

Institution: Newcastle University		
Unit of Assessment: 14 Geography and Environmental Studies		
Title of case study: Improving Sustainable Wildflower Harvesting Practices in South Africa's Western Cape		
Period when the underpinning research was undertaken: 2010 to 2017		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s):	Role(s) (e.g. job title):	Period(s) employed by submitting HEI:
Alexandra Hughes	Professor of Economic Geography	1999 to present
David Bek	Postdoctoral Research Associate on ESRC Knowledge Exchange project	May 2013 to May 2014
Period when the claimed impact occurred: May 2016 to December 2020		
Is this case study continued from a case study submitted in 2014? N		
<p>1. Summary of the impact</p> <p>The indigenous wildflowers (fynbos) unique to the Cape Floristic Region of South Africa are a major natural resource. The market for South African fynbos is global and annually worth more than GBP7,000,000. Most fynbos is harvested from the wild across 200,000ha of the Western Cape. However, this resource is under threat, in part due to unsustainable harvesting practices. The research uncovered key challenges to the sustainable harvesting of fynbos, which were addressed by the co-production of harvester training and harvesting assessment tools by the research team and the Flower Valley Conservation Trust. The tools include a multi-lingual sustainable wildflower harvesting field guide and an i-Fynbos app. Their implementation, including through harvester training, has resulted in improvements to harvesters' understanding of threats to fynbos and the principles of sustainable harvesting, which are now applied in practice. This has benefited the Sustainable Harvesting Programme of the Flower Valley Conservation Trust. In recognition of their positive impact, the tools and training are part of a blueprint for a Western Cape government department plan for a Sustainable Flower Harvesting Assurance System. An unanticipated impact has also been the mobilisation of the training network, established by the research, to support harvesters during the COVID-19 crisis.</p>		
<p>2. Underpinning research</p> <p>Research funded by the Leverhulme Trust from January 2010 to September 2012 blended perspectives in economic and cultural geography to understand how supply chain sustainability works in specific ways in particular places. The project, entitled 'Ethical Production in South Africa: Advancing a Cultural Economy Approach', was a collaboration between Professor Alexandra Hughes at Newcastle University and Professor Cheryl McEwan at the University of Durham with Dr David Bek working as Research Associate (Durham, later Newcastle). One of the project's two case studies involved sustainable wildflower (fynbos) harvesting in the Western Cape. Fynbos refers to more than 9,000 species of wildflowers indigenous to the southern part of South Africa known as the Cape Floristic Region, one of six floral kingdoms globally and a UNESCO World Heritage Site. 70% of these plant species are endemic, and approximately 1,700 species are threatened with extinction. Fynbos has been harvested from the wild for domestic and international markets for many decades, with approximately 40 species being in greatest demand for bouquets. The South African wild fynbos market has a value of more than GBP7,000,000, 80% of which is foreign exchange. The research drew on the conceptual</p>		

framework of global production networks to capture the role of global markets in driving harvesting demands and standards (**PUB 1**) and took a postcolonial perspective in an Ashby prize-winning paper to understand the significance of colonial histories to the modern fynbos trade and conservation (**PUB 2**).

Flower Valley Conservation Trust (FVCT) is a non-governmental organisation (NGO) and has been our research partner and key beneficiary of impact. It was set up in 1999 with the aim of protecting fynbos. FVCT has developed a Sustainable Harvesting Programme (SHP), including the Sustainable Harvesting Code of Practice. There are 29 wild fynbos suppliers signed up to the SHP, between them employing some 294 affiliated harvesters (representing 15% of the total harvesting workforce in the South African wild fynbos sector). FVCT also plays a role in influencing the wider wild fynbos industry and the regulatory authority, Cape Nature, responsible for issuing harvesting permits. 75,000ha mainly covering the Overberg region of the Western Cape are currently being conserved through the SHP. The research assessed the programme's implementation and involved 62 interviews with key informants in the sustainable harvesting supply chain (FVCT managers, suppliers, landowners, harvesters, retail buyers, government regulators, and conservation NGOs), complemented by participant observation. The research team highlighted for the first time, and communicated by invitation to FVCT and its stakeholders, that:

1) Retailers' procurement demands and local pack-shed sourcing policies regarding fynbos species, stem lengths, and volumes of flowers can compromise sustainable harvesting in practice (**PUBS 1, 2**). Although standards of harvesting shaped by the SHP are high (**PUB 3**), there was still some inconsistency and areas of non-compliance influenced by pressure to fulfil orders within short timeframes, limits to supervisory oversight, and insufficient training and understanding of the Sustainable Harvesting Code of Practice on the part of some harvesters (**PUBS 1, 4**).

2) A culturally diverse workforce presents challenges to implementing the code of practice. The composition of the local workforce, driven by migration of Xhosa-speaking workers from the Eastern Cape, and migrant workers from Malawi and Zimbabwe, with limited knowledge of fynbos, has led to challenges of communicating the principles of the SHP and to creating a cohesive network of harvesters (**PUBS 1, 2, 4**). Cultural diversity is to be embraced, and there is a need to mitigate the barriers to communication.

3) Effective data collection for monitoring wildflower species' availability, harvesting, and vulnerability is important for demonstrating the outcomes of the Sustainable Harvesting Programme in a context where metrics and auditing are demanded by conservation organisations and commercial buyers (**PUB 5**). Data on wildflower harvesting and compliance with the SHP's Code of Practice are important, but difficult to obtain. Challenges were identified with managing the monitoring of harvesting, associated with constraints on time and resources, particularly in the context of South Africa's difficult economic environment. This affects FVCT's capacity to create a more robust, regional, and business-focused assurance system (**PUB 4**).

3. References to the research

PUB 1 - **Hughes A**, McEwan C, Bek D. (2013) Retailers, supply networks and changing articulations of ethicality: lessons from Flower Valley in South Africa. *Journal of Economic Geography* **13**(2), 211-230. <https://doi.org/10.1093/jeg/lbs049>

PUB 2 - **Hughes A**, McEwan C, Bek D. (2015) Postcolonial perspectives on global production networks: insights from Flower Valley in South Africa. *Environment and Planning A* **47**(2), 249-266. <https://doi.org/10.1068/a130083p>

PUB 3 - Bek D, Binns T, Blokker T, McEwan C, **Hughes A**. (2017) A high road to sustainability? Wildflower harvesting, ethical trade and social upgrading in South Africa's Western Cape. *Journal of Agrarian Change* **17**(3), 459-479. <https://doi.org/10.1111/joac.12149>

PUB 4 - Bek D, McEwan C, **Hughes A.** (2012) *Ethical Production in South Africa: Sustainable Wildflower Harvesting and Fairtrade Raisin Production* Unpublished Project Report. 44 pp. Available on request.

PUB 5 - McEwan C, **Hughes A.**, Bek D. (2014) Futures, ethics and the politics of expectation in biodiversity conservation: a case study of South African sustainable wildflower harvesting. *Geoforum* **52**, 206-215. <http://dx.doi.org/10.1016/j.geoforum.2012.09.010>

Research Grant: 'Ethical production in South Africa: Advancing a cultural economy approach' Leverhulme Trust (F/00 128/BE), GBP180,722 (2010-2012). McEwan (PI, Durham), **Hughes** (Co-I, Newcastle), Bek (PDRA, Durham)

PUBS 1-3 and **PUB 5** are published in peer reviewed journals. **PUB 2** was winner of the Ashby Prize, 2016, awarded for the most innovative papers published in *Environment and Planning A* in the previous year (from approximately 150). The Leverhulme Trust Research Grant was peer reviewed.

4. Details of the impact

The research has had most significant impact on the implementation of FVCT's Sustainable Harvesting Programme through developments in harvester training and practice. This has improved the sustainability of wildflower harvesting across the 75,000ha the programme covers. FVCT and the harvesters it works with have therefore been the primary and intended beneficiaries. The research has had additional impact by creating a social network of harvesters that has facilitated humanitarian relief during the COVID-19 crisis. Extending the reach of impact, the success of developments in harvester training and practice has shaped a wider regional government strategy for the sustainable harvesting of flowers.

A programme of work, largely funded by the ESRC, was developed by the research team in partnership with FVCT between 2013 and 2020 to respond to the challenges of sustainable harvesting identified by the research. This involved an ESRC Knowledge Exchange grant (2013 to 2014) and ESRC Impact Acceleration Account funding (2015 to 2019). The partnership has been significant for FVCT's continued development as a Global South NGO executing a sustainability agenda in the context of financial pressure and resource constraints. Beneficiaries of impact are: FVCT, the suppliers signed up to the SHP, the harvesters, and the Western Cape government. The programme of work resulted in the production of a first-of-its-kind multi-lingual field guidebook and a version of the guide as a mobile i-fynbos app for guiding and recording harvesting. These tools were co-developed by the research team and FVCT in 2016 and 2018 respectively. The field guidebook has a double function of providing information on species vulnerability and the principles of sustainable picking practices for 41 of the most harvested species and doing so in the most relevant languages to maximise understanding and uptake of the sustainable harvesting principles. The i-Fynbos app uses Geographic Information Systems (GIS) to record and trace harvesting of wildflowers in accordance with the Sustainable Harvesting Code of Practice. Impacts are as follows:

1. Improvements in harvesters' understanding of threats to fynbos and the principles of sustainable harvesting, which are now applied in practice.

The 'Field Guide for the Sustainable Harvesting of Wildflowers' is written in Afrikaans, English and isi-Xhosa and provides information on fynbos, the threats to fynbos, and FVCT's Sustainable Harvesting Code of Practice. Since its launch, FVCT has given each harvesting team in the SHP a copy of the guidebook (**IMP 1**). The guides have changed the nature of training resources by making fynbos vulnerability information and the code of practice more accessible. As FVCT reports, "*The development and publishing of the first field guide for best harvesting practices is a regular tool used for training. The success of training using a person's first language has resulted in the organisation using this strategy for all our subsequent training materials*" (**IMP 2**).

Between 3 May 2017 and 18 October 2019, 138 harvesters including a mix of Afrikaans, Xhosa, and English speakers across 13 supplying firms, received training from FVCT on threats to fynbos, the importance of fynbos conservation, and the Sustainable Harvesting Code of Practice using the multi-lingual guide **(IMP 3)**.

A training evaluation exercise conducted by the research team with FVCT in February 2020 evidenced improvements in harvesters' awareness and understanding of the main threats to fynbos, including species vulnerability and the principles of sustainable harvesting that are now being put into practice more rigorously. This evaluation involved face-to-face interviews with 31 harvesters (representing a 22% sample of those trained). The evaluation showed that 100% of the interviewees found that training and materials in their own language was fundamental to understanding and applying sustainable picking practice. All interviewees said that since the training they are now also comfortable understanding the vulnerability of key species and threats to fynbos. Of those not already familiar with the code of practice, all explained that following the training they understood it more clearly, which is improving harvesting and making it more compliant with the Sustainable Harvesting Code of Practice – '*our practices have changed very much since the training*' (harvesting team) **(IMP 3)**.

The evaluation extended to an in-field assessment to demonstrate the improvements to sustainable harvesting practice made by the training. This took place in Vierfontyn, which had been harvested for the species *Brunia laevis* during November 2019 by a team who had received training in June 2019. Old cuts showed evidence of some non-compliance before the training, but assessment of 3 sample plots using the i-fynbos app to record the findings showed 100% compliance with the Sustainable Harvesting Code of Practice since the training **(IMP 3)**. In terms of significance, this has improved the application of the Sustainable Harvesting Code of Practice and has thereby strengthened the SHP across South Africa's Overberg region.

2. Improvements in the monitoring of compliance with the Sustainable Harvesting Code of Practice.

As a result of the research identifying the challenges of data collection on harvesting practices, and in addition to the improvements to sustainable harvesting in practice, FVCT is now also introducing rigorous in-field monitoring and recording the compliance of picking teams. The purpose of this is to evidence sustainable harvesting to domestic and international retailers who need to demonstrate their sustainability credentials to consumers and shareholders. Between July 2017 and January 2018, field data were collected by FVCT on an unprecedented scale covering 25 species and 1,218 plant samples harvested by 9 picking teams in the SHP. The data were analysed in May 2020, showing that all teams sampled received a compliance score of greater than 80%, with more than 50% achieving 87% or higher **(IMP 4)**. This monitoring was conducted using our i-fynbos app, which has become a key capacity-building tool of the SHP, with 80 harvesters receiving training in its use during 2019 **(IMP 5)**.

3. Facilitation of humanitarian relief for harvesters during the COVID-19 crisis through the social network created by the sustainable harvesting training programme.

The harvester training, underpinned by the research, has also created the social network through which FVCT has communicated with harvesters during the COVID-19 crisis. The research team collaborated with FVCT on a telephone survey of harvesters in April and May 2020 to establish the economic effects on livelihoods and to connect those in urgent need with relief. Harvesters across 6 towns and 9 harvesting teams responded with urgent needs. In May, as a result, immediate response was focused on coordinating relief through regional humanitarian organisations and delivering food parcels to 33 families **(IMP 6)**. The survey also highlighted areas of ongoing vulnerability for FVCT to address, including marginalisation of overseas migrant and seasonal workers and those in remote locations with limited access to transport. Meeting urgent needs and identifying broader vulnerabilities of the harvester community are important as the wildflower sector and FVCT cope with the immediate social and economic challenges of the crisis, and as they prepare to recover.

4. The above improvements to the SHP are now underpinning a Western Cape Government strategy for a business-focused Sustainable Flower Harvesting Assurance System integrated into a provincial-wide natural resource products Community of Practice.

In terms of broader reach, the field guide, i-Fynbos app, and multi-lingual harvester training are components of the SHP that are now parts of a strategy for a Western Cape government department business proposal. The Western Cape Department of Environmental Affairs and Development Planning identified a need for a wider Sustainable Harvesting Assurance System operating across the Cape province with reach beyond the SHP. It called on industry and conservation organisations to explore this. FVCT collaborated with consultants, Tomorrow Matters Now (TOMA-Now), to conduct a business and public consultation exercise, and TOMA-Now produced a plan on behalf of the Western Cape Department of Environmental Affairs and Development Planning based on the findings and recommendations. The plan was published on 15 March 2019 to scale up FVCT's SHP into a Sustainable Flower Harvesting Assurance System – “The principles of the SHP inform the foundation for the development of a more robust assurance system that is in line with evolving market and supply chain needs, as well as being inclusive of harvesters that operate outside of the scope of the SHP” (page 13) (**IMP 7**). The proposal is to use and develop our tools and approaches as part of a larger and more business-focused assurance system through a formalised Community of Practice involving the regulator, CapeNature, Cape Flora, and South African retailers, Pick'n'Pay and Woolworths. This Community of Practice and approach will extend beyond the flower sector to incorporate a wider range of natural resource products.

5. Sources to corroborate the impact

IMP 1 – Feedback Report for the 'Field Guide for Wildflower Harvesting' by the Conservation Extension and Applied Research Coordinator: Sustainable Harvesting Programme, FVCT, July 2017

IMP 2 – Testimonial letter from Programme Manager for FVCT, 15 December 2020

IMP 3 – FVCT Training Evaluation Report, May 2020

IMP 4 – Report on Measuring Compliance with the Code of Best Practice for Harvesting of Wild Fynbos Flowers (FVCT), May 2020

IMP 5 – FVCT Annual Report 2018-19 (Page 3)

IMP 6 – FVCT Report on 'Impact of Covid-19 virus on small scale wildflower harvesters in South Africa', May 2020

IMP 7 – Western Cape Department of Environmental Affairs and Development Planning: Biodiversity (2019) 'Business Plan: development and implementation of a Sustainable Flower Harvesting Assurance System', 15 March 2019 (Page 13)