



33rd Ralph Melville Memorial Lecture, delivered 17 November 2015 at the Royal Overseas League

Changing needs and changing opportunities in international natural resource development

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Introduction

A different approach from normal was adopted for the 33rd Ralph Melville Memorial Lecture: rather than one presentation given by an eminent development specialist, four young professionals, who were supported at the start of their careers by a TAAF award, were invited to present their experiences as illustrations of the theme of the lecture. The objective was to demonstrate how TAAF has helped people to embark on development careers in the past, and to stimulate discussion on how TAA and TAAF can adapt to changing needs and opportunities in the future.

The four ex-awardees who presented case studies are:

James Alden and Paul Baranowski, Research Assistants, Centre for Environmental Policy, Imperial College. James and Paul received TAAF awards in April 2015, which enabled them to undertake a joint two-month overseas research project for their MSc dissertations in Environmental Technology, Economics and Policy at Imperial College.

Daniella Hawkins, Performance Manager, Microloan Foundation. Daniella received a TAAF award in 2005 for work with the Luansobe Beekeepers' Co-operative in Zambia.

James Lomax, Head of Food Systems and Agriculture, United Nations Environment Programme. James received a TAAF award in 2001 for work with the International Livestock Research Institute in Nairobi.

Developing a Decision Support System (DSS) for smallholder coffee farmers in Central America

James Alden and Paul Baranowski

Smallholder coffee farmers worldwide face low and unpredictable prices and increasingly marginal and unpredictable growing conditions. Both yields and quality of the coffee produced in most regions are in decline, due to a complex set of intrinsic and extrinsic factors: long supply chains, collapse of International Coffee Agreements, pressures of climate change. Considerable effort has been put into aiding smallholder farmers to address these issues, a notable and successful example being Fairtrade's price premium. Such approaches have had a substantial positive impact on farmer livelihoods, but they suffer from a number of shortcomings.

The funding provided by TAA was crucial in enabling us to take the vital first step towards developing and testing the DSS. James looked primarily at the practical aspects of obtaining the local-level environmental data driving the DSS. In particular, he evaluated which climatic factors are important for reducing the knowledge gap between climate and yield, and assessed the most practical and cost-effective methodology for collecting these data. The results from James' thesis showed significant differences between farms for each of the climatic factors measured. This is a positive indication that our approach is not only appropriate, but also needed. These results will influence the design of an automated data collection toolkit as depicted here. This bespoke kit will be designed by ourselves and we hope will start a new trend in local-level data collection to aid in useful farmer-centric decision support.

Paul's thesis had a broader focus. He looked at how, once the environmental data have been collected, they can be combined with socio-economic data and farm characteristics to provide the tailored advice required. Three main conclusions from Paul's thesis directed the future development of the DSS. Firstly, through the creation of a preliminary simulator it was demonstrated that it is possible to combine environmental data with socio-economic data and farm characteristics to provide tailored information which is useful for farmers.



Figure 1. James and Paul with their Honduran collaborator

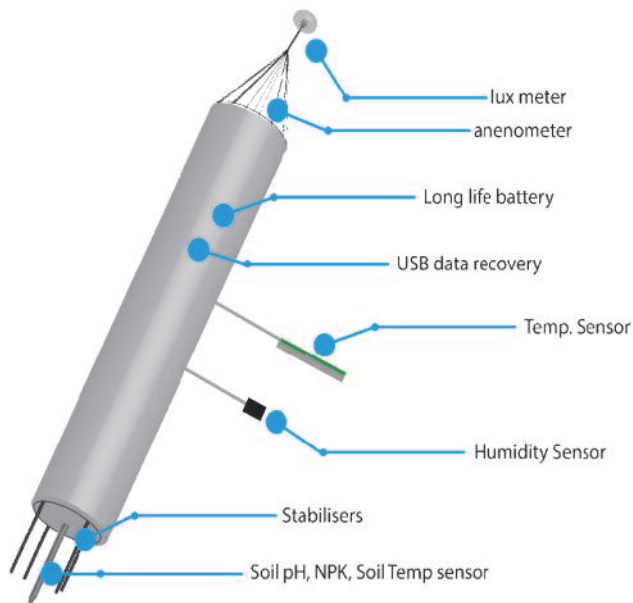


Figure 2. Automated Decision Support Tool

Secondly, the literature review indicated that there is a major knowledge gap in contemporary research in this area. For the DSS to be developed further this gap needs to be addressed. Finally, Paul showed that the future success of the DSS depends on the development of an automated methodology. Collecting data manually as we did in Honduras is extremely costly, both in monetary terms and manpower.

After completing our Masters degrees we have decided to continue in pursuit of the DSS. We have set up a limited company with Peter Baker (*Climate Edge Limited*) and hope that by moving out of an academic sphere into a business construct we can ensure the sustainability of our DSS without reliance on external sources of funding. We have to ensure that our output is practically useful on a day-to-day basis. To support ourselves while the business is scaling up we are both now working as research assistants for Imperial College. Our first project as a business is with the Fairtrade Labelling Organisation, scaling up the approach we used in Honduras. We are collecting data in El Salvador using automated data loggers (Figure 2). Through this process we will further develop our methodology and test the use of the DSS.

We would both like to emphasise the importance of the TAAF in getting us to the point where we can move forward with our ideas. The field trip to Honduras would not have been possible without the award. In addition to the funding, the expertise and encouragement provided by Antony Ellman and Jonathan Stern allowed us to keep momentum through the period of our MSc course and hopefully for some time to come. We would like to express our sincere gratitude and appreciation to everyone at TAA for the opportunity that we have been given.

My journey from setting up a beekeeping cooperative in Zambia to socially focused microfinance in Zambia and Malawi



Daniella Hawkins

In 2005 I was delighted to be awarded a TAAF grant which enabled me to spend just under one year working for the *Kaloko Trust* in Zambia, setting up a beekeeping cooperative in the Copperbelt. *Kaloko* has been training Zambian people in beekeeping since 2000. By 2005 there was growing demand from the trained beekeepers to set up a co-operative to market their honey more effectively. My project was to turn this wish into reality, and to build the capacity of the *Luansobe Beekeepers' Co-operative Society (LBCS)* to manage its affairs long term.

My first job was to set up an organising committee. Together we undertook a variety of learning visits to other co-operatives and marketing organisations, and trained the wider beekeeping community in co-operative start up and responsibilities. The co-operative was registered in April 2006. Next we worked together to draft a business plan, and set about putting it into practice. This included training the executive committee in the business management skills they would need to lead their co-operative going forward.

Happily, the *LBCS* is still going strong. *Kaloko Trust* has now trained and equipped around 500 beekeepers, and the co-operative has 300 members. Last year it bought and processed over three tonnes of honey. *Kaloko* is now assisting in the formation of a second co-operative in a new area: already it has 100 members and purchases, processes and sells local honey.

After returning from Zambia I wanted to build on the qualitative, field-based research experiences I had gained to date. I secured a position working on the European Social Survey (ESS). The ESS is a survey conducted every two years across Europe, measuring the attitudes, beliefs and behaviour patterns of diverse populations. Having gained valuable experience there, I wanted to return to where my heart was: international development. I went to work for a private charitable foundation, the *Vitol Foundation*, where I was responsible for charities focusing on microfinance and enterprise development, water and sanitation, and de-institutionalisation and foster care. This gave me valuable insights into a wide range of sectors, and provided me with my first formal exposure to microfinance.



I had already seen from my work with the Zambian beekeepers the difficulties they face arising from financial exclusion: I had spent several disheartening days trying to set up a bank account on their behalf with no success. I therefore wanted to be part of microfinance, with its objective of “banking the unbanked” for the purpose of poverty alleviation. My next career step was to work for the microfinance charity *MicroLoan Foundation*, based in Malawi initially for one year.

Now, six years on, I am still with *MicroLoan Foundation* working as their Social Performance Manager, and thoroughly enjoying it! My job is aimed at enabling poor women and their families to move out of poverty. The work is extremely varied: it includes ensuring that our staff are effectively trained, designing products and services that meet clients’ needs, and measuring the impact.

Looking ahead, I plan to build on the experience I have gained to date: staying within microfinance but working more closely with smallholder farmers, and getting more insight into the mobile and branchless banking sectors. The field experiences which TAAF allowed me to gain have given me a whole host of skills including insights into rural development, community relations and project management skills (to name a few!). Thank you TAAF for providing me with this invaluable initial support, which allowed me to follow my dream career in international development!

From dairy programmes in Kenya, through smallholder horticulture in Africa and Europe, to sustainable agriculture and food systems worldwide



James Lomax

After completing an MSc in Tropical Agricultural Development at Reading University in 2000 I started work with the International Livestock Research (ILRI) Institute on a smallholder dairy development programme in Kenya. This was a continuation of my thesis on smallholder dairying in East Africa. I was supported in this endeavour by a TAAF award, which was instrumental in helping me to launch my career in international development.

After six months experience with ILRI, I became Field Manager of a fresh produce company in Kenya, which worked with approximately 1,600 farmers producing vegetables for export to European markets. Three years later I set up my own company under the name *Ukulima*, as a vegetable production and marketing company headquartered in Holland and Kenya working exclusively with smallholder farmers. After three challenging years with this company I became Director of two large commercial horticultural companies in Portugal and Spain. Throughout my time in agricultural production, natural resource management and the role of the environment and climate emerged as key interests. So from this private sector background I made a jump in a new direction, to establish and develop a Food Systems and Agriculture Department of the United Nations Environment Programme based in Paris, where I am responsible for a wide range of sustainable agriculture and food system programmes worldwide.

From these varied experiences I have learned a number of critical lessons. First and foremost, the world’s natural resources are finite. However, with rising population and evolving consumption trends, 60 percent of ecosystems are now damaged or being used unsustainably. The expected rise

in global temperatures (predicted to be at least 3°C by 2050 despite agreements reached at COP21 in Paris) will put even greater pressure on fragile ecosystems.

Moderate UN scenarios suggest that, if current population and consumption trends continue, by 2030 we will need the equivalent of two Earths. But we have only one.

A UNEP food systems approach to food security is the holistic analysis, policy support, partnership and tool development for all stakeholders to sustainably manage agricultural landscapes, production, supply chains, transformation, marketing and utilisation of food, taking into account in equal parts ecosystem health, resource use (through the chain), nutrition and health, as well as ensuring just economic reward through the supply chain. It recognises that environmental stability plays a key role in the ‘stability’ element of food security and that this underpins and contributes to the other three – food access, availability and utilisation. The paradigm of development is shifting. Production and poverty alleviation are not enough on their own: resource consumption rate must now drive the food security agenda. We need systems thinking with multi-stakeholder participation to transform our food systems. Private as well as public sector actors are essential players in this transformation.

A new generation of professionals is key to this changing world of sustainable development. TAAF provides a key incentive for enabling young professionals to gain serious ‘coal face’ experience of development, with failures as well as successes to draw on.



People with practical training and experience who are prepared to challenge the *status quo* can definitely find important and fulfilling careers in development if they choose to look for them.

Conclusions

A brief discussion following the three TAAF presentations brought up the following important conclusions and recommendations:

- The TAAF awards have clearly been effective in helping many young professionals to embark on careers in international development: the scheme should be supported and enabled to grow.
- The professional guidance provided by TAAF mentors is seen as being almost as important to awardees as the financial support offered.
- The amount of money offered per award should be increased as far as possible in line with rising costs, but not at the expense of the number of awardees supported.
- Two awardees working together on related projects (for example James Alden's and Paul Baranowski's projects in Central America, and two students from Southampton University who worked together on charcoal utilisation in Malawi in 2013-14) is seen as particularly beneficial.
- Entrepreneurial proposals which link production opportunities to credit sources (such as *Lend with Care*) and to market outlets (such as *Fairtrade*) are seen as highly desirable. These characteristics could be used as an additional criterion in assessing proposals.
- Proposals which focus on sustainable use and conservation of natural resources, in the context of adaptation to climate change, could be a priority area in project selection.
- The difficulty of reconciling the demands of an international career with obligations to families is recognised as a common constraint, particularly for parents of young children. Daniella Hawkins' experience of sharing child-rearing duties with her husband is seen as a positive example of how this constraint can be addressed.
- Many of the past awardees who attended this event see great value in maintaining contact for exchange of experience and ongoing skills development. Alex Tasker (awardee 2012) and James Brockington (awardee 2010-11) are currently investigating the viability of establishing such an 'early career network' between recent awardees.

News from the Field

Golden apple snails continue to spread in Northern Spain

Introduction

The golden apple snail (*Pomacea* spp), also known as the rice apple snail, is a freshwater mollusc that originated in South America. It is a voracious nocturnal herbivore that lives from two to six years and feeds on newly transplanted or direct-seeded rice - often resulting in significant yield losses. Considered as one of the world's worst invasive species, it reproduces rapidly laying from 1,000-1,200 eggs per month, and is resistant to adverse conditions (Figure 1). Golden apple snails can survive in and out of water, and they can also withstand drought for several months, making them difficult to eradicate once widespread.

From the 1980s, Asian countries suffered two decades of golden apple snail infestation, resulting in millions of dollars of losses for the rice farming industry. Other parts of the world, including the United States and some countries in South America, also experienced the destruction brought about by this species during the 1990s. Various means of controlling its spread were employed until an integrated management approach was proven to be effective.



Figure 1. Golden apple snail egg masses on posts in irrigation water (Photo: Jordi Marsal Lleberia)

Invading northern Spanish deltas

More recently, the rice fields in the northern Spanish province of Tarragona have seen the proliferation of the golden apple snail. First confirmed in 2009 in the Ebro delta, it spread to