innovation needed by the A/SA business and the type of innovation provided in a matrix, as shown in Table 4 to give seven possible options (there are two that are unlikely ever to occur).

In most cases, there was a bit of an overlap. *Afrilife* and *Safa* had a medium-term objective, for example, to introduce infused honey. *Masole Ammele* wanted to start selling fingerlings, which they were not doing at the time, but are available in the Malawi. *Lunivatech* already provided health management record services for health centres, but moving to an app would allow much more flexibility and allows them to offer additional services. *Nyabon* is worthy of a mention: their starting point was to sell power

tillers (made by VST) but realised that they needed to offer mechanisation services as part of a much wider offer to bring farmers on board (see Box 10). *Mukusu* also aimed to sell mini-tractors (from Captain Tractors) but quickly found how difficult this was and started to explore whether they sell mechanisation services themselves or sell tractors to entrepreneurs who might then sell mechanisation services. The key observation that we draw from this matrix is that most of the Indian businesses are selling either backend systems (machinery or IT). It has not always been clear whether that is what the A/SA businesses wanted but given that only two partnerships are selling predominantly the same product, it is likely that the matches have been well made.

Table 4: Innovation and Indian business

Changes to the product \ Type of Indian innovation	Same/similar end products	Substituting/supplementing existing products with new but familiar products	Introducing new products/services
Manufacturer of backend systems	K&Q/ NBMT Melach/ Dimensions	N&MJV/ KEGG Shreenagar/ Lark The Bazaar/eKutir R&D/eKutir	Luniva Tech/ Live Health Eco/ Saral Insurance for All/ AOSTA Pure Products/ ASJ Nyabon/ VST Greenovator/ Cropln & Jayalaxmi Agromite/ Redlands & Bankura
Manufacturer of products sold to end consumer	N/A (product would compete with existing product)	Ziweto/ Hester	Mukusu/ Captain Tractors Agriaccess/ MicroDrops
Providers of process expertise	Afrilife/ Safa Masole Ammele/ Pioneer Aqua	eTrash2Cash/ Saahas Zero Waste Grain Solutions/ Bharath Agrovet	N/A (improving the process does not change the product)

Box 4: Melach Coconut

Melach, based in Ghana, processes coconuts to produce coconut oil. Using manual labour, it was able to process 3,000 coconuts per day; with its new machinery comprising de-husker, grater and expellers, from Dimensions Engineering Technologies, it can now process 15,000 coconuts working in two or three shifts. Despite delays in receiving the equipment, Melach achieved sales of \$279,000, comfortably ahead of its forecast of \$237,000. It is achieving a net profit margin in excess of 50 per cent. It has grown its cash reserve from \$5,000 to \$124,000. It is now exporting to six countries including Russia, Netherlands, Israel and USA. It is buying from over 130 farmers a month (and from over 1,000 in total) most of whom now earn over \$120 per month up from \$45.



5.4 Partnership and collaboration

While SME growth through innovation transfer was the immediate objective of Connect, we recognised that an effective way to bring about innovation transfer was by facilitating long-term, commercially driven partnerships between the A/SA enterprises and the Indian enterprises. In other words, partnership was about more than simply identifying a mechanism to share an innovation. Bringing together one partner with knowledge of a market and who was looking for an innovation, with a partner who had an innovation, but was looking for a market, should be synergistic. Partners would have to share the benefits, but if their growth potential was greater than each partner could have achieved alone, there would be sufficient incentive for partnership.

As outlined in the 2017 Learning Snapshot¹⁷, most enterprises that applied to Connect found partnership a difficult concept to grasp and the programme adopted a set of guiding partnership principles to help entrepreneurs understand what genuine collaboration looked like (see Box 5 below).

Box 5: Connect to Grow's guiding partnership principles

- There should be a shared goal and shared objectives. Both partners have a mutual interest in the venture succeeding. This might be to exploit the market potential for a specific product or service or adapt products or services to meet the needs of new or existing customers.
- The relationship is expected to be collaborative rather than transactional. This means that the partnership will involve more than just buying and selling the product or service of an Indian partner. So, the purchase of new equipment with no other engagement is unlikely to count as a true partnership. Similarly, repeat transactions of items for resale, especially where the Indian partner takes no risk, would be unlikely to count. Ideally, there should be value addition in the target country. Furthermore, collaboration implies the partners will work together to set the direction and targets.
- There must be a continuing contribution from both partners. The contribution could come in the form of knowledge (e.g. about the buying habits of particular markets), expertise (e.g. about the most cost-effective way to manufacture a specified product or the delivery of a particular service or an innovation) or resources (e.g. people, money, technology, equipment). If one partner expects to be paid on a commercial basis for their technical assistance or know-how, this is unlikely to count. We recognise that partnerships may not endure for ever, but there is an expectation that the relationship will be long-term.
- The partners share in the rewards: if the activity flourishes, then both partners benefit. This can be structured in many ways and may include financial and non-financial benefits (such as brand or reputation). It is likely, however, that the benefits will be directly related to the level of sales (though may be tempered by the level of contribution).
- The partners share in the risks: a key reason to work in partnership is to reduce risk, but no business activity is entirely risk free. Ideally, the level of risk is clear at the outset and will usually not exceed the committed investment of time and resource but sharing the risk will align the partners in seeking success. This risk might be financial or non-financial (such as brand or reputation).

Each of the proposals of the 20 pilots that was approved for implementation adhered to at least some if not all of the six partnership principles. However, as is the nature of pilots, once implementation began, in many cases collaboration did not pan out as expected. In fact, the way in which the innovation

¹⁷ Connect to Grow. 2017. *Lessons from supporting African and south Asian enterprises to grow through partnership & innovation* London: Connect to Grow. See <http://iga.fyi/lessons1>

changed the end products/service and the type of Indian business that was helping to facilitate that innovation had a significant influence on how the partnerships actually panned out. Both factors influenced the contribution that the Indian partner made to the venture and how they worked together.

This section describes how and whether the pilots were able to follow these principles in practice.

- *Having a shared goal and objective:* All the proposals suggested that goals were closely shared. In practice, however, as pilots started to progress, it became clear that in some cases there was limited alignment. This was mainly identifiable amongst in those partnerships with an Indian partner that was primarily interested in selling their product, irrespective of whether that was to be sold on to end-users or to be used in some kind of process.
- *Being collaborative rather than transactional:* The level of collaboration varied from clearly transactional, service-based relationships to genuine collaborations with a long-term view. The pilots that involved the Indian manufacturers of back-end systems, particularly where the end product was the same or similar, tended to be less collaborative (possibly because they were not aligned with the objectives). In these pilots, the Indian partner was essentially the supplier of equipment and so the innovation transfer lent itself to a “give and take” sort of relationship. For example, in the case of *Kings and Queens*, the Indian partner sent the Cassava peeler, grater and roaster machinery as agreed in the partnership agreement but had little to do with the venture beyond that. The pilots that involved the providers of process expertise, were by their very nature, more collaborative. For the *eTrash2Cash* waste management pilot in Nigeria, the Indian partner *Saahas Zero Waste* helped eTrash2Cash to develop and implement a new business model from actually designing the business model to include waste collectors to providing the specifications for equipment needed and creating awareness amongst the local community. A reward sharing model was agreed at the very start as was a post pilot plan to diversify and expand the waste collection capabilities which provided the Indian partner with clear incentives to remain involved.
- *Continuing contribution from both partners:* Depending on the type of innovation, contributions from the Indian partner mostly came in the form of knowledge and expertise. In the case of the manufacturers of back-end systems, most of the Indian partners were unable to contribute much beyond installing and maintaining the machinery. However, the case of the partnerships in Nepal where *eKutir* partnered on two pilots with *R&D* and *The Bazaar* was different as the Indian partner was providing IT solutions to the A/SA enterprises as opposed to physical products or machinery. This meant that there was continued contribution from eKutir to the pilot as they worked with the Nepali enterprises through the pilot period and put in time to both visit the enterprises and customise the solutions for them. In the pilots that involved manufacturers of products, there was limited contribution however there is evidence in some of the pilots that the Indian partners shared their own lessons learned with the A/SA partners and helped them develop their processes to accommodate the product they were bringing in. For example, extensive knowledge sharing took place between *Kegg Farms* and the *Nzua and Msigani joint venture* that helped the Tanzanian enterprise set up high quality poultry infrastructure and core processes to run the pilot.
- *Sharing in the risks:* With the A/SA enterprises actually running the ventures, they of course took on a large proportion of the risk in terms of time and investment. However, in some partnerships, the Indian partner took on some level of risk.
- *Investment of time and money:* Many of the Indian partners invested their own time and money into the pilot beyond what they were being paid directly to do. This was in the form of the Indian enterprise providing additional guidance and technical support to the A/SA enterprise, making themselves available to respond to questions over whatsapp, emails and phone calls. Others either paid for or shared the cost of members of staff to travel to the pilot location to install equipment, train the staff of the A/SA enterprise or discuss local requirements. For example, eKutir paid for three of the six visits that their staff members made to Nepal to meet *The Bazaar* during the course of their pilot to introduce an online solution to manage their agricultural supply chain.

- *Provision of discounts:* Some partners offered discounts to their A/SA partners. For example, Microdrops provided a significant discount on the drip irrigation equipment that they supplied to Agriaccess in Ghana. Saahas Zero Waste offered their consultancy fees at a reduced rate for the eTrash2Cash pilot while Pioneer Aqua completely waived their consultancy fees for the aquaculture pilot with Masole Ammele in Malawi.
- *Deferred payments:* In a few of the pilots, the Indian partners agreed to accept deferred payments from the A/SA enterprises. For their agri-mechanisation pilot in Uganda, Captain Tractors agreed to a payment plan whereby Mukusu Motors could pay 50 per cent upfront for the tractors they ordered and pay the remaining 50 per cent after 90 days.
- *Sharing in the rewards:* The Indian enterprises were willing to take an element of risk because of the potential rewards they could gain from long term success of the ventures. For many it was the strategic reward of entering and learning about a new market and the potential for long term business with their A/SA partners. It is too soon to say whether this turns into tangible reward in the long run for any of the ventures. The *eTrash2cash* venture was the only example where reward sharing actually took place during the pilot period and looked set to continue. Once the new waste management model was implemented and generating revenue, eTrash2Cash was able to share a small percentage share of their monthly turnover with *Saahas Zero Waste*. This began approximately five months after the pilot began.

Box 6: Mukusu

Mukusu Motors & Properties Ltd is a vehicle leasing and sales company based in Kampala Uganda. The pilot was focused on introducing small-scale mechanised farming equipment, developed and proven in India by Captain Tractors, to smallholder farmers in Uganda. Mukusu's ultimate intention is to sell or lease tractors to smallholder farmer groups, but the pilot focused demonstrating the impact of the innovation.



Throughout the pilot period, Mukusu provided mechanised services to 225 farmers which, although less than half of what was expected, did demonstrate that net revenue for each farmer approximately doubles as a result of farming using mechanisation. Uptake of mechanisation resulted in farmers saving time during the day as well as during the period over the season – this time can be used for other income generating activities.



The company will continue to evolve and scale-up the pilot.

Box 7: eTrash2Cash

eTrash2Cash is a Nigerian waste processing company that collects trash from people's homes via a network of entrepreneurs. Their partnership with Saahas Zero Waste (SZW), a waste management solutions enterprise in India, was focused on procuring and installing improved processing equipment. Prior to this pilot, eTrash2Cash was only able to process low grade plastic but now can process high grade plastic, paper, and metal.



eTrash2Cash has a revenue sharing agreement with SZW and the first payment has been made. The company views their largest social/environmental impact as being on the community's health and environment, because of the removal and repurposing of the trash which has significant. Additionally, they collect trash from more than 690 low-income households who earn an average of almost \$3/month. They have also recruited 12 waste collectors who earn an average of \$45/month.



How partners came together

In 15 of the pilot ventures, the A/SA enterprise and Indian partner were introduced to each other by Connect to Grow. The other five had either worked with their partners previously or had identified them as partners outside the Connect process. It was always expected that enterprises which had made initial contact with a potential partner could still be involved in this programme, not least because this meant they could skip part of the process and prove more within the short timeframe of Connect. However, the team made a rigorous assessment to ensure sufficient additionality. In fact, in all three of the mechanisation pilots, partnerships were formed between enterprises that had already engaged with each other in some capacity. This made the initial needs articulation and partnership initiation process smoother but Connect support was still critical in solidifying the relationship, developing a viable pilot proposition and ironing out issues during pilot implementation. It also did not necessarily mean that the partnerships went smoothly. In the case of Agromite, for example, the enterprise was unable to raise the funds it needed to pay fully its partners which caused some tension and delays during the pilot.

In the other two instances, the enterprises did not know their partners from before but found them without Connect assistance. For the Melach coconut processing pilot, the A/Sa enterprise actually started the pilot with a partner identified through Connect. Due to a delayed payment and subsequent lapse in trust, they had to part ways but Melach were able to very quickly find another Indian partner to work with in order to continue the pilot.

While most pilots involved collaboration between one A/SA enterprise and one Indian enterprise, in two of the ventures three parties were involved. *Greenovator* partnered with two Indian enterprises to test two online applications to meet different but complementary needs of smallholder farmers in Myanmar. In Tanzania, two separate poultry enterprises *Nzua Enterprises and Msigani Poultry Farms and Hatcheries* agreed to set up a joint venture to develop a pilot with India's *Kegg Farms*.

Box 8: Pure Products

Pure Products is focused on providing clean, affordable and easily accessible water in Kampala, Uganda. The pilot was focused on importing and setting up four water ATMs through a partnership with ASJ, the Indian business that invented the water ATM technology. As of January 2018, all four ATMs have been set up throughout the city and each is running profitably. In January alone, the ATMs purified and sold more than 50,000 litres of water. The profiles of customers vary, but initial feedback indicates that people prefer the ATM water because it is easily accessible, purified, cheap, and available cold. The ATM water price is about one half the cost of commercial bottled water. Pure Products is now preparing a business plan to raise sufficient investment to import and install additional ATMs. The development impact arises from the fact that the current target market (i.e. low-income households) are those who would normally boil and drink the municipal supply of water. If the project scales, the target market could be expanded to include schools and hospitals also.



5.5 How did the partnerships support innovation transfer?

Depending on who the partner was and how the enterprises worked together, Indian partners helped support innovation transfer in a number of ways. This included support around the product itself and/or support to help businesses adapt their processes.

- Installation support – The most common way of supporting innovation transfer was in installation help. Throughout the pilots, Indian partners often organized a visit around the installation of the innovation. For example, *MicroDrops* visited the *Agriaccess* team in Ghana during the installation of the drip irrigation equipment on the demonstration farm. Their ability to provide on-the-ground support was essential to trouble shoot the challenges that arose.
- Adapting the product to the local context – Just because a product (or service) worked well in one geography did not mean it would work in another country. Across the pilots there were examples of the Indian partner providing guidance and support to adapt the product to the local market. For example, *Akshay Swach Jal* spent some time and planned to spend more on adapting the Water ATMs in use by *Pure Products* to meet requirements in Kampala. This included reengineering the coin acceptor to take Ugandan Shillings and will include modifications to adapt to power fluctuations, water quality and mobile phone systems.
- Marketing support – While the same marketing messages might not resonate between India and A/SA, some partners provided messaging and lessons learned for how to market to new customers. For example, *Saral* shared with *Eco International Trading* their marketing material and lessons learned around how to generate demand for sanitary pads to women that had never used them before. *Captain Tractors* also shared marketing materials with *Mukusu* to demonstrate how the use of mechanized equipment had been marketed to smallholder farmers in India.
- Policy advocacy – *Saahas Zero Waste* worked with *eTrash2Cash* to establish campaigns addressing the need for local and national waste management policies. For example, they helped advocate for a policy that would mandate that manufacturing companies ensure recyclable packaging is

processed appropriately. These policies have been established in India and have supported the waste management and recycling industry.

- Other business support – There were other instances in which Indian partners helped their A/SA counterparts in areas that were outside of their core business. For example, *Lark Engineering* helped *Shreenagar* find options to source raw ingredients for chicken feed and provided support to help *Shreenagar* to recruit a manager to oversee the manufacturing process. While these areas were not within Lark Engineering’s core business activity, they were areas in which the company had contacts and could be helpful to *Shreenagar*.

Box 9: Shreenagar

Shreenagar, based on Nepal, sells livestock feed primarily through a series of distributors throughout the country. Through Connect, they piloted an integrated approach to reach farmers in earthquake affected areas. To address the various challenges smallholder livestock farmers face, Shreenagar set up three one-stop-shop agricentres to support farmers throughout the entire livestock value chain. The agricentres provide credit to farmers for inputs (e.g. feed), free technical advice (e.g. veterinary services) and a guaranteed buy-back market for certain livestock products (e.g. eggs). Throughout the pilot period, Shreenagar saw sales of feed exceeding \$790,000 (almost exactly what was forecast) across the three centres. Shreenagar expects that one agricentre will be operationally profitable in by mid-2018 with the others to follow later in the year. The company estimates that through the purchase and use of their feed, farmers can earn up to an additional \$45/month per cow through the improved quality and quantity of milk produced. Shreenagar is improving incomes for poultry farmers, too, by guaranteeing to buy back from them eggs and chickens for slaughter. Working in the earthquake-affected regions of Nepal, Shreenagar target the most vulnerable and underserved groups for this pilot.



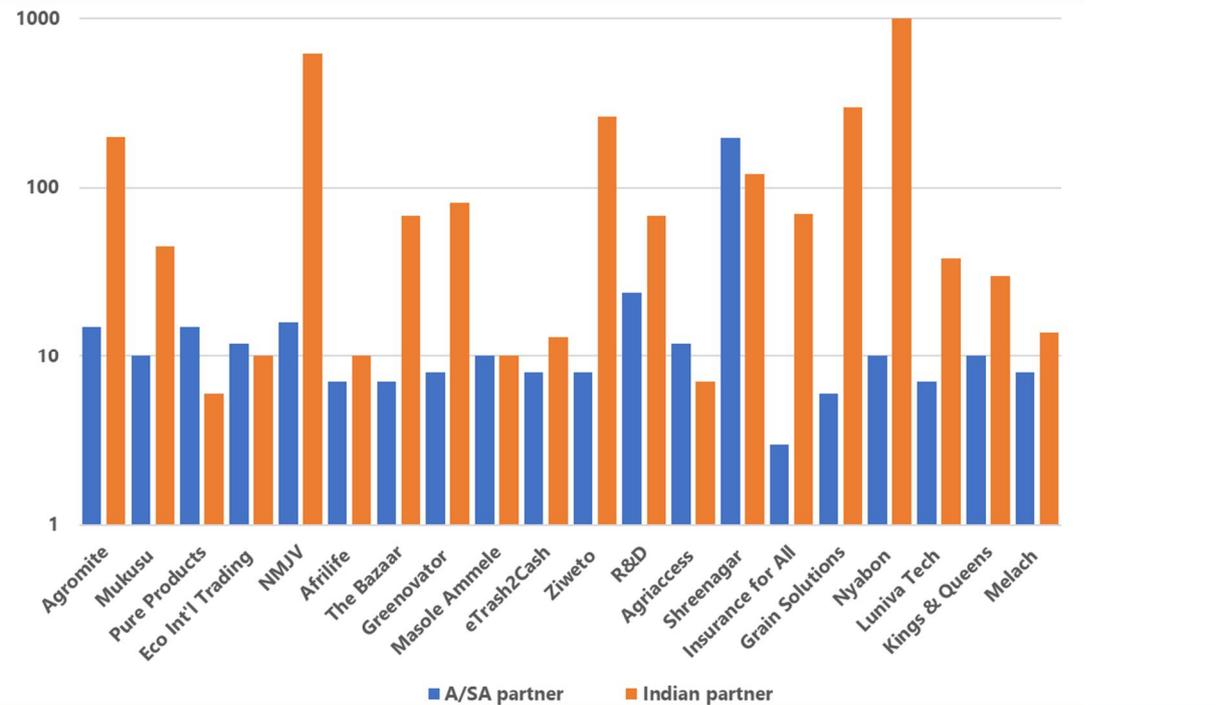
5.6 How did the size and age of the partners affect collaboration?

As was discussed in Section 4, most of the A/SA enterprises that registered for Connect support, and subsequently implemented the pilot ventures, were relatively small and young. The Indian enterprises, on the other hand, were generally much larger and more established. The median number of full time employees of the Indian partners involved in the 20 pilot ventures was 57, though the two largest Indian companies had 1,000 (VST) and 622 (Kegg Farms) employees. The A/SA enterprises on the other hand had a median of 10 employees. Shreenagar employ 198 and was our only medium sized business; the next largest was just 24.

This meant that in a majority of the pilots, there was a large discrepancy in size between the two partners. Figure 11 illustrates this discrepancy comparing the size (by number of employees) of the partners in each pilot. This had an impact on how the enterprises engaged with each other, and what expectations they had from the partnerships.

There was an apparent difference in motivation in a number of the pilots where the Indian partner was much bigger than its A/SA counterpart. The larger Indian partner tended to be keener on maximising the level of sales and exploring further avenues for expansion rather than focusing on the objectives of the pilot itself. For example, for the pilot implemented by *Nyabon* in Kenya, Indian partner *VST* were keen on scaling rapidly to sell more of their machinery in the region while *Nyabon's* focus was much more on the farmers themselves and ensuring they implemented smart farming practices alongside the machinery to demonstrate long term benefit.

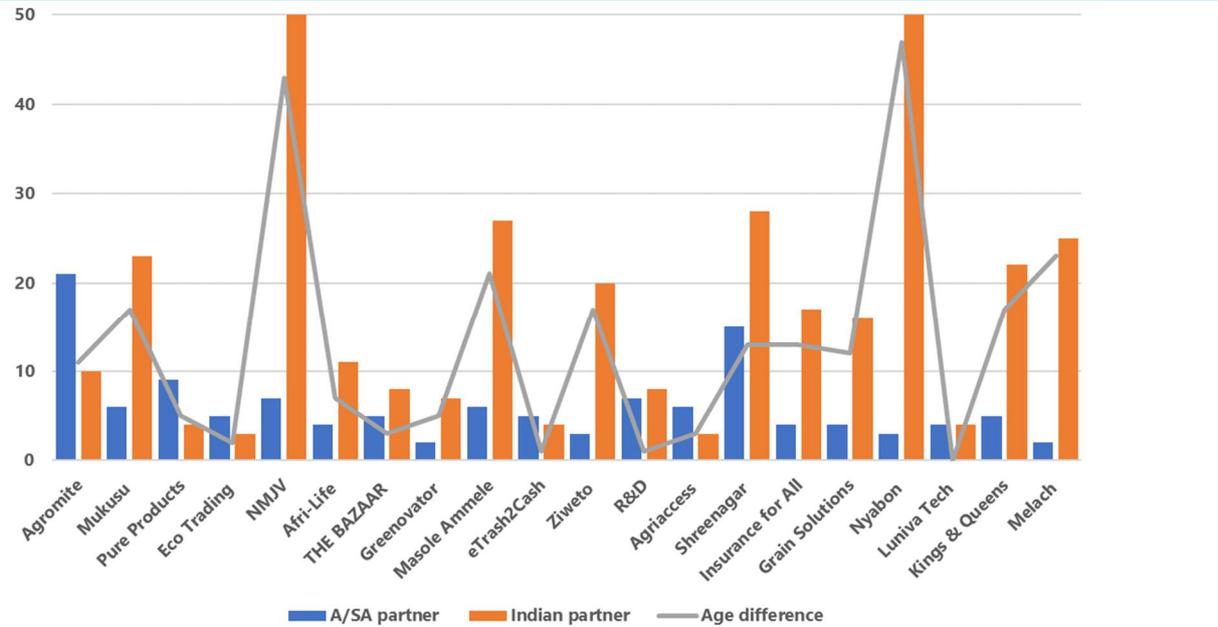
Figure 11: Comparison of partners by number of employees



Note: The y-axis is a log scale

There was a wide variation in age. The median age of A/SA businesses was 5 years and only two were more than 15; the median age of the Indian businesses was 14 with nine that were less than 15 years.

Figure 12: Comparison of partners by age



Box 10: Nyabon

Nyabon, in western Kenya, is working with farmers to increase their rice yields. The starting point for this pilot was to assist farmers to improve their livelihoods by mechanising more of their farming activities, using power tillers and tools from VST. In the end, Nyabon effectively engaged in contract farming and brought together mechanisation with smart farming. This meant that the benefits provided from mechanisation, especially the time saved, would be used on further income generating activities. This includes planting and harvesting an alternative crop, in this case sorghum, with time saved from farming rice. Nyabon provided seed and inputs, organised land preparation, oversaw sowing, weeding, harvesting etc, and set up customers to guarantee a purchase of all the rice and sorghum. The intention had been to pilot on 55 acres, but they recruited enough farmers to pilot 72 acres. The yield for rice was up by almost 75 per cent and, despite losing their prime customer at the last minute, was able to sell all the produce at a price that was better than expected. Sorghum is to be purchased by Kenya Breweries who are interested to see this pilot scale so they can source more quality and sustainable Sorghum. Other farmers are already clamouring to join with Nyabon.. Farmers should see an increase in their annual incomes of about \$280. Nyabon is in discussions with the Lake Basin Development Corporation about milling the rice, and thus adding more value, locally.



In the case of the poultry pilot in Tanzania, Indian partner *Kegg Farms*, while initially showing willingness to discuss making the *Nzua Msigani JV* the exclusive distributor of the Kuroiler chicken in Tanzania, became unwilling to do so once another opportunity presented itself through a Gates Foundation project (see Box 11).

Box 11: Nzua&Msigani Joint Venture

The Nzua and Msigani Joint Venture (NMJV) is a poultry enterprise in Tanzania that partnered with India's Kegg Farms to introduce the Kuroiler chicken in the local market. During the pilot, NMJV developed their poultry infrastructure and put high quality processes in place to implement the venture. They imported day old chicks and hatching eggs from Kegg and have already generated income from the sale of surplus male chickens in the market. They also had advance orders for day old chicks.

While they continue to work with NMJV, Kegg began working with a Gates Foundation initiative in Tanzania soon after the pilot began. Gates Foundation is putting a lot of grant money into supporting a venture that sells Kuroiler chickens to the rural poor. While this is a different market to NMJV, the Gates' venture risks undercutting the entire market as they are able to sell the meat and eggs at a lower rate. This has already had an impact as NMJV found it more difficult to sell males to the market as the market had already been flooded by excess males from the Gates' funded enterprise. It is too soon to know how this will affect NMJV in the long run. The development impact from this venture comes from boosting the potential of small-holder poultry farmers by allowing them to breed a hardier bird than the indigenous birds currently in the market. Also, promotion of poultry as a food security measure is widely recognised, including with Gates.



For the larger Indian companies, the pilots were another opportunity they were pursuing that would not make or break their business whereas for the A/SA enterprises the pilot venture was, in many cases, critical to their core business. This did not necessarily mean that the large partners were not willing to offer much in terms of collaboration support but in some cases the smaller partners felt that way. It is natural that the larger partner had less time to engage and therefore really understand the sort of support for which the smaller enterprise was hoping.

On the other hand, in the pilots where the partners were of a similar size and nature there appeared to be more compatibility and understanding in the partnership. For example, *eTrash2cash* and *Saahas Zero Waste* are both small social enterprises and as a result had a similar mind set. Their partnership was highly collaborative with the Indian partner offering regular and continuous support. In the partnership between *Eco International Trading* and *Saral*, the partners shared a similar impact-oriented outlook. While Eco International Trading was unable to reach the sales targets forecast for the pilot, Saral's Founder Suhani Mohan expressed sympathy for the Bangladeshi enterprise saying it was unsurprising as they had been through similar struggles in their own business. However, their partnership also demonstrated the challenges that can occur between two small partners. As a small outfit with limited capital, Saral was unable to start manufacturing the sanitary pad machinery for Eco International Trading until they received full payment for the equipment. This led to delays as it took some time for the Bangladeshi enterprise to send the payment to India due to financial regulations of which they were unaware.

This was not a constraint for the pilots with larger Indian partners where, in many cases, the Indian enterprise provided much more leeway to the A/SA enterprises on payments.

Box 12: Ziweto

Ziweto is an agribusiness which sells products that promote livestock health. It operates through a network of agro-vet shops throughout Malawi.

For this pilot, they partnered with Hester Biosciences, a vaccine manufacturer based in India, to import and sell a thermo-stable strain of a vaccine targeted at Newcastle Disease, which is highly contagious and kills 60-100 per cent of flocks each year. Hester actively contributed to the pilot by sending their veterinary specialist to provide support on the ground, supplying additional vaccination equipment such as droppers at no cost, forwarding all Malawi-based vaccine inquiries to Ziweto and ignoring their own minimum order quantity.

To reach farmers, Ziweto developed a distribution channel via a network of community vaccinators. They trained 60 lead farmers as community vaccinators and vaccinated more than 35,000 chickens. They sold more than \$30,000 worth of vaccines through multiple sales channels.

It is difficult to assess impact when there is no obvious improvement in incomes; however, vaccination stops the possibility of poultry being wiped out across large areas and thus reduces the likelihood of incomes reducing; it encourages large flock sizes and thus poultry farmer families eat more chicken and eggs, improving nutrition; and it adds to food security.¹⁸



5.7 Other factors

There were other factors that impacted on the businesses and pilots and in some cases supported or hindered the creation of productive partnership.

The existence of a clear market opportunity: When the A/SA enterprise was already accessing a market and/or had adequate knowledge of the potential market and customers and had a clear vision for growth, it paved the way for smoother collaboration. As noted above, this was supposed to our starting point, but it transpired that some applicants' knowledge of the market was not as well developed as they had led us to believe.

For *eTrash2Cash* and *Saahas Zero Waste* market knowledge was a key success factor in their partnership. *eTrash2cash* had a clear understanding of what they wanted to do and consequently both parties were able to agree a Memorandum of Understanding (MoU) that listed clear targets and timelines from the start of the pilot. *Nyabon* had a customer lined up to buy all the rice that 'his' farmers would be able to

¹⁸ Knueppel, C, Cardona, C, Msoffe, P, Demment, M. & Kaiser, L (2010) Impact of vaccination against chicken Newcastle disease on food intake and food security in rural households in Tanzania, *Food & Nutrition Bulletin*, 31 (3), pp436-445 (available at <http://journals.sagepub.com/doi/pdf/10.1177/156482651003100306>)

grow, which instilled a degree of confidence (and when the customer reneged, Nyabon found alternatives, willing to pay a higher price).

A letter of intent or memorandum of understanding made a difference to the expectations of partners. It had been our intention that every putative partnership would set down some sort of (non-binding) agreement on roles and responsibilities. In the event, not every partnership did this, and those turned out to be the partnerships where there was less commitment – and less advice and less cost sharing – as the pilot project progressed.

Regular and open communication between partners: The partnerships that worked better were the ones that spoke regularly and that kept lines of communication open. This was no easy task since the partners were in different countries and time zones, and the pilots were often being implemented in remote areas where phone networks and the internet were not always reliable. Many enterprises reported that the messaging service Whatsapp was a much more effective tool to communicate rather than by email or phone. *Agriaccess* found this particularly useful for their correspondence with *Microdrops*. It allowed them easier access to the Indian partner's expertise as they were able to send quick questions about the set-up of the irrigation equipment real time and allowed them to develop an easy, informal rapport.

On-ground visits from the Indian partner: While the initial visits made by the A/SA enterprise to India (funded by travel grants from Connect) were highly beneficial in helping the A/SA enterprise meet their eventual partners and initiate the relationships (see the Learning snapshot for more), visits made by the Indian partner once the pilot had started proved very useful. For example, before the founder of *Pioneer Aqua* visited *Masole Ammele's* aquaculture site in Malawi early in their pilot, he was somewhat sceptical about the opportunity and had been unwilling to share the risk. However, once he visited, he changed his mind as he saw first-hand the potential in what Masole were trying to do. Following the visit, he agreed to reduce his consultancy fees and to accept deferred payment for his services. Face to face visits between senior team members of each enterprise really helped to solidify relationships and build rapport between partners. During their feedback sessions with the Connect team, some Indian partners expressed regret at not being able to visit their A/SA counterparts during the pilots. Both the founder of *Live Health* (partner of Lunivatech in Nepal) and *Saral* (partner of Eco International Trading in Bangladesh) provided feedback that they felt visiting their A/SA partner might have been beneficial to the respective pilots.

Good partnership facilitation: Most enterprises were not used to partnering with others before they started working with Connect and mediation from PMgrs was an important factor in developing strong relationships. Resolving relationship issues was a key role played by the PMgrs. The founders of *R&D* were particularly appreciative of partnership facilitation support they received from the programme. They often didn't see eye to eye with their Indian counterpart, but they were able to resolve these differences thanks to the mediation of their PMgr. They reported that they had learned how to manage the relationship with their partner better through the course of the pilot period. They also said that the experience helped them understand how to build better relationships with other stakeholders as well.

Anticipation of possible pain points: Despite efforts by the Connect team to encourage pilots to think realistically about timescales and the potential for delay, especially where equipment was to be shipped to Africa or south Asia, most forecasts did not make sufficient allowance. In fact, most of the pilots encountered some delays during implementation. In some cases, these were unavoidable and unsurprising given the unique nature of what the enterprises were trying to do (see the section below for more on pilot delays). But in others, the delays could have been avoided had the partners been more meticulous in anticipating possible pain points and necessary requirements at the start of the collaboration. For example, the need to translate the IT applications that *eKutir* were customising for smallholder farmers in Nepal for *R&D* and *The Bazaar* from English to Nepali was only discussed months into application development. This led to delays in rolling out the applications in both pilots. These

delays could easily have been avoided had the partners conducted a thorough review at the start of what was required. In other pilots, there were issues around local rules and regulations that could have possibly been overcome more easily if partners asked the right questions early on in the process rather than having to fire-fight when challenges cropped up. For example, we anticipated that *NMJV* might have difficulty securing an import licence for chicks or hatching eggs so the team leader went with them to the Ministry of Agriculture, Food Security & Co-operatives to ensure that this did not become a problem. Unfortunately, India then experienced an outbreak of bird flu which added a considerable delay. The equipment going to *Agriaccess* was 'lost at sea' for more than a week, though did eventually turn up.

A lot of the enterprises, both Indian and African, made assumptions early on about issues such as data and online transactions. For pilots developing and testing I.T. applications that involve the sensitive issue of storing of data, partners did not discuss the crucial question of how data would be managed and who would own the data stored on the applications at the start and this caused some tension in some of the pilots when the issue did come up. For the two Nepali pilots they were partnering, *eKutir* was keen that the farmer data collected through the apps they developed would be accessible to them. This was not something either Nepali business had anticipated, and they were, unsurprisingly, sceptical about sharing the data they collected. Additionally, the regulations on data security are different in India and Nepal and the enterprises were still unclear about what implications these would have on their applications. A challenge both in Nepal and Myanmar was the need to use payment gateways, which weren't affordably available, to conduct transactions on their respective applications. This was not something that either the A/SA enterprises or their Indian partners seemed to have thought about when they began their pilots. It turned out that in Myanmar, where Greenovator was looking to set up a marketplace application, payment gateways were very expensive. The enterprises were still working out which the best ones to use were and how they were going to pay for them when Connect support ended.

Poor staffing capacity and availability: A lack of appropriate numbers of staff and team members with the right skillset has been a challenge for some of the pilots. Enterprises did not take on new staff for their partnership pilots so existing staff had to take on additional work. For example, for *Pure Products*, the PMgr reported that there was a conflict between how much time the staff were devoting to the 'business as usual' and how much they devoted to the new pilot. Staff also required a fair amount of training to come to grips with the new products/services and new methods of delivery. This took time and resources which was not necessarily available. Some enterprises reported that they struggled to find and retain skilled members of staff to join their teams. In Nepal, particularly, both Lunivatech and R&D said that the attrition rate of people with IT skills was very high.

A further aspect of lack of capacity arose with enterprises taking on too much during the pilots instead of focusing on the opportunity with the most potential. For example, *Masole Ammele* expressed to their PMgr that they wished they had scaled down what was due to be achieved during their aquaculture pilot. They felt that, given the limited resources available, they should have focused pilot activities on developing the hatchery rather than working on fish production as well in which case they would have already started selling fingerlings. Instead, at the time of Connect support ending, they were still to complete the hatchery.

Lack of transparency from the entrepreneurs: Sometimes issues occurred because entrepreneurs were not fully upfront about the state of their core businesses and the resources they had at their disposal. One entrepreneur, for example, assured their partners and Connect to Grow that they had access to external finance. This would not have mattered had he not then spent his available money on equipment that had not been included in the pilot proposal. The external finance then did not appear which severely affected the enterprise's ability to pay their debt to their partners and continue investing in all aspects of the pilot. In another pilot, rather than simply diversifying, the entrepreneur sold his original business and started what was effectively a completely new business. This meant that he ended

up spending the pilot period working out how to segment and target customers rather than making adequate sales.

Weather conditions and other uncontrollable factors: Unpredictable weather played a role in hampering the effective implementation of pilots. For the *Nzua and Msigani* poultry joint venture, the start of the rainy season caused some difficulty for them to meet the construction schedule for the sheds on the farm. They were then further delayed by an outbreak of bird flu in India. For *Mukusu Motors'* small tractor pilot, insufficient rainfall meant that the farmers could not carry out the rice growing as expected. For *Agromite*, it was heavy rainfall that hindered their ability to deliver their laser land levelling service during the first growing season of the year. The enterprise was able to demonstrate the technology at a few sites and got good feedback from potential customers but they would not use the service until the next season many months later. This had a big impact on the income *Agromite* was able to generate.

Government regulation: Regulation governing the import and export of material and machinery caused delays in some of the pilots. For example, the Bangladesh government requires Bangladeshi companies that need to make international payments to vendors to put the money in a bank as a 'Line of Credit'. The money is then only transferred to the vendor when the product arrives in Bangladesh. This delayed *ECO International Trading's* sanitary pad pilot considerably as their Indian partner needed the money to cover the costs of the machinery manufacture. It also took them time to acquire the import licences they needed from the Bangladesh Investment Development Authority (BIDA). This affected their cash flow as *Connect to Grow's* second tranche for the pilot relied on proof of this import. For *Lunivatech*, sudden regulation changes impacted their work. They were hit by a change of rules governing electronic billing software in Nepal. The changes impacted the way they had developed their Health Management Information software so further unexpected work was required to incorporate all the required clauses from Nepal's Inland Revenue Department (IRD). Furthermore, all pathology labs and hospitals were required to get an approval letter from IRD to use *Lunivatech's* new software.

How did enterprises react to delays?

Some enterprises were unable to progress their pilots due to the delays but others were able to demonstrate flexibility and resourcefulness in the face of challenges and as a result still made progress during the *Connect* pilot period.

Nyabon were a good example of a small but resourceful enterprise that demonstrated that a proactive approach to obstacles could help avoid any major damage and allow them to continue to make progress. Even though some of the farm mechanisation equipment they needed from India was delayed, the venture improvised so that the rice farming activities didn't stop. As a result of the delay, the pilot decided against planting cow peas as the alternative crop, and decided to instead grow sorghum. Sorghum required less time to grow than cow peas and was identified by the enterprise as a better opportunity given the high demand from Kenya's breweries. Due to their flexibility and clear thinking, the enterprise were able to turn the delay into an even better opportunity.

Kings & Queens were also forced to adapt their plans to accommodate a delay in equipment from their Indian partner. Instead of waiting for the machinery to reach them, the enterprise forged ahead with other aspects of the pilot by purchasing some local machinery and engaging with the small holder farmers that would benefit from the cassava processing. They also did some marketing in advance of the equipment arriving and stockpiled some advance orders so that when the equipment arrived, they could hit the ground running and start to produce the garri to meet the demand they had.

R&D demonstrated an ability to adapt when the IT application being developed for them by *eKutir* took much longer to customise than expected. The R&D team had already spoken to a number of key stakeholders about the application so when it got delayed they decided that they needed to develop something basic in the meantime that people could start using. They hired a Nepali IT firm to develop this for them and as a result had an interim solution to share with stakeholders while the full application was further developed.

Box 13: Kings and Queens

Kings and Queens, based in Nigeria, processes cassava to produce garri, a staple food for Nigerians. Prior to the new processing equipment, the company used manual processes to peel, wash, ferment, grate and fry cassava. Processing five tonnes of cassava required eight people working for three days; the new equipment can now peel and wash this amount of cassava in 12 hours. Rather than losing jobs, the business has simply expanded its production – and expects to grow much further. There were significant delays in receiving the equipment but Kings and Queens achieved sales of more than \$12,000 in December and January. It is buying from over 20 farmers who earn an average of \$38/month and selling via a network of 55 women distributors that it has put together (selling to 250 retailers) and enabling the women each to earn about \$90 per month. As the business grows, the number of cassava farmers is expected to expand considerably and they will all be expected to earn more.



Box 14: ECO International Trading

ECO International Trading is a business in Dhaka that had been selling hand gloves and facemasks to garment factories. Through Connect they were looking for a way to address the unmet menstrual needs of women working in these factories.

In partnership with Saral, they have imported a sanitary napkin manufacturing machine and have produced approximately 17,000 napkins per month. They discovered during the pilot that it was not viable to sell directly to garment factories as originally planned and instead began to pilot a distribution model that empowers women to become micro-entrepreneurs. Eco recruits women who they call 'Sokhiapas' (sisters) through Facebook and trains them. The Sokhiapas buy the pads from Eco, keep some for themselves and sell the rest in their communities. The objective, ultimately, is to be able to support small businesses all round Bangladesh to manufacture sanitary pads with Eco providing the sales and distribution network. The development impact from the venture comes from the health benefits associated with using Eco's quality product, compared with other brands, as well as with the large majority of low-income women who use rags. Furthermore, the business model integrates low-income women into an income-generating activity.



There is always a question about which factors are responsible for delivering the outcomes. We have therefore undertaken some statistical analysis, treating the achievement of commercial viability (that is, being a scalable proof of concept) as the dependent variable and looked at four independent variables likely to influence the outcome. These are the type of innovation required by the A/SA business; the type of innovator; the difference in size in the partners and the difference in age in the partners. Other factors almost certainly contribute but there is not sufficient data for these, for example, with annual revenue or level of working capital availability. The sample size is rather small for a regression analysis and indeed none of the factors contribute in a statistically significant way.

6. Measuring outcomes and impact

Whilst we monitored a large number of indicators during the implementation of Connect, ultimately there were three indicators in which DFID was especially interested and these were included in the log frame as targets though, as noted above, only one of these assessed whether the pilots were to be considered scalable proofs of concept: (i) commercial results (ii) development results and (iii) value of Connect support. In this section we report on all of these and also look at the effectiveness of the Connect model and the future of the pilot ventures.

Donor funded programs measure these three different types of results in different ways. For each indicator, Connect developed an index that used a combination of qualitative and quantitative information. These are described below.

6.1 Commercial impact

It is not possible for the private sector to deliver development impact without first delivering commercial viability. We recognise, particularly when serving the poor, that it may take several years for projects to become profitable, though projects that benefit the poor for example by using them as suppliers should be able to achieve profitability much faster. We recognise that a pilot period of six to 12 months is a short timescale to demonstrate profitability, particularly in agriculture. However, being profitable is only one element of being commercial.

To assess commercial viability, we measured each pilot against six indicators. It was clear that some of these were more important than others but we were unable to find any project that had both considered factors such as these and then weighted them, so we used a Delphi method¹⁹. Each project was scored out of 4 (4=High, 1=Low), with strict criteria²⁰ set down to make the scoring as objective as possible, and with moderation through discussions between PMgrs and the team leader.

Our assessment of commercial impact focused on six key areas:

Capacity – Is there evidence of strong leadership commitment and management capacity to design, implement and scale the partnership venture? Organisations were assessed on the strength of leadership commitment and the organizational management capacity to take the venture to scale.

Plan for profitability – Is there a clear plan to achieve profitability, and demonstrate how losses will be funded until profitability is reached? Organisations were assessed based on their strategy for the venture, realistic financial forecasts and the expectation of profitability within a reasonable timescale.

¹⁹ see www.investopedia.com/terms/d/delphi-method.asp

²⁰ See Annex 1 for details on the composition of all three outcome indices

Market – Is there evidence that a market exists for the product or service and that customers will buy? Organisations were assessed on how well they were on track to deliver this.

Delivery of plan – To what extent is the pilot venture on track to meet partnership-specific milestones? Organisations were assessed as to how well they were meeting their original and/or adjusted targets.

Finance – Does the partnership venture have access to growth finance? Organisations were assessed based on how close they were to securing this growth finance.

Commitment from partners – Does the partnership venture have clear elements of a partnership and sufficient commitment from both partners? Organisations were assessed on the strength of the commitment from both partners.

At the beginning of the project, we defined a scalable proof of concept (SPoC) as those pilots that scored at least a 3.

6.2 Development impact

Development impact can occur in a number of ways. For example, farmers can benefit by being able to have a guaranteed market for their cassava, therefore increasing their income opportunities. In other instances, a person living in an urban area can benefit from having access to affordable purified water. Development impact has different dimensions including who is benefiting, how they are benefiting, and how many are benefiting. Additionally, development impact can be amplified due to systemic change that can be attributed to the pilot. Our assessment of development results focused on these four key areas.

The development impact index is not part of the definition of an SPoC but contributes to our understanding of programme results and is a log frame indicator at the outcome level. It should be noted that the assessment for each of these areas is based on *potential* impact, informed by current performance and credibility of plans. Each of the four areas listed below was assessed on a scale of one to three with three being high and one being low and then the final score was uprated to a scale of 1-4 to allow for easier comparison across indices.

Who is the intended beneficiary? People that benefit from the business models supported by Connect could be suppliers (e.g. rural farmers in Ghana that supply coconuts to Melach), consumers (e.g. customers of Sparkles water that otherwise have minimal access to affordable purified water) or employees (e.g. waste collectors in Kano that earn money by collecting trash from households and selling it to eTrash2Cash). Pilot ventures were assessed based on these beneficiaries. Organisations that scored high were those where the majority were underserved populations such as women and girls or smallholder farmers. The low scoring was not applicable to any of the pilots but was for pilot for reaching farmers but not smallholders and/or providing health services affordable for the top 10% of a population only.

How many benefit (breadth of impact)? It is still very early stage for many of the pilots and it is too early to assess the true breadth (that is, the number of people benefiting) for each pilot. The number of people who benefit is directly tied to the commercial success of the pilot. However, some of the pilots are starting to report numbers that show the trajectory of being able to reach a significant number of people. Pilot ventures were assessed²¹ on the extent to which they have demonstrated intentions and potential to reach a certain number of beneficiaries within three years.

²¹ There was a different scale for ventures reaching the poor as consumers vs those reaching the poor as suppliers. We were unable to identify research or best practice so proposed levels based on Ashley Insight experience of

How do they benefit (depth of impact)? People benefit through the various Connect pilots in different ways. For example, because of its partnership with an Indian cassava equipment processing company, Kings and Queens is able to buy more cassava from farmers in its supply chain and therefore these farmers benefit through an increase in income. Customers of Insurance for All are able to purchase high quality insurance and a savings scheme, expected to result in customers being able to access in-patient care and savings for outpatient care when needed which means they will not have to resort to borrowing from high interest lenders, not seek care, or shut down their business when they are sick. Pilot ventures were assessed²² based on the significance of the impact to the target beneficiary (who).

Is there a potential for broader (systemic) impacts? Businesses can have impacts beyond their direct customers, suppliers and/or employees. For example, commercially successful business models can inspire replication, thus amplifying their impact. For the purposes of this programme we looked at the potential for systemic impacts to occur through (1) spurring the market, (2) policy change or (3) other external impacts. Pilot ventures were assessed based on the likelihood that the pilot venture would lead to one or more of the types of systemic impact outlined above.

Box 15: Example of development impact

As described in Box 9, Connect supported Shreenagar to establish three one-stop-shop agricentres in earthquake affected areas of Nepal. These agricentres provided remote farmers access to high quality feed, technical services and market linkages. All of these aspects contribute to farmers generating more income. Breaking down the four areas of development impact looks like:

Who is the intended beneficiary? The intended beneficiary are smallholder poultry and livestock farmers in earthquake areas of Nepal. This scored as HIGH.

How many benefit (breadth of impact)? Shreenagar estimates that the unique number of farmers served through these three agricentres is 900 and their projections for how many they can reach in three years are aligned with what is classified as HIGH.

How do they benefit (depth of impact)? Access to the improved feed (and veterinary services) results in more productive livestock which translates to higher incomes. For example, the company estimates that through the purchase and use of their feed, farmers can earn up to an additional \$45/month per cow through the improve quality and quantity of milk produced. This scored as HIGH.

Is there a potential for broader (systemic) impacts? The one-stop-shop model is one that has been tried in other countries but there are only a few instances of it achieving true scale. If Shreenagar is able to develop a model that results in the sales anticipated, it will likely produce a replication/copy-cat effect of the one-stop-shop model used by Shreenagar. This scored as MEDIUM.

6.3 Additionality

A key aspect of assessing our effectiveness involved looking at whether Connect delivered additionality both in terms of the funding – would projects have gone ahead regardless of our grant – and of the advisory support. The Donor Committee on Enterprise Development has prepared a good practice guideline on additionality²³. They suggest that additionality occurs when either a business cannot self-fund a project within a reasonable time frame (and cannot raise the funds from a commercial provider), or when it does not have the knowledge or skill to implement a project, or because it perceives the risks to be higher than the benefits. They further suggest that there should be at least a degree of cost-sharing and that the project will not displace other companies already in the market. DCED suggests

working with Business Innovation Facility, Innovations Against Poverty, etc. While there were pilots that benefited people living in poverty through employment, a separate ranking was not developed for this target group.

²² There was a different scale for ventures aiming to improve agricultural prospects vs those aiming to improve health outcomes.

²³ Heinrich, M (2014) Demonstrating additionality in private sector development initiatives, DCED (available at <http://iga.fyi/add>)

that the greater the level of innovation and the greater the level of risk, then the more likely it is that the support is genuinely additional.

An assessment of additionality was undertaken at the proposal assessment stage – indeed without the belief that we were delivering genuinely additional support, projects could not proceed – and was then revisited at the end of the pilot with input from the Connect team, the Indian partner and the A/SA partner.

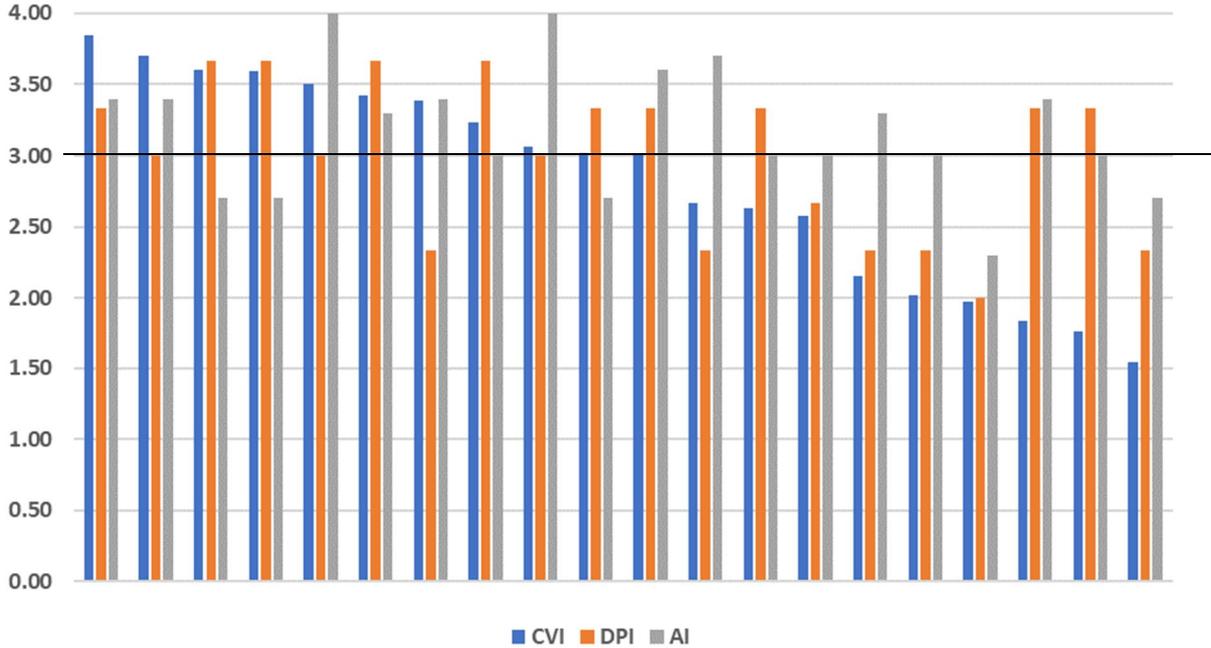
To assess and score this, we asked ‘to what extent could the project have progressed without support from Connect to Grow?’. The scores from the Indian and A/SA partner were weighted at 30% with the Connect team score weighted at 40%.

- *Critical (4):* Without Connect support the partnership venture would have not progressed at all
- *Bigger, Better, Faster (3):* Due to Connect support, the partnership venture is better designed, or proceeding more quickly, or bigger than it would have been
- *Useful (2):* Connect support was useful to us and made it easier to progress the partnership venture, although it has not resulted in specific identifiable change compared to what would have happened
- *Irrelevant & Negative (1):* Connect support made no difference or had net negative results

6.4 Indices assessment

All the pilots have been assessed and peer reviewed within the team and the results are shown in Figure 13. We assessed 11 pilots meeting or exceeding the score to be considered as scalable proofs of concept. We further assessed 13 projects as meeting or exceeding 3 on the development potential index and 15 projects as meeting or exceeding 3 on the additionality index. Seven pilots exceeded all three index thresholds. We believe therefore that the programme has delivered on its objective of demonstrating that this was an effective way of linking businesses and promoting growth through innovation and partnership.

Figure 13: Summary of performance against targets



Source: Connect assessments

6.5 Future of the ventures

At the time of Connect support ending in March 2018, all the A/SA enterprises had expressed an intention to continue with the pilot ventures in some form or the other. The future plans would be, of course, determined in large part by the progress they had made during the period of Connect support. Those enterprises whose pilots had made the most progress and proved during the period of Connect support had already discussed their next steps with the programme team and were preparing business plans for the next phase of their growth. Those that experienced delays during the period of Connect support planned to continue testing the venture and prove the concept. The enterprises can be divided into four main categories based on what broadly happened during the period of Connect support to illustrate the direction of some of the ventures in the near future.

Table 5: Future plans

Outcome of pilot	Examples of future plans
Ventures that, by and large, followed the original pilot plan, hit targets and proved the concept they were testing	<p><i>Etrash2cash</i> plan to continue working with Saahas Zero Waste and expand the business to include wet waste recycling as well. The enterprise is ready to write a full business plan and prepare financials to explore either debt or equity funding for the venture. The two partners are meeting soon to discuss whether Saahas Zero Waste could invest their own capital in the venture.</p> <p>Having successfully proven the viability of their agri-centre model, <i>Shreenagar</i> has written a business plan that focused on expanding further by setting up more agri-centres in Nepal. They plan to expand their offerings to farmers as well starting with the addition of selling day-old chicks. They are seeking investment opportunities from a range of investors as well as additional grant finance. They do not plan to engage in a more comprehensive partnership with Lark. They have, however, started connecting Lark with other businesses who could be potential customers for their machinery.</p>
Ventures that had to adapt their original plan but had made progress towards proving their concept	<p><i>Nyabon</i> adapted their pilot from a conventional farm mechanisation venture to one that introduced holistic farming solutions, was able to demonstrate favourable results during the pilot period but despite some delays were still to complete the final harvest and sale of rice. Their plan now is to plant sorghum for which they already have a guaranteed customer. They then plan to scale up the contract farming model.</p> <p><i>Agriaccess</i> had to reduce the size of their test plot from 10 to 2 hectares and had to push back planting due to late arrival and installation of the irrigation equipment. They now plan to continue piloting the equipment for the rest of the first year. The next steps will be determined by the success of the yield in April 2018. In the meantime, the enterprise is working hard to engage the right stakeholders (government, financial institutions, etc) to take the pilot to the next level.</p>
Ventures that used the pilot period to develop the innovation and business model	<p><i>R&D</i> worked with <i>eKutir</i> through the period of Connect support to customise and test the IT application and in March 2018 were hoping to start rolling out the application. They intend to continue to work with the Indian partner possibly by setting up a joint venture. They expect to digitise fully their operations in the next 1-2 years.</p>
Ventures that faced significant challenges and are way off proving the concept	<p><i>Eco International Trading</i> struggled with their model during the pilot period and found it difficult to achieve decent levels of sales until the last couple of months of their pilot. They are determined to continue with their Sokhiapa model, however, and are developing a business plan and financial forecast to discuss with potential investors. They plan to continue to work with Saral but in the short term this will primarily be for maintenance of equipment and purchase of more machines if and when required.</p> <p><i>Afrilife</i> only recently received the honey processing equipment due to inordinate delays in delivery and then installation. They had already started seeing results</p>

from improved marketing and are optimistic about what can now be achieved. They have been approached to supply large amounts of honey for export to South Africa. They have prepared an outline expansion plan and financial forecasts and Connect has introduced them to potential funders. Both partners have expressed an interest in continuing to work together.

Venture that did not stick to the original plan

Greenovator spent much of the pilot period exploring various possibilities with their Indian partners and did not really stick to the original pilot plan. By the end of Connect support, they had found a clearer way forward and had a plan for the future. They have also developed a good relationship with CropIn technologies and have become the exclusive distributor of the Indian company's smart farming solutions in Myanmar

7. General lessons

In addition to lessons arising from the way in which businesses engaged in innovation and partnership, we have some rather more general lessons arising from the desire of SMEs to grow.

7.1 A/SA enterprise support

Connect to Grow's support to enterprises went far beyond bringing partners together and providing grants to implement pilot ventures. The Connect to Grow team spent a large proportion of their contact time providing critical business support to the ventures. The Connect PMgrs were not only instrumental in helping the enterprises think through their articulation of the market opportunity and consider how best to engage with their partner but also advised on business models, on marketing, on financial control, etc and in many cases advised on developing a business plan for future growth. In many of the pilots, this support was crucial to the progress of the ventures. In a feedback survey conducted by the programme in April 2017, 'Support from a Connect PMgr' was rated as the most useful service that enterprises still engaged with the programme had received. This was reinforced by feedback from the A/SA enterprises in the final feedback sessions with their PMgrs in February and March 2018 where they all acknowledged the role of the PMgrs in supporting not just the pilots but helping them improve their business practices overall. The following were the areas where enterprises needed the most support.

Basic business support and mentoring: Since most of the A/SA enterprises were relatively young and at an early stage of business growth, they needed basic business support from the programme. Essentially PMgrs played the role of a business mentor to their enterprises helping them think through ideas and decisions at every step of the process. PMgrs were in close contact with their enterprises and acted as sounding boards for their enterprises to help work through issues as they arose.

Many enterprises were run by entrepreneurs with a lot of ideas and a tendency to want to act on them all at once and as a result spread themselves too thin. The PMgrs helped them focus on the key opportunities and getting the basics right. *Nyabon*, for example, became more focused post Connect support and realised the need to have better core processes. Connect helped the enterprise identify some problem areas and they re-engineered how they were operating to fix these.

Greenovator was an example of an enterprise that was not clear about what it wanted from the pilot and set out to explore many lines of business at the same time. Eventually, they were able to decipher which activities were not worth pursuing, largely by being interrogated by their Connect PMgr. While many of the planned pilot activities did not materialise as a result, *Greenovator* became a more competent business, as opposed to a set of entrepreneurs, interested in pursuing any idea which came their way.

This mentoring role was identified in enterprise feedback as the most valued service provided by the PMgrs.

Financial accounting: Connect required the preparation of financial forecasts during the pilot development stage as well as the preparation of monthly management accounts once pilot implementation started. For most of the enterprises, this was the first time that they had kept track of their finances in a systematic manner and as a result they struggled. PMgrs spent a lot of time helping their enterprises sort out their existing financial accounts as well as figuring out pilot finances. The programme identified this as a critical need and developed a basic excel based book-keeping system for the enterprises to complete on a monthly basis to enable them to report to Connect but also systemise their own accounts. Many enterprises appreciated the financial rigour that the programme brought to their businesses and have said they will continue to use the accounting template. When asked whether they had gained any particular business skill by working with the programme in their final feedback session, *Pure Products* reported that they had learned about the importance of accounting and, in particular, the importance of monitoring their cash position. Both entrepreneurs running the *Nzua and Msigani* joint venture also acknowledged the role Connect had played in embedding discipline in their management accounts.

Marketing support and managing customers: Marketing was an area where several enterprises struggled during pilot implementation. In many of the pilots, the Indian partner provided support in this regard suggesting marketing strategies based on their experience. PMgrs also helped enterprises improve their marketing as well as communications and management of customers. *Shreenagar*, for example, was very appreciative of how their PMgr helped them present and communicate the impact they were having on the lives of smallholder farmers in Nepal. This helped them to more easily bring new customers on board. *Mukusu* were able to improve their customer management system thanks to support provided by their PMgr. He helped them think through how they could find and target the right customers for their business and encouraged them to put a simple CRM system to manage this process.

In a few of the pilots, enterprises were provided with additional technical assistance to help bolster their marketing. *Melach*, for example, received support from an external marketing expert for four months during the pilot period. *Eco International Trading* was provided with some technical assistance for communications and branding which helped them develop their logo and other branding material. It also helped them to develop a marketing strategy including setting up a website and exploring the best way to pitch to customers.

Raising capital: We had not anticipated the extent to which, even for pilots, enterprises would need to raise external finance. Enterprises struggled to raise the working capital they needed for their respective pilots and the Connect team supported them in seeking appropriate investors. PMgrs provided advice on which financial instruments would be most useful and offered support in developing pitches to investors. Through the course of the programme, Connect engaged with a number of intermediaries that had expressed interest in supporting the partnership pilots. However, while they were all happy to meet and claimed to want to support early stage and seed finance requirements, they were, in reality, quite risk averse, even though the large grant component should have reduced the risk considerably. A small number of pilots have already been introduced to funders and are beginning to have serious conversations and Connect will seek to introduce more before the end of the programme.

7.2 Lessons from 'disconnects'

In the process of finding the most viable pilot ventures to support, the Connect team worked with hundreds of enterprises to understand their needs and potential for growth through partnership. Ninety per cent of those we worked with directly dropped out of the programme before we reached the final twenty. Some interesting lessons were learnt from these 'disconnects' that are summarised below.

More early stage business support was required: As is demonstrated by the Connect funnel (Figure 5), a large number of allocated enterprises dropped out of the programme at needs articulation stage.

Most of these enterprises were in need of more early stage business support. These enterprises did not have the market knowledge or customer base, or simply did not have the time or capacity, to start developing partnerships. In fact, a number of the enterprises applied to the programme as they would to any number of programmes that provide funding or business support without really understanding the premise of Connect to Grow. Once PMgrs understood that they were just in search or need of funding or technical support for their existing businesses, we stopped working with them.

The demand could not be met by Indian innovation: For those enterprises that dropped out in the later stages of the process, the reasons that they were unsuitable for the programme was often less about their ability as an enterprise or the lack of market opportunity but more that there was a limited availability of Indian innovation to meet the opportunity. For example, there were some promising enterprises seeking to exploit opportunities in rabbit rearing and eel farming where we were unable to find appropriate Indian partners as these are not areas where Indian innovators tend to focus. In other cases, where potential Indian partners were found, they were slow to respond or had internal challenges which stalled or ended the partnership facilitation process.

Partnership was not the right approach: Some enterprises were very promising and had great growth potential but partnership with an Indian enterprise was not right for them. For example, *Baby Grubz*, an enterprise producing fortified indigenous baby food in Nigeria, had an established market, clear business objectives and a good entrepreneur at the helm but its business needs, including improved procurement and enhanced working capital, were not appropriate for partnership with an Indian company particularly since it was not interested in an external investor in the business.

7.3 Lessons from Indian businesses (innovation providers)

As we progressed through the outreach to possible Indian partners, research and making connections, a pattern of the types of Indian enterprises began to emerge. Reflecting on the cases that progressed well, it would be possible to summarise that Indian enterprises with some previous positive interest in Africa or south Asia were more motivated to work through discussions and stay committed to arriving at a possible partnership proposal, irrespective of their size or approach to partnership.

The same can be said about enterprises with products and offerings with a ready relevance in markets in Africa and south Asia with similar consumer requirements and challenges presenting opportunities for expansion. Knowing that there are similar markets to be tapped in a new region provided the motivation to explore and continue with discussions on possible partnerships.

However, the size of A/SA and Indian enterprises did play an important role. The Indian enterprises that stayed the course were more similar in business size. This generally led to similar aspirations. Where both businesses were relatively small, both had the decision makers directly involved in conversation throughout, which led to quicker decisions. Where the ultimate decision makers were not involved in the discussions, we saw a marked difference in their engagement. This was particularly the case for the larger Indian enterprises where initial discussions were explored with the sales team or expansion team. To move towards a generative dialogue and possible business partnership, it appeared therefore that the involvement of the business decision maker was important.

The face to face meets between Indian and A/SA enterprises were valuable and allowed both to talk about various aspects of themselves, their expectations, the model and the tactics behind how the venture would be implemented. Having the opportunity for both the A/SA enterprise to visit their Indian partner and see the innovation and enterprise in practice, as well as the Indian enterprise to meet their A/SA partner, and understand better the context within which the venture would be implemented, are important.

Whilst it was expected that the Indian enterprises would require less business support than the A/SA enterprises because they were expected to have a proven innovation and proven model in India, support and time spent taking them through the process managing expectations and ensuring buy-in, was key. There were occasions when there was misunderstanding or a lack of clarity between the expectations of each partner which can be expected when trying to form new, organic partnerships. Irrespective of whether the innovation or model was proven in India, those Indian enterprises which had not explored export markets, especially in the geography of the pilot venture, would have benefitted from more support. This could be, for example, discussing export / import regulation or legislation, logistics, the local context or how best to reach the target market.

8. Conclusion and summary of lessons

Connect is a unique programme which was intended to demonstrate that businesses from India with innovations could be partnered with businesses in low income countries that had identified a market opportunity. We believe that it has been successful in demonstrating this approach though we recognise that only time will tell whether those businesses subsequently deliver their development potential. However, the early signs are encouraging.

The programme suffered from a short timescale. Connect took longer than ideal to identify an approach that could attract enterprises likely to benefit. They then took longer than ideal to explore and forge good enough relationships to engage in a pilot project. The pilots then experienced a range of delays, most of which were not of their making (and had they been foreseen, then we may not have supported them given the overall time frame for the programme). The pilots also experienced a wide range of other challenges, though of course the objective of the pilots was to give the partnerships a chance not only to demonstrate that there were customers but also to identify and address those challenges. In many cases, however, addressing those challenges had a financial implication and most partnerships have limited working capital. This added to the delays. The businesses that were most resourceful and flexible when encountering challenges thrived better than others.

Our expectation was that the limited funding that we could provide would essentially cover the difference in cost between running a pilot and running a project at scale. In fact, most partnerships had such limited funding that we found that it was necessary to do more than that though we aimed to minimise the amount of grant provided. Compared to other grant programmes, Connect was offering rather small sums and were not always able to help when pilots discovered a need for more support.

The timescale was such that we were never going to be able to provide the necessary support to raise scale-up finance, yet it is clear that several pilots have already progressed to that point and would benefit from further support.

Pilots needed a wider range of advice and guidance than we had anticipated, from developing business models, through marketing, to getting book-keeping systems in order. As a result, the programme team spent a large amount of time helping enterprises with their core processes. This was crucial to ensuring that pilot ventures remained on track but also was greatly beneficial to the enterprises beyond the pilots. We were able to deliver this though our PMgrs but working in fewer countries and having advisers in-country more frequently would probably have made this more effective.

Those enterprises that progressed well were those that were more disposed to work in partnership and more likely to be innovative in all aspects of their business. They already had access to a market, had considerable knowledge about the market in which they were seeking to grow and demonstrated clear market potential. They were run by savvy, articulate and honest entrepreneurs that quickly grasped the idea of collaboration and were already implementing innovative ideas within their business.

Innovation for small enterprises is not in the form of inventions but in transferring, adapting and adopting existing technologies. The pilot ventures sought innovation in three areas – to help the A/SA enterprises improve the delivery or manufacturing process of an existing product or service, to allow them to substitute their existing product or service with something that was new and improved, and to bring in a completely new product or service.

The type of innovation sought, influenced the type of partner with whom the enterprises ended up partnering. The enterprises that sought technological innovations mostly partnered with the manufacturers of that technology in India. Those seeking process innovation partnered with consultancies that provided technical guidance and expertise. This, in turn, impacted the way the partners actually facilitated the innovation transfer. The partnerships where technology was being transferred were less collaborative and more transactional while those that involved a process transfer saw much greater contribution from each party.

From our small sample, it appeared that the difference in size and motivation of each partner influenced the degree of collaboration. When the Indian partner was much larger than the A/SA enterprise, there appeared to be difference in motivation and expectations. The larger partner was keen on seeing scale quickly while the A/SA partner wanted to establish the market and then target growth. The smaller partner was often more socially motivated than the larger. Those pilots where the partners were a similar size tended to be more compatible on objectives and expectation.

It is quite clear, as the programme developed, that the businesses seeking support were more suited to the objectives of the programme and keener to work in partnership. In most cases, however, they will still be unable to overcome three big challenges without appropriate facilitation: (i) most of the SMEs in LICs, seem to be early stage, meaning that they require more support in articulating themselves and their model before partnership can even be considered, (ii) partnership does not come into the thought process for most SMEs and even if it does, finding partners proves difficult as does the relevant due diligence and ascertaining whether there is a strong fit and (iii) most SMEs struggle to finance these activities themselves and struggle to access affordable finance (in part related to the fact they are early stage).

There is, therefore, a substantial need for programmes like Connect to Grow that provide targeted support to small enterprises seeking to innovate and grow. Most of the interest came from enterprises with an annual turnover of less than \$50,000 and with 10 or fewer employees though the real decider is not size but attitude. We should encourage that.

9. Annex - Outcome indicator indices

Composition and usage of commercial viability index

Composition: The commercial viability index is based on six indicators summarised in the table below which will be rated by PMgrs or Evaluators with scoring ranging from 1 to 4 (with 4 = exceptional, 3 = good, 2 = satisfactory, 1 = weak). Ratings are weighted²⁴ to calculate an overall score for each partnership venture.

Table 6: Summary of commercial viability index

Indicator	Weight	Question	Assessment & scoring
CAPACITY	35%	Is there evidence of strong leadership commitment (in terms of organisational prioritisation, mandate, resources and staffing) and management capacity to design, implement and scale the partnership venture?	<ul style="list-style-type: none"> ♦ 4 = The venture has both strong leaders making commitments to the initiative (resources, staffing, and organisational mandate) and has operational capacity at management level. ♦ 3 = There is clear leadership commitment and substantive management capacity for delivery suitable to the stage of the business, although either or both will need strengthening over time. ♦ 2 = There is some leadership and management capacity in place, but further development is needed in the short/medium term for success of the venture. ♦ 1 = Gaps in leadership or management capacity present a significant constraint to the venture
PLAN FOR PROFITABILITY	17%	Is there a clear plan (not necessarily a written document but a strategy of the management) to achieve profitability, and demonstrate how losses will be funded until profitability is reached?	<ul style="list-style-type: none"> ♦ 4 = There is a clear strategy for the venture plus a financial forecast which shows expected income, expenditure, investment and working capital requirements; the plan includes an assessment of risks and what if scenarios; the income forecast is linked to an assessment of the market potential; there is an expectation of delivering profitability within a reasonable timescale. ♦ 3 = There is an agreed plan - but not a clear and comprehensive strategy - for the venture with financial forecasts that show trends for revenues and costs, and a plan for covering costs until profitability is reached. ♦ 2 = There is an emerging venture strategy, a draft business plan or draft financial forecast, although more work is needed to show the trajectory to profitability and be an investable plan ♦ 1 = There is no strategy for profitability and/or no financial forecast (or they have not been shared)
MARKET	22%	Is there evidence that a market exists for the product or service and that customers will buy?	<ul style="list-style-type: none"> ♦ 4 = The venture is already selling the product or service to the target market at a price point which will enable commercial viability once scaled, or credible market research shows sufficient size of market at a price point that the venture is on track to deliver. ♦ 3 = The venture already has a growing market or other emerging evidence (e.g. through pilot sales, interest from buyers) of sufficient demand, plus

²⁴ There is no universally accepted weighting for these indicators so we have used a Delphi method, see www.investopedia.com/terms/d/delphi-method.asp

Indicator	Weight	Question	Assessment & scoring
			<p>good understand about target market, and a strategy to sell at the price point that the market will sustain.</p> <ul style="list-style-type: none"> ♦ 2 = The venture has some understanding about target market, potential customers and price point, but no evidence to validate assumptions yet. ♦ 1 = Assumptions about the market are not validated and gaps in understanding of the target market and price point are likely to constrain venture success.
DELIVERY OF PLAN	11%	To what extent is the partnership venture on track to meet partnership-specific targets/milestones such as revenue, expenditure, staffing, regulatory permissions, business model, operations, finance as agreed in advance or as reviewed and amended during the pilot	<ul style="list-style-type: none"> ♦ 4 = Exceeding targets ♦ 3 = Broadly on track to meet targets, or targets as revised ♦ 2 = Falling short on meeting targets but have taken remedial action and expect to get back on track, or is meeting reoriented priorities that have not been captured in amended targets. ♦ 1 = Off-track and little chance of meeting targets in the medium term
FINANCE	7%	Does the partnership venture have access to growth finance?	<ul style="list-style-type: none"> ♦ 4 = Growth finance secured ♦ 3 = Interest from at least one investor ♦ 2 = Growth finance sought ♦ 1 = Not ready to seek growth finance
COMMITMENT OF PARTNERS	8%	Does the partnership venture have clear elements of a partnership and sufficient commitment and consensus from both partners?	<ul style="list-style-type: none"> ♦ 4 = Partnership venture has strong commitment and consensus from both partners ♦ 3 = Partnership venture has strong leadership from at least one partner and sufficient commitment from the other to enable success ♦ 2 = Partnership venture has leadership and commitment from one partner but collaboration with the other partner is challenging ♦ 1 = None of the partners shows the necessary commitment to take the partnership forward to success in the short/medium term.

Composition and usage of development potential index

Composition: Ventures will be scored in terms of their potential for development impact. This index is not part of the definition of 'scalable proof of concept' but contributes to our understanding of programme results and is a log frame indicator at output level. Four components of development impact are assessed – reach, significance, who benefits, and systemic impact – but it should be noted that at the end of Connect it is *potential* impact that rated, informed by current performance and credibility of plans. This index is designed to have a clear logic and thus to be as objective as possible. It will enable the programme to look at the spread of the partnerships by the degree to which they can be considered to have high developmental potential. Each indicator should be scored 3-high, 2-medium or 1-low. These should then be added to give a score out of 12 and divided by 3 to give a final score out of 4. A score of 4 will be regarded as exceptional, of 3 as good.

Table 7: Summary of development potential index

Indicator	Weight	Question	Assessment & scoring
SCALE	25%	To what extent ²⁵ has the pilot demonstrated intentions and potential to reach a certain number of beneficiaries within three years?	<p>Partnership ventures reaching the poor as consumers (primary impact)</p> <ul style="list-style-type: none"> ♦ 3 = High, over 75,000 ♦ 2 = Medium, 5,001 - 75,000 ♦ 1 = Low, up to 5,000 <p>Partnership ventures reaching the poor as producers/offer income earning opportunities (primary impact)</p> <ul style="list-style-type: none"> ♦ 3 = High, over 1000 ♦ 2 = Medium, 201-1,000 ♦ 1 = Low, up to 200
SIGNIFICANCE OF IMPACT	25%	What is the significance of the impact to the person at the base of the pyramid?	<p>Ventures that improve agricultural prospects</p> <ul style="list-style-type: none"> ♦ 3 = HIGH Significant demonstrable increase in farm income, productivity, food security or resilience to shocks. e.g. doubling: Irrigation, credit, fertiliser, extension package, insurance, or machinery, likely to be sustained and multiply output; Purchases combined with guarantees and/or extension input, increasing productivity and income. ♦ 2 = MEDIUM Addition to farm income, productivity, food security or resilience to shocks. But not changing in overall livelihood status or income category. For example: Access to agri inputs that improve but do not transform productivity, likely to be one-off; Increase in volumes purchased from smallholders, resulting in increases in net total income. ♦ 1 = LOW An additional welcome option but not a clear shift in living standards. For example: Availability of an ag product or service, unproven value or affordability to smallholders; An additional market demand at prevailing prices and conditions <p>Ventures that improve health outcomes</p> <ul style="list-style-type: none"> ♦ 3 = HIGH Significant demonstrable reduction of the ill health burden suffered by poor people or of health expenditure. eg 10% decrease. For example: Vaccinations, maternal health, specialised hospitals. ♦ 2 = MEDIUM Contribution to improved access to health services. For example: Insurance, access to local clinic or other local health services (e.g. CHW, eye/ear tests), access to clean water, clean air, better nutrition (e.g. fortified foods), sanitary products/services, ♦ 1 = LOW An intervention capable of influencing behaviours that in turn improve health outcomes. For example: Information on health good practice, improvements in infrastructure likely to benefit health
BENEFICIARY	25%	Who benefits from the support?	<ul style="list-style-type: none"> ♦ 3 = HIGH: Ventures whose majority beneficiaries are: <ul style="list-style-type: none"> ♦ Women or girls or children;

²⁵ We have not been able to identify any research or best practice so have proposed levels based on AI experience of working with Business Innovation Facility, innovations Against Poverty, etc.

Indicator	Weight	Question	Assessment & scoring
			<ul style="list-style-type: none"> ♦ smallholder farmers likely to have under 2ha²⁶ (farmers who are unable to survive on farm income alone and/or have few other assets, who lack access to high-quality inputs, credit, services and equipment; who may be cut off from markets due to geographic isolation, poor infrastructure, lack of information or a combination of these; whose rights to land and other resources may be weak; and who have not, as yet, managed to access markets in a way which can increase their productivity and lift them out of poverty); and/or ♦ reach the 40-50% segment of a population with access to health services or health-improving opportunities ♦ 2 = MEDIUM: Ventures that are: <ul style="list-style-type: none"> ♦ primarily targeting larger smallholder farmers (farmers who farm 2ha+ and own other assets in addition to their land, such as livestock or machinery; and who have sufficient access to inputs, services and knowledge to enable them to be active in markets to a greater or lesser extent. Who are typically better connected, both physically and socially/commercially, and are often involved in producing for export, niche/high value added markets or integrated rural value chains); ♦ primarily targeting those in the 50th-90th percentiles with health services or health-improving opportunities ♦ 1 = LOW: Ventures that are reaching farmers but not smallholders; health services affordable for the top 10% of a population only
POTENTIAL FOR SYSTEMIC CHANGE	25%	To what extent will the project (1) spur the market (eg through copycat replication or wider adoption), or (2) lead to policy reform (eg gov't procurement arrangements, regulation, etc), or (3) lead to other external impacts (eg, higher levels of trust, greater accountability, etc)	<ul style="list-style-type: none"> ♦ 3 = HIGH = Ventures which are scoring 'high' on potential for systemic change in at least one category ♦ 2 = MEDIUM = Ventures which are scoring 'medium' on potential for systemic change in at least one category ♦ 1 = LOW = Ventures which are neither scoring 'medium' nor 'high' in any of the categories

²⁶ Lowder S.K. et al (2016) The number, size and distribution of farms, smallholder farms and family farms worldwide, *World Development*, vol 87, pp16-29, available at www.sciencedirect.com/science/article/pii/S0305750X15002703

Composition and usage of additionality index

Whilst we look at additionality as part of the appraisal of a proposition, we will review again at the end of a pilot partnership venture.

Composition: The additionality index is based on an assessment by each of the partners in the venture and the PMgr. The overall score of additionality for any partnership venture will be based on aggregation of all three sources of scoring, weighted as per the table. (4 = exceptional, 3 = good, 2 = satisfactory, 1= low)

Table 8: Summary of additionality index

Indicator	Weight	Question	Assessment & scoring
Lead enterprise assessment	30%	To what extent could the project have progressed without support from Connect to Grow?	<ul style="list-style-type: none"> ♦ 4 = Critical: Without Connect support the partnership venture would have not progressed at all ♦ 3 = Bigger, Better, Faster: Due to Connect support, the partnership venture is better designed, or proceeding more quickly, or bigger than it would have been ♦ 2 = Useful: Connect support was useful to us and made it easier to progress the partnership venture, although it has not resulted in specific identifiable change compared to what would have happened ♦ 1 = Irrelevant & Negative: Connect support made no difference or had net negative results
Partner enterprise assessment	30%	As above	♦ As above
Connect assessment	40%	As above	♦ As above