

UNIVERSITY OF CAPE TOWN

Realizing the Benefits of Beekeeping Development Projects in the Western Cape.

MPhil Specializing in Climate Change and Sustainable Development

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Minor dissertation presented for the approval of senate in partial fulfilment of the requirements for the MPhil specializing in Climate Change and Sustainable Development in approved courses and a minor dissertation. I hereby declare that I have read and understood the regulations governing the submission of MPhil specializing in Climate Change and Sustainable Development dissertations, including those relating to the length and plagiarism, as contained in the rules of this University, and that this minor dissertation conforms to those regulations.

Signature:

Date:

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Abstract

Addressing unemployment, maintaining biodiversity, and filling market void for honey; beekeeping development projects are well suited to address all of this and more. Semi structure interviews of funders, service providers and participants were used to investigate two different beekeeping development projects in the Western Cape. This research was able to identify the tangible benefits such as; establishing a cooperative, brand identity, income, certified skills, and business relationships. The research also identified intangible benefits; leadership, enthusiasm, self-confidence, pride, environmental appreciation. Through the research process standout findings and observations included the importance of prior experience and commitment to participant continuity. The differing views of those involved with the project were also of note; funders focus on capacity while participants were striving for outcomes. This investigation is far from broad enough, but offers an insightful look at two development beekeeping projects and how their past may echo in similar projects.

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Introduction

South Africa not only faces problems with unemployment and lack of standard education; there are also many more deep-seeded social issues plaguing this beautiful country. South Africa is also home to many of the most rare and beautiful plant and animal species along with boasting a fairly stable economic hold on exporting valuable fruits and agricultural products ((Allsop & Cherry, 2004)). There have been many attempts to raise poor individuals out of their dire situations through skills training and development. Some have made huge strides in this realm and others have continued to struggle. One such developmental tool is the transfer of bee keeping skills which can be used to provide income through honey, pollination, as well as other bee products and services that disadvantaged individuals can use to make a much needed income from. The problem is that time and time again, these developmental bee keeping projects all over South Africa have put in years of training, millions of Rands and countless other investments only to have most shut down shortly after (Steenhuisen, 2011). The objective of this research is to look specifically at projects that took place in the Western Cape and assess the tangible benefits derived from these projects. This research will also recognize the characteristics that aided or hindered the project's success. The analysis of the results will establish that the benefits that are coming from these projects will help to truly value their existence. It is also significant to study what has gone wrong in certain projects and compare these to other case studies in an attempt to prevent the same shortcomings in the future.

Literature Review:

The Importance of Bees

Honey bees are responsible for 90% of commercial pollination that takes place, making them one of the most important species on the planet (Genersch, Ohe, Kaatz, & Schroeder, 2010). Without bees to pollinate flowering flora, many of the world's plant species would go extinct. Bees are the foundation of biodiversity; they cross pollinate species, keeping them robust and stable. Bees are also important as economic support systems for countries, like South Africa, which depend on fruit and seed plants as major export GDP. In South Africa, honey bees are the backbone of this multibillion dollar industry (Allsop & Cherry, 2004)

Besides honey, bees also produce products such as bee's wax and propolis, used for cosmetics. Bees also collect pollen and producing venoms and vitamin rich substances such as Royal jelly, harvested and used in healthproducts (Genersch, Ohe, Kaatz, & Schroeder, 2010), (Casalado & Capasso, 2002) (Azeez & Akankuku, 2012),

Poverty and Poverty Alleviation

South Africa is currently facing a multitude of challenges: Post-apartheid communities are still living in grim townships faced with little to no job opportunities; an increasingly widening gap between those who can find jobs and those who cannot (Aliber, 2003); a large population living in informal settlements depending upon neighbouring cities for minimum paying jobs in a vicious cycle (P, 2000). Although the unemployment rate is officially around 25%, other estimates place it much higher (Work and Labour Force, 2013). South Africa is currently looking for ways to reverse this troubling trend and has followed the lead of other African nations in adopting the potential strategy of bee keeping for poverty alleviation((Fombad, 2005)(Illgner, Nel, & M, 1998). Although bee-keeping requires relatively little effort when done correctly, it has a potential for subsidized livelihood income from bee keeping services, products, medicine and sustainable food source(Hilmi, Bradbear, & Mejia, 2011)These characteristics make it a

perfect candidate as a piece to the developmental puzzle that faces South Africa at the moment ((FAO)

Benefits of Development Beekeeping

There are a number of other benefits that arise from development projects. Some, such as the income, certified skill training and natural products, can be quantified (Randall, Bruins, & Mathew, 2004) Some, such as empowerment, confidence, and environmental appreciation, are less tangible (Buch & Dixon, 2009). The less-tangible factors play a critical role in tackling the social issues which plague previously disadvantaged communities. Bee keeping is even a powerful tool in physical and mental rehabilitation. No other activity combines as many skills and capacities as building, maintaining, cleaning and managing one's own bee hive(Allsop, Mahomed & Mcadam, 2000). Mike Allsop's project with street children in Cape Town also benefitted the severely mentally and physically handicapped as well as prisoners in need of rehabilitation. This was done through the introduction of understanding and management of bee keeping. Bee Keeping was a preferred method of rehabilitation in that it met multiple needs including basic financial support, craftsmen skills and the experience of working outside.(Allsop, Mahomed, & McAdam, 2000)

Empowerment:

Empowering people is a difficult task, especially in a society so torn by distrust and with a legacy of abuse. But in order to move forward South Africa must find a way to accomplish what J. Friedman calls "an alternative development (which) involves a process of social and political empowerment whose long term objective is to rebalance the structure of power within society by making action more accountable, strengthening the powers of civil society in the management of their own affairs" (Oakley & Clayton, 2000). This means being more accountable with government spending and truly valuing the benefits and losses of projects which are undertaken. With this in mind, there must be a societal shift toward empowering those most in need with the skills and knowledge they need to develop their own future as they see fit. Giving people the knowledge and skill to create their own income will develop a true sustainable practice instead of

a culture of dependence on constant new development projects which provide funding only on the short term.

“Deeper learning” (is) the process through which an individual becomes capable of taking what was learned in one situation and applying it to new situations (i.e., transfer)”(Pellegrino & Hilton, 2012) Applying this deeper learning to the development of bee keeping projects investigated Illustrates how learning and capacity building that has taken place through the projects is becoming available to recipients in other aspects of their lives.

There are also important direct and indirect indicators of empowerment. Things such as participation, free choice to participate or withdraw, as well as one’s voice and accountability (Alsop, Bertelsen, & Holland, 2006). These measurements of empowerment were applied to the experience and input which was received from participants in the development projects as a means to suggest potential empowerment throughout the process.

Project attachment was measured by participation, election to participate, decision-making and accountability (Alsop, Bertelsen, & Holland, 2006). Many people describe these measures as aspects of empowerment. These measurements of empowerment were applied in this study by soliciting input from all participants.

What Makes a Successful Project?

It is critical to establish a rubric for success in order to evaluate accomplishments. Traditionally beekeeping development projects have solely been based on economic output or job creation and have yet to impress in South Africa. It is important though to consider each aspect of success as defined by SSIR when looking at such a project; Impact, sustainability, and scale (Boorstin, 2013)all play a role in defining the success of a project This research elicits the definition of subjects involved with development bee keeping an attempt to harmonize these definitions that different participant may have for their role in a development project.

There are many examples of bee keeping development projects which have taken place in other countries around the world including Asia, Europe and neighbouring countries in Africa (Illgner, Nel, & M, 1998)(Fombad, 2005). These projects are an excellent reference point when

considering the factors of success and the major constraints that they faced. Comparing the constraints and success with the experience of the Western Cape beekeeping project will be useful in supporting findings and making recommendations for future projects. Success was found in developing bee products in Malawi that could be sold at a higher price for quality honey and bees wax by women who were empowered to make candles. The example from Malawi also shows how success in bee keeping training can also have successful impacts in teaching about basic business skill and marketing information (Bee Product Diversification and Value Addition, 2007).

Along with defining characteristics of success, it was important to investigate constraints of previous development bee keeping projects in research investigating development bee keeping in the Amhara region of Ethiopia. Such identified constraints to beekeeping included: shortage of bee forage, lack of skilled manpower and training, marketing problems (Ejigu, Gebey, & Preston, Constraints and prospects for apiculture reasearch and development in amara region, Ethiopia, 2009). These issues taken in the Ethiopian context were considered when examining the bee keeping development projects in the Western Cape.

In defining success of a development project it is important to keep in mind a definition which is suitable to the project's needs. SSIR gives a few more inclusive definitions which are malleable to beekeeping development here in South Africa. Measuring success means many things to many people, and means more to everyone than just poverty relief. The food and Agricultural Organizations of the United Nations (FAO) set out principals for development strategies which are important to take into consideration for bee keeping projects in the Western Cape. Ensuring access, independence, sustainability, and participation are among the critical factors outlined and also play an important role in the development projects examined (FAO, Framework of Development).

The Research Question

This research attempted to establish the benefits which result from two different beekeeping development projects which have taken place in the Western Cape, South Africa. The research is based on the investigation of two separate projects which took place with the aim of assisting sustainable livelihoods through bee keeping. Investigation took place in the form of semi structured interviews and their resulting narratives from those who were involved in the project. This study demonstrates the common factors of success and the challenges faced. This information will be useful to take into consideration when assessing the true value of bee keeping development projects as well as identifying important aspects which should be taken into consideration when undertaking future development projects.

Development Projects Examined

Cape Flats Honey (CFH)

Two separate bee keeping development projects were chosen for examination for this study. The projects have overlapping commonalities with regard to intention, as well as vast differences in terms of structure, support, administration and oversight.

The first project examined was the Cape Flats Honey Co-op which began in 2011. The project began as a result of a partnership between the Honeybee Foundation and the city of Cape Town's office of sustainable livelihoods. The project was funded by a grant from the city of Cape Town for R180, 000. The purpose of the project was to provide sustainable livelihoods and support people living in low income areas of Cape Town. The Project sought out participants through the city of Cape Town's network of environmental employment projects such as the Working For Water(WfW). Through this selection process ten participants were chosen to become beekeepers. These participants were selected from Manenberg and surrounding communities.

The participants in these projects ranged in age from 23-56 and all had no experience with keeping bees. The projects aim was to teach the participants to become bee keepers but to also teach them valuable business and life skills that could capacitate sustainable livelihoods. The initial training of the project was carried out over a six month period during which recipients were trained in beekeeping skills by the honeybee foundation and were trained in business skills through the partnering Overberg Training Institute (OTI) in Hermanus.

Through the training process participants were taught to collect swarms of bees, build their own hives, as well as basic bee keeping and hive management skills including seasonal management and extracting honey from the hive. The project also provided the beekeepers with equipment such as building material and protective equipment. The business training also served to inspire entrepreneurship in the participants teaching them basic business skills such as professional communication, organization, and marketing.

After the initial training there was also the added support of the Worcester Polytechnic Institute (WPI) which became involved with the project after the training was complete. The WPI brought students from the United States to assess the projects needs and to assist in its goals of facilitating sustainable livelihoods. It was through the WPI that collectively the participants were able to solidify themselves as an official cooperative. The cooperative began to rent a space from the people's centre in Manenberg from which it could run its business. The cooperative was also able to secure a location to place their bees. The bees were located in Philippi and at the honeybee foundations location in Maitland.

The cooperative successfully made a bulk purchase of honey from the Honeybee foundation which it was able to then resell in individually packaged containers. The cooperative was also able to establish itself as the preferred bee removal service for the city of Cape Town.

After the ending of the WPI support and without any more funding from the Cape Town grant, the cooperative has failed to continue on its own. Though the cooperative has fallen stagnant there is still mentorship communication provided by the OTI and the Honeybee Foundation which still maintains all of the cooperatives equipment. The cooperative was not able to afford the rental space at the people centre and has since gone in debt to them.

For the research and investigation of this project six participants were interviewed on their experience; James Smith and Sarah Jacobs (City of Cape Town), Sam Johnson (WPI) David Callas (Honeybee Foundation) Dana Pierce (OTI) and Alex was the one trained recipient available for interview.

Bee Pilot Program (BPP)

The second project which was examined was the Bee Pilot Program. This project which began in 2007 is the personal investment of Charles Salmon. Charles Salmon is an agricultural community worker for the Western Cape and is responsible for assisting agricultural development through the region. Charles is a beekeeper himself and began this project to assist impoverished farmers and beekeepers to assist livelihoods through beekeeping.

The Bee pilot program first began with twelve participants, all but one of whom were already keeping bees but were in need of assistance. Through partnership with the South African Bee Industry Organization (SABIO) Charles would lead educational training sessions and hands on practical “farm day” lessons with these bee keepers to assist them in their trade. Each beekeeper was provided with five hives of bees, protective equipment and quarterly check in meetings.

Since the initial twelve participants were chosen, the project has expanded to assist about twenty five beekeepers in the Western Cape. The intention of the project is to empower these participants through bee keeping and for them to be able to provide themselves with a livelihood and expansion into other related ventures such as bee product, hive, and pollination services to the surrounding farms.

The project works in a certain way. Charles decides which beekeepers receive the most support and access to new equipment and funding. Charles has built relationships with the beekeepers and continues to support all of them, but if he sees that a beekeeper is not investing the proper time and energy into maintaining the hives that he has, Charles will not support an application for more hives from the Western Cape. In the same manner, if Charles feels that he can see the beekeepers are investing his money time and effort into expanding his beekeeping, Charles will spend more time mentoring this person and assist them in applying for funding for more hives or for special equipment. An example of this; now from the start of the project, beekeepers are given empty hives which they must fill with capture swarms. This is due to Charles’s prior experience in which almost all the originally supplied swarms of bees absconded from their hives after a few weeks. The BPP continues to operate in the Western Cape with many of the beekeepers more than doubling their numbers of hives. Other beekeepers have maintained levels and only a few have completely stopped keeping bees. For this research project five participants were interviewed Charles Sturgeon (Director of BPP), and four recipient bee keepers (Jack, Mark, Dave, and John)

Methods

The research encompassed semi structured interviews and snowball sampling of participants involved in the development projects. The intention was to actively pursue as many of those related to the project in order to gain as much insight as possible into the understanding of the project when it began and peoples thoughts about its execution as well as insights or improvements that would be suggested. The sampling was intended to include people from all different levels of participation in the projects (Funders, Service providers, and Recipients) in order to compare and contrast the differing narratives on experience of roll in the project. Due to unforeseen limitation to access to certain participants as well as maintaining a narrow scope on the research only the 11 participants were each interviewed each only once for this study.

The semi structured interviews were formatted to elicit dialogue and narratives from each participant. The intention was to get the “what rather than the how” of these participants experience with the bee keeping project (Riesman 2007). During interviews the structure was informal, leading to dialogue and open conversation about honest insights about the projects.

Each interview lasted approximately one hour. Subjects sat down and the conversations were recorded to the best quality available to maintain accurate records of quotes and figures. Sam and Dana’s interviews were recorded over the phone due to distance restrictions. The rest of the interviews were carried out in person either at participant’s home or place of work. The interviews took place over a six week period. All but one participant asked to remain anonymous but all names have been changed in order to protect everyone involved.

The analysis of these interviews and findings was carried out using principals from both Riesman’s narrative analysis principals, and the SWOT method. The intention here was to extract the most valuable information from these interviews in terms of both tangible and intangible benefits that arose from these projects. Also key findings of Success, Weakness, Opportunities and Threats were compared between the two projects and different actors in each

to narrow down successful and hindering factors which may be useful to take into consideration for future development projects.

Though the interviews were only semi structured and informal to allow for personal narrative and experience, the same questions were always guiding the conversation in order to maintain a comparative base between different participants.

The framework used to categorize tangible and intangible benefits was adapted from the (Buch & Dixon, 2009) study which was carried out looking at the Cape Town Working for Water Project. It was also further adapted in a similar study which was solely looking at the intangible co-benefits which were outcomes of the WfW project completed by Leslie Ashburner in 2013 (Ashburner, 2013). This project encompasses more than just the co benefits and also displayed the tangible benefits including income and established business structures which impacted the development program outcomes.

The Semi-Structured guiding questions are presented below;

1. Please describe the development bee keeping project you were/are involved with?
 - a. What was the intention?
 - i. Skills? Development? Training?
 - b. What is/was your role?
 - c. How did you get involved?
 - d. What is your prior experience with similar projects? Development Projects?
 - e. What is your prior experience with bee keeping?
 - f. How was/ is this project monitored and is it audited? By who?
2. What were the intentions/ goals of this project?
 - a. Were they met?
3. How would you define success for this project
 - a. How would you measure success?
 - i. Number of colonies? Honey? Revenue? Empowerment?
4. How would you define sustainability for a project like this?
5. What came out of this project?

- a. What sort of tangible achievements were there?
 - i. Income, employment, training?
- b. What else was achieved?
- c. What intangibles came out?
 - i. Education, empowerment, awareness, appreciation for nature/culture?

Tangible	Intangible
<ul style="list-style-type: none"> • Job creation • Poverty alleviation (financial) • Certified training <ul style="list-style-type: none"> – Technical – Life skills 	<ul style="list-style-type: none"> • Pride • Confidence • Access to opportunities • Knock-on skills <ul style="list-style-type: none"> – Leadership – Teamwork – Communication – Management – Responsibility • Knock-on knowledge <ul style="list-style-type: none"> – Business mindset – Environmental understanding • Future directions <ul style="list-style-type: none"> – Work ethic

Table 1. Tangible and intangible benefits of involvement in WfW

6. What are some things that you thought would be achieved that were not?
 - a. Why do you think this is?
7. What did you learn from your experience with this project?
 - a. Awareness?
 - b. Skills?
 - c. Knowledge?
8. What is your current involvement with this project?
9. Where do you see the future of this project going?
10. What would you do or what would you need to improve the project?

In Regards to tangible and intangible benefits Buch& Dixon's (2009) paper on intangible co-benefits was used as a reference to distinguish between tangible and intangible benefits which may have come out of the project for participants this chart of tangible and intangible benefits is above contained in the research questions that were provided to participants.

Participants were encouraged to give examples through anecdotes about benefits that they received or did not receive. This helped give a much clearer picture not only of the scope of

benefits but also the clear understanding of the question for subjects. When speaking about tangible benefits subjects were asked for as specific of figures as possible such as number of hives, income earned from each specific bee related activity such as honey, pollination, hive sales, swarm removals.

Findings came in the form of reoccurring themes, specifically differentiating these themes between what worked or did not work in either project. These were divided into tangible and intangible in accordance with the adapted Buch Dixon framework. Also important findings of note that came up were specifically highlighted and evaluated.

The structure of the development projects was also analysed; the bee pilot project being the initiative of Charles and lacking much of the structural requirements for certifications. The honey co-op needing to fill specific requirements for the city of Cape Town and having required participation from those lacking interest leading to significantly different outcomes from the two projects.

Limitations

There were several concerns when carrying out the research. Due to unforeseen time constraints and lack of availability from participants, specifically recipients for the Cape Flats Honey Co-op, there was not time able to interview multiple recipients to compare their experiences with each other's.

The language barrier was especially a problem for two of the participants when carrying out interviews with the Bee Pilot program. Important information was lost in the translation from Afrikaans to English.

The time available to conduct the interviews also created potential limitations. Participants were interviewed in close proximity to each other, as well as within the presence of the mentor/instructor and service provider: Charles. This raises issues about the amount of information the participants might feel free to disclose about faults, inconveniences or sources

of discontent with their participation within the projects within earshot of each other, their support staff or their mentor/instructor/service provider Charles.

There was an enormous amount of diverse information and insight provided by all participants during the course of the interviews. Happily, the perspectives and suggestions from every participant were unique. They ring of sincerity and authenticity, but it has become clear that more gleaned from further attention and closer analysis of the interviews. Since there was no pilot study the single round of investigation is all that could be used for analysis and so inferences would have to be made from this information.

Most importantly, the industry of bee keeping within South Africa has not been well studied. Though neighbouring countries serve as comparable example the intricacies of South Africa, its lack of historical bee keeping, range in terrain, lack of cooperation with commercial beekeepers has led to little accurate or concrete data on the subject. Given the need increased production, and development potential it is an under examine topic which needs more attention.

Findings and Analysis:

Commitment/ Interest

The financial support of the CFH project was limited. Once it reached its timeframe and expenditure the project would end if more funding was not made available or undertaken by another agency. WPI's revival of the project was a two month revival, but alas, after their participation the project returned to a stagnant state.

The BPP does have on going support from Charles, SABIO and financing from the Western Cape government available at Charles' discretion. There is no set amount dedicated to the

project except for Charles' salary which is dependent on his work in many agricultural projects, not just the BPP.

Even so, there was a clear lack of interest and motivation in many of the CFH participants. It was evident the CFH participants were spurred on by more investment into the project. Without supplies and outside support, the project would stop. Despite the support and input Alex felt that "Cape Town did not do enough, it was their project and they didn't do enough". He felt that participants should have received a stipend for attending training. Alex commented that "we constantly had to use our own money to keep this co-op going!" inferring that this was an issue which led to the failing of CFH.

The participants of the BPP held varied levels of commitment. There has been continual increase in production along with the twenty four bee keepers currently involved the project, (about) six have either not expanded or have lost all their swarms. On a successful note, eight of the bee keepers, including some of those interviewed, had more than doubled their number of hives.

Alarmingly, in one particular incident over sixty hives were sold off without the knowledge of the four recipients interviewed. Yet the incident served as an example of their initiative and commitment to the project since they began again collecting swarms and building more hives from spare wood. They didn't quit; they started from scratch. As Dave put it *we* "had our losses, but we carry on. We don't stop even if we have to start from scratch".

This level of commitment to the project is in contrast to the interest which was displayed from participants in the CFH. From interviews with those involved there was a serious lack of commitment to the project which meant that the project was not carrying on without the constant input of service providers. James from the city of Cape Town noted that "whenever we took our hands off the project it would stand still, they were not doing anything for themselves"

Part of this problem may deal with the lack of incentive which was provided in each project. In the BPP the incentive to participate and invest in ones bees is the continued support and investment of Charles in a project. If a recipient does not invest into their project they know that will be where they stay. Some recent are happy to stay there; these are what Charles calls “hobby” beekeepers. Charles said “some of the guys are happy with their five or eight hives; they make enough honey from them to provide for their family, if that is enough for them then that is enough for me”.

But other beekeepers wish to expand further. Their goals are to become commercial beekeepers and they know that if they stop working and investing on their own, they will not have Charles’ continued support in the future. Charles decided to make recipients demonstrate their commitment and their investment in the project. He motivated them by keeping them focused on future rewards. Since he kept the goal on the horizon, there is more incentive for each participant to invest in their own beekeeping [for them to be able to reap more for themselves and financial gain in the future].

During the CFH project, investment was made regardless of the interest of the participant. All support from each additional service provider or investment network provided there was a certain amount of services, funding, and materials which were given to all recipients. This created an expectation that the project would continue to support the recipients. When it did not, the CFH participants lost interest. According to Alex: “many of the guys left and went back to the working for water program to find jobs because it provided a stipend, which CFH did not”.

The method used to gauge commitment or interest in order select these participants in the CFH obviously insufficient. This was acknowledged by every person interviewed about the CFH project. Dana from the OTI found it laughable that they would be chosen without any prior experience bee keeping.

David said “there was problems with the selection process from the beginning, the people who were selected did not want to be there and would rarely show up”.

James and Sara from the city of Cape Town explained that the participants were chosen because of their prior environmental experience while working for the city but that none of them had expressed any interest in the specifics of bee keeping. James explained it most bluntly by saying “beekeeping was merely the mechanism chosen to facilitate capacity building”.

Alex said “these guys were chosen from a pool of about fifty working for water volunteers, some of them were afraid of bees, others had no interest being there”.

It is clear from continued depreciation of participants in the CFH project that as they found other easier methods of income they chose those over participating in the CFH. As Alex told “A lot of the people involved stopped coming and went back to the working for water program because it guaranteed a stipend for them which the CFH project did not”.

According to Charles, Jim is a success story in this regard. John is a farm manager but was also allocated five hives to keep bees from the BPP. John did not have much interest in his hives and was neglecting them. “He would not go to check the hives, and let ants run all the bees out”. Jim began to see how other people were making money off of pollination with their hives and so he decided to ask Charles for thirty more hives so that he could start pollinating himself. Charles told him that he would not support his application for more hives because he could not manage the hives he currently owed. In response to this John has begun to take better care of his hives and how has expanded his five hives to eight. Charles noticed the difference in John and has begun meeting with him more often to discuss better beekeeping practices. Now Charles is in the process of helping John apply for more hives, and at the time of the interview they were planning a practical session for methods of extracting honey.

Charles is a fully committed part of the BPP. His job through the Western Cape is to support development projects one of them being the bee pilot project. As a lifelong bee keeper and resident of the area he has grown up with many of the bee keepers and feels a strong commitment toward the project. He stated that his dream would be to focus on the bee pilot

project exclusively, not only because of its success but because of the commitment he feels from those he works with.

There was strong Commitment to the cape flats honey co-op from three members of the project from the beginning. Alex was a committed member. According to both the honey bee foundation, OTI, and City of Cape Town once the funding ran out there was no way to continue to support the project. This is not an indictment of the commitment of any of the parties involved but is simply a fact that the time and financial constraints limited the access to support that the project would have.

According to James, within the city of Cape Town the project was relatively unknown, but he is hopeful that as the project evolved more funding and support would become available and the project would be able to continue on. This was the case with the support of the WPI who having arrived after the project ended were able to re-invigorate the project with a two month support and commitment period.

Constraints for the Projects

There were a few issues that were noted as constraints for both projects. Similar to the research which had been done on beekeeping initiatives in Ethiopia; one major issue which plagues beekeepers everywhere in the Western Cape is space (Ejigu, Gebey, & Preston, Constraints and Prospects for apiculture research and development in Amahara region, Ethiopia). Beekeeping as it is known now did not take place until the early 1900's in South Africa. Traditionally people did not keep bees because there was not reliable nectar or pollen flows (Johannsmeier & A, 2001). Since the addition of fruit and seed farming there has been an influx in the need for managed colonies, but the lack of suitable space has always been an issue.

The CFH project had difficulty securing a place to locate their hives. David and Alex voiced their discontent with the city of Cape Town not permitting them to place their hives on park land.

The city of Cape Town maintains that “bees may not have been a major pollinator of the cape ecosystem and therefore we wish to limit the number of hives on park land”. The eventual location that was selected was the second story of an unused building in Philippe, but those hives disappeared within a few weeks of establishment. David claimed that they were stolen, and that was the last straw for him and his investment into the project which had been continually struggling. Sara from the city of Cape Town claimed that they could not have been stolen but must have been removed. She would not disclose further as to who or why those hives were taken from their location.

The BPP also struggles to deal with the issues of space for hives. Charles said that he has to constantly assess the capacity for new hives. It is important to assess how well the land that currently used for how many more hives it can support. As beekeepers in the project keep applying for more hives, he wants to let them expand but if there are too many bees in one area they will compete with one another and it will decrease the strength of the colony. This would impact all of the participants.

This also leads into the next issue which is faced by beekeepers, especially in the BPP there is a perception of their project as competition for established bee keepers. Established beekeepers have not wanted anything to do with helping Charles support development beekeeping especially in the areas which he is working. More hives is more completion for honey sales and especially pollination contracts with big farms in the area. Charles stated several cases in which commercial beekeepers would take advantage of the emerging beekeepers by offering them low prices for their honey or hives. Sometimes these beekeepers have no choice as it is their only income and they would have to settle with taking unfair prices. Charles said he is particularly angry about these happenings especially if the hives which are being bought are hives that he helped beekeepers obtain. The example that Dave gave about the beekeepers hives being sold without them knowing is exactly a case of this type of action happening behind peoples back.

The CFH did not have the same direct conflict with commercial beekeepers but James did say how surprised he was that there was not more support from the industry when the city of Cape Town reached out to them for support. James said that David was the only beekeeper who was

willing to participate and empower people through beekeeping. As fate would have it though when the project ended David also began to see the CFH group as competition, according to James and Alex; “after the project ended David would no longer sell us honey as he saw us as completion to his own business.”

Benefits

The table below displays the tangible and intangible benefits which were brought up by subjects during semi structured interviews. Findings were not limited to only benefits of these projects, during the course of the interview participants were asked to explain their personal feeling about what went wrong and how they define certain aspects of the project. These included what they expected to get from the projects, what they would do differently and how they defined the success of the project with which they were involved.

<u>Tangible</u>	<u>Intangible</u>
Established a legal co-op	Leadership
Brand Identity	Confidence in business
Website	Self confidence
Budget plans	Pride
Income	Work ethic
Bee Keeping Skills	Enthusiasm
	Appreciation for nature

Measuring Success

In order to compare what participants were hoping to achieve from their project each individual was asked what success would mean for them in their project. Their different answers are displayed below

City of Cape Town -providing livelihood support, increasing the capacity for sustainable livelihoods	Charles - If participants are implementing techniques and knowledge
WPI - Strategies to make a difference, along with capacity building	Jack -To become a commercial beekeeper
OTI - To have and up and operating cooperative with certificates; one should not finish without employment	Mark -Growing bigger and bigger, until I become a commercial beekeeper
Alex -Earning money with our own hands	

Measuring success for these two projects depends on ones role in the project. The funding and service providing roles were much more interested in the importance of implementing techniques and building the capacity of those involved, whereas the recipients had clear income related and financial goals which revolve around the expansion of beekeeping not just the acquirement of skills. Though Mark did make the point that for him “ the skills and the swarms are just as important as the income earned because they lead to each other; better skills will equals more swarms and more swarms will earn him more money.”

Tangible benefits

The Cape Flats Honey Co-op did have a short period of income generation in which a partnership had been formed between the Honey Bee Foundation and CFH. CFH would buy bulk honey for R38 per kilo. The co-op would then bottle and sell the honey at R25 for 250ml for profit. This project which was led by the WPI students net about R4500 before it was

discontinued due to the ending of the project funding cycle and competitive disparities between the two groups.

Also as a result of involvement with the project s Alex has established connections with other professional beekeepers for which he works for providing services such as bee removal. He also receives income when he removes bees from houses in his neighbourhood and is able to sell these swarms again to other beekeepers.

The CFH project established tangible identity through brand establishment and recognition. They defined themselves by advertising, marketing, creating T shirts, honey jars and labels. This was all part of tangible establishment as a co-operative. It was also worthy to mention that the co-op still does own bee equipment though they are not in possession of it.

It is also of note as a tangible achievement that those involved were able to achieve official Co-operative status which will enable them to more easily receive funding and maintain legitimacy in the future (Co-operative identity, values & Principals, 2011) The CFH cooperative was done with the aid of the WPI students and stood to solidify the group as an entity, that group has now since stagnated but is still officially recognized. The BPP though it has not established an official co-op four of the members of the project have informally come together as a group and work together managing their hives.

Income

These two projects have had differing results in terms of tangible benefits which have come out of these projects. The Bee Pilot Program does not have any certified training certificates, and also does not have an official co-op or structure under which it operates. The Bee Pilot Program has though had tangible benefits in the form of income generated from bee keeping. The table below shows rough estimates of income from the past two years which have been achieved by the recipients interviewed during this study.

Jack	64 hives	~R9000- pollination	~R2000-Honey	~R11000
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Mark	39Hives, 20 Boxes	~R9000- Pollination	~R1500- Honey	~R10500
Dave	48Hives, 15 Boxes			~R7000
John		~R6000		

Skills

The bee keeping skills which are associated with these projects have been a benefit for the recipients. Recipients spoke about their new understanding and appreciation for more modern and efficient techniques for managing hives. Mark began his beekeeping career simply by robbing hives from trees as a child. He has progressed his bee keeping skills through the mentorship of firstly Jan's father and now through shared knowledge from Charles. Charles gives the bee keepers specific strategies to maintain colony strength especially leading up to pollination season. Charles said that some of the recipients can be stubborn and must learn the hard way. For example he told Dave that he must feed his bees 20 days before pollination or they will not be strong enough for transport. Dave refused to entertain the idea and fewer of his hives were chosen for pollination that season resulting in loss of income.

Bee keeping skills go far beyond that of managing the hive, bee keepers from both projects were taught to build their own hives. Specific measurements are needed to permit what is called bee space of 6.4-9mm which bees will respect and not seal closed with their propolis. Learning information and the skills to complete these exact constructions have benefits beyond the beekeeping realm. Both projects also taught recipients how to place and capture swarms which can either be sold or managed as an asset.

Recipients of the Cape Flats honey co-op were given specific business skills training to assist them in their running of the co-op but these skills are easily transferable. Recipients were taught basic book keeping, marketing, branding, and advertising. As Sara from the city of Cape Town mentioned for some of these students it was their first time ever using a computer! Through the

project the students gained access to basic computer skills and learned other things like creating a CV or portfolio. These skills are known as transferable skills and will assist these recipients in any daily life endeavour that they may take on. (Pellegrino & Hilton, 2012)

Recipients of the BPP have not received business or marketing training for their bee keeping and it is a shortcoming that Charles acknowledges and stated he wished he could implement. Even without the official training though many of the recipients made it clear that they now felt more comfortable to handle their own book keeping, maintain record of how they cared for their bees and also monthly revenues. Dave who was a long distance truck driver and shop owner before becoming a bee keeper equated bee keeping to regular business. He remarked that there is the same fluctuation up and down of business something's going well, other times not but that recording the information always helps.

John who is a farm manager and also keeps a few hives said that he has acted on realizing a gap in the market and that is why he now wants to keep more bees. He said that he realized with more effort and a few more hives he could take advantage of the income which it would provide. This is an excellent example of bee keeping serving as a mechanism of support. By using his prior experience and being afforded the opportunity to manage hives he is taking advantage of the situation for his own benefit.

It was not clear whether the training actually received accredited bee keeping training but Alex was awarded a London school of economics certificate for his participation in one of their related development projects which was afforded to him though his involvement with the Cape Flats Co-op.

The certificates for completion of the bee keeping course provided by the OTI have still not reached the Cape Flats Honey Co-op. This is a point of contention between the different participants as to whether it was certified training. There was however certified business training which was accredited to the recipients who completed the course.

Alex and two other recipients of the cape flats project were also inspired during their involvement to return to school and finish their matric diplomas. This was under the direction of the project but according to Alex he was inspired by the project and the group collectively went back to finish their diplomas.

Intangible Benefits

The National Research Council defines deeper learning “as the process through which an individual becomes capable of taking what was learned in one situation and applying it to new situations” (Pellegrino & Hilton, 2012) it is exactly this type of learning and skills development which was examined when considering the two projects. Bee keeping and its associated skill can open doors to future capacity building for all of those involved.

Appreciation for nature

All subjects noted there was an increase in appreciation for nature that occurred from recipients. According to John “now I think twice before I cut down a tree because I know that it is food for my bees”

Jack said that through his bee keeping he has started to try to look after bees and nature not only in his hives but in all his surrounding farms. He states he understands the connection between this nature’s health and the health of his hives.

One participant also states that he saw the benefits of checking up on his hives more often, “now that I check my hives and keep them ant free the hives are healthy longer and soon I will be able to expand into pollinating hives on the farm I live on.”

During conversation with Alex he stressed the importance of bees for the ecosystem and stated that because nature conservation was important to him before the project he wanted to get more

involved with bee keeping to maintain the nature. It was obvious that Alex has a strong connection to bees and bee keeping. He was enthusiastic about describing the “rush” of bee removal and his joy of working with such amazing insects.

Mark as a participant of the Bee Pilot Project made a strong connection between his number of bees and his income but he took this even further to say that his appreciation and respect for nature has grown because he now makes his money out of nature.

Cooperation was a common theme in both projects, though certain individuals dropped out and were no longer involved the five remaining in the Cape Flats honey co-op still discuss future plans and all are involved in decision making processes.

Cooperation

The Bee Pilot Project does not have the same legally binding cooperative structure that the Cape Flats Honey does, yet four of the most successful expanding bee keepers have started working together on their hives, helping to check and maintain hives and also pooling their hives for pollination jobs on surrounding farms. The four recipient’s interviews stated that they have been working together for eight years and seem to have a strong bond around the bees that they keep. Mark joked that they still will work together even if they are getting stung by one another’s bees.

Networking

The Bee Pilot Program is an example of networking success, through Charles’ network of bee keepers and farmers he has been able to support bee keepers who have been trying to support themselves. One of the most critical networks that Charles established was a relationship with the South African Bee Industry Organization (SABIO). Charles attests industry involvement to the success of his project. Connecting industry with recipients Charles is able to lead knowledge exchanges through theoretical and practical trainings on “farm days”. Charles also said that

through seeing the impact of industry involvement in the Bee Pilot Program he is now attempting to make those links in other development farming activities he supports such as apricot and goat farm projects.

Recipients of the BPP also take advantage of these networking opportunities by establishing relationships with farmers who need pollination services and become repeat business partners. It was a common remark of the recipients to say that through the project they were now able to communicate better with commercial bee keepers because they felt more comfortable around them.

Empowerment/ Confidence

Alex mentioned that he felt enthusiastic and confident during his training; he felt confident enough to return to school and get his diploma. Now he feels through the Cape Flat Co-op he received skills that have empowered him. He stated that he feels more sophisticated and is more comfortable talking with people. He was very excited and proud of his co-op even though it has been dormant. Speaking about it he said “right now we are at the bottom but there is light at the end of the tunnel”. Dana pointed out how before this project Alex was a gangster; he has turned his life around for this project and continues to lead even as it struggles.

When asked about the benefits of the project Sam was quick to point out the enthusiasm and momentum that was strong in some of the recipients who were committed and involved.

When speaking to recipients of the Bee Pilot Program they all felt as if they now had more legitimate standing in the bee keeping community. Mark said that he has learned to be responsible with his hives, he sees the fruit of his labour, meaning the more he maintains and checks his hives the better they perform resulting in an increased income.

Jack is proud of his bee keeping and said that now when he speaks to farmers and commercial bee keepers that they see him as more than a person but as a bee keeper, he feels like they listen to him now and respect him.

Dave is also proud of his bees and recognized that when establishing oneself you must have a strong reputation. Dave said that he is proud to have the strongest bees for pollination and would not want to give someone weak bees because that would damage his good reputation.

Conclusions

South Africa is still in need of sustainable livelihoods for millions of its people, beekeeping is a viable option for some of these people. Gauging by the information gathered in this research it is an option that may only be best suited for those who have a prior experience and commitment to beekeeping rather than a trained vocation which can be bestowed upon any person. Realizing the importance of personal commitment to projects which the government promotes should help to prevent lost and frustrated energy and income such as the CFH cooperative experience. Based on the personal experience of Charles and the BPP it has been shown that through incentivizing effort and eliciting personal investment it is possible to gauge a person's commitment and reward that commitment with investment for the future. More projects should take on this "sifting" process approach and steer clear of the one size fits all method of building capacity for its unemployed.

It should also be said that through these development projects even if participants did not become vocational bee keepers there are benefits to the projects despite a minimal Rand value attached to them. Participants learned valuable business skills, established themselves in formal and informal cooperative groups and became empowered in both their personal confidence and through a greater appreciation for the nature with which they live in and make their livelihood.

Development projects increase the capacity for disadvantaged people to become more sustainable in areas of their lives even outside the scope of their involved project. Recipients in both projects gained “deeper learning” skills which will transfer into other aspects of their lives beyond beekeeping. (Pellegrino & Hilton, 2012) Participants received tangible training, income, and professional connections through these development projects regardless of the status of the current project. The BPP participants are continuing to enjoy income generation from their efforts, while CFH participants have taken the transferred skills and are hopefully applying them to other sustainable livelihood endeavours.

Recommendations

This research has identified that there are in fact both tangible and intangible benefits to beekeeping development projects, whether or not the project is considered a success. Tangible benefits which were explored were income, certified skills, and connections. Intangible connections which were achieved regardless of the tangibles were such as building of commitment, appreciation for nature, business skills, confidence and empowerment. This supports the literature around development projects and their intangible and tangible benefits (Buch & Dixon, 2009) (Randall, Bruins, & Mathew, 2004).

The research has also shown that there is a vast difference in the perception of success that each level of participant expects from their work. Funders and service providers simply want to transfer knowledge and capacity on to recipients. Recipients are focused on the tangible outcomes of income and financial livelihood support but in the process pick up many of the other benefits of these types of projects. It is clear from this research that there is more to the definition of success than the impact, sustainability, and scale (SSIR). It is clear that there are differing layers of success imbedded in any development project that must take into account these intangible benefits which are increasing capacity for those involved without being sufficiently measured. It is recommended that projects make clear to all involved what the true

goal of a project is, and have participants working for this goal together, instead of moving in different directions under the same roof.

This research found specifically to these two projects that the commitment and personal investment of participants is critical to the continuation of a development project. Due to poor choice in individuals on one hand, and very specific “sifting” and encouragement through incentives on Charles BPP it was shown that through incentivizing behaviour and action has a much greater effect on overall commitment and performance of a development project than simply investing without consideration to whom is involved.

Further research is needed into beekeeping development projects from a wider range, eliciting the information which was gathered in this study but delving deeper into multiple projects and speaking to more recipients to gain a more complete understanding of different types of projects and how these projects may differ or support the finding identified in this research.

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