

St Helena Agriculture: Development and Training Needs



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The Author:

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Leigh led education at the Royal Botanic Garden Edinburgh for 10 years developing a programme of botanical and horticulture education and delivering capacity building across the world. He delivered a Voluntary Service Overseas placement for the Ethiopian Horticulture Producers and Exporters Association, delivering training needs analysis and training workshops for 40 flower and vegetable farms.

Chairman of the Grow Careers Initiative (2006-14), a UK-wide campaign to raise the profile of horticulture as a career and served a term as President of the Chartered Institute of Horticulture (2012-14). In 2015 Leigh became the first Chief Executive of the UK National Land Based College, championing skills development across agriculture and the land based sector.

Executive Summary:

The Consultant was commissioned to research upskilling, capacity building and development initiatives, to help achieve the outcomes of the National Agriculture Policy 2014-20. A **Training Needs Assessment (TNA)** was undertaken to determine priority training and development requirements. The TNA covered cropping (open field and covered production), livestock, poultry and beekeeping, and was carried out through a series of face-to-face interviews and group meetings with 54 individuals from across the agriculture sector. Most interviews were carried out on the farms/small holdings, so enabling some visual appraisal of the production methods in use. Digital communication with UK individuals/organisation added to the findings of the TNA to inform the conclusions and recommendations.

The full transcripts of all TNA discussions were provided to ANRD. Direct quotations are included in this report where believed relevant, but they are on occasion from one individual and must be taken in that context. **The overall conclusions are summarised as follows:**

Technology Use:

- *St Helena needs appropriate technology:* There is potential value in increasing the use of low-cost technologies, machinery and potentially semi-automation, which could fit well into a demonstration farm model, for use in R&D and training.
- *Agriculture Research & Development (R&D) needs a strong plan:* There would be benefits from the development of sector-wide approach for R&D.
- *A wider pool of suppliers is required:* Increasing the supplier base would provide producers far better access to a wider range and newer technologies.
- *There is potential for more shared machinery:* Existing schemes could be expanded.
- *Soil testing and soil management needs development:* A key issue, both for crop growing and livestock pastureland, and an area where additional agronomy skills are required.
- *Crop Pests & Diseases (P&D) remains a major issue:* P&D must be tackled at multiple levels and maintain the drive towards integrated pest management-based strategies.

Fresh Produce Market:

- *Retailers are not maximising fresh produce sales:* There is a need to upskill the island's retailers in fresh produce sales, to help them make better margins and more profit from local fresh produce sales, which should then cascade to the producers.
- *Agricultural production must become more market driven:* Agriculture is a demand led business and there is a need to produce precisely what the island market requires. There is a need to develop better financial modelling from producers, so they understand their own margins fully, look to reduce costs and set price point accordingly.

Agriculture Workforce:

- *Agriculture must be promoted better to young Saints:* The sector needs champions to deliver a clear plan to inform, inspire and attract young people to agriculture.
- *The Harper's Centre at PAS, could be the hub of agricultural training and R&D:* This could offer a fantastic location for training multiple audiences and be the island's demonstration farm, and the key location for carrying out field trials.
- *Agriculture needs to be part of a wider curriculum offer:* Harper's could be used to teach other subjects (e.g. business enterprise) and PAS could offer 'Land Based Studies' to educate and attract a larger number of students to agriculture and related disciplines.

Collaboration between Producers:

- *There are producers who are keen to collaborate, and they must be enabled:* A more collaborative approach offers many benefits. Strong incentives are required to stimulate more collaboration and a need to quickly achieve initial collaborative successes.
- *Collaboration needs to be facilitated and led:* Leadership by key organisations and individuals is required to drive increased collaboration.
- *A strong operational Farmers Association is fundamentally important to the sustained development of agriculture on St Helena:* The farmers and producers should take more ownership over the development and running of their sector. Much has changed since the FA was established. It is non-operational and in its current form is not fit for purpose, but the majority see value in a strong FA and want it to succeed. The core functions should stay broadly the same, but the prioritisation and ways of working could be reviewed and potentially refreshed. This could include a paid post and dedicated office.
- *The role of the Growers Co-Op could be reviewed:* The Co-Op was also established at a time when ANRD was larger, and before there was a growers packhouse, an operational airport, and the rise in the use in internet by producers to order their own supplies. The Growers Co-Op is an important body and it needs to be part of the whole solution.

Training and Upskilling:

- *Training and upskilling are required:* All those spoken to recognise this to some degree, and many requested specific training that would benefit themselves.
- *St Helena agriculture requires upskilling at all levels:* People at all levels need to be informed, trained and upskilled appropriately, to collectively move agriculture forward. A pyramid of upskilling is required encompassing the wider population, producers, agricultural bodies and senior/government organisations.
- *Upskilling must take multiple approaches, which are appropriate for St Helena:* Knowledge and training need to be delivered appropriately for the different audiences, using varied, and often multiple, approaches to ensure upskilling is imbedded. Fundamental for the producers is that their upskilling must be focused through training delivered outside a classroom and made as practical as possible. The use of refresher courses and demonstration farms as training and research centres is encouraged.
- *The further development of 'tool kits' is required to support the training:* The bank of reference materials (including on-line) needs to be developed as 'tool kits' for key topics.
- *On-island expertise must be utilised:* Existing agricultural knowledge and experience on-island should be utilised. Individuals may need to be supported in knowledge transfer.
- *The producers must be part of the decision-making process in respect to upskilling:* They need to have ownership of the training they receive and how the budget is spent.
- *Overseas expertise is required but must be appropriate and cost effective:* The potential exists to access overseas expertise in a variety of ways, ranging from on-line remote support to 2-year TCO posts. St Helena should look to build good working relationships with several international individuals and organisations, to create a portfolio of overseas expertise that can be tapped into as required. A comprehensive list of potentially useful UK contacts has been provided to ANRD and specific recommendations for potential overseas support are contained within this report (Annex D).
- *Upskilling is required in several areas across the sector:* Based on the research, upskilling is required in several areas, covered in the Producer Development Plan (Section 6).

Summary of Upskilling Recommendations:

- Create an agriculture (land based) education and careers programme through Prince Andrews School (PAS), linked strongly to producers through the Farmers Association.
- Establish the Harper's Centre at PAS as a hub of agricultural training and research & development (R&D), showcasing appropriate technology.
- Develop a wider pool of international support expertise – fully utilising on-line resources and remote consultancy services.
- Communicate strongly, the strategy, methods and value of agriculture (and local fresh produce) to all levels of society on St Helena.
- Deliver a Producer Development Plan (Section 6): including the use of practical workshops, tool kits, and appropriate international expertise.

Producer Development Plan (PDP) Summary: The PDP is focused on St Helena's farmers, small-holders and livestock syndicate members. The PDP should be producer led, develop ANRD staff, and utilise development workshops, field trials & demonstrations, information tool kits and appropriately use external international expertise.

Separate Producer Development Plans are included (Section 6) with areas for upskilling prioritised 1-3 (1 being the highest priority):

Business and Communication Skills:

- Agri-business Skills (Priority 1): including gross margin analysis, book keeping and communications and marketing skills.
- Train the Trainer Programme (Priority 2).

Crop Production:

- Integrated Pest Management (Priority 1): Crop monitoring, P&D thresholds, pesticide modes of action and biological % cultural control methods.
- Soil Management (Priority 2): Irrigation, pH measurement & adjustment, soil analysis & fertilizer use, and use of organic matter.
- Crop Planning & Scheduling (Priority 1): Growing crops for market. The use of varieties, timings and low technology approaches, to spread production.
- Practical Horticulture training for the public and schools (Priority 3).
- Other Crop Topics (Priority 3).

Livestock Production:

- Chicken and Egg Production (Priority 1): Long-term development of the farmer at Scotland, and other smaller scale egg producers.
- Pastureland Management (Priority 2): Nutrition, rotations, pH measurement & adjustment, weed control, and selection of species.
- Animal Husbandry, Nutrition & Health (Priority 3): Identification of key problems and some training in drug use.
- Breeding & Artificial Insemination (Priority 3): To raise base level understanding.

Food Processing and Retailing:

- Retailing Fresh Produce: Training for retailers/merchants, to enable them to increase sales and profits from the sale of local produce.
- Apiculture: To further develop and expand beekeeping and honey production.
- Food Processing: Adding value to fresh produce by drying or preserving.

1. Terms of Reference:

1.1 Contractual Arrangements:

Leigh Morris ('the Consultant') was commissioned to provide Agriculture Capacity Building Support Services to agricultural producers, for the Saint Helena Government (Environment and Natural Resources Directorate). The services were delivered under a contract agreement, which commenced on 23rd May 2018, reporting to Darren Duncan ('the Client'), Head of Agriculture and Natural Resources Division.

The main objective of the consultancy is to contribute to the delivery of upskilling and capacity building and research and development initiatives for the agricultural sector on St Helena to achieve the outcomes of the National Agriculture Policy.

1.2 Key Issues Facing St Helena Agriculture (as identified by SHG):

1.2.1 SHG recognises that higher levels of local food production are required to support Helena's needs now and the increased requirements that air access and future developments will bring, and is concerned about the Island's responsiveness to these needs through its current capacity and ability to increase production levels.

1.2.2 An important outcome of the Island's 2014 - 2020 Agriculture Policy is *'the capacity of all stakeholders to facilitate and deliver reforms has been strengthened through their active participation in training and upskilling opportunities'*.

1.2.3 The majority of the current smallholders and full-time producers are older persons, and younger entrants to the sector are critical to providing a more commercially organised and risk-taking outlook towards agricultural production. There is also a shortage of both general and suitably skilled labour to support larger-scale production.

1.2.4 A lack of knowledge sharing and information transfer amongst producers has resulted in a culture of working in isolation and weakened farmer representation which limits the competitiveness of the sector through frequent periods of shortages and gluts.

1.2.5 There is a need to reduce dependence on our older producers through focussing efforts to facilitate business and up-skilling opportunities, to both retain those that currently exist and attract new persons. A stronger and more vibrant farmer organisation represented by a higher number of producers would reduce 'silo working' and introduce collaborative planning and working between producers.

1.2.6 SHG sought professional services on behalf of the Environment and Natural Resources Directorate to deliver improvements in upskilling and technology transfer in agricultural production, increased co-ordination and collaboration between producers, nursery production, research and development and establishing capacity building links with overseas agricultural organisations.

1.3 Consultancy Deliverables:

The wider Scope of Work for the consultancy is in Annex A. The consultant will be required to deliver the following under the Inception and Fieldwork Phases:

- 1.3.1 A Work Plan at the end of the Inception Phase with clear and realistic timelines to deliver on the Fieldwork Phase.
- 1.3.2 A Training Needs Analysis for producers, including the key production areas in the agricultural sector.
- 1.3.3 A Producer Development Plan by key production areas in the sector.
- 1.3.4 Recommendations for small scale, producer led on-farm research and development based on the PDP.
- 1.3.5 Recommendations for potential agricultural partnership opportunities with appropriate overseas research and education organisations that is aligned to St Helena's agricultural development needs, including details of key personnel contacts for recommended organisations.
- 1.3.6 As part of the delivery of outputs, draft findings and results will be fed back to producers, to the Farmers Association (if a committee exists at the time), BKA and ESH for their comment before the consultant provides final copies of documents.

NB: Outputs/deliverables from the Training and Capacity Building Delivery Phase could be developed once the above outputs/deliverables have been delivered.

2. Research Methodology:

2.1 Training Needs Analysis (TNA):

The TNA was carried out through a series of face-to-face discussions with farmers and agricultural stakeholders. These were predominantly one-to-one interviews, plus three group meetings with livestock syndicate members and the Bee Keepers Association.

The discussions were carried out as *semi-structured interviews*, using a TNA template as a guide (Annex B). Separate key question/issues lists were produced for the group meetings.

54 individuals were communicated with during the research phase. This was predominantly farmers, part-time small holders and livestock syndicate members, but also included retailers, the Growers Cooperative, Farmers Association, Bee Keepers Association and ANRD staff. A full list of those who participated is listed in Annex C, summarised in Table 1 (next page).

The majority of the TNA interviews were carried out on the farms/small holdings, so providing an opportunity for a visual appraisal of the production being carried out.

Digital communication with individuals and organisations in the UK (by email/Skype) added to the findings of the TNA to inform the creation of the Producer Development Plan (PDP) and recommendations for small-scale on-island research/field trials.

Table 1: Training Needs Analysis (TNA) - Number of Individuals and Type of Engagement		
Research Approach	Number of Events	Number of Individuals
TNA Interviews	21	29
Group Meetings	3	17 (12) see Note 1
ANRD Discussions	Multiple	10
On-line Engagement (Note 2)	Multiple	3
TOTAL People Engaged		54
<p>Note 1: 17 people attended the three group meetings, but 5 of these people were engaged with in a TNA interview as well, and so are not 'double-counted' in the overall figure of 54 individuals.</p> <p>Note 2: This relates to individuals (non-Saints) who had previously been involved in agriculture training and development on St Helena, but who are no longer on-island.</p>		

2.2 Collating and Analysing the Findings:

All discussions (both formal and informal) were recorded in detail and individual transcripts from all the TNA interviews typed up. These TNA transcripts are NOT included within this report, as those participating in the TNA were assured on some degree of anonymity. The transcripts were provided as *Confidential Documents* to ANRD who commissioned the work.

Organisations on St Helena, not the individuals, are cited in this report. However, some quotes (because of the nature of the organisation) can perhaps only be attributed to one individual. Quotations from international experts who have previously worked on St Helena are sometimes attributed to those named individuals (with their agreement) to give full context.

A total of 23 days was allocated to deliver the consultancy. Ten of these to carry out the TNA phase. More conversations could have been held (a few producers did not want to engage, and time did not allow for other conversations to take place). It is believed, however, that the 54 individuals spoken to have provided a good insight from across the agriculture sector.

2.3 Direct quotations: Within this report they are attributed to individuals, often as examples of views stated by more than one person during the TNA. Where comments quoted are from single or multiple individuals this is stated clearly. All quotations are valid and are believed to be worth including, however, it must be recognised and understood that they are the views of perhaps just one person and should be taken in that context.

Key findings from the TNA are collated under the following headings in sections 3.1 to 3.5:

- *Technology Use*
- *Fresh Produce Market*
- *Agricultural Workforce*
- *Farmer Collaboration*
- *Training and Upskilling*

3. Findings from the Training Needs Analysis (TNA):

3.1 Technology Use:

3.1.1 Procuring Materials: St Helena is an extremely remote location and procuring supplies is challenging and takes time. Producers purchase most of their supplies direct from the island's stores and/or the Co-Op, selecting from the range of materials and tools available. Discussions with the Co-Op indicated that they themselves have a limited range of suppliers e.g. most commercial seed is bought through Starke Ayres in South Africa.

Producers highlight the lack/range of available resources to them (e.g. *"Kikuyu grass seed is difficult to obtain"* to improve pasture land) and a few producers now source seeds, pesticides, machinery and equipment direct from overseas themselves e.g. *"I buy all my seed direct from Marshalls in the UK"*. There were differing views on producers buying their own pesticides, with some advocating stricter controls on what comes into St Helena, whereas others, including Jill Key, believing that *"farmers now self-sourcing pesticides is not a bad thing and demonstrates the success of previous pesticide training"*. Some producers see the new airlink as positive in speeding up the supply chain.

3.1.2 Field Trials and Innovation: Some good examples of experimentation/innovation by farmers were encountered e.g. new pesticides, plastic mulches, drip irrigation, new varieties, rotational grazing and companion planting (Figures 1 to 3 – below). However, this was not widespread, with many simply following their previous practices, or waiting for others to lead the way e.g. new products for sale in the island stores and/or Growers Co-Op.



Figure 1 (top left): Longwood farmer with a plastic mulch to produce Sweet Potatoes. **Figure 2** (top right): Trials in pot grown strawberry production. **Figure 3** (below): A form of mob grazing in operation at Farm Lodge.

3.1.3 Soils & Irrigation: The topic of ‘soil testing’ was highlighted, with all growers wanting to know more about their soil and then how to manage it (i.e. pH adjustment and application of fertilizers) to ensure increased yields. Producers highlighted the *“lack of availability of soil testing kits”*. Two growers have invested in their own soil testing equipment, to measure pH and conductivity, and others were keen to be provided with simple soil test kits.

In discussions with the growers it was apparent that, although a few have a very good understanding of soils and their management, many don’t. They did not well understand the implications for their crops of soil texture, structure, pH and conductivity. There was some lack of understanding of fertilizers and (for example) the difference between nutrient ratios and actual nutrient quantities within a bag of purchased fertilizer.

All growers recognised the importance of adding organic matter to their soils, and some (particularly those growing at Plantation Fields) have ensured regular addition of either goat or chicken manure to their soils. Use of bulky organic matter is highly prized in crop growing on the island, but supply is expensive and limited.

A few growers are adopting drip tube and seep-hose irrigation systems, which reduce the overall amount of water used and apply it precisely where it is required. This is not the norm, however, with many growers using a wider spreading and higher volume application methods, such as hosepipes or broadcast overhead sprinkler systems.

3.1.4 Mechanisation: Tractors and pedestrian operated soil cultivators (i.e. rotovators) are commonly used by growers. There are some examples of old tractors still going strongly and growers who have invested in purchasing new tractors quite recently (Figures 4 & 5).

There is a demand for increased mechanisation, with two stakeholders suggesting that *“there should be more effort made to purchase equipment for the island”*. There is evidence of existing machinery sharing initiatives on island, with the Farmers Association having some equipment for members to use, and during the period of the TNA, ANRD were actively seeking growers input into deciding the type of potato harvester to be purchased for all to use.

One grower stated his intention to *“purchase a seed sowing machine that can be drawn by a tractor to make his vegetable production far more efficient”*. He intends to purchase and import this in 2018. Much global agriculture is becoming increasingly automated and one producer highlighted the potential for St Helena *“to purchase the now increasingly redundant, less automated, machinery from those countries for use on St Helena”*.



Figure 4 (left): Longwood farmer Colin Henry with his well-used Massey Ferguson 135 Tractor. **Figure 5** (right): A new Kubota compact tractor being operated by G Thomas, drawing a rotary cultivator at Longwood Fields.

3.1.5 Pasture Management: ANRD believe that *“improving the overall management of St Helena’s grazing pasture is crucially important for the increasing of livestock production on the island”*. According to one producer, *“there are 16 times less cattle on grass per acre in STHL compared to the UK”* and although not a fair comparison, the belief is that the grassland of St Helena could support more grazing. The big perceived challenges are weed control and nutrition. Many (including the larger livestock producers) recognise the need to add fertilizer to the pasture to increase grass growth, which could include liming to raise the pH, and the addition of nitrogen fertilizers (e.g. pig slurry) if available. A wider understanding among producers of the potential benefits of adding fertilizer to pasture was not evident.

Some areas of St Helena’s pastureland have major weed problems (Figures 6 & 7), with Whiteweed, Furse, Bull Grass and Junipers four of the most abundant. In some areas there is little Kikuyu grass left (i.e. the grazed species). There are methods employed on St Helena to control weeds in pasture land, but ANRD believe more could be done by some of the syndicates to control weeds and they would benefit from additional knowledge.



Figure 6 & 7: Weed infested pasture land at Southwest Point (left) and Deadwood Plain.

3.1.6 Animal Breeding: Producers are keen to understand better the potential to further expand blood lines through artificial insemination (AI) for cattle, pigs and sheep, and there is a desire to keep more bulls entire for breeding. ANRD, producers and Solomons recognise the immediate need for expertise in chicken breeding and parent stock management.

3.1.7 Crop Pests & Diseases: There are several significant pest & disease (P&D) challenges for the island’s growers, with two of the most widely discussed being Whitefly on the tunnel crops and Potato Blight. Examples exist of St Helena growers understanding and managing P&D well, but the levels of pests encountered in some of the farms, particularly in their polytunnels, was high (Figures 8 & 9 – over page).

St Helena growers typically use eradicant pesticides when P&D are encountered, rather than a programme including preventative approaches. Only a very few growers (typically the full-time farmers) demonstrated a good understanding of Integrated Pest Management (IPM), P&D thresholds, pesticide groups, formulations and resistance. Beyond these growers, there was little evidence of regular monitoring/scouting of crops (to catch early P&D signs), of growers carrying out cultural control methods, and/or rotational spray programmes.



Figure 8 & 9: Heavy infestations of Whitefly (left) and Russet Mite on polytunnel grown tomato crops.

According to Jill Key, *“Back in 1990s it was far worse for pesticide use on STHL, with more pesticides used, of an even lesser range. There was good progression when I returned in 2013, demonstrated by a larger grower, who had previously applied vast quantities of pesticides as his only approach, now using biological controls”.*

According to the ANRD Pest Control Team *“fewer farmers call them for support now and when they do call it is often far too late”* (i.e. when P&D levels have built up to a very high level that is difficult and/or uneconomic to control). ANRD believe that *“some growers are now buying in and applying their own pesticides, with no control on what they bring onto the island. It is good that they are taking some ownership, but is it appropriate?”*

The information services ANRD supply to producers have been reduced, with their extension services team 75% reduced in size in the last c.20 years. ANRD used to provide more agriculture information to producers via the radio, including Potato Blight warnings when the weather made it likely for the disease to spread – farmers could then apply preventative sprays. ANRD staff still appear regularly on the radio, but some of the information (e.g. potato blight warnings) are no longer broadcast. ANRD recognised this and stated their desire/aim for *“growers to take more ownership of P&D issues and adopt IPM to reduce them”.*

3.1.8 Biological Control of P&D:

Biological control (the introduction of a living organism to a crop, to help control a targeted pest or disease) has been instigated on several occasions on St Helena, with some previous good success. According to Jill Key *“St Helena has a really good history of biocontrol usage. The main part of my project in late 1990’s was to bring in bio-controls. Rosie Peters was my main contact at ANRD and we brought in three biocontrol agents for diamond backed Moth, two biocontrols for citrus pests and another agent (a parasitic wasp) brought in for brassica leaf minor. A lot of farmers also asked about using parasitic wasps (Encarsia formosa) for whitefly control. When I returned to St Helena again in 2013 there had been great progression in the use of biocontrols between my two visits”.*

ANRD have recently expanded production of parasitic wasps (*Encarsia formosa*) for growers to use in the control of whitefly in polytunnels (Figures 10 & 11). Some growers have asked/allowed ANRD to introduce the *Encarsia* to their polythene tunnels, but overall the use of biocontrol agents is not requested. According to ANRD “growers allow pest levels to be far too high before the introduction of *Encarsia* and subsequently use pesticides that kill the biocontrol agent”. When growers were asked more about integrated pest management (IPM)* and how to use biocontrols effectively within such a strategy, the IPM approach was broadly not well understood or supported. Only one grower spoken to during the TNA claimed to be currently using biocontrol successfully as part of his overall P&D control programme.

*IPM – using multiple P&D control strategies within one-joined-up programme, with a focus on monitoring, good husbandry, cultural control methods and prevention rather than eradicant methods and high levels of pesticides.



Figure 10 & 11: The ANRD facility at Scotland for the breeding of parasitic wasps (*Encarsia formosa*).

3.2 Fresh Produce Market:

A key driver for commissioning this piece of work was to raise on-island skills, to enable an expansion of food production and supply on St Helena. Agriculture is a demand led business and currently retailers are not maximising fresh produce sales, because such produce requires more on-shelf maintenance than other goods, and the profit margin is far less. The price of fresh produce is regarded by many as being extremely high, but, when questioned, producers were not able (perhaps willing?) to say if they fully understood their gross margins.

3.3 Agricultural Workforce:

3.3.1 Existing Workforce: There are a few full-time farmers on St Helena (c.5), and a larger number of smallholders (>30) and many more livestock syndicate members. There is also a significant amount of home and very small-scale production, particularly of crops. According to one stakeholder, “*Saints are traditionally growers, fishermen, animal lovers and this is slowly coming back into the culture, driven by the desire for more money and better health*”. According to the Co-Op, “*sales of vegetable seeds to local people has gone up dramatically*”.

The belief amongst ANRD, some of the producers and other key stakeholders, is that there is a need for change in the agriculture on St Helena, some are driving this forward, but “*many of the older producers are not connecting/welcoming to the new culture*”. ANRD are most keen to help drive positive change, but believe that there is a “*lack of willing farmers to take ownership of initiatives, for example, only one person was interested in developing the chicken farming and only one tendered to run the new packhouse*”.

3.3.2 Young People: There are young up-and-coming farmers in St Helena (including the sons of at least two of the full-time farmers, who are working in the family agriculture businesses), but overall there are very few young people working in the agriculture sector, with little succession of the next generation coming through into farming. One farm manager stated the views of several in that the *“increasing age of our staff/farmers is a concern, as is the current lack of agriculture in island schools and apprenticeship opportunities available”*.

The perception is that the decline in young people entering the sector can be attributed to several factors, defined in these quotes from different individuals:

- *“Things are different now. Young people are not interested in physical work, they just want to look at screens”*.
- *“The base wage level on St Helena has been pushed up by Basil Reed” meaning that the agriculture pay rates are no longer attractive to young people”*.
- *“Agriculture used to be a fundamental part of the curriculum at Prince Andrew’s High School (PAS), delivered at Harper’s, but this has almost gone”*.
- *“There used to be ANRD open days, which stimulated lots of interest and were linked to young people training. These have sadly now gone”*.
- *“The Young Farmers Association of St Helena ended in the 1980s.”*
- *“Agriculture is just not attractive to young people as a career.”*

3.3.3 Harper’s Agriculture Training Centre (PAS): The Harper’s Agricultural Training Centre (Figures 12-13) is adjacent to, and managed by, Prince Andrew’s School (PAS). According to the PAS Head Teacher, *“there is currently very little interest in studying agriculture at the High School (it may not run at all in the next academic year), but PAS remain most keen to keep agriculture on the curriculum”*.

Producers and wider stakeholders spoken to as part of the TNA stated a strong desire to see more agriculture taught at Harper’s once again, with the potential to train both adults and school children there. Martin Joshua, who runs the polytunnel farm adjacent to Harper’s is keen to engage with the school more and *“wants to be part of the training at Harper’s”*



Figure 12 & 13: The Harper’s agricultural training facility at Prince Andrew’s School: **Fig 12** (left) the excellent and well-equipped classroom building and veranda area; **Fig 13** (right) the polytunnel used for training.

3.4 Producer Collaboration:

3.4.1 Current Situation: A great many spoken to said that collaboration between farmers is not strong on St Helena. According to ANRD *“we have tried many approaches to get growers to schedule crops and potentially collaborate on production to ensure a more even and reliable supply of crops into the market”*. This view was supported by Jill Key who stated that *“Saints don’t primarily think of collaboration. The island is not consensus driven”* and in her c.7 years on St Helena, it was *“always difficult to get island people to cooperate”*. Two producers felt *“the lack of collaboration can be attributed to a lack of leadership within the farmers.”*

Some good examples of existing collaboration between producers were encountered e.g. the livestock syndicates which are based on the principle of sharing and where *“some collaborative breeding of animals is happening now”*. There are other examples of good localised knowledge sharing e.g. between the growers at Plantation and Longwood, who *“regularly speak to each other, share knowledge and help each other out”*.

3.4.2 St Helena Farmers Association (FA): This membership organisation is for all those on St Helena involved in the agriculture sector, run by a committee of volunteers. The first constitution of the FA was written in 1992 (amended 2010), with the broad objectives to:

- Promote and protect the agriculture sector;
- Represent the agriculture sector;
- Promote or oppose relevant Government Bills;
- Collect and circulate agricultural statistics;
- Enter into affiliations to advance agricultural trade and commerce.

The FA is currently non-operational. There is no standing committee, the most recent meetings were not positive, and are not now taking place. There was criticism of the FA as it exists now, but the overall feeling from a great many that *“we want (and need) a good Farmers Association”*. It was claimed that the FA used to work better and could do so again e.g. the FA successfully advocated for the adjustment to import tariffs on fresh produce.

According to Jill Key, there are two key issues; firstly, *“the FA was set up when ANRD was big and strong, but it is a different world now”*; secondly, *“it is a voluntary organisation, which needs to change. Once you pay a person, they get on and do it”*. A few members of the FA are keen to employ a paid person to administer the organisation and in March 2017 they wrote and presented a draft job description for such a role.

3.4.3 Collaboration Potential: Almost all engaged with during the TNA agreed that *“St Helena agriculture would be far better served with more collaboration”*, with a few producers positively championing the need across the sector. One individual advocated that *“farmers need one decent premises as a base, with office, shop, cold stores and a packhouse”*. There was enthusiasm stated for more farm visits, joint cropping/production planning and shared island processing facilities for produce such as coffee and honey. One farmer was excited at *“the potential to plan all protected cropping in the c.40 tunnels we have available”*.

The common feeling encountered was that people are looking for leadership to take this forward. This could be through ANRD, the Farmer’s Association and/or Growers Co-Op, but it was suggested by one individual that, *“things on St Helena are personality driven and if you have a strong personality leading, things happen”*. One key stakeholder stated that *“I’m happy to be the kingpin for agriculture on St Helena”* so the willingness exists.

ANRD remain determined to stimulate more collaboration between individuals and key organisations (Farmers Association and livestock syndicates). They believe there is *“great potential for hubs (groups) of producers to work together”* to drive innovation and greater efficiencies. *“We tried to establish a Polytunnel Producer’s Group, we are now setting up a potato growers group and would like to establish one for egg production”*. ANRD are also keen to see *“Farmers Association meetings helping with planning and driving collaboration (including skills development) across the sector”*

A few producers (typically some of the larger producers) were extremely positive on the potential, and their desire, for increased *true collaboration* within the sector. They perceive this would offer producers, for example, improved market supply through shared production planning, procurement efficiencies and greater lobbying power.

3.5 Training and Upskilling:

3.5.1 Self-Development: Good evidence of some producers using books, the internet and other digital and on-line resources (files on CD-ROMs and USB sticks) to gain new agriculture knowledge. Two producers enthused on how they *“constantly download/view films on YouTube to learn about new products and methods, including for animal health issues and the purchasing of veterinary supplies”*. There was also evidence of growers sharing knowledge locally and one full-time farmer commented that *“people on St Helena do copy good practice – although it may take some time”*. It was highlighted that agriculture used to be on the radio far more on St Helena, and that *“most producers would listen to that for updates and new ideas”*. There was enthusiasm for this to return.

3.5.2 International Expertise: There are good examples of foreign experts coming to St Helena to deliver training and upskilling, and of producers and stakeholders from St Helena travelling internationally to gain more knowledge and expertise.

International experts have previously been employed by SHG within agriculture on St Helena as Technical Officers on 2-3 year contracts. Previous people in such a role included Jill Key, Johanna Wade and Michael Cahill. Feedback on these individuals was overall very positive, however, one producer stressed that *“Technical Officers have not always been very good, and two years (with the wrong person) is a long time”*. Many people praise highly the existing Senior Veterinary Officer, Joe Hollins (*“the person to go to for any animal problems”*) and growers generally champion the need for *“a similar full-time agronomist to deliver the key knowledge and development required within crop production”*.

Producers on St Helena referenced previous short training visits made by international experts. Ian Gower has made three trips to St Helena (2009, 2014 and 2015 – reports written by Ian on these trips are available from ANRD), to train in safe use of pesticides and the use of hand-held machinery (brush-cutters, chainsaws and pesticide blowers). The feedback from those who attended his courses was extremely positive; e.g. *“Ian trained us well how to apply pesticides and we still follow his recommendations and training”* and according to ANRD *“the pesticide training from Ian Gower worked”*. Growers also praised the short training course delivered by Brian Robinson (in c.1996) on coffee production, which also *“worked well, but subsequent expansion in coffee production as a result was very limited”*.

Jill Key spent two periods on St Helena (c.7 years in total 1997-2000 and 2013-16), working for ANRD and delivering agriculture capacity building. According to Jill *“I carried out a kind of TNA around pesticides and then delivered pesticide training (modified from UK training) c.150 people”*. Jill worked with Ian Gower, who trained Jill, before she then delivered subsequent pesticide courses. Jill worked closely with Rosie Peters in ANRD (current Pest Control Services Officer) and together they *“developed and delivered a Know Your Pests Course (Agricultural entomology) over three days, covering taxonomy, field trips, pest collections and control strategies”*. According to Jill *“many farmers came along and every course was full”*. Jill also ran half day courses for the LEMP staff on pest control, produced Plant Protection Guides (all still available on the SHG website), including one on tunnel crop production and *“ran a polytunnel farmers open day, when growers visited each other’s farms, which was very successful”*. Jill also developed protocols for integrated pest management (IPM) on the island.

In respect to sending islanders overseas to receive training. A few previous and existing ANRD staff were educated on full-time programmes at UK agriculture colleges and one existing member of the ANRD team claims the knowledge he learnt on their full-time college course in the UK is still proving to be useful.

St Helena and ANRD have built up a good working relationship with DICLA, a Republic of South Africa (RSA) agriculture training organisation. DICLA staff made two short visits to St Helena 2013 & 2015, to deliver agronomy training and help set-up polytunnel production of crops. Following the 2013 visit a delegation from St Helena went on an exposure visit to RSA, facilitated by DICLA, to view RSA agriculture in operation. The delegation including ANRD, producers, ESH, and the Co-Op, and in terms of stimulating new ideas, the trip was valued greatly by those who went. Feedback from some of those who went indicated that it was *“very worthwhile, as we got to see large scale and high-quality agricultural production (inc. polytunnel growing, packhouses & cool-chain management, chicken and pig farming)”*. One full-time farmer stating that the visit was *“perfect for the hydroponics knowledge I needed”*.

Two producers indicated that the specific visits in RSA were *“perhaps not so appropriate to what St Helena needed, as the scale of some of the farms seen and the technology in operation is never going to be suitable for us”*. According to Jill Key, *“unfortunately ANRD were not consulted on where best to send the delegation in RSA”*. A producer, who had not been on the RSA visit, stated some disappointment at the *“little (subsequent) cascading of the knowledge gained in RSA, on-island to those who were not part of the delegation”*.

The Beekeepers Association (BKA) are proactively looking to use international expertise. They have formed a link with a professor in RSA and are looking to scope out Manchester University (UK) as a potential bee taxonomy research partner, to help classify the island bee species.

3.5.3 Desire for Training: The clear majority of those spoken to answered *“yes”* to the question on whether they would like to receive training and development for their business/small holding. There were, however, two producers who said they *“didn’t need training”* and a wide spectrum of enthusiasm for receiving training across those who answered yes. The core issue for most being that *“any training must be worth going to”*.

3.5.4 Training Required: Within animal production, farmers and syndicate members were keen for more knowledge on animal husbandry and health i.e. how to identify problems and deal with them, including the desire for (more) training on how to administer drugs to animals. There was also enthusiasm for learning more about artificial insemination (AI). The ANRD veterinary team stated that they are continually passing on knowledge to producers, but that *“more formal training in the invisible things (i.e. husbandry, genetics & nutrition) could be worthwhile”*. The chicken farmer at Scotland was extremely keen to receive more knowledge and training to enable him to expand and maintain increased production.

With crop production there were two key areas that growers are keen to learn more about; soil management and pest and disease (P&D) control. Jill Key believes that *“farmers need to know how to use pesticides and control methods – not just how to operate a knapsack sprayer (which we have taught them well). Training courses that could add value include: recognising pests, monitoring, checking, using appropriate control methods – all have potential”*. Conversations with growers supported this view, with some openly admitting a lack of understanding of soil types and their management, in respect to pH (acidity/alkalinity), texture, structure, nutrition and irrigation. Pests and diseases remain a huge challenge and all growers expressed the need for more skill in this area. A lack of knowledge in integrated pest management (IPM) was evident, including a lack of understanding of crop scouting, biological controls, cultural controls, pesticide groups, formulations and resistance build up.

The business and administration aspect of agriculture was also highlighted as a skills gap by producers and other stakeholders. ANRD believe that *“Farmers need to better calculate costs, prices, margins”* and would be keen to see producers attending Agri-finance, Agri-business and book keeping courses. This view was supported by one of the largest farms who stated, *“we need to better record and understand our production inputs and outputs, to better enable decision making. With the aim to have far ‘leaner’ production methods in operation, to drive efficiency and minimise waste”*. The issue of pricing produce (particularly crops) was raised by both producers and retailers, and their belief is that *“better calculation of gross margins, may facilitate a more competitive pricing structure (against imports from RSA)”*.

3.5.5 Delivery of Training: A few individuals advocated strongly for local knowledge to be utilised to deliver training, stressing *“local knowledge doesn’t get tapped”* and *“we need to collate and cherish (and use) the traditional farming knowledge we have”*. Their view is that *“there is on-island expertise that we could and should utilise”* (with individuals suggesting; Russell Clingham, Ludi Kern, Rosie Peters, Stedson Stroud and Wendy Clingham).

Jill Key was asked for her views on the potential for Saints to be trained up to deliver the required training, including pesticide training (i.e. rather than bring in overseas expertise each time). Jill believes that *“there are Saints who could be trained as trainers, but they lack confidence. If somebody else leads the training, Saints could certainly help with the delivery”*.

The need for international expertise (alongside local knowledge) was recognised. The Senior Veterinary Officer is highly praised by animal producers for the support he gives them, and most of the growers and stakeholders champion the need for a comparable expert (an agronomist) to provide the same support to the crop growers. The Veterinary Officer stated, however, that *“I’m a trained vet, not a farmer”* and wider livestock skills may be required. The need for appropriate expertise, training and farming advice was stressed, with one producer stating *“if an agronomist comes to the island, he/she must be the right one”*. One view is that *“expertise needs to come from RSA, which is in the same zone as us, with similar challenges”*.

In respect to how and where training should be delivered, the overwhelming view is that this must be *“outside a classroom and as practical and hands-on as possible”*. There was enthusiasm for attending training on farms/small-holdings, and for a demonstration farm that could be used for training and field trials. *“We need a demonstration farm/garden for multiple audiences”* and *“what is missing for me is a practical demonstration of what we can do here”*. Several growers referred to the time when ANRD had demonstration farms and how useful they found them. There was enthusiasm for such a farm to be set-up again and the BKA are also *“keen to set up demonstration hives, for public and students to see beekeeping in action”*.

To support the practical training, the value of *“simple booklets/leaflets that farmers can use”* was championed strongly, forming *“part of an overall farming tool kit”*. Most were indifferent about the timing of any future training, with the common view being *“as long as we are given 3+ weeks’ notice so we can plan, if it is worthwhile, we will come”*. The concept of scheduled, annual refresher courses (e.g. pesticide use) was requested.

4. Conclusions:

4.1 Technology Use:

4.1.1 St Helena needs appropriate technology: High levels of mechanisation and automation are unrealistic for St Helena’s small-scale agriculture, but there is potential value in increasing the use of other technologies, machinery and potentially semi-automation. It is crucial, however, that any new approaches are suitable for the scale of agriculture of the island.

The innovation to develop polythene tunnel farming (including hydroponic production of crops) is an excellent initiative, however, such intensive farming requires a relatively high level of investment, knowledge and skills (particularly hydroponics). There are examples of St Helena growers who are performing extremely well in polytunnel production, but others are clearly struggling, with an apparent lack of understanding on key principles of running successful tunnel cropping (e.g. P&D control and fertigation). There is a clear need to further develop the skills of the polytunnel growers and continue to support their development.

It could be regarded that St Helena’s progression from open field to intensive tunnel cropping systems has been a big step. The potential exists to expand the use of other lower-cost and simpler technologies, such as crop covers, mulches and more accurate irrigation (Figure 14 – over page). Such technologies would fit well into a demonstration farm model, for use in R&D and training, to facilitate wider adoption of such technologies by the island growers.

4.1.2 Agriculture Research & Development (R&D) needs a clearer plan: Current innovation by the growers is not coordinated and there would be benefits from the development of sector-wide approach for R&D. This could be led by ANRD, the Farmers Association and ESH, linked intrinsically to the delivery of the 2014-20 Agriculture Policy, skills development and knowledge transfer, and, crucially, the allocation of funding. There are several field trials that could be done and give benefits to growers and R&D does not need to be expensive. Simple testing and field trials could be done by the producers ‘on-farm’ if correctly supported and coordinated. A demonstration farm (perhaps at Harpers?) could have an important role to play. Further development work is required.



Figure 14: Crop production has developed from open field, to large-scale polytunnels, including high technology hydroponic systems. Other intermediate technologies could offer lower-cost benefits and be well suited to a Demonstration Farm e.g. irrigation, sun tunnels, crop covers & mulches, mechanisation and variety trials.

4.1.3 A wider pool of suppliers is required: The present supply of expertise, resources and products from overseas is limited. DICLA, for example, are a 'go to organisation' for ANRD and ESH for agronomy support, materials and training, and most seeds available on island come through one RSA wholesaler, Starke Ayres. Both DICLA and Starke Ayres are reputable and useful suppliers, but they are not the whole picture.

Finding other good suppliers (particularly those willing to supply such a remote place) is not straightforward, but it is possible, and widening the supplier base could provide producers far better access to newer technologies. New suppliers should be researched, with the internet and airlink offering great potential.

The overall range of agricultural supplies available to producers is influenced by the buying preferences of the merchants offering agriculture supplies (e.g. Growers Co-Op, Thorpes Emporium and Solomons DIY). A few producers, however, are now seeking out and importing new products directly themselves. If there are good new products out there, they should ideally be made available for all producers, and the risk of producers sourcing and importing in-appropriate new products, particularly pesticides and living material, must be avoided.

4.1.4 There is potential for more shared machinery: There is access to some shared equipment (through systems previously set up by ANRD and Farmers Association). Such systems could be expanded, to include the shared use of tractors and field implements (e.g. seed drills and harvesters). There are clear challenges to this, however (e.g. maintenance & repairs, and the booking and distribution system), and further research is required.

4.1.5 Soil testing and management needs to be developed: This is a key issue, both for crop growing and livestock pastureland. There is a general lack of soils management understanding among many producers, and ANRD do not currently have the capacity to deliver all the soil testing, training and recommendation services required.

It should be recognised that it is difficult to accurately interpret the results of a soils analysis and translate this into an action plan for soil management. This is an area where additional off-island agronomy skills are likely required. Part of the solution should also be to further develop the ANRD team, upskill the producers, and provide them with additional equipment, and information resources, to enable them to test and better manage their own soils.

Developing a more consistent supply of organic matter for growers to use to improve their soils is important. There is potential to better utilise existing livestock wastes (chicken bedding, manures, & pig slurry) and other on-island organic materials including flax and fish waste exists, and this needs to be researched further.

4.1.6 Crop Pests & Diseases (P&D) remains a major issue: Significant time and investment has been spent over the years in managing P&D problems, but many growers are still struggling. P&D must be tackled at multiple levels, both in terms of understanding and management, and maintain the drive towards more integrated pest management (IPM) based strategies. ANRD need to be clear on what their role is and drive the required R&D. Growers (with the necessary training and support) must take far more ownership of their P&D problems, and suppliers must ensure the right products are available for growers to use.

The range of pesticides should be expanded, and growers must be specifically developed in IPM strategies including; correct scouting of crops, applying controls when P&D thresholds are low, and the correct use of biocontrol agents. There is, for example, potential for more use of Encarsia as a biocontrol agent against whitefly in the polythene tunnels. Polytunnel production should be an initial test case in the improvement of IPM.

4.2 Fresh Produce Market:

4.2.1 Retailers are not maximising potential fresh produce sales: Retailers are motivated by profit and margins. The retailers of St Helena see a reliable profit margin in sales of imported crops, but the same does not apply to locally grown. There is a need to upskill the island's retailers in fresh produce sales, to help them make better margins and more profit from local fresh produce sales, which will then cascade to the producers.

4.2.2 Agricultural production must become more market driven: The agricultural sector on St Helena is currently heavily production driven (i.e. farmers typically producing and then trying to sell it). This is neither efficient, or best practice. Agriculture is a demand led business and there is a need to move away from gluts and gaps in supply, avoid fields of un-harvested crops, and instead produce precisely what the island market requires.

The producers are keen to drive down imports from RSA, but to achieve this they need to offer the island retailers a far greater guarantee of supply and quality, at least equivalent of that they get from farmers in RSA. There is a need for better financial modelling by producers, so they understand their own margins fully, look to reduce costs and price point accordingly.

4.3 Agricultural Workforce:

4.3.1 Agriculture must be promoted better to young people: The sector needs more young people, and there needs to be a clear plan on how they will be informed, inspired and attracted. The agriculture sector needs champions who can inspire young people and help portray agriculture as a more dynamic, rewarding and worthwhile career. Such champions are needed in the schools, the agriculture sector and community. There are young people who could take on the role as an agricultural ambassador, but they will need to be supported.

Young people need to be incentivised to consider agriculture as a career, with the potential for more on-island apprenticeships with key employers, funding opportunities for start-up businesses and overseas scholarships all things to consider. This needs more work, potentially by all stakeholder organisations working together to promote the sector.

4.3.2 The Harper's Centre at PAS, could be the hub of agricultural training and R&D: The physical building at Prince Andrew's School (PAS), is excellent and, coupled with the surrounding land and connecting polytunnel farm, offer a potentially fantastic location for training young people, existing producers and the public. Harpers could also be the island's demonstration farm, and be the key location for carrying out field trials for growers, and where learners can help with these trials as part of their programme of study.

4.3.3 Agriculture needs to be part of a wider PAS curriculum offer: Harper's offers the potential to deliver far more than just agriculture. The facility could potentially be used far more by PAS, where students studying other subjects (e.g. business enterprise). PAS should also consider offering courses in 'Land Based Studies', validated by the UK awarding bodies City & Guilds and/or EDEXCEL/BTEC. Such courses would enable students to learn about agriculture, arboriculture, forestry, horticulture, animal care, floristry, fishing and mechanisation within one programme. This could be far more attractive to a wider range of young people and would introduce far more of them to agriculture and associated disciplines.

4.4 Collaboration between Producers:

4.4.1 There are producers who are keen to collaborate, and they must be enabled: A significant number of producers expressed their enthusiasm to collaborate strategically with others, and jointly push things forward for the sector. This must be supported and enabled. A more collaborative approach would offer increased economies of scale in production, post-harvest and marketing. There is, for example, potential for growers to rotate land, and schedule cropping to meet market demand and avoid gaps and gluts in production.

The sector needs clear and strong incentives to stimulate more collaboration and sharing of information. There is also a need to quickly demonstrate some initial collaborative successes to reward those working jointly and inspire others to participate in future.

4.4.2 Greater collaboration needs to be facilitated and led: Leadership by organisations and individuals is required to drive increased collaboration. This could be through ANRD, the Farmer's Association and/or Growers Co-Op, and these key organisations should prioritise working with, and supporting, those producers who are keen to work together. The existing ANRD ambition of creating 'producer groups' is excellent, and potato, polytunnel and egg producer groups are in various stages of development.

4.4.3 A strong operational Farmers Association is fundamentally important to the sustained development of agriculture on St Helena: The farmers and producers should take more ownership over the development and upskilling of their sector, and the Farmers Association (FA) has a potentially key role to play in leading this and championing the farmers cause.

Much has changed since the FA was established, most notably the significant reduction in ANRD's budget and capacity. Currently the FA is non-operational, with no Chair or standing committee. No meetings are taking place and many view previous meetings as extremely poor, angry, unpleasant and negative, with very little discussion around solutions and taking things forward. It is therefore concluded that the FA in its current form is not fit for purpose.

The core functions (see 3.4.2) should stay broadly the same, but the prioritisation and ways of working should be reviewed and potentially refreshed. The new FA could:

- Care about all agricultural production (including bananas, coffee and honey).
- Champion collaboration and positive solutions across the sector.
- Drive the development and adoption of appropriate new technology.
- Work closely with SHG on funding issues and support them on agreed standpoints.
- Drive forward the agenda with retailers and wholesalers for market driven production.
- Develop agriculture champions to inspire young people to join the sector.
- Be involved in commissioning all knowledge transfer, training and upskilling initiatives.

Despite the current lack of an operational FA, the majority spoken to see value in a strong FA and want it to succeed. Appointing a paid person with a clear remit, as producers have suggested, could be a way forward if funding for the post can be allocated. Whether this person is a Saint or is from off-island is irrelevant, what is required is a strong inspirational neutral leader, who is focused on doing the best for St Helena agriculture. In addition to a paid role, the FA could benefit from having a base/office, which could be in Jamestown, alongside ANRD at Scotland, or potentially adjacent to the packhouse in Longwood.

4.4.4 The role of the Growers Co-Op could be reviewed: Like the Farmers Association, the Co-Op was also established at a time when ANRD was far larger, and before there was a growers packhouse at Longwood, an operational airport, and the rise in the use in internet by producers to order their own supplies on-line (which will increase further).

It could perhaps be useful to re-define what the role of the Co-Op is now and how it fits into the overall environment of St Helena agriculture. Does it need to evolve, or perhaps align closely with a new Farmers Association and/or the packhouse at Longwood? What is its potential role with supplying the merchants with produce? The Growers Co-Op is an important body on St Helena and it needs to be part of the whole solution. It must be attractive for members to join and offer clear benefits for both small and large producers.

4.5 Training and Upskilling:

4.5.1 Training and upskilling is required: All those spoken to recognise this to some degree, and many requesting specific training they would value for themselves. There are producers who are less keen to receive training themselves, but either they don't want to admit a knowledge gap, or possibly *don't know what they don't know*.

4.5.2 St Helena agriculture requires upskilling at all levels: It is not simply a requirement for the producers to be better trained. Nor is the solution for the ANRD staff to be upskilled and then provide a service to the farmers. If agriculture in St Helena is to achieve the ambition for food security, the economy and public health, then people at all levels need to be informed, trained and upskilled appropriately, to collectively move this forward.

The belief is that a pyramid of upskilling is required (Figure 15 – below):

- The wider population form the base of the pyramid. They should be informed about the agriculture strategy, the planned developments, and why, where and how, buying 'fresh and local' is good for them and St Helena. The perception of agriculture as a career needs to be raised to stimulate more entrants to the sector, and people should be upskilled to enable an increase in the home growing of food.
- The central levels of the pyramid should be the focus for upskilling. Specific training and knowledge transfer need to be delivered for farmers, small holders and livestock syndicate members, and, crucially, the key organisations within the agriculture sector. The producers need to be trained to enable them to take more ownership of the issues they face, and the organisations must be developed so that they can maintain, support and drive the upskilling agenda in the longer-term.
- ANRD extension staff need to be developed so that they are clearly seen as the 'go-to people' by the producers for support. They must participate in all producer training, receive upskilling beyond that of the producers, and be developed as trainers.
- The tip of the pyramid is SHG and others who steer the island's agricultural development. These key organisations must be well informed, to enable them to make the right decisions for the sector and support the strategies developed by ANRD.



Figure 15: The pyramid of upskilling for St Helena agriculture.

4.5.3 Upskilling must take multiple approaches, which are appropriate for St Helena:

Knowledge and training need to be delivered appropriately for the different audiences on St Helena, using varied, and often multiple, approaches to ensure training and knowledge is well received, understood and imbedded.

The wider population could be reached through the existing island communication channels (radio, newspapers and social media) and through specific community events, including the existing community agriculture open days. The use of newspapers, radio and social media to communicate training opportunities and deliver/re-enforce elements of knowledge exchange to producers is also encouraged. Courses could be offered to the public through the Community College (e.g. practical horticulture) and a stronger sector connection made to the schools to inform about opportunities in agriculture and support delivery at Harper's.

Fundamental for the agricultural producers is that their upskilling must be focused through training delivered outside a classroom and made as practical and as 'hands-on' as possible. The use of demonstration farms (perhaps at Harper's and Scotland) as training centres is encouraged, as is the delivery of training (including facilitated discussion and knowledge sharing) on other farms and small holdings. The concept of scheduled, annual *refresher courses* in certain key areas (e.g. integrated pest management) could have high impact.

4.5.4 The further development of 'tool kits' is required to support the training: The bank of reference materials needs to be regularly refreshed and expanded and established as 'tool kits' for the key topics and audiences. These 'tool kits' can be kept quite simple and low-cost, for example, bespoke leaflets giving core information in a simple and succinct way, and including a list of useful on-line resources (including selected films on YouTube).

The ANRD and/or the Farmers Association should ideally be involved in creating these tool kits and act as a dual repository for them (and other resources, including books, DVD and CD-ROM). The intention to develop a more accessible/affordable internet for the island will have a great value for improving access to tool kits and on-line training and support services.

4.5.5 On-island expertise must be utilised: There is a large bank of existing agricultural knowledge and experience on-island, which should be tapped into and utilised as much as possible. It is likely, however, that some of these key individuals will need to be supported in the delivery of training and/or knowledge transfer.

The potential exists for producers to become trainers, but this will depend on their willingness and ability to take on that role. The delivery of 'train the trainer' programmes to producers, stakeholders and other individuals who have key experience to share, and simply enabling producers to better share knowledge with each other, could pay dividends.

4.5.6 The producers must be part of the decision-making process in respect to upskilling:

Producers, ideally through the Farmers Association, must play a strong role in deciding what upskilling is delivered and by who, when and where. The producers need to have some ownership of the training they receive and potentially how the training and development budget the agriculture sector is spent.

4.5.7 Overseas expertise is required but must be appropriate and cost effective: St Helena undoubtedly needs overseas expertise to further develop its agriculture and the island must spend its development budget carefully. It could be excellent, in terms of capacity building and upskilling, if St Helena was able to employ several international agriculture experts over 2+ years to help develop the sector. The reality, however, is that such international experts are expensive, and the budget may not be available to employ multiple experts to work across several areas of agriculture.

Additional agronomy skills are certainly required, and recruitment is currently taking place by SHG for a 2-year full-time agronomist to be based on the island. This post could have a significant positive impact, but the island agriculture (including crop production) requires a range of skills and knowledge that can't realistically come from just one person.

The potential exists to access overseas expertise in a variety of ways, which require far less time input and therefore less financial investment. St Helena should look to build good working relationships with several international organisations and individuals, to create a portfolio of lower cost-high impact overseas expertise that can be tapped into as required. There are many organisations and individuals who could potentially provide useful consultancy and skills development support for St Helena agriculture. The challenge is finding the right ones and some suggested potential UK partners are listed in Annex D.

According to ANRD *"it is currently difficult to obtain funding for off-island support agreements and short-term consultancies. The 2-year Technical Officer posts are paid out of a specific pot of funding, which can't be used in other ways"*. An ideal scenario could be that a total figure for agriculture development funding is identified, which can then be allocated in different ways (by SHG, ESH, Farmers Association) to ensure best value is achieved.

International expertise could be accessed in several ways, and a cost benefit analysis should be carried to decide the best approach on a case-by-case basis. Options include:

- Short consultancy visits – paying expenses only (e.g. donkey farrier). Could be delivered by members of UK associations and/or individuals.
- Sandwich year students from colleges/universities carrying out placements and/or research projects on island. These are typically 3-12 months in duration and the quality of students from some institutions is high (e.g. Harper Adams University).
- Remote collaborations, research, knowledge exchange and on-line support, without necessitating the need for (expensive) travel. A wealth of well-developed on-line support is available for agriculture (e.g. the *free* Tech Talk international development on-line support service offered by Aberystwyth University - see Annex D).
- Consultancy support agreements with international development organisations (e.g. NIAB who offer a team of agronomists with wide international experience, and well-developed on-line agronomy tool kits and training materials – see Annex D).
- Visits from St Helena to see agriculture in other countries (e.g. RSA trip 2013).
- Saints travelling overseas to study at UK colleges or universities.
- Two-year TCO placements e.g. Senior Veterinary Officer and Agronomist.
- Short TCO placements – fully funded for a set number of weeks.

St Helena, a pleasant sub-tropical island and UK Overseas Territory, is an extremely interesting and attractive place for international experts to engage with and visit. Particularly now that there is an air link, which offers the opportunity for international visitors to come for just one or potentially a few weeks.

Within the international agriculture community there are experts who could view short trips to St Helena as ‘working holidays’ and perhaps be prepared to give their time and expertise for free (or at low cost), in return for the expenses of their visit to be fully covered. The recent visit to the island of the donkey farrier from the UK is a great example of precisely this model. There is still a cost in terms of travel, accommodation and food, but much of this would be spent ‘on-island’, therefore helping local businesses.

A comprehensive list of potentially useful UK contacts has been provided to ANRD in addition to this report. During the later stages of the TNA research, contact was made with selected key organisations from this list, who the consultant believes have the greatest potential to be useful to St Helena in the development of their agriculture sector (See Annex D for details of organisations contacted).

Those organisations contacted were from across the following four key areas:

- Agriculture Universities: higher education and research.
- Agriculture / Land Based Colleges – vocational and further education.
- International Agriculture Training and Extension Services – including remote training.
- Other Organisations – agriculture associations and commercial businesses.

4.5.8 Upskilling is required in several areas across the sector: Based on the responses, and observations made, knowledge transfer, upskilling and linked research (field trials) is required in several areas. These are covered in detail in the Producer Development Plan (Section 6).

5. Recommendations for Upskilling:		
No.	Recommendation	Responsible
5.1	Create an agriculture (land based) education and careers programme at Prince Andrews School (PAS), linked strongly to producers through the Farmers Association.	PAS, FA, ANRD
5.2	Establish the Harper’s Centre at PAS as a hub of agricultural training and research & development (R&D), showcasing appropriate technology.	PAS, ANRD, FA, ESH
5.3	Develop a wider support pool of international expertise – fully utilising on-line resources and remote consultancy services.	SHG, ANRD, FA, EMD, ESH
5.4	Communicate strongly, the strategy, methods and value of agriculture (and local fresh produce) to all levels of society on St Helena.	SHG, ANRD, EMD, ESH
5.5	Deliver a Producer Development Plan (Section 6): including practical workshops, tool kits and appropriate international expertise.	PAS, ANRD, FA, ESH

6. Producer Development Plan (PDP):

The Producer Development Plan (PDP) is focused on St Helena's farmers, small-holders and livestock syndicate members. A strong Farmers Association (working closely with ANRD and ESH) is seen as key in driving the PDP, setting the annual PDP timetable, commissioning training and research, and deciding if, how and when international expertise is utilised.

6.1 Principle Approaches:

This PDP is based on delivering knowledge transfer and upskilling in the following ways:

6.1.1 Producer Led:

- Agriculture producers must take more ownership of their own upskilling.
- Will ideally be jointly driven by the Farmers Association, working closely with ANRD and ESH to set the priorities and, crucially, when additional expertise is required.

6.1.2 Development Workshops:

- Full or half day sessions delivered on farms, small holdings and/or at Harpers or Scotland – using the locations as a case study when appropriate.
- Workshops to be as participatory and as hands-on and 'in the field' as possible.
- An annual calendar of workshops to be created, promoted and delivered.

6.1.3 Field Demonstration and Trials:

- Planning, management, showcasing and evaluation of small-scale field trials, on farms, small-holdings, at Harper's and perhaps ANRD Scotland.
- These trials to be focused on testing and developing appropriate technology for St Helena, in terms of affordability, likely adoption, sustainability and potential impact.
- Trials should focus on small changes e.g. varieties, pesticides, weed control, crop manipulation (e.g. mulches & irrigation), animal feeds, and use of organic matter.
- Large scale, multi-replicated trials are not necessary, unless externally funded.

6.1.4 Information Tool Kits:

- Create (and 'refresh') information tool kits for ANRD extension staff and producers.
- Could be leaflets, checklists, photo guides and on-line digital resources.
- Must strongly support the delivery of development workshops.
- Should be linked to third party on-line reference materials, utilising these existing resources to reduce cost/time of production.

6.1.5 Development of ANRD extension staff:

- ANRD staff are developed and upskilled as part of their annual appraisal programme.
- Extension staff will attend and help deliver the workshops, and creation of tool kits.
- Develop communication and knowledge transfer skills through the delivery of 'Train the Trainer' programme to ANRD staff and selected producers.

6.1.6 Appropriate Use of External Expertise (Annex D):

- Use of both of on-island and overseas expertise (in various forms, including remote support) to deliver and enable R&D, knowledge sharing, and upskilling.

6.2 Prioritisation of Upskilling:

Recommended upskilling is given a priority rating of 1-3 in the PDP:

- Priority 1: The most important and deemed crucial for St Helena agriculture.
- Priority 2: Still of very high importance.
- Priority 3: Valuable to the development, but the lowest immediate priority.

6.3 PDP - Business & Communication Skills:		
Topic	Priority	Details
Agri-business Skills: including gross margin analysis, book keeping and communications and marketing skills.	1	<ul style="list-style-type: none"> • A series of (evening?) classes covering a range of topics, including: gross margin analysis, record keeping, procurement, accounting, marketing and communications skills. • Enable more accurate record keeping, production costing, scheduling, pricing strategies and marketing. • Classes to be facilitated by a range of people and delivered in an interactive way, with agricultural case studies. • Producers will be supported to work on their own business planning during the classes. • Post-class mentoring will be required.
Train the Trainer Programme:	2	<ul style="list-style-type: none"> • Delivery of a Train the Trainer programme to ANRD extension staff and selected producers, to enable improved communication and knowledge transfer within the sector.

6.4 PDP - Crop Production:		
Topic	Priority	Details
Integrated Pest Management (IPM): Crop monitoring, P&D thresholds, pesticide modes of action and biological % cultural control methods.	1	<ul style="list-style-type: none"> • Need for regular IPM workshops every c.3 months. Delivered on farms and small holdings, looking at different issues. Delivery by existing on-island experts & ANRD staff. • Revise existing tool kit resources, adding up-to-date info and on-line links. Work through agreed prioritised list of P&D. • Enable ANRD to expand their biocontrol supply and services. • Use of international expertise remotely: for the provision of up-to-date information on IPM approaches, pesticides, etc.
Soil Management: Irrigation, pH measurement & adjustment, soil analysis & fertilizer use, and use of organic matter.	2	<ul style="list-style-type: none"> • Delivery of soils workshops on farms, or small holdings, starting with the key topic 'Soil testing & what next?' Delivered by ANRD staff and additional expertise as required. • Frequency of workshops agreed with Farmers Association. • Purchase of simple soil testing equipment (multiple sets). • Creation of information resources, including a 'St Helena Guide to Soil Testing and What the Test Results Mean'.
Crop Planning & Scheduling: Growing crops for market. The use of varieties, timings and low technology approaches, to spread production.	1	<ul style="list-style-type: none"> • Working groups with ANRD, producers and merchants, to plan and schedule agricultural production for specific markets. • Practical workshops with producers covering the use of simple technologies to aid in crop scheduling and succession planning. • Market driven production by Growers Groups (e.g. Polythene Tunnel producers and Egg producers) to be prioritised. • Workshops need to be facilitated, by either ANRD, the Farmers Association, and/or specific experts.
Practical Horticulture:	3	<ul style="list-style-type: none"> • Delivery of practical horticulture classes to the public (& schools) to encourage and enable increased home production. • Courses focused on more environmentally friendly and sustainable growing techniques. • Horticulture course could be offered at Prince Andrews School.
Other Crop Topics:	3	<ul style="list-style-type: none"> • Topics that could be included in an annual PDP include; Weed control, irrigation approaches, nutrition, use of mechanisation.

6.5 PDP - Livestock Production:

Topic	Priority	Details
Chicken and Egg Production: Long-term development of the farmer at Scotland, and other smaller scale egg producers.	1	<ul style="list-style-type: none"> • Producers developed to ensure that ANRD interventions are not repeatedly required to maintain egg production. • Development of a 'Chicken/Egg Producers Group', which takes some ownership of the issues facing production on the island. • Potential for honours/graduate student from a UK agriculture university to undertake a 12-month placement in the chicken farm at Scotland. Focus to imbed production techniques.
Pastureland Management: Nutrition, rotations, pH measurement & adjustment, weed control, and selection of species.	2	<ul style="list-style-type: none"> • Delivery of workshops on farms, or with syndicates. Delivered by ANRD staff and additional expertise as required. • Frequency of workshops agreed with Farmers Association. • Creation of fact sheets, covering the key areas of weed control, nutrition and rotation. • Involvement of international expertise (perhaps remotely or short visit).
Animal Husbandry, Nutrition & Health: Identification of key problems and some training in drug use.	3	<ul style="list-style-type: none"> • Workshops delivered ANRD staff, including Veterinary Team and additional external expertise if/as required. • Frequency and topics of the workshops agreed with Farmers Association and included in the annual PDP calendar. • Work through prioritised list of topics including; feeding for breeding and lactation. Flushing/sponging of sheep.
Breeding and Artificial Insemination (AI): To raise base level of understanding	3	<ul style="list-style-type: none"> • The potential it offers St Helena and how to access the service most effectively. • Delivery of workshop by ANRD team on the overall value of, and approaches to, breeding and AI. • Creation of 'Fact Sheet' for producers.

6.6 PDP - Food Processing and Retailing:

Topic	Priority	Details
Retailing Fresh Produce: Training for retailers/merchants, to enable them to increase sales and profits from the sale of local produce.	1	<ul style="list-style-type: none"> • UK fresh produce sales expert to visit St Helena (from large UK retailer) to work with producers and island merchants. • Initial workshop for retailers and merchants (with some producers), to discuss the challenges and benefits of selling fresh produce, and set future development goals. • Workshop facilitated, by ANRD, Farmers Association, or expert. • Facilitate future workshops and seminars as required.
Apiculture: To further develop and expand beekeeping and honey production.	2	<ul style="list-style-type: none"> • Workshops for St Helena bee keepers, delivered through the BKA, utilising on-island expertise. • Joint workshop with conservation organisations to discuss future plantings and location of bee hives. • Develop a relationship with the British Bee Keepers Association (BBKA), who can provide remote training support e.g. BBKA members to visit St Helena to deliver face-to-face training.
Food Processing: Adding value to fresh produce by drying or preserving.	3	<ul style="list-style-type: none"> • Initial workshop with producers and merchants, to gauge the interest in developing food processing on St Helena. • Potential for future training to enable producers & merchants to add value to, and extend the shelf life of, fresh produce.

Annex A: Full scope of the consultancy

Inception Phase: This will start with discussion and review with the Agriculture and Natural Resources Division (ANRD) of the St Helena Government (SHG) and Enterprise St Helena (ESH) of recent and proposed capacity building activities. It will also include funding streams available to support such. This Phase will also aim to finalise the numbers, names and details of producers by production area to be included in the fieldwork phase.

Fieldwork Phase A: *Training Needs Analysis and Producer Development Plan*

- A training needs assessment (TNA) for growers will be undertaken with commercial and small-holder growers willing to take part in the upskilling programme to determine priority training and development requirements. This work will involve visits to producers farms/production areas to hold discussions with them on their needs and how best they feel their development requirements can be met (i.e. in-field training, workshops, paper based guidance and information etc).
- The TNA should aim to cover cropping (open field and covered production), livestock, poultry and beekeeping. Where individual needs of beekeepers may not be able to be captured, discussion should be held with the Beekeepers Association to assist with upskilling needs.
- A Producer development plan (PDP) should be established from the TNA by agricultural production area (arable, livestock etc) and should provide for a prioritised list of development needs within each area to inform annual action plans for ANRD and ESH.
- Producer collaboration will be facilitated and encouraged through delivery of producer participatory engagement meetings on training and development topics that are prioritised from the TNA and PDP.

Note: the term '**producer**' within this report refers to all St Helena farmers, small holders, livestock syndicate members and beekeepers.

Fieldwork Phase B: *Research and Development:* Linked to the work undertaken to develop a TNA and PDP, the consultant will provide recommendations for small-scale on farm research and development needs and opportunities that could be undertaken and met collaboratively by producers and ANRD, with additional support provided by ESH.

Fieldwork Phase B: *Development of Overseas Partnerships:* Opportunities will be investigated and recommended for the development of partnership working with suitable organisations overseas that could help deliver tangible upskilling and capability building benefits aligned with the sector's priority research and development needs.

Potential Future Work: There is potential for SHG to employ the consultant to deliver work beyond this consultancy contract. This could be discussed after successful completion of this contract. Future work may include:

- **Nursery Production:** An appraisal of potential propagation approaches, including their delivery, for the supply of fruit material of priority species identified in the national agriculture policy will be undertaken. The review will recommend preferred approaches with potential timelines for implementation and take account of approaches that are appropriate for delivery by existing local private nursery/plant production operators.
- **Training and Capacity Building Delivery Phase:** This Phase will only be developed once the outputs/deliverables from the Fieldwork Phase has been completed.

Annex B: Agriculture Producers – Training Needs Analysis (TNA) Form

Producer:..... Date:.....

Opening statement: Consultant background and role.

1. Tell me about your business / small-holding:

1.1 Age of business / how long have you been involved?.....

1.2 What do you produce?

Crops: Protected crops / Arable / Ornamentals / Field Vegetables / Fruit / Honey / Coffee

Livestock: Pigs / Cattle / Goats / Sheep / Chickens

Details:.....
.....
.....

1.3 What are you proud of about your business / small-holding?

.....
.....
.....

1.4 What would you like to improve about your business / small-holding?

.....
.....
.....
.....

1.5 Do you employ any staff? Full-time / Part-time / Seasonal

Details.....

2. Previous Training & Development:

2.1 What training / development / upskilling have you and/or your staff had previously?

.....
.....
.....

2.2 Who delivered it?

.....

2.3 Was it useful? Yes / No

Explain.....
.....

Notes:

.....
.....
.....
.....

3. Training & Development Needs:

3.1 **Would** you like to receive training to develop your business / small-holding? Yes / No

Details.....

3.2 **What** training / development / upskilling needs do you have?

Production / Plant Protection / Animal Health & Nutrition / Breeding / Chick rearing /
Apiculture / Agri-business Skills / Technology Use / Product Processing / Marketing &
Branding / Media & Communications / Health & Safety / Other

Details.....

.....

.....

.....

3.3 **How** would you prefer to receive training and development?

Face-to-face / On-the-job / In a Group / On farm / At ANRD / Workshop style / On-line or
distance learning

Details.....

.....

3.4 **When** would you ideally like to receive training?

Time of year / Day or evening / Working week / Weekends / Flexible on-demand

Details.....

.....

4. Interaction with other Producers:

4.1 How do you currently interact (share knowledge/experience) with other producers?

Informal discussions / Producer groups / Farmers Cooperative / Farmers Association /
Friends

Details.....

.....

4.2 Do you see a benefit by producers interacting more? Yes / No

Why so? Details.....

.....

4.3 Do you think the Farmers Association has a role to play in training and development and
facilitating knowledge sharing between producers? Yes / No

Details.....

.....

5. Other Comments/Discussion:

.....

.....

.....

.....

.....

Annex C: List of Producers and Stakeholders Engaged with during TNA:

Name(s)	Interview/Meeting	Status	Location	Date
Arnold Crowie	Interview	Part-time Farmer	Longwood	30-5-18
Gourange Thomas	Interview	Full-time Farmer	Longwood	30-5-18
Trevor Furniss	Interview	Full-time Farmer	Longwood	30-5-18
Colin Thomas	Interview	Full-time Farmer	Longwood	31-5-18
Mark Coleman	Interview	Part-time Farmer	Longwood	31-5-18
David Yon	Interview	Part-time Farmer	Plantation	6-6-18
Arthur Williams & Rico Williams	Interview	Full-time Farmer ANRD Livestock	St Pauls	6-6-18
Arthur Osbourne	Interview	Part-time Farmer	Plantation	6-6-18
Gary Stevens & Sammy Stevens	Interview	Full-time Farmers	Blue Hill	7-6-18
Russell Clingham	Interview	Part-time Farmer	Half Tree Hollow	7-6-18
Colin Henry	Interview	Full-time Farmer	Longwood	7-6-18
Joan Evans & Steve Evans	Interview	Full-time Farmers	Blue Hill	13-6-18
Aaron Legg	Interview	Part-time Farmer	Sandy Bay	13-6-18
Leon R Legg	Group Meeting	Livestock Syndicate	Harford	13-6-18
Darren K Peters	Group Meeting	Livestock Syndicate	Harford	13-6-18
Richard Scipio	Group Meeting	Livestock Syndicate	Harford	13-6-18
Clarence Youde	Group Meeting	Livestock Syndicate	Harford	13-6-18
Maxwell Henry	Group Meeting	Livestock Syndicate	Harford	13-6-18
Nicholas Thomas	Group Meeting	Livestock Syndicate	Harford	13-6-18
Robert Mittens	Group Meeting	Livestock Syndicate	Harford	13-6-18
Henry Thorpe Sophie Thorpe Nick Thorpe	Interview	Retailer	Jamestown	14-6-18
Rebecca Cairnswicks	Interview	Full-time Farmer	Sandy Bay	14-6-18
Martin Peters *	Group Meeting	Livestock Syndicate	Kingshurst	18-6-18
Terry Yon	Group Meeting	Livestock Syndicate	Kingshurst	18-6-18
Travis Peters *	Group Meeting	Livestock Syndicate	Kingshurst	18-6-18
Lionel Williams	Group Meeting	Livestock Syndicate	Kingshurst	18-6-18
Steve Biggs and Maureen Jonas	Interview	Part-time Farmer	St Paul's	20-6-18
Dean Okaly and Anya Thomas	Interview	Full-time Farmer Retailer	Jamestown	20-6-18
Martin Joshua and Adrian Joshua	Interview	Full-time Farmer Part-time Farmer	Harpers	21-6-18
Roddy Yon *	Interview	Full-time Farmer	Scotland	21-6-18
Delia Allew	Group Meeting	Bee Keepers Ass.	Scotland	25-6-18
Tony Leo *	Interview	Part-time Farmer	Plantation	27-6-18
Earl Henry *	Interview	Growers Co-Op	Jamestown	28-6-18
Jill Key	Interview (Skype)	Ex-ANRD	UK	13-7-18
Ian Gower	Emails	Ian Gower Associates	UK	
David Shaw	Emails	Sarvari Trust	UK	

ANRD staff engaged with during TNA:

Darren Duncan	ANRD	Head of Agriculture and Natural Resources Division
Andy Timm	ANRD	Agriculture Development Officer
Freddy Green	ANRD	Farmers Support Officer
Martina Leo	ANRD	Farmers Support Assistant
Rosie Peters	ANRD	Pest Control Services Officer
Lionel Obey	ANRD	Senior Sprayer
Anthony Thomas	ANRD	Agricultural Support Assistant
Lawanda Leo	ANRD	Biological Control Laboratory Assistant
Theresa Benjamin	ANRD	Biological Control Laboratory Assistant
Joe Hollins	ANRD	Senior Veterinary Officer

Annex D: Potential United Kingdom Support Links:

A comprehensive list of potentially useful UK contacts has been provided to ANRD with this report. During the later stages of the TNA, contact was made with a selected few organisations from this list, who it is believed have the greatest potential to be useful to St Helena in the development of their agriculture sector. Those UK organisations contacted spanned the following four key areas:

- Agriculture Universities: higher education and research.
- Agriculture / Land Based Colleges – vocational and further education.
- International Agriculture Training and Extension Services – including remote training.
- Other Organisations – agriculture associations and commercial businesses.

D1: Agriculture Universities – higher education and research: Two universities were contacted, Harper Adams University and the Royal Agricultural University:

Harper Adams University <https://www.harper-adams.ac.uk/>

- Harper Adams is regarded by many as the leading agriculture university in the UK. They have a portfolio of existing international work and the standard of their programmes, research and students is high.
- Harper Adams have an International Exchange Programme: <https://www.harper-adams.ac.uk/university-life/international/exchange-programmes.cfm>
- Positive email exchange and then a Skype conversation (7/8/18) with Dr David Llewellyn - Vice-Chancellor.
- Dr Llewellyn visited St Helena while he was a student “many years ago” and therefore has an existing emotional connection to the island.
- Harper Adams have recently been involved in the training of an agriculturalist from Tristan da Cunha, so have some understanding of agriculture in the South Atlantic.
- Discussed the potential for Harper Adams students to undertake 1-year placements on St Helena and for their staff to be involved in extension work and research.
- Dr Llewellyn is keen to look at ways Harper Adams University could be involved and would like to continue discussions following this report.

Royal Agriculture University <https://www.rau.ac.uk/>

- Vice-Chancellor, Professor Joanna Price responded with a holding email and will engage once she has returned from her summer holiday.

D2: Agriculture / Land Based Colleges – vocational & further education: Three colleges were contacted, which deliver agriculture training from practical skills, up to (and including) lower levels of Higher Education.

Myerscough College <https://www.myerscough.ac.uk/>

- Large land based college in northwest England. Extensive college farm and agriculture delivery, particularly livestock.
- Positive email exchange with Principal/CEO, Alison Robinson.
- Agreed (in principle) to have a Skype conversation with Alison and her Deputy Principal, John Wherry in October to discuss options. NB: John Wherry has previously been involved in delivering international projects for Myerscough.

Askham Bryan College <https://www.askham-bryan.ac.uk/>

- Large land based college in northeast England. Extensive college farm and agriculture delivery, particularly livestock, with exemplar breeding herd.
- Positive email exchange with Principal/CEO, Catherine Dixon who believes this is “an interesting opportunity and I look forward to exploring it with you”.
- Agreed to have a discussion once the executive team has returned from holiday.

Writtle University College <https://writtle.ac.uk/>

- Large land based college in southeast England. Traditionally a leader in agriculture education and now have university status.
- Positive email exchange with Dr Peter R Hobson - School Research Leader and Co-Director Centre for Ecnics & Ecosystem Management www.centreforecnics.org
- Dr Hobson keen to have discussions with St Helena as/when appropriate.

D3: International Agriculture Training and Extension Services: Organisations who have an existing portfolio of agriculture extension work, including internationally. Two organisations were contacted and, from this two more are recommended.

Farming Futures <https://www.foodandfarmingfutures.co.uk>

- Farming Futures is run through Aberystwyth University in Wales.
- Positive email exchange with Tim Williams, CEO.
- Once St Helena development priorities are agreed, Tim has suggested that he could ask for expressions of interest (EOI) through the Farming Futures network.
- Time encouraged St Helena to engage with AA International, which run Tech Talk (see below). “AA International have a wealth of experience in practical overseas development work with indigenous farmers that plays to their strengths”.
- **AA International** <http://www.aainternational.co.uk/>
- **Tech Talk** <http://www.techtalk-international.com/about-us.php>
- TechTalk is a free, online advisory service for farmers, land managers and project managers worldwide, providing direct answers to agricultural, food security and natural resource management questions.

NIAB <http://www.niab.com/>

- National Institute of Agriculture Botany. Providers of agronomy training, research and digital services, with an international development portfolio.
- Positive email exchange and then Skype conversation (24-8-18) with Steven Tompkins (Business Development Manager) and Claudia Canales.
- There is potential for St Helena to use training content, digital resources, tools and approaches already developed by NIAB to support growers in the UK and overseas.
- “NIAB could help St Helena farmers make better agronomic decisions supported by local extension agencies, with potentially remote (and some limited face to face) support from NIAB (and other) specialists to keep it cost-effective”.
- “NIAB is the closest thing to an ‘agricultural extension agency’ in the UK, and provides agronomic information to ~3,000 members”.
- NIAB’s training arm is Artis Training <https://www.artistraining.com/> They offer face-to-face and on-line learning.
- The work done by NIAB in developing the agriculture of the Punjab in Pakistan is highly relevant http://www.niab.com/news_and_events/article/443

D4: Other organisations, associations and businesses:

Agriculture and Horticulture Development Board (AHDB) <https://ahdb.org.uk/>

- The UK's agriculture development organisation, funded through a levy paid by UK farmers and horticultural producers.
- Positive email exchange with Jane King, CEO (Jane King is a board member of the National Land Based College)
- AHDB have an extensive staff team across all sectors of agriculture and a huge network of farmers and producers that sit on AHDB committees.
- Jane King: "AHDB would be interested in St Helena as a development opportunity for a couple of our experts".
- Agreed to potentially continue discussions once development priorities are set.

G's Fresh <https://www.gs-fresh.com/>

- One of the UK's largest commercial vegetable growers, with production farms across Europe and other international locations.
- Positive email exchange with Beverly Dixon (HR Director – National Land Based College Board member), who suggested that G's staff coming building capacity in St Helena could fit in with their Graduate programme
- <https://gs-recruitment.com/recruitment/graduate-management-training/>

British Beekeepers Association (BBKA) <https://www.bbka.org.uk>

- UK beekeeping society, with members & active regional branches across the UK.
- Positive email exchange with Claire Hartry, BBKA Administrator.
- BBKA provide courses and modules, developed in conjunction with DEFRA. Many resources and courses are available on-line and digitally.
- Potential for BBKA members to deliver training in St Helena, perhaps on an 'expenses only arrangement'.
- Next step would be a conversation with BBKA President Margaret Murdin.

Institute Agric Administrators & Secretaries (IAgSA) <https://www.iagsa.co.uk/>

- The UK organisation that champions agriculture business administration.
- Positive email exchange with Cathy Meredith MBE FRAgS FIAgSA, the lead for Training & Development.
- Potential to utilise IAgSA in the development of record keeping and business skills in St Helena producers.
- Utilising existing IAgSA training materials and resources (including on-line).

Sarvari Research Trust - Sarpo Potatoes Ltd www.sarpo.co.uk

- The Sarvari Research Trust breeds new, disease resistant varieties of potato that are traded by Sarpo Potatoes Ltd.
- Positive email exchange with Dr David Shaw who runs Sarvari Research Trust.
- Lionel Williams previously purchased c.7 tonnes of Sarpo blight resistant potatoes from Sarvari Research Trust for St Helena Farmers Association members c.5 years ago, but not sure if they were successful?
- Dr Shaw is keen to work with St Helena to assess if Sarpo varieties have a role to play in IPM for potatoes.