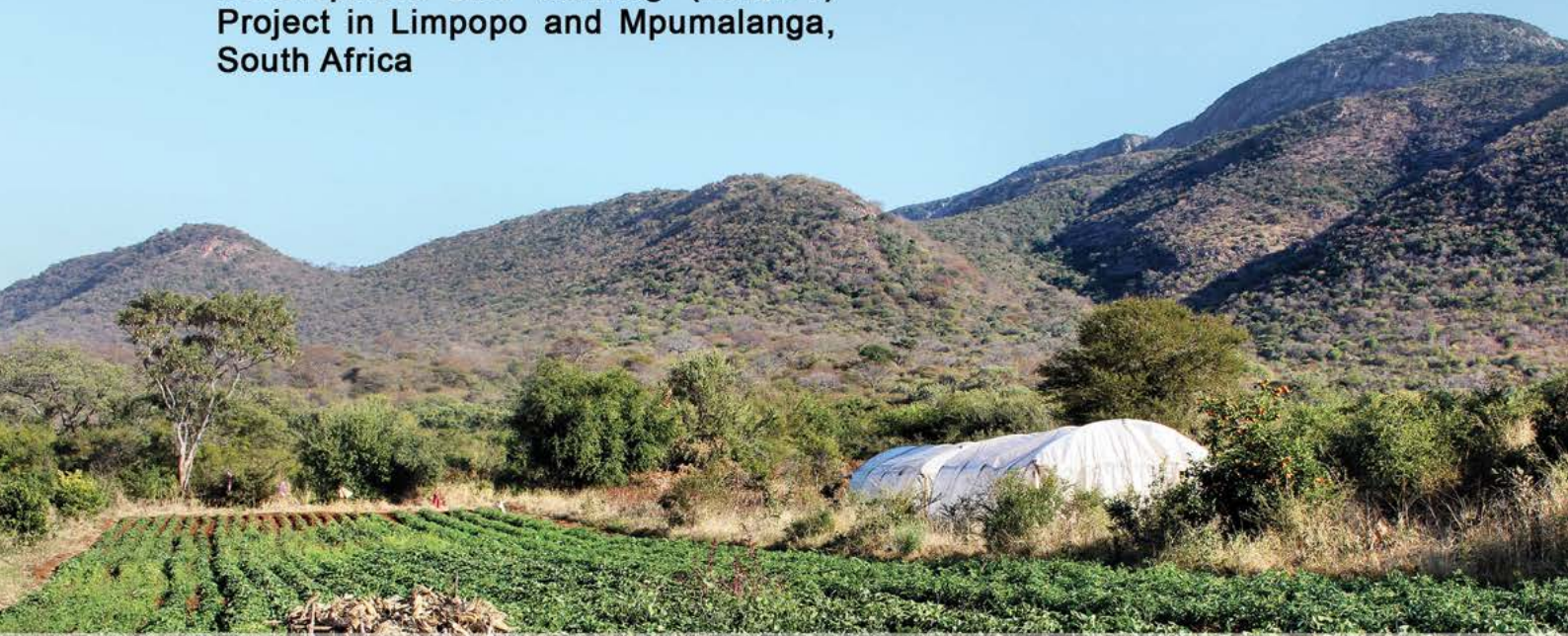




IMPACT REPORT

2017

The Impact of the Mobile Agri Skills Development and Training (MASDT) Project in Limpopo and Mpumalanga, South Africa



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EXECUTIVE SUMMARY

The main objective of this impact evaluation was to determine the primary, secondary and tertiary impacts of the MASDT project as well as how these impacts contribute to the quality of life and overall well-being of individuals and communities in selected locations in the Limpopo and Mpumalanga provinces of South Africa. In addition, the following two aspects (that did not form part of the initial scope of the evaluation) were also included: (a) the key drivers behind successful impacts attained as a result of the project; and (b) an assessment of how the project could be improved further.

A qualitative evaluation research design and semi-structured interviews with 22 participants, which were thematically analysed, were utilised for this purpose.

The results indicate the most significant outcomes and impacts of the MASDT project relate to:

- **MATERIAL BENEFIT:** food security and an increased asset base: All farmers who were interviewed indicated that they benefited greatly from the material and tangible resources they received as part of their involvement in the MASDT project. Among others, these resources include fertilisers, pesticides, seeds/seedlings, various types of farming equipment and materials as well as financial support.
- **DIRECT AND INDIRECT EDUCATIONAL BENEFITS:** Along with the material resources referred to above, the education and training provided by MASDT via courses and a mentorship programme (as input) were associated with a host of direct and indirect beneficial outcomes and impacts. A primary outcome of the MASDT project is the development and inculcation of a number of skills and competencies as well as a substantive knowledge base pertaining to farming and the management of a farming venture. The interviews consistently revealed that the educational benefits associated with the MASDT project had a ripple

effect that extended well beyond the farmers themselves.

- **DIRECT AND INDIRECT FINANCIAL BENEFITS:** The majority of farmers who were interviewed reported drastic improvements in their financial situations as a result of the MASDT project (particularly when they started farming with tobacco) that were typically sufficient to not only raise many above poverty but to even change their socio-economic class altogether. The benefits did not merely extend to the farmers themselves but were in all cases found to cascade to other parties associated with the farmer.
- **ENHANCED PSYCHOLOGICAL, SOCIAL AND EMOTIONAL WELL-BEING:** Analysis of the data confirmed that the inputs from the MASDT project did indeed translate into outcomes that significantly impacted the overall psychological, emotional and social well-being not only of those involved in the project but also of others indirectly affected by it.
- **PERSONAL DEVELOPMENT:** As either a direct or indirect result of their involvement with the MASDT project, many farmers appeared to have undergone personal development in one form or another, such as developing cognitively as well as becoming increasingly altruistic and more disciplined.
- **SOCIAL AND COMMUNITY-LEVEL IMPACT:** The outcomes of the MASDT project were found to have a number of cumulative and/or secondary outcomes that resulted in positive impacts on a broader social and communal level, such as supporting local economic development and empowering women.
- **CHALLENGES AND NEGATIVE OUTCOMES ASSOCIATED WITH THE PROJECT:** Whilst some participants did mention a number of general concerns, with the exception of two farmers in the Badplaas region, none of these directly pertained to the project itself. Consequently, no significant challenges were identified.

THE FOLLOWING FACTORS WERE FOUND TO CONTRIBUTE TO THE IMPACTS OF THE MASDT PROJECT:

- Virtually all farmers who were interviewed were unanimous in pointing out that the training received from MASDT was particularly effective and played a decisive role in their farming and resultant financial success.
- Being closely associated with the MASDT training protocol, the effective use of sub-mentors was a theme that emerged with such strength that it warrants individual discussion, as it appears to be a key driver of the project's success.
- Farmers in all regions were unanimous that a significant portion of their farming success can be attributed to the fact that a ready market exists for tobacco (which is not the case for most other crops).
- A critical factor in the success of any performance-related activity is personal ownership, which involves feeling a sense of personal investment, commitment and autonomy in relation to a task, activity or goal. It appears that the strategy adopted by the MASDT project optimally promotes a sense of ownership, which

translates into increased commitment and engagement as well as enhanced performance as farmers.

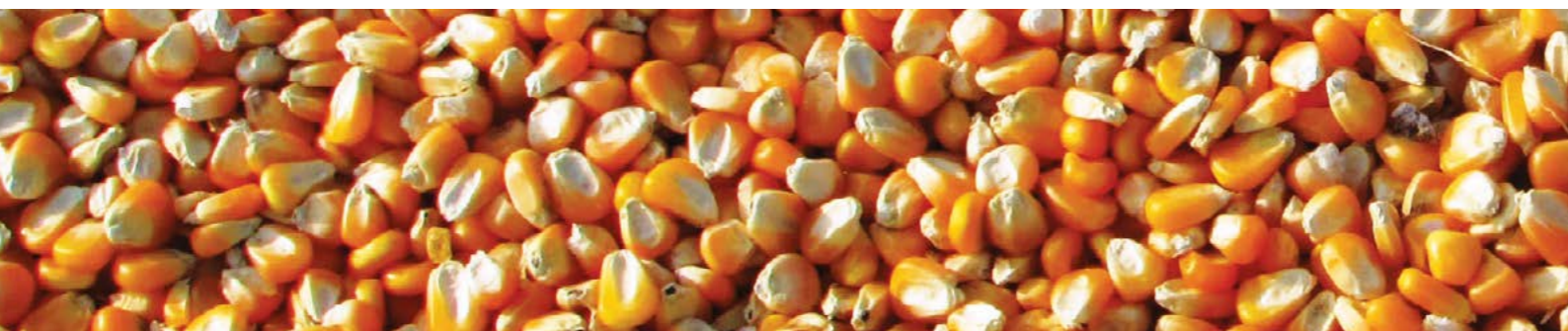
- A point closely related to the previous one which accounts for the success of many of the MASDT project farmers (as well as for individual cases where success is less clear) is that farmers who are successful made a paradigm shift from regarding themselves as employees working for someone else to viewing themselves as independent, autonomous farmers working for themselves. However, lack of such a paradigm shift appears to be a contributing factor in explaining why some farmers are less successful than others. Consequently, there is scope to promote this outcome more actively.
- Another core reason for the success of the project hinges on the fact that many of the strategies employed in the context of the MASDT project effectively harness the psychological principles of human motivation.

RECOMMENDATIONS:

- Based on the interviews with and requests of several farmers, it appears that crops such as maize which are provided to farmers free of charge by MASDT initially play a very important role in enhancing the food security of start-up farmers.
- Based on direct requests from farmers who were interviewed, it is clear that a need exists for farmers participating in the project to be assisted with gaining access to a platform where they can personally raise their fears and concerns regarding impending changes in relation to tobacco laws and regulations which might have detrimental consequences for the success of their agri-businesses as well as for the value chain associated with these businesses as a whole.
- As noted earlier, it appears that a crucial success variable involves that farmers make a paradigm shift from regarding themselves as employees working for someone else to viewing themselves as independent, autonomous farmers working

for themselves, given that this results in an increased sense of ownership and, consequently, an increased sense of responsibility, dedication and diligence with concomitant farming success. As such, the project's effectiveness could be enhanced further if more active steps are taken to facilitate this paradigm shift among existing farmers.

- Whilst the MASDT project already very effectively enhances farmers' motivation to perform, room exists for optimising or augmenting these strategies even more by harnessing principles underlying the psychology of human motivation.
- Given the very high subjective significance of and improvements in subjective well-being reported by farmers who received recognition for their success, there seems to be significant potential to augment impact by refining and extending the existing awards/rewards schemes.



- A need exists to address the concerns of some farmers in the Badplaas region. Additional investigations could be conducted to establish how the mentorship process, relationships and communication in the region could be improved.
- The importance of ensuring that sub-mentors are carefully selected and thoroughly trained cannot be overemphasised, given that they play a central role in the success or failure of the programme.
- Given the prevalence of water-related challenges adversely impacting farmers' yields, and the 'make or break' impact that water supply could have on farming ventures, providing additional focused training and mentoring on how to deal with these challenges optimally and innovatively in contextually appropriate ways could, seemingly, add further value to the programme.



INTRODUCTION

BASIC PRINCIPLES OF IMPACT ASSESSMENT AND BACKGROUND

This report presents the findings of a qualitative evaluation of the impacts associated with the MASDT project commissioned by the project leaders. The evaluation was funded by Monsanto and the Tobacco Institute of Southern Africa and conducted by an independent research team from the North-West University. As a prelude to discussing the assessment of the MASDT project's impact, it is first of all pertinent to outline a number of principles and processes associated with impact assessment in general.

An accurate impact assessment is based on five key aspects, namely: (a) the donor funder's strategy; (b) the business case (reason/s) for funding the project; (c) a theory of practice (what the donor funder/s and implementer of the project wanted to achieve); (d) a theory of change (how the donor funder/s and implementer planned to achieve the intended change); and (e) a logic frame model (Gertler, Martinez, Premand, Rawlings & Vermeersch, 2011; Rogers, 2012; Khandker, Koolwal & Samad, 2010).

According to Next Generation (2017), donor funders in the rule adopt one or more of the following investment strategies: They classify project funding under either corporate social investment (CSI) and/or corporate social responsibility (CSR) or regard these investments as their contribution towards socio-economic development (SED). By way of clarification, CSI is a voluntary activity whereby a company makes financial and non-financial contributions beyond its business operations to communities, organisations and individuals for the purposes of social development and social welfare. In reality, though, project funding cannot be segregated from the funder's broader CSR strategy and is often aligned with that funder's core business and competencies. CSI, though, has a pronounced developmental theme and is largely focused on empowering previously disadvantaged individuals and communities. Resorting under a broader CSR strategy, CSI is normally also used by funders to strengthen those business activities that are linked to delivering economic, social and environmental benefits to its stakeholders. Typical examples of such activities include establishing a supply chain, adhering

to the principles of preferential procurement and investing in supplier development. All of these aspects speak to transformation and equality and are aimed at ensuring that people who were previously excluded from the formal economy are empowered to gain access to that sector of the economy (Next Generation, 2017).

A current tendency, according to Next Generation's 2017 forecast and analysis of 2016 trends in the CSI space, is that funders are moving away from welfare-related CSI and tend to rather focus on SED. Given the South African context, this makes a lot of sense since SED is embedded in the Broad-based Black Economic Empowerment (BBBEE) Act and is supported by various industry charters. Consequently, results of evaluations such as this one can be invaluable to funders who, as part of a broader BBBEE strategy, wish to develop and/or refine their contributions towards socio-economic development.

According to Next Generation (2017), some of the reasons why donor-funders would agree to financing a project include their desire to gain a competitive advantage, to ensure (customer) loyalty, to satisfy government requirements, to obtain a licence to operate, to manage risk and to safeguard their reputation. Even though available documentation does not exactly state the main reasons why funders the likes of the District Municipality of UMzinyathi, British American Tobacco SA, Eskom and Monsanto opted to fund the MASDT project, it is likely that this project met some (if not all) of the criteria listed above.

As an extension of this evaluation, some insight might be gained into how business cases for funding projects similar to MASDT can be developed to solicit support from potential donor-funders that would dovetail with their CSI/CSR and SED strategies.

According to available literature (Javis, 1998; Khandker, Koolwal & Samad, 2010; Next Generation, 2017), a project the likes of MASDT can only be assessed accurately if the theory of practice (in other words, what the project set out to achieve/change) is clear.

¹ CSI is regarded by many as part of CSR (Next Generation, 2017).

In this regard, the implementers of the MASDT project unequivocally stated that the ultimate goal of their interventions (activities related to inputs and outputs) was to improve the well-being of those communities in the regions where the project was implemented and to, ultimately, improve the quality of life and satisfaction with life of the people directly and indirectly involved in the project (Bezuidenhout in pers. comm.).

A project such as MASDT can also only be assessed accurately if it is understood exactly how the funder/implementer planned to cause the necessary change (aka its theory of change) (Next Generation, 2017; Rogers, 2012; Springer-Heinze, Hartwich, Henderson, Horton, D & Minde, 2003; Stein & Valters, 2012). From the project documentation, it is clear that, in this instance, they wanted to do so by focusing primarily on mobile agricultural (agri) skills development and training (as their core activities) (MASDT, 2016). Furthermore, the funders/implementers stated that they wanted to do so by focusing specifically on the agri-related needs of emerging farmers which they planned to address by their mentoring and supporting/incubation programmes, funding and sharing their expertise. In addition, these activities were to be executed over an extended period of time (MASDT, 2016).

In terms of its logic frame model (another important aspect of impact assessment/evaluation – see Bakewell & Garbutt, 2005), MASDT's inputs and support to emerging farmers comprise an investment of time (up to three years per project) and funding

as well as the efforts and expertise of a diverse group of staff members. In the course of this process, each potential farmer is encouraged and supported to obtain his or her own resources, to acquire the necessary skills and knowledge related to his/her core business (agriculture), to base his/her farming practices on solid business principles and also to establish sustainable value chains (MASDT, 2016). As a resultant output/outcome of these initiatives, MASDT has managed to establish 74 projects and has created 897 jobs. By doing so, at least five communities, spread over three different provinces in South Africa, benefitted from the project's activities (MASDT, 2016).

PROBLEM STATEMENT, CONCEPT CLARIFICATION & RESEARCH QUESTIONS

The outcomes and impacts of the MASDT project on the daily lives and livelihoods of beneficiaries have never been empirically assessed. There is thus no way to determine if MASDT's interventions are causing the necessary (planned) changes in the different locations where its projects are based. If such an impact evaluation is not conducted, it could lead to a waste of valuable resources which might otherwise have benefitted both the funders and local communities.

An impact, for the purpose of this evaluation, is broadly defined as all the positive and negative, intended and unintended, direct and indirect effects generated by an intervention (e.g. project, programme,

etc.) (Rogers, 2012). In the context of this evaluation, primary impacts will include all the first-line/direct and intentional outcomes/impacts that stem from MASDT's planned activities. Secondary impacts, which normally stem from primary impacts, are defined as all the indirect and unintentional impacts that are attained as a direct result of the direct and intentional outcomes/impacts. These can either be positive or negative in nature. It is also likely that these secondary outcomes/impacts will, in turn, lead to certain psycho-social benefits or disruptions, such as enhanced or lowered levels of psychological well-being and satisfaction with life. These examples could be considered as tertiary impacts – which again can be either positive or negative. As such, tertiary impacts stem from secondary impacts (Gertler et al., 2011; Rogers, 2014).

Based on the aforementioned discussion, the following central questions guided this evaluation:

- What are the primary, secondary and tertiary impacts associated with the MASDT project and its associated activities?
- To what extent did MASDT succeed in increasing the quality of life and overall well-being of the direct and indirect beneficiaries of the project?
- What are the key drivers behind any successful impacts attained as a result of the project?
- How could the project be improved further?

PURPOSE (OBJECTIVES) & SCOPE (COVERAGE) OF THE EVALUATION

The main purpose of this study was to conduct an independent programme impact evaluation in order to determine the primary, secondary and tertiary impacts of the MASDT project and to ascertain how these may be contributing to the quality of life and overall well-being of individuals and communities in selected locations in the Limpopo and Mpumalanga provinces of South Africa. In addition, based on the findings that emerged, the following two aims (that did not form part of the initial scope of the evaluation) were also included: (a) identifying the key drivers behind successful impacts attained as a result of the project; and (b) determining how the project could be improved further.

The specific locations that were included in the study were comprised of two sites in Venda (Nzhelele and Thohoyandou/Mianzwi), Groblersdal, Buffelspruit/Jeppesreef and Badplaas/Steynsdorp. The primary reason for selecting these locations is that they are representative of the respective geographical locations where the project is based and can, therefore, be viewed as a good representation of the project and of the different contexts within which the project is implemented. A pragmatic secondary reason was that these were the maximum number of locations that could be covered adequately during the one-week evaluation period at the researchers' disposal.



FIGURE 1: A tract of farmland belonging to farmers participating in the MASDT project

EVALUATION TEAM

The evaluation was conducted by two associate professors from the North-West University (NWU), South Africa:

- Prof Hendri Coetzee, a research psychologist and environmental scientist by training, is currently the manager of the NWU's Institutional Scholarship of Engagement (in the Office for Sustainability and Community Impact). He also holds an academic position as an extraordinary associate professor in Compres (a research entity at the NWU that specialises in community psycho-social research). His primary research interests include the application of psychology in a community and environmental / sustainability context and engaged scholarship (community-based research and interventions).
- Prof Werner Nell, a sociologist by training, is an associate professor in the School of Behavioural Sciences at the NWU's Vaal Triangle Campus. He is a senior researcher in the Optentia research focus area (a research entity at the NWU that specialises in researching various facets of

psychological, social and communal well-being). Among a number of other topics, his primary research interests include the different dimensions, antecedents and outcomes of various facets of psycho-social well-being, particularly within the context of South African communities.

Both professors are well versed in conducting field research in an African context and, over the years, they have successfully completed a number of academic projects that encompassed the training and supervising of pre-and-postgraduate students, the writing and publication of a number of scholarly articles in peer-reviewed academic journals and the delivery of presentations at national and international academic conferences. In addition, both researchers have also conducted a number of research projects for a whole array of organisations in the corporate sector. As the aim of this study was to conduct an independent review of the MASDT project, neither researcher has (or had) any direct or indirect ties with (other than that based on the research project) or vested interests in relation to the MASDT project or any of its funders or associated organisations.

EVALUATION METHODOLOGY

APPROACH AND STRATEGY

As Vanclay (2012) points out:

Evaluation must take an holistic approach considering the potential for harm as well as the potential for good, and it needs to consider the unanticipated consequences as much as the intended goals...In considering a wide range of outcomes, and with the realisation that many of the broader social benefits of programs are subjective, the old adage normally attributed to Albert Einstein that "not everything that counts can be counted" becomes important. Particularly in cases of the enhanced wellbeing type of programs referred to above, the additional benefits may be in terms of an improvement in how people feel about where they live and their lives in general, about how they feel about the future of their community, and about how different groups in a community cooperate or at least get on with each other. While not necessarily impossible to measure, these high level goals are difficult to measure, and are not normally included in routinely-collected data collection processes.

Under circumstances such as these, which happen to be characteristic of the MASDT project, qualitative approaches are far more appropriate than quantitative, survey-based research designs given that the former enables the identification of unforeseen outcomes and higher-level goal achievements, as well as the complex inter-relationships between variables. Many evaluation experts firmly hold that quantitative approaches generally cannot address the complexity of a programme such as the one currently under consideration. Instead, they advocate the use of robust qualitative measures arguing that qualitative methods are more valid, generate better

information, are more efficient and have the potential to include unforeseen factors and to address causality (Guijt, Brouwers, Kusters, Prins & Zeynalova, 2011; Vanclay, 2012). Furthermore, a qualitative approach is ideally suited to instances where researchers wish to enter the lived-world of the participants and to view phenomena from their perspective (Creswell, 2013), as was the case with this impact evaluation. For these reasons, the researchers opted for qualitative methodology in this study (Guest, 2012). Given that interpretive research is based on knowledge obtained through social constructs such as language, consciousness and shared experiences (and the meanings people attach to these), the paradigm adhered to here is that of an interpretivist. Accordingly, and in keeping with the decision to follow an overarching qualitative methodological approach, a qualitative evaluation research design was adopted (Vanclay, 2012).

SAMPLING AND PARTICIPANTS

A total of 22 participants (fourteen males and eight females) between the ages of 20 and 73 were purposively selected (Creswell, 2013) from the four locations specified above based on their experiences as direct or indirect beneficiaries of the project. The sample mostly comprised farmers (20/22) who were directly involved in the day-to-day activities of MASDT – three of whom acted as sub-mentors for the project, while another happened to be the local chief of one of the villages in the Buffelspruit/Jeppesreef area. Two indirect beneficiaries, the daughter of one of the farmers who is currently a full-time student, and the mother of a female farmer were also interviewed.





DATA COLLECTION

Data was collected by means of individual, semi-structured interviews guided by an interview schedule. To ensure that the interviews yielded optimal results, a funnel approach (Sarantakos, 2013) was used. Accordingly, each interview commenced with general, relatively non-leading questions which were then followed by ever-more specific questions based on participants' answers. This approach serves to guard against participants providing answers that are prematurely prompted by the interview questions and allow for a gradual, yet systematic, exploration of the research topic.

Accordingly, each interview kicked off by asking a number of general questions such as: "Please tell us how, if at all, you benefited from the project?"; "How, if at all, did your life change as a result of the project?"; "How is your life now compared to before the project? Has anything changed? If so, please tell us about this." Depending on the participants' answers, they were then asked a series of increasingly focused questions relating to the 14 dimensions of community well-being proposed by Sirgy, Widgery, Lee & Yu (2009), i.e. safety, social, leisure, family and home, political, spiritual, neighbourhood, environmental, transportation, education, health, work, financial and consumer well-being. Each dimension was then explored in greater depth via a series of neutral and non-leading prompts. In an attempt to ensure that any emerging themes were fully explored, the interview guide was updated after each interview to make sure that these were covered in subsequent interviews.

All interviews with farmers were conducted in a face-to-face setting and usually took place on or near their farms. The interviews were digitally recorded and/or systematically captured on paper by means of a semi-structured protocol that enables data and emerging themes to be plotted in a visual and diagrammatic manner. Using these methods in combination provided an instant visual presentation of the data and enabled the researchers to identify gaps in the data that could be filled by asking follow-up questions. Additional data was also gathered in the form of field notes, which were based on

observations at each of the four locations. The resultant data was then used to verify the interview data and to provide important contextual information that was taken into account at the time of analysing the data. In a further attempt to substantiate the data, also note that the researchers took a number of photographs (reproduced as visual aids in this report) to document, illustrate and substantiate the results emerging from this study.

DATA ANALYSIS

Interview data was analysed by means of thematic content analysis, as per the procedure outlined in Tracy (2013). To begin with, interview transcripts were read a number of times to ensure immersion in the data; thereafter, the transcripts were inductively coded by assigning a brief descriptive label to each segment contained in the text. Based on conceptual similarities, codes were then grouped under the heading 'category' and/or 'overarching theme'. The resultant categories and themes were then examined to establish interrelationships, and the emerging thematic account of the data was then tested against the original data in order to verify that it did, indeed, give a satisfactory descriptive and explanatory account of the data. Visual data was not analysed, but instead used for contextual and verification purposes.

CREDIBILITY AND TRUSTWORTHINESS

A number of strategies were implemented to increase the general credibility and trustworthiness of the impact evaluation. Firstly, sub-mentors were used in each of the locations to gain entry into the four communities. Given that these sub-mentors have forged a relationship of trust with the participants, this supported the establishment of trust and rapport with the researchers and enabled good quality data to be gathered. Furthermore, if interpreters are relied upon, the risk exists that participants' words would not be translated in a contextually accurate manner as most interpreters might not be familiar with the research topic. However, sub-mentors' deep knowledge of the context enabled them to provide far more contextually accurate interpretations than

might have been the case if interpreters unfamiliar with the context were used. In addition, the use of sub-mentors also saved a considerable amount of time that the researchers would have had to spend to follow conventional community-engagement processes.

Secondly, an attempt was made to select as diverse a participant group as possible (e.g. one comprised of different genders, ages, ethnic groups, etc.). This helped to ensure the inclusion of multiple perspectives and also rendered the findings more widely transferable to a larger number of contexts beyond the sample used (see Tracy, 2013).

Thirdly, in about two-thirds of the cases, multiple interviewers (both researchers working together on the same interview) were used to gather the data. This made it possible for one of the researchers to lead the interview and collect data, while the other interviewer could listen, observe and ask additional questions for clarification purposes, which resulted in greater data richness and complexity.

Fourthly, interview data was supplemented with observational data (field notes and photographs) in order to verify and contextualise interview data. As part of this process, the researchers physically visited and inspected at least some of the participants' farms in each of the locations that were covered in the study.

Finally, the data and themes that emerged during the interviews were continuously checked and verified with the participants, a process referred to as member checking, which significantly contributes to the credibility and trustworthiness of qualitative research findings (Tracy, 2013).

LIMITATIONS OF THE EVALUATION

Every study has to contend with some limitations, which need to be acknowledged. Whilst great care has been taken to conduct the study according to scientifically sound research procedures, and to maximize the trustworthiness and transferability of

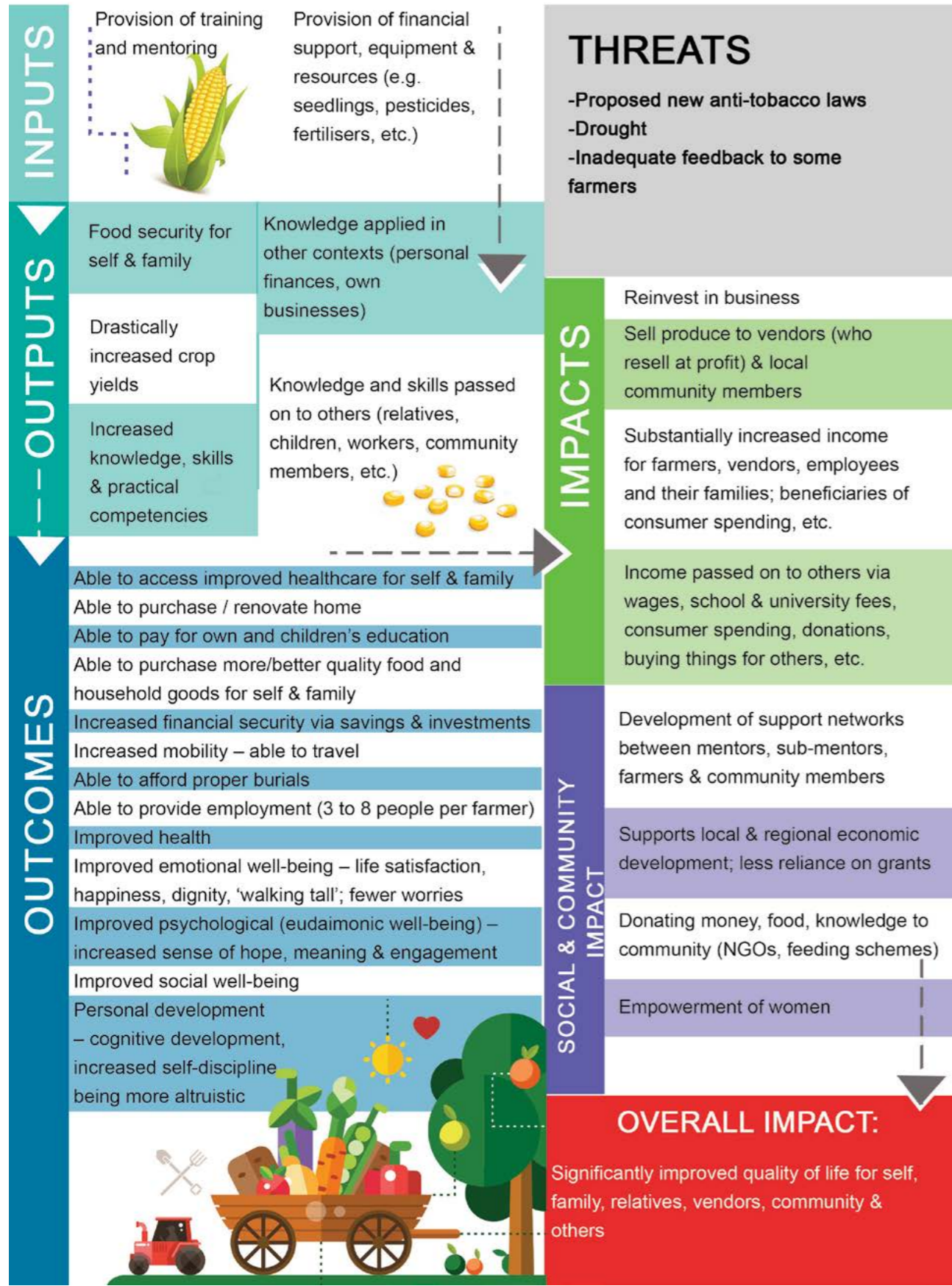
the findings, the following limitations are noted:

- This was a qualitative study. Although this methodology was ideally suited to the study, due to the epistemological foundations of this methodology, it nonetheless results in findings that cannot be indiscriminately quantified or generalised to other populations (beyond the contexts covered by the study) with certainty. However, given that several farmers were interviewed in each region, and that the sampling was executed so as to include farmers from different gender, age and ethnic groups, this shortcoming has been reasonably mitigated and the results would likely be transferable to other farmers in all the regions that were covered in the present study. Furthermore, sub-mentors were not only interviewed in their personal capacity as farmers but were also treated as informant-participants (which are participants who are in a position to not only speak for themselves but also for a number of others (Tracy, 2013)) and were thus able to provide wide ranging summary data related to all farmers under their mentorship. In addition, as noted previously, many evaluation experts firmly hold that quantitative approaches generally cannot address the complexity of a programme such as the one currently under consideration. Instead, they advocate the use of robust qualitative measures arguing that qualitative methods are more valid, generate better information, are more efficient and have the potential to include unforeseen factors and to address causality (Guijt et al., 2011; Vanclay, 2012). However, in order to quantify the findings with empirical certainty, additional quantitative research should ideally be conducted.
- Given that a couple of farmers did not speak English or Afrikaans well, an interpreter had to be used to conduct some of the interviews. However, the majority of farmers were interviewed directly, and in cases where an interpreter was used, this role was fulfilled by the sub-mentor after thorough briefing. The sub-mentor's thorough knowledge of the context and the farmers likely enabled effective translation, and as such, the impact of the translation on the quality of the data ought to be negligible.
- Given the inaccessibility of some farms to ordinary vehicles, not all farms could be visited and inspected personally by the researchers.

EVALUATION FINDINGS

The main purpose of this evaluation was to determine the primary, secondary and tertiary impacts of MASDT's activities. Based on thematic analysis of the interviews with 20 farmers and two beneficiaries (22 participants in total), seven main themes were identified. Thematic analysis of the qualitative data that was gathered revealed that participation in the MASDT project was associated with a large number of direct and indirect positive outcomes and impacts, not only for the farmers and their families but also for their broader communities (see Figure 2).

Figure 2: Visual summary of inputs, outputs, outcomes and impacts associated with the MASDT project



As visually depicted in Figure 2, the findings of the study revealed that the MASDT project is associated with two broadly defined types of inputs, which include a material component (financial, equipment, resources, etc.) and an educational component (training, mentoring, etc.). In turn, these inputs generate a number of outputs, such as a certain number of farmers trained and provided with access to arable farmland, the implementation of better

farming practices, etc. These inputs then combine to generate a number of direct and indirect outcomes and impacts for the farmers, their families and relatives and for other members of the farmer's local community, as well as for local and regional economies. The remainder of this section is devoted to a comprehensive discussion of each of these themes.

THEME I: MATERIAL BENEFIT: FOOD SECURITY AND AN INCREASED ASSET BASE

All farmers who were interviewed indicated that they benefited greatly from the material and tangible resources they received as part of their involvement in the MASDT project.² Among others, these resources include fertilizers, pesticides, seeds/seedlings and various types of farming equipment and materials, as well as financial support (see Figure 3).

These inputs provided by the MASDT project served to increase the size of farmers' asset bases directly. Along with the training provided by MASDT, these material resources and enlarged asset base provided the impetus most farmers needed in order to make the reportedly challenging transition from subsistence to (semi)commercial farming, thus catalysing their success as farmers and enabling the realisation of all the associated benefits described in the remaining sections.

Furthermore, seeds and seedlings provided to farmers by MASDT often played a very important role in providing food security for farmers and their families, especially during the initial phase of their participation in the project and when it is not tobacco season (See Figure 4).



FIGURE 3: A farmer whose agri-business is supported by a MASDT vehicle



FIGURE 4: Beans providing food security for a farmer and her household

² Note: In the context of the findings, material benefits were found to represent a distinct benefit/outcome that should not be conflated with the financial benefits associated with the project. The reason for this was that even farmers who were not successful financially (and therefore could not as effectively access the benefits associated with an increased income, as discussed later) still had increased asset bases and food security as a result of their involvement in the project. However, material benefits were in most cases found to be inter-related with financial benefits in that the former typically served as catalyst for the latter.

THEME 2:

DIRECT AND INDIRECT EDUCATIONAL BENEFITS

Along with the material resources noted previously, the education and training provided by MASDT via courses and its mentorship programme (as input) were associated with a host of direct and indirect beneficial outcomes and impacts.

DIRECT EDUCATIONAL BENEFITS

A primary outcome of the MASDT project is the development and inculcation of a number of skills and competencies as well as a substantive knowledge base pertaining to farming and the management of a farming venture. Farmers were unanimous in stating that training in relation to various aspects of farming (ranging from planting seeds to understanding and controlling pests, irrigating crops, etc.) as well as financial management was not only extremely useful but played a decisive role in their success. With the partial exception of two participants in the Badplaas region (who experienced certain aspects of the mentorship system as currently being sub-optimal), all participants in the study lauded the training they received as being practical, useful and highly effective. The following outcomes and impacts were found to ensue from the educational input provided by MASDT:

- The primary outcome of the farmers' increased knowledge and skills were drastically increased crop yields (via the ability to manage larger tracts of farmland, apply proper irrigation practices, control pests and diseases, etc.), which consequently resulted in (often very) substantially increased income levels via the sale of their produce to commercial enterprises, local vendors and members of their local communities. In turn, the additional funds and disposable income accrued by the farmers resulted in a wide array of impacts which are discussed as part of theme 3.
- Several farmers stated that they were also able to apply the knowledge they gained from MASDT (most especially financial management and business skills) in contexts other than farming, which improved their lives in a number of ways:
 - » Many farmers mentioned that their

understanding and management of their own personal finances were improved – with most indicating that they were actively saving and/or investing money (which they were unable to do previously due to a lack of either money and/or understanding of the importance of saving and investing).

- » A few participants used their financial and business knowledge to start and successfully manage their own businesses and NGOs, which they were generally not able to do before.
- Furthermore, as discussed in greater detail below, farmers also shared their knowledge and skills with others in a way that drastically amplified and extended the impact of this educational value chain.

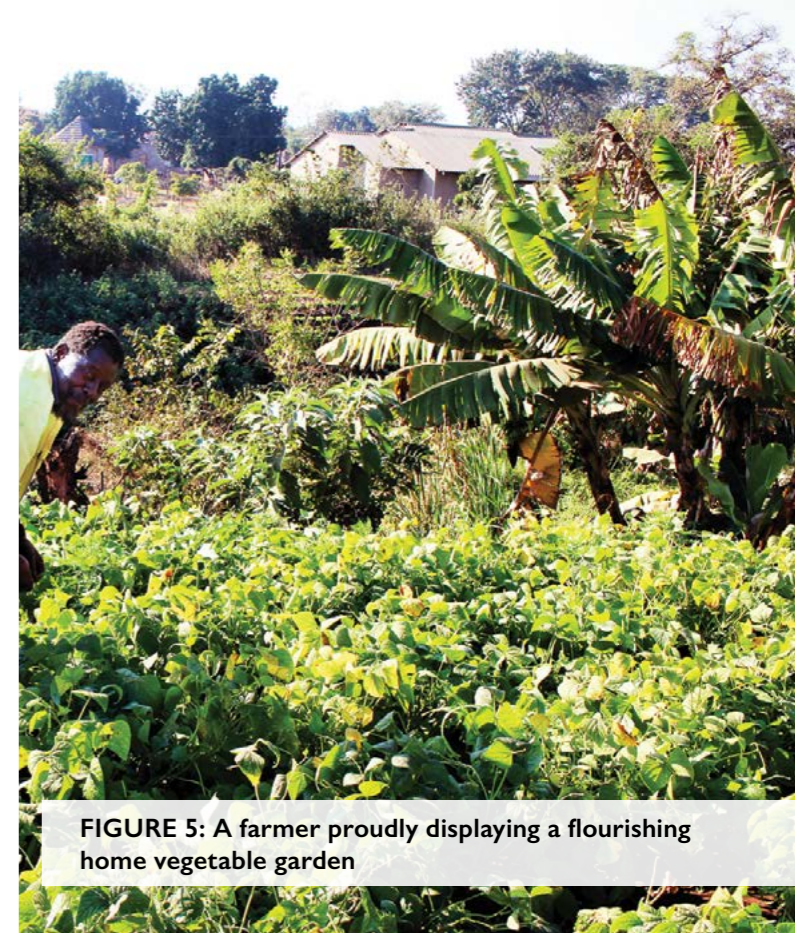


FIGURE 5: A farmer proudly displaying a flourishing home vegetable garden

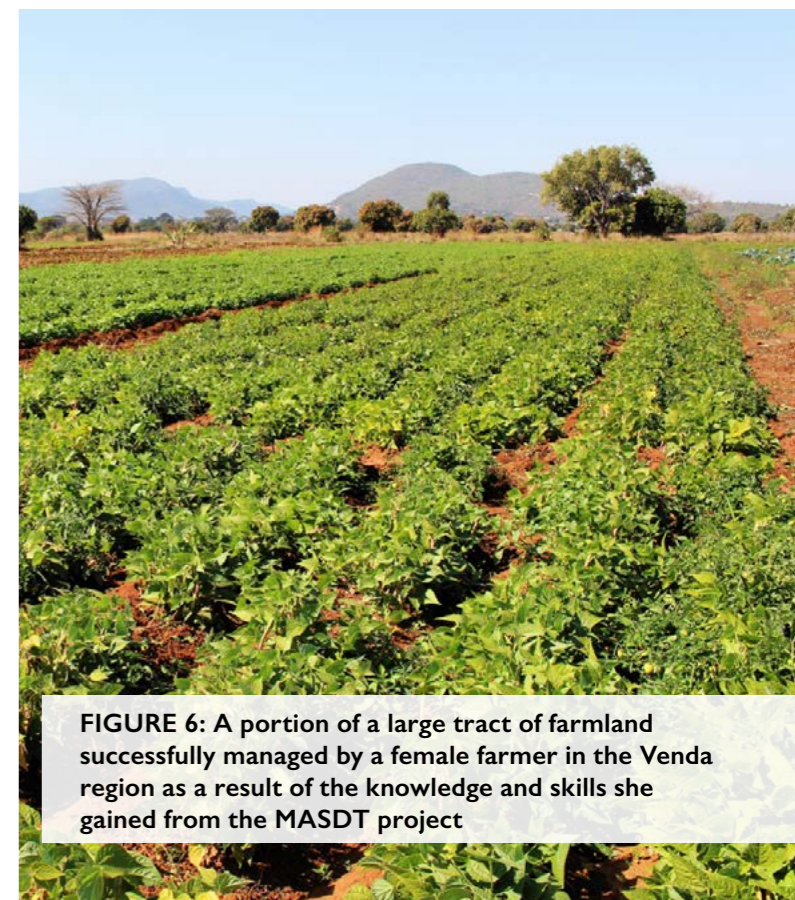


FIGURE 6: A portion of a large tract of farmland successfully managed by a female farmer in the Venda region as a result of the knowledge and skills she gained from the MASDT project

THEME 3:

INDIRECT EDUCATIONAL BENEFITS

The interviews consistently revealed that the educational benefits associated with the MASDT project had a ripple effect that extended well beyond the farmers themselves. All farmers who were interviewed actively engaged in transferring the knowledge and skills they gained from MASDT to a number of other parties, which initiated a series of secondary, tertiary and further impacts for these individuals or organisations and those dependent on them. In effect, it was found that all successful farmers taking part in the project served as formal or informal mentors to others in one way or another. The most significant among these include knowledge and skills transfer to:

- both permanent and seasonal employees (typically between three to eight individuals per farmer, respectively);
- general (i.e. unrelated) members of their local communities who had vegetable gardens and approached the farmers for advice;
- gardeners at local schools who bought seedlings from MASDT farmers;
- gardeners from local hospitals who purchased seedlings;
- family members, especially farmers' own children, who were often mentored and trained intensively and extensively;
- school children, via NGOs started by some farmers to educate school children in relation to successful farming techniques and practices.

In most cases, it was reported that these shared skills were typically translated into successful outcomes such as increased crop yields and better pest control, etc. by the recipients. In turn, this brought

food security to most of these parties and/or their beneficiaries and dependants. Very commonly, the increased yields were sufficient to produce surplus crops for the recipients, which they were able to sell at a profit, thus enhancing their income levels. This, in turn, resulted in improved quality of life.

In several cases, participants also stated that the knowledge and skills transfer extended even further, in that those who were taught by the farmers in turn shared their knowledge with others. For example, school children taught good farming practices via NGOs were reported to share these skills with members of their own families, which in turn resulted in better yields from family gardens.

Whilst additional empirical research would be required to ascertain just how far this value chain extends, what is clear is that MASDT's skills development programme is not only effective but also has far reaching benefits that significantly transcend and exceed its initially intended scope. Furthermore, clear evidence was found that the knowledge and skills development facet of the project translated into multiple and substantive positive outcomes for and impacts on the lives of farmers participating in the programme, as well as a number of other secondary beneficiaries (as outlined above). Foremost among these, in addition to increased food security, was an improvement in their financial situation which, in turn, was associated with a wide array of positive outcomes, as discussed in the next section.

DIRECT AND INDIRECT FINANCIAL BENEFITS

The majority of farmers who were interviewed reported drastic improvements in their financial situations as a result of the MASDT project (particularly when they started farming with tobacco) that were typically sufficient to not only raise many above poverty but to even change their socio-economic class altogether. The increased income benefited themselves and their direct dependants in numerous ways and also cascaded in ways that benefited a host of other parties, as outlined below.

DIRECT FINANCIAL BENEFIT

Most farmers reported that they have experienced radical increases in their income levels since joining the MASDT project. This income was used for a number of different purposes, which include:

- Purchasing more and/or better quality food, thereby ensuring food security for themselves and their families: Whilst this would need to be verified via additional research, it is highly probable that their improved diet will be associated with improved physical health.
- Accessing healthcare of a quality previously deemed inaccessible: Many farmers lamented that when, in the past, they or their family members had been ill, they had to rely on government clinics which typically offer very little substantive assistance (with some respondents stating that, on occasion, they have been unable to obtain something as simple as basic pain medication from local clinics). However, with their increased income, farmers were able to access better healthcare for themselves and their families which, in turn, were reported to impact their physical health positively.
- Increasing mobility: Prior to the project, most farmers found travelling challenging due to the costs involved. However, since the project, farmers reported being able to travel, either via their own source of transport (which they typically acquired with the revenue from their agri-businesses) or via public transport (which they were now able to afford easily). In turn, this enabled farmers to visit relatives living far away (whom they were not able to see often previously) and to attend trade shows to gather ideas to improve their farming practices and to purchase equipment for their farming businesses.

- Buying a house or renovating existing homes: Some farmers were able to buy or build new homes entirely on the basis of the income they received from their agri-businesses (see Figure 7). Others extended, improved or renovated their existing homes or the homes of their parents (in instances where farmers live with their parents). In all instances, this resulted in improved quality of life (as these homes were typically more secure, less prone to damage/discomfort caused by erratic extreme weather conditions and afforded more space for the occupants, etc.).



FIGURE 7: A farmer's old home (left) and the new home she was able to build for herself (right) and her family solely through the income generated as a result of the MASDT project

- Advancing their own education: Several farmers used the income to advance their own education which, in turn, further increases the likelihood that they can better their lives in a number of ways (via increased employment opportunities, increased income, etc.).
- Saving and investing: Most farmers were (often for the first time in their lives) able to save and invest a portion of their income, resulting in significantly enhanced financial security and peace of mind.
- Furthering the success of their agri-businesses: With their increased income, farmers were able to invest in their businesses in ways that substantively enhanced their success. For instance, most farmers





were plagued by shortages or an unreliable supply of water which adversely impacted their farming success. However, by using their increased income, several bought additional irrigation equipment (e.g. water pumps and water tanks) which enabled them to mitigate this problem and achieve greater crop yields, resulting in increased profits. Likewise, many farmers acquired labour- saving devices or other equipment that contributed towards their farming success. In yet another instance in the Badplaas region, farmers who were plagued by crop theft and vandalism were able to collectively hire the services of a security company to control access to their premises and to protect their agricultural assets. Perhaps most importantly, though, farmers found themselves in a position where they could employ a number of permanent and seasonal staff to assist them on their farms. Finding themselves in such a position did not only extend their capacity significantly but also contributed considerably towards extending the financial benefits associated with farmers' involvement in the MASDT project to others.

- Kick-starting (non-agri) businesses: A number of farmers were able to use the profits from their agri-businesses to start their own (non-agri) businesses which further enhanced their income and resulted in additional employment opportunities being created (see Figure 8).



FIGURE 8: A shop built by a farmer to house his newly registered formal business - funded entirely from the profits derived from his MASDT agri-business

INDIRECT FINANCIAL BENEFITS

The benefits outlined above did not merely extend to the farmers themselves but were in all cases found to cascade to other parties associated with the farmer. Whether by creating employment, sharing produce or utilising cash or revenue to buy items, the benefits of the farmers' increased income panned out to ever-widening social and economic spheres. In brief, those who benefitted and the cascading benefits they derived can be summarised as follows:

- Farmers' immediate families received the most direct and substantial benefits, which most commonly encompassed the following:
 - » Most important to the majority of farmers interviewed was that they were now able to afford their children's school fees and/or to send them to university. Several were able to place their children in private schools. Given that education plays an extremely important role in affecting an individual's socio-economic status, this impact alone is likely to be amplified drastically as the educated children's likely improved socio-economic status will result in a host of economic, social and educational benefits for themselves and their own children, possibly altering the socio-economic trajectory of multiple successive generations.
 - » Farmers were also able to provide more food and basic necessities of a better quality (toiletries, clothing, etc.) to their families.
 - » Farmers could afford improved healthcare for parents, children and other relatives.
 - » A point that was emphasised repeatedly in the interviews was that farmers were now able to afford proper burials for relatives who have passed away – a ritual which is of particular significance within most African cultures. Encompassed in the MASDT project are several joined insurance schemes that offer guaranteed pay-outs in case of imminent funerals or, alternatively, the option to put sufficient funds aside should such an eventuality occur. Most reported that this translated into significant peace of mind.
 - » A further outcome of the above that was commonly reported was that the income obtained from farmers' agri-businesses eliminated their reliance on social grants for themselves and/or their families. Consequently, rather than utilising grants to supplement the farmer's meagre financial reserves, he/she found him/herself in a position where he/she could help to ensure that these grants were put to use for the purposes they were intended for –

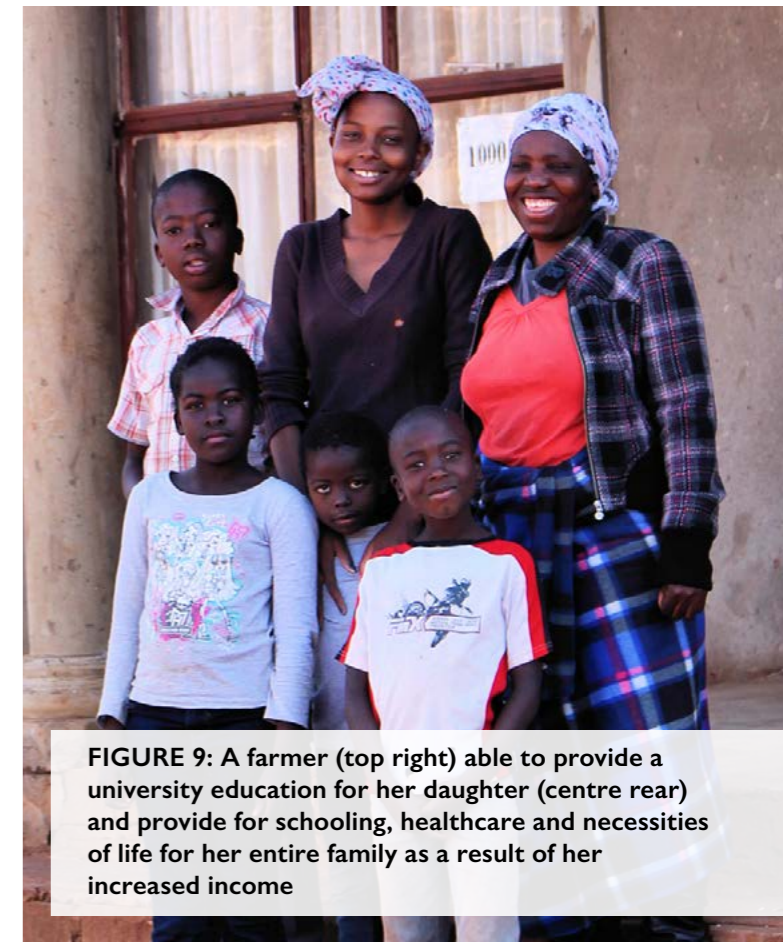


FIGURE 9: A farmer (top right) able to provide a university education for her daughter (centre rear) and provide for schooling, healthcare and necessities of life for her entire family as a result of her increased income

- i.e. to support children, the elderly, the destitute and/or the physically/mentally challenged.
- Most farmers also used their assets to support other relatives or friends in similar ways as those outlined above (giving money or food, paying for education, etc.)
- The majority of participants supported local and regional businesses (in other words, local economic development) by increasing their consumer spend in both local and regional areas (e.g. when purchasing goods such as clothes, household necessities, food, furniture, vehicles, building equipment, farming equipment, etc. and when paying for services such as their own and their children's education, medical care, etc.)
- Several farmers contributed to food security in their regions by donating either money or produce to local schools, feeding schemes, NGOs, charities, funerals or community members in need.
- Perhaps most importantly (given the extremely high unemployment rate in rural communities), all farmers were able to create employment for a number of individuals. The average farmer employed between two and four people on a permanent basis, and between six and ten people on a (typically sixth-month) seasonal basis (see Figure 10). With their income, these employees were able to access many of the same benefits

as those enjoyed by the farmer (albeit to a lesser degree), such as paying for children's school fees and tertiary education, buying more or better quality food, gaining access to improved healthcare, effecting improvements or necessary renovations to their homes, etc.

- Along a similar vein, the majority of farmers contributed to the general economy by selling some of their produce to vendors, who were in turn able to make a profit from reselling it to members of local communities (see Figure 11). Presumably, vendors' increased income resulted in benefits to themselves and their dependants that are likely to be similar to many of those described above.



FIGURE 10: A farmer (front right) able to employ a number of people from her community as a result of the MASDT project



FIGURE 11: Vendor stands where sweet potatoes bought from MASDT farmers are being resold at a profit



THEME 4:

ENHANCED PSYCHOLOGICAL, SOCIAL AND EMOTIONAL WELL-BEING

Evaluations of community well-being are particularly important in ensuring the success and sustainability of community development initiatives (Coetzee, 2001; Cummins, Mpofu & Machina, 2015). In fact, it could be argued that most community-based interventions have as their explicit or implicit ultimate aim to enhance community well-being, and the value of any intervention that fails to impact the overall well-being of its recipients would be questionable. As such, overall individual and community well-being serves as a fundamentally and intrinsically important indicator of impact and was, for this reason, assessed in the present impact evaluation.

Analysis of the data confirmed that the inputs from the MASDT project did indeed translate into outcomes that significantly impacted the well-being not only of those involved in the project but also of others indirectly affected by it. These benefits can all be subsumed under the concept general psychological well-being and can be elucidated effectively by means of a prominent contemporary theoretical model of well-being. Whilst a number of empirically verified models have developed around this construct, one of the most frequently used empirically based theoretical frameworks is that proposed by Keyes (2008). In this model, the term 'flourishing' is used to describe overall psychological well-being. Flourishing is seen as consisting of three broad dimensions:

- Emotional (aka subjective) well-being, which include (1) life satisfaction – a cognitive appraisal by an individual of the extent to which he or she is satisfied with his or her own life (which represents the cognitive, evaluative component of emotional well-being) and (2) affect balance – a subjective appraisal of well-being, which involves the degree to which a person experiences comparatively high levels of general happiness or positive feelings and lower levels of negative affect and neuroticism, which together represent the affective dimension of subjective well-being (Diener, 2009; Keyes, 2008);
- Psychological well-being, which comprises eudaimonic aspects of well-being such as meaning, a sense of coherence (the subjective experience that 'life makes sense'), hope, autonomy,

engagement, etc. (Ryff & Keyes, 1995; Snyder, Harrison, Anderson, Holleran, Irving, Sigmon & Harney, 1991); and

- Social well-being, which is the degree to which respondents experience a sense of well-being in terms of their communal and social lives (Keyes, 2008).

The greater the number of dimensions impacted by any intervention, and the greater the extent of the impact within each dimension, the more recipients will flourish as a result.

Thematic analysis of the data indicates that the outcomes associated with the MASDT project have indeed significantly and positively impacted all three dimensions of well-being described above, and that this was the case to one degree or another for every single farmer who participated in the study.

ENHANCED EMOTIONAL/ SUBJECTIVE WELL-BEING

Many of the impacts of the MASDT project resulted in or contributed to enhanced levels of subjective well-being, not only among the farmers directly involved in the project but also among their employees, family members and relatives. Most stated unequivocally that they were much happier than before, experienced positive emotions such as pride, increased self-respect and self-esteem, had greatly reduced levels of worry and anxiety and experienced greater life satisfaction. More specifically, participants indicated that:

- Their improved financial situation greatly reduced the degree of concern and levels of stress they experienced in relation to paying off debts, being able to pay for necessary healthcare and for funerals, affording the necessities of life, etc. Participants indicated that before the project, they often worried about being able to pay their children's school fees, being able to provide a proper burial for deceased relatives, affording food and basic necessities, accessing adequate healthcare for themselves and their families when they were

ill, etc. but stated that since the project, these concerns have been greatly minimised or even eliminated altogether, which substantially enhanced their subjective well-being.

- Participants experienced increased levels of life satisfaction and positive emotions as a result of a variety of outcomes and impacts associated with the MASDT project. In particular, the income they were able to generate as a result of the project enabled them to afford children's education, provide for their own families and improve their living conditions, often dramatically, which were reported to enhance their life satisfaction and overall happiness greatly.
- Based on various different outcomes of their involvement with the project, farmers also reported a range of other positive emotions such as increased self-respect, pride and dignity. Many farmers spoke about finally being able to 'walk tall' as a result of no longer having to turn to others for financial support, owning land, achieving a sizeable income, being able to provide for their families, etc. For many farmers, finally being in a position where they were able to support others, provide employment, act as mentors in their communities and provide the parenting support their children expected were primary contributors to this. Similarly, being able to serve as informal mentors to other community members seemed to have beneficial outcomes in terms of how participants were viewed in their local communities and also represented a source of significant positive personal pride and satisfaction to the farmers who were interviewed.
- The recognition that successful farmers received, both via formal channels (certificates, awards, etc.) as well as via informal avenues (from family members, relatives or other community members), was reported to be a great source of pride, satisfaction and happiness among all farmers who were recipients of such recognition. Given the importance of this topic, it will be addressed again in the recommendations section.

INCREASED PSYCHOLOGICAL (EUDAIMONIC) WELL-BEING

In addition to enhancing subjective or emotional well-being, the MASDT project was also found to be associated with enhanced psychological (eudaimonic) well-being in a number of ways:

- Almost all farmers who were interviewed shared the knowledge they acquired as a result of their MASDT training with others and reported that they received direct or indirect feedback that the advice they provided resulted in helpful outcomes for others (such as community member's vegetable gardens flourishing that enabled the latter to not only have food security but to also sell the surplus and increase their income). This gave many farmers a sense of meaning and purpose (as well as satisfaction).
- As a result of owning and managing their own agri-businesses, many farmers experienced higher levels of engagement. As conceptualised in the field of positive psychology, this construct refers to a positive and well-being enhancing state of 'flow' and absorption in what a person is doing and is often associated with the optimal expression of an individual's strengths (Seligman, 2011). Farmers' engagement manifested in a number of ways. Compared to times before the advent of the MASDT project, farmers reported arriving at work earlier and leaving later, being more actively engaged in monitoring crops, coming up with solutions, doing research, etc. Engagement constitutes an intrinsic component of psychological well-being and is an important predictor of a number of positive psychological outcomes (see Seligman, 2011). The fact that farming provided farmers with a pathway to financial success (largely based on their own efforts) appears to be one mechanism through which enhanced engagement is promoted.
- A variable that has been empirically shown to play a central role in psychological well-being is hope. According to the predictions of hope theory (Snyder et al., 1991), hope is a multifaceted

cognitive set which comprises two sub-components. First, hope agency refers to the belief that one has the capacity to attain a desired goal or outcome. Second, hope pathway represents the belief by the individual that he or she will be able to find one or more specific pathways towards the attainment of valued goals. When people feel and believe that a pathway to their goals exists, and believe that they are capable of achieving it, they experience hope as well as a wide array of concomitant positive psychological outcomes. Therefore, any intervention that enhances either or both of these dimensions will raise hope, and consequently also psychological well-being. The findings from this study confirm that the MASDT project is significantly and positively impacting both dimensions of hope. Specifically, pathway hope is greatly increased as the MASDT project has caused not just farmers but also other members of these communities to see an alternative pathway to an improved life. Often, in resource-challenged rural communities, hopelessness prevails as community members do not see any clear pathways out of poverty given a lack of employment opportunities, the inaccessibility of higher education due to financial constraints and limited opportunities for business ventures. Many farmers directly commented that the MASDT projects has shown them, their children, relatives and many members of their communities that there is a viable and accessible pathway to a better future. Furthermore, the MASDT project also increased agency hope. By providing farmers with the necessary knowledge and skills, and supporting this with an effective mentoring programme, farmers developed the belief that they are able to farm successfully. Each farmer's success in turn enhances other farmers' (and also as-of-yet non-farming community members') belief that 'if he can do it, I can do it too.'

It is very important to emphasise that most of the benefits outlined above were not limited to farmers but were also reported to extend to a greater or lesser extent to others who were affected by their increased farming and financial success, such as children, parents, other relatives, employees, general members of the community to whom mentoring was provided, etc.

SOCIAL WELL-BEING

The project was also found to have certain outcomes that contributed to enhanced social well-being among farmers. This occurred in the following ways:

- Being able to afford transportation enabled farmers to visit family members and relatives who lived far away more frequently than they were able to do before the advent of the project. Many farmers reported that they had previously experienced limitations and frustrations in being able to visit such relatives but that their increased income enabled them to overcome this obstacle, resulting in enhanced relational support and social well-being.
- In a few instances, farmers reported being able to buy smart phones or tablets and activating Facebook accounts, which enabled them to frequently connect with and stay in touch with friends and relatives, which enhanced their sense of connectedness and consequent social well-being.
- Though the exact extent of this would ideally need to be empirically quantified, it also appears that support networks that exist between farmers, mentors, sub-mentors, other farmers and community members (e.g. those coming to farmers for advice, those being employed by them, etc.) contributed significantly to social well-being not only among farmers but the other parties involved as well. Such networks gave farmers and others a sense that 'I am not alone in this', as well as a feeling of being supported and looked after.
- In most African communities, being able to provide a proper burial for deceased relatives has great social importance, and concerns about the inability to do so are often a source of stress. Via the income generated as a result of the MASDT project, these concerns have been eradicated (as farmers either had the money to pay directly for funerals and/or joined funeral insurance schemes), thus enhancing their social well-being.

At the conclusion of this section, it is worth noting that whilst intangible outcomes such as flourishing might appear to have less substantive significance than financial or commercial success, a significantly large body of research attests to the critical importance of community well-being. It bears repeating that evaluations of community well-being have been found to be particularly important in ensuring the success and sustainability of community development initiatives (Coetzee, 2001; Cummins et al., 2015; Idemudia, 2014). In fact, Coetzee (2001) holds that "development must be firmly based on human well-being" (p. 86). As such, the fact that these outcomes are being promoted actively by the MASDT project bears substantive testament to its value and effectiveness in going beyond merely generating certain outputs to achieving real impact.

THEME 5:

PERSONAL DEVELOPMENT

As either a direct or indirect result of their involvement with the MASDT project, many farmers appeared to have undergone personal development in one form or another. It would seem that having to first learn and then consistently apply the knowledge and skills gained from the MASDT training, dealing with the demands of an agri-business over several years and being able to consistently function at a higher socio-economic level underpin these developments. Whilst each farmer is affected by this in a relatively individual way, a number of recurring themes emerged from the data, which include:

- Very commonly reported (and also verified in some cases by the researchers) was that farmers' increased income and financial success resulted in a tendency to become increasingly altruistic. Whereas farmers stated that their focus and concerns previously mainly lay with the survival of themselves and their families, following their success, they became increasingly concerned with the welfare of their broader communities. This concern was always acted upon in that farmers engaged in a host of altruistic behaviours such as giving away some of their produce to those in need, NGOs, schools, feeding schemes and funerals; giving money to people in need; sharing their knowledge and expertise with community members, etc. Some even started an NGO with

the explicit aim to support community education in terms of farming and horticulture in a bid to promote food security in their communities. As a result of this altruistic behaviour, many of the benefits associated with their involvement in the MASDT project have been extended significantly to the broader communities in which these farmers operate.

- Almost all farmers who were interviewed appear to have become more personally educated as a result of the MASDT project. Whilst this would need to be empirically verified in future studies, preliminary investigation suggests that this education, along with the need to continually apply knowledge-based skills and competencies in a practical way on a daily basis and over an extended period of time, is resulting in improved thinking and problem-solving skills, increased analytical abilities and an enhanced ability to innovate. Having to farm on a much larger scale than before and having to continually assess, analyse, plan, strategise and solve problems in their farming businesses seemingly further supported the fostering and development of these cognitive skills.
- Some farmers reported that whereas they previously lacked focus and discipline, the continual demands of a successful farming venture (whose success or failure was largely dependent on their own efforts or lack thereof) resulted in them being more disciplined, focused and diligent.



THEME 6:

SOCIAL AND COMMUNITY LEVEL IMPACT

The outcomes of the MASDT project were found to have a number of cumulative and/or secondary outcomes that transcended the sphere of the individual farmers and their families and which resulted in positive impacts on a broader social and communal level. These include:

- **Empowering women:** A prominent theme that emerged from the data was that the MASDT project directly and indirectly resulted in the empowerment of women. Whereas women in rural communities commonly face restrictive social and economic circumstances, female farmers reported that the project resulted in major life changes for them in that they were able to own land, obtain other assets that were registered in their own name, generate their own income and support others – which most were completely unable to do before. Many noted that whereas they previously lived lives of total dependency on husbands or other relatives, their involvement in the project liberated them from these dependencies through their newfound financial freedom. As a consequence, this also enabled many of these women to pay for children's school fees and tertiary education and to build houses for their families (see Figure 7). In turn, these outcomes were reported to result in increased self-worth, sense of dignity, social standing and subjective well-being for these women. Furthermore, female farmers were also far more likely than male farmers to employ other females on their farms, thus extending this empowerment (see Figure 12).
- **Supporting the local economy and contributing to the general economy:** As farmers became increasingly financially independent, their reliance on social grants was diminished and, in most cases, eliminated altogether. In addition, this benefit also extended to some of those they employed. All farmers employed a number of staff and were, thus, actively involved in job creation. Most commonly, two to four people were employed by each farmer on a permanent basis, and around six to ten people were employed on a (typically six-month) seasonal basis. Furthermore, farmers very often sold at least some of their produce to vendors who, in turn, sold it to local communities at a profit (see Figure 13). The increased income



FIGURE 12: Women whose socio-economic circumstances are being improved as a result of the MASDT project



FIGURE 13: Local vendors able to make a living by buying and reselling produce from MASDT farmers at a profit

generated by the farmers, their employees and vendors in turn supported decreased reliance on social grants and promoted local economic development as the increased disposable income was used to support local and regional businesses via consumer spending, thereby stimulating economic development. To a degree, the reduced reliance on grants reported by several participants contributes to easing the financial burden on local and national government budgets and frees up financial resources that could be used to address other pressing needs. Furthermore, a large body of existing research unequivocally shows that employment, as well as increased income among those living in economically challenged communities, are among the most powerful of all predictors of enhanced subjective well-being (Diener, 2009). As such, the benefits of employment and increased income are almost certain to extend far beyond the confines of the material realm.

- **Impacting communal values and attitudes:** As community members witness the farming and consequent material successes of farmers on the MASDT project, resultant positive changes in communally held values were reported. Whereas previously community members were reported to regard farming in a fairly negative light (viewing manual labour as being 'dirty' or less worthy than other forms of work, regarding tertiary education as the only viable way out of poverty, etc.), witnessing the success of the farmers was said to change the attitude and values of many community members in favour of farming as they now see it as a worthwhile profession and a viable pathway out of poverty. In line with the predictions of hope theory (Snyder et al., 1991), communities were said to experience increased levels of hope, as they now saw alternative pathways to achieving a better life. As a result of witnessing the success of the MASDT project farmers, many community members approached these farmers for advice and guidance and were then mentored successfully by participants on how to increase yields based on what they have learned from their own horticultural endeavours.
- **Creating support networks:** The MASDT project has contributed to the creation of primary and secondary networks of support. Mentors engage

with sub-mentors who, in turn, engage with farmers in providing informational, instrumental and even moral support. In turn, community members – seeing the success of the farmers on the MASDT project – approach such farmers for advice, resulting in informal mentoring relationships between members of these communities who would otherwise not be significantly connected. Furthermore, many farmers appear to have formed bonds among themselves and to offer one another peer support. Overall therefore, enhanced social integration is another impact that can be attributed to the MASDT project. Based on ample empirical evidence suggesting that social support is a primary predictor of subjective well-being (Diener, 2009; Seligman, 2011), it is very likely that such supportive networks play an important role in enhancing the psychological well-being of at least some community members.

- **Increasing altruism:** As noted previously, as a result of their financial success, many farmers have become increasingly altruistic. In addition to constituting an impact on a personal level, many community-level benefits ensued from the farmers' altruistic behaviours, which involved donating/sharing their produce, expertise, time and/or money with their communities in one way or another. A large number of farmers donated some of their produce to feeding schemes, community members in need and funerals. Furthermore, many gave money either directly or indirectly to relatives, friends or, in some cases, other members of their communities by, for instance, buying items for them. A couple of farmers started NGOs aimed at teaching school children how to farm successfully. Almost all participants generously shared the knowledge and expertise they have gained as a result of their MASDT training with employees and other community members who approached them for advice, resulting in the up-skilling of a substantive number of people.



THEME 7:

CHALLENGES AND NEGATIVE OUTCOMES ASSOCIATED WITH THE PROJECT

At the conclusion of each interview, all participants were asked whether they experienced any challenges in relation to the MASDT project and/or whether there were any aspects of the project that were problematic or inadequate. Whilst some participants did mention a number of general concerns, with the exception of two farmers in the Badplaas region, none of these directly pertained to the project itself. Instead, such feedback centred on the following matters:

- In some regions, farmers' biggest concern was the anticipated proposed changes in laws and regulations pertaining to the tobacco industry, which they greatly dreaded as they feared it would rob them of much of their farming success and income. One farmer summarised the sentiments of those spoken to when he said that the proposed amended laws and regulations would, eventually, 'take us back to square one, back to poverty'. In fact, farmers (especially in the Jeppe's Reef area) felt so strongly about this that they are in the process of forming an interest group and wish to engage with government authorities on the issue. They stated that they have a very strong need to be given a platform to personally raise their concerns and fears to the relevant governmental authorities. Here it ought to be noted that given the extensive value chain associated with the MASDT project, should new tobacco-related regulations result in even a partial erasure of farmers' income, the direct and indirect spill-over effects could have far-reaching and even adverse consequences not only for farmers and their families but also for entire communities.
- The most persistent and pressing farming challenge reported by farmers was the lack of a reliable water supply. A number of farmers interviewed were unable to achieve a profitable harvest, and the main reason they as well as their sub-mentors proffered for their inability to do so centred around inadequate irrigation and the concomitant challenges relating to water supply. A number of farmers indicated that they required assistance in some form or another in attempts to secure a water supply that would be both ample and consistent.

- A small number of farmers, mostly in the northern region of Limpopo, experienced problems with wildlife that adversely affected their crops. Typically, baboons, monkeys, mice and birds were reported to cause damage to crops. However, most farmers developed innovative, makeshift measures aimed at addressing these challenges and generally regarded these measures as being effective (see Figure 14).



FIGURE 14: A farmer using strips of reflective material taken from a discarded videotape as a method to repel birds from his cabbage crop

- Two farmers (both in Limpopo) stated that they experienced some resistance from their church in relation to their practice of farming tobacco. These participants stated that their religiosity was questioned on a number of occasions as a result of tobacco farming, given that smoking is viewed as being incompatible with their faith. Given that the remaining participants were questioned explicitly about this issue and that none seemingly experienced tobacco farming as problematic, objections raised in this regard are likely to be a minor and highly localised issue.
- The only concerns that were raised in relation to the MASDT project itself came from two farmers in the Badplaas region. Their first concern was that they experienced the mentorship process as ineffective and sub-optimal. They felt

that visits from the mentor were too infrequent and that when the mentor did visit, he did not engage with them sufficiently (by, for example, not accompanying them to their fields or by not personally investigating any issues they were having and, thus, being unable to give them practical advice). When asked about what they believed to be the cause of this, they stated that they felt that this mentor's geographical range of responsibility, and the number of farmers allocated to him, were simply too large, which meant that he did not have the time to engage with everyone in sufficient depth. However, in all other cases, mentors and sub-mentors (which include the mentor noted in this section) were highly regarded. As such, the possibility also exists that localised circumstances might be at play, which would ideally require a follow-up investigation in order to affect a resolution.

- Another concern raised by these same two farmers was that communicating and exchanging information was less than adequate. For example, these farmers mentioned that they submitted soil samples to be tested but did not receive any

feedback on the composition of their soil, which adversely affected their farming as they were unable to ascertain which fertilisers were needed to address deficiencies that were present in their soils and were also unable to determine which crops would be best suited to grow on these soils. Furthermore, these farmers noted that they did not receive feedback in relation to their expenses, which made budgeting very difficult as they could not keep track of their account balances.

- One farmer stated that he would like to learn more about the entire value chain involved in his agri-business (for example about where to procure products and services, the operation of markets, etc.) because, according to him, it will make the whole intervention more sustainable, as he will be able to continue on his own as soon as the project comes to an end. He felt that this knowledge was lacking at present and was concerned that this would limit his capacity to farm independently in future. He requested that training be expanded to address these broader aspects of a farming business.



FACTORS THAT CONTRIBUTED TO THE IMPACTS OF THE MASDT PROJECT

Whilst not an initial aim of the impact evaluation, the wide ranging and consistently high levels of impact that the project was found to have prompted an exploration of the salient factors underlying the project that accounted for these positive outcomes. It is hoped that these findings may be of broader value and use to other individuals, organisations and institutions in designing, implementing and/or

managing similar or related projects. Whilst additional research would be required to empirically quantify these findings, the analysis of the qualitative data strongly suggests that the following factors play a determining role in accounting for the successes of the project:

- Virtually all farmers who were interviewed were unanimous in pointing out that the training received from MASDT was particularly effective and played a decisive role in their farming and resultant financial success. Further exploration indicated that the success of the training was due to a number of factors which include:
 - » The provision of clearly outlined, step-by-step guidelines for successfully cultivating specific crops was cited by the majority of participants as being particularly crucial to their farming success. Unlike general training sessions where all information is imparted in one or more initial sessions, the printed step-by-step guidelines were readily accessible enabling farmers to gradually absorb the information through application and enabled them to access the required information in a focused manner as and when needed.
 - » The fact that training was continuous and regular (as opposed to being once-off or intermittent) was also reported to be a major reason for its success.
 - » The practical, hands-on nature of the training associated especially with the sub/mentorship system was experienced as being extremely effective and helpful in elevating farmers' own knowledge and skills, as well as their farming success. Related to this was the fact that via the mentorship and sub-mentorship systems, such training was customised for each individual farmer, which meant that all training provided was directly relevant and immediately actionable, which enhanced learning and information retention.
- Whilst closely associated with the MASDT training protocol, the effective use of sub-mentors was a theme that emerged with such strength that it warrants individual discussion, as it appears to be a key driver of the project's success. The use of mentors is a common and effective practice utilised in many spheres of education. However, the introduction of sub-mentors appears to be a particularly innovative and effective strategy associated with the MASDT training which magnified the benefits associated with the mentorship system. Whereas language and cultural barriers were reported to exist between mentors and many farmers, the use of sub-mentors effectively addressed and mitigated these obstacles. By virtue of speaking the same

language as farmers, being from the same or nearby communities and sharing the same lived world (thus understanding the context), sub-mentors were able to translate knowledge and information effectively in understandable, context-sensitive ways that enhanced the effectiveness thereof. Such sub-mentors are also easier for farmers to identify with as role models, based on their socio-cultural similarities. Furthermore, unlike mentors who often have to travel vast distances to meet farmers (and can, therefore, not do so all that frequently), sub-mentors are typically assigned to mentor others from their own (or nearby) communities, which means that their presence and availability are more constant and/or frequent.

- Farmers in all regions were unanimous that a significant portion of their farming success can be attributed to the fact that a ready market exists for tobacco (which is not the case for most other crops). Farmers knew where they could sell their product, and what price it would be sold for. This greatly assisted them in planning, budgeting, etc.
- At least two additional benefits were associated specifically with the farming of tobacco. First, as this crop cannot be harvested for food, farmers experienced absolutely no theft of their tobacco crops. However, for many, theft of other crops such as cabbage, maize, beans, etc. was a significant problem. Second, income from tobacco was reported to be much greater than income from other crops such as maize. A number of farmers mentioned that whereas they did farm on their own prior to their involvement in the MASDT project, they were unable to achieve any significant profitability with crops such as maize. However, the specific introduction of tobacco as crop was reported to be critical in their current success. Based on this, many farmers requested to be allowed to dedicate larger tracts of their land to tobacco farming, but nevertheless also expressed concern about the adverse effect that proposed anti-tobacco regulations might have on their agri-businesses.
- A critical factor in the success of any performance-related activity is personal ownership, which involves feeling a sense of personal investment, commitment and autonomy in relation to a task, activity or goal (Whitmore, 2009). Ownership in turn leads to increased responsibility and commitment, as well as increased levels of effort being poured into a given project, and typically

results in greatly improved task performance (Whitmore, 2009). It appears that this dynamic has been harnessed very effectively by the MASDT project. The fact that farmers are given autonomy and are responsible for their own profits or lack thereof appears to be the main driver behind farmers' sense of ownership (see Figure 16). This is in contrast to many other agri-projects that are most often implemented on a community level and which are typically characterised by conflict, infighting, mismanagement and corruption (Makofane & Gray, 2007).

- A point closely related to the previous one which accounts for the success of many of the MASDT project farmers (as well as for individual cases where success is less clear) is that farmers who are successful made a paradigm shift from regarding themselves as employees working for someone else to viewing themselves as independent, autonomous farmers working for themselves. Those farmers who saw themselves in the former light often tended to arrive at work late and leave early, failed to monitor their fields and crops with sufficient frequency (resulting in problems such as pests or inadequate irrigation to be compounded), applied themselves with less diligence to their training and studies and were generally less eager to actively seek advice, support and mentoring from successful peers, mentors or sub-mentors. In contrast, among those who have made this paradigm shift, the opposite was the case, usually resulting in radical changes in a farmer's approach to farming as well as his or her resultant success. However, it appears that this facet of the training was not always sufficiently recognised or emphasised and that the programme could be improved even more if more explicit efforts could be made to facilitate this important mind- shift. Currently, it appears that some sub-mentors who have realised and clearly articulated this issue are doing so of their own accord and initiative, whereas most others do not.
- Another core reason for the success of the project centres on the fact that many of the strategies employed in the context of the MASDT project effectively harness the psychological principles of human motivation. According to self-determination theory, which is one of the foremost contemporary theories of human motivation, motivation is increased maximally by fostering autonomy, competence and a sense of belonging (Deci & Ryan, 2000). That is, when individuals are engaged in a task and achieve a sense of competence by doing the task, are given autonomy and experience a sense of support from others (a sense that 'I am not in



FIGURE 15: Shed used to dry tobacco leaves



FIGURE 16: An award-winning farmer in Groblersdal who attributes his success to a sense of ownership, responsibility and engagement in relation to his agri-business

this alone'), their motivation and consequent dedication to a task rise drastically which, in turn, greatly increases both the quantity and quality of performance. The MASDT project effectively targets and leverages all three components. First, high quality training and a (mostly) effective mentorship and (especially) sub-mentorship system (see previous discussion) foster a sense of competence. Second, by being given their own land to farm autonomously (which includes control over decision making, ownership of land, equipment, profits, etc.), autonomy is maximised. Third, via the support network that exists between mentors, sub-mentors and the farmers themselves as well as community members who have a vested interest in their success, an effective sense of belonging and social support has been fostered. Fulfilling these three needs has empirically been proven to play a major role in enhancing psychological need satisfaction and well-being (Deci & Ryan, 2000) and in this instance has also translated into highly effective motivational outcomes. Furthermore, behaviourist psychological models clearly indicate that behaviours that are rewarded

are reinforced (and often improved), whereas those that are met with negative consequences are minimised or extinguished (Strong, DeVailt, Sayad, & Cohen, 2001). Given that farmers are rewarded for success (via increased income, various types of awards, etc.) and experience negative consequences for failure to perform adequately (failing to make a profit, incurring debt), their inherent motivation to succeed is amplified as non-productive behaviours are weeded out and success-promoting ones are encouraged. Furthermore, as outlined in the social learning theory (Strong et al., 2001), motivation is effectively enhanced even when the success that gets rewarded or the sub-optimal performance that is met with negative consequences are not a person's own but someone else's, which is observed by the person in question. In the context of the MASDT project, when farmers see other farmers fail to make a profit, this spurs them on even more in their own efforts to avoid the same outcome. Conversely, witnessing the success (reward) of other farmers can serve to inspire and motivate those who may not yet enjoy their own success.



The results of this evaluation indicate several primary, secondary and tertiary impacts that can be attributed directly to the MASDT project's activities. These impacts were found to be very relevant in a developmental context and are likely to be sustainable. Furthermore, these impacts comprised both material and non-material impacts (such as psycho-social well-being). Given these impacts, and the fact that MASDT is making a meaningful contribution to SED, it seems highly warranted to expand or upscale MASDT's activities not only in the provinces where it currently operates but, perhaps,

CONCLUSIONS

Whereas many projects are initiated to create positive impacts in communities, most of these are expensive failures and fail to have a substantive or lasting impact (Makofane & Gray, 2007). In this evaluation, the outcomes and impacts associated with the MASDT project, which involves mobile agricultural skills development and training/support, were evaluated using a qualitative evaluation research design and semi-structured interviews with 22 participants in four different regions.

Findings revealed that this project is achieving substantive levels of positive impact for farmers, their relatives and entire communities, and that this impact spans a number of different dimensions (i.e. material, educational, financial and psycho-social). As such, the MASDT project is succeeding in achieving not just output, but actual impact.

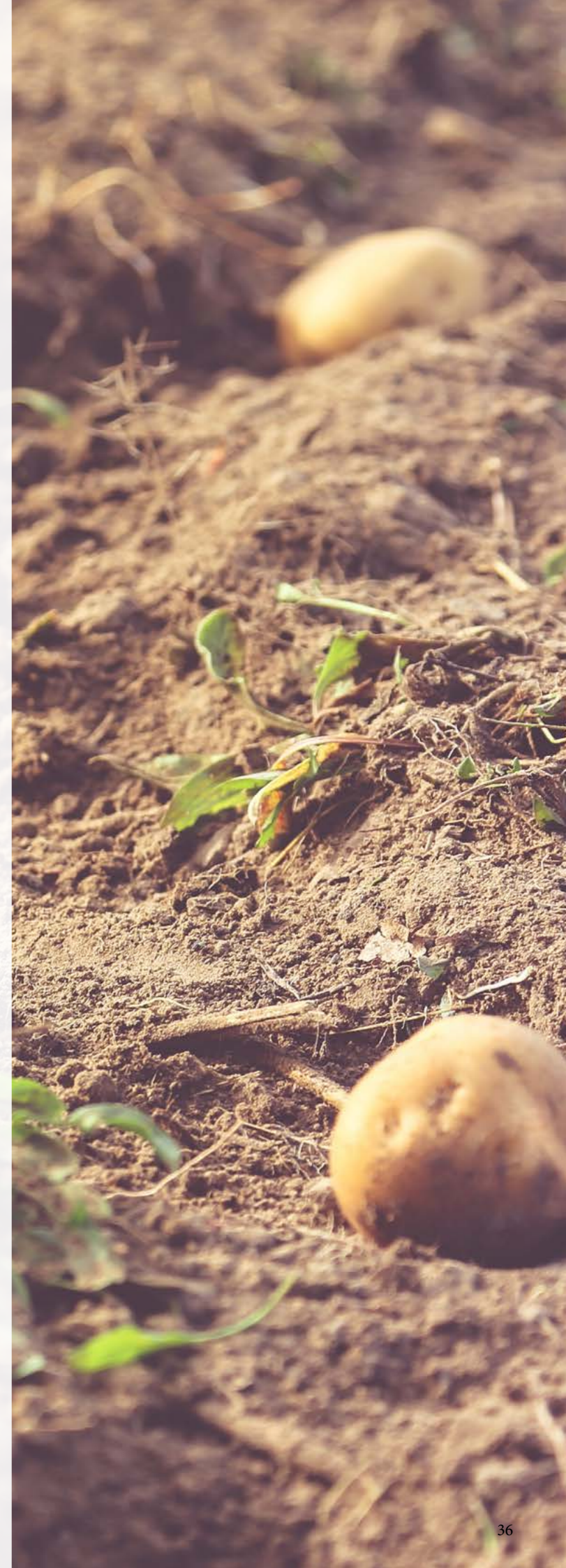
The main reasons for this are attributed to MASDT's provision of material and financial support, as well as the provision of highly effective training. Among the specific success factors that were identified in relation to training are the provision of clear, step-by-step protocols in relation to various farming practices (e.g. cultivating specific crops); continual, regular and repeated engagement by mentors and sub-mentors who were reported to be actively involved in assisting their mentees (their role as 'trouble-shooters' appeared to be particularly valuable in enhancing the farmers' success); reinforcement of learning through repetition (as opposed to a 'once-off' approach to knowledge and skills transfer); and the practical, pragmatic and hands-on approach to knowledge and skills development

in other regions of South Africa that are suitable for agriculture. In addition, given that the farmers are making such good progress in a relatively short period of time, it would also make a lot of sense to fund such a project as part of strategic company objectives (i.e. to develop a supply chain, to secure preferential procurement and to develop suppliers). This is likely to give funders a competitive advantage, satisfy government requirements in terms of BBBEE, give them a licence to operate and help to build their reputation (all of which makes a strong case for funding a project such as MASDT).

adopted by mentors and sub-mentors (e.g. a lot of mentoring was reported to happen in mentees' crop fields and was customised to deal with their unique situation). Furthermore, much of the success of the farmers can also be attributed to specific benefits and advantages associated with the planting of tobacco as crop (e.g. a ready market, far higher profitability than other crops such as maize and no problems with crop theft). Furthermore, the approach followed in the MASDT project encourages a sense of ownership and responsibility among farmers and effectively harnesses psychological principles of human motivation, which further enhanced the success of the project.

Ultimately, most community-based interventions have as their ultimate aim the achievement of improved quality of life for its recipients. As a construct, quality of life is comprised of objective and subjective components. Objective quality of life pertains to the extent to which tangible aspects such as money, housing, material possessions, access to utilities, environmental aspects (cleanliness, safety, etc.), food security, etc. are present. Subjective quality of life, on the other hand, refers to intangible dimensions such as emotional, social and psychological well-being (as discussed earlier). For total well-being to be achieved, both objective and subjective quality of life need ideally to be raised. The mandate informing the present study was to conduct an independent investigation to explore the outcomes and impact of the MASDT project with the implicit aim of ascertaining whether or not this project translates into significantly improved quality of life and well-being among its recipients. The findings of the

study unequivocally indicate that this project is increasing both objective and subjective well-being and quality of life in substantive and often dramatic ways. Furthermore, the findings also revealed that these outcomes are not restricted to farmers, but that the beneficial outcomes and impacts associated with the MASDT programme cascade into far wider circles, which include farmers' families and relatives, general members of the communities in which farmers operate, local and regional economies and social conditions such as the empowerment of women. In existing literature, the point has repeatedly been made that if social justice is to be attained, those challenges relating to exclusion will have to be addressed, which necessitates reaching out to marginalised or previously excluded groups (Boyer, 1996; Lau & Seedat, 2014) to promote social change and structural transformation, especially in rural communities (Seedat, Duncan, & Lazarus, 2001). The findings of this study suggest that the MASDT project is making substantive and significant contributions to the achievement of these aims.



RECOMMENDATIONS

A number of recommendations are suggested by the findings that emerged from the present study. These are presented below for consideration:

- Based on the interviews with and requests from several farmers, it appears that crops such as maize which are provided to farmers free of charge by MASDT initially play a very important role in enhancing food security among farmers first starting out. However, once such a farmer has established a profitable agri-business, continued planting of crops such as maize (which have a less certain market and comparatively low profitability) was perceived as being counterproductive. Instead, farmers frequently suggested that it would be greatly beneficial if they were allowed to convert such land into tobacco fields (and plant alternate crops in between harvests). As such, progressively increasing the percentage of arable farmland dedicated to tobacco farming was perceived as having the potential to enhance the success of their agri-businesses and their resultant profitability significantly.
- Based on direct requests from farmers who were interviewed, it is clear that a need exists for farmers participating in the project to be assisted with gaining access to a platform where they can personally raise their fears and concerns regarding impending changes in relation to tobacco laws and regulations which might have detrimental consequences for the success of their agri-businesses as well as for the value chain associated with these businesses as a whole. Given the extent of the positive outcomes associated with the project for farmers, their families and local communities, as well as social-level benefits such as the empowerment of women, the support of informal and formal local and regional economic development, etc., these concerns appear to be highly valid and would, therefore, need to be heard by the relevant authorities in order to inform a balanced final decision that takes the full impact that will likely be

associated with any proposed changes into account.

- As noted earlier, it appears that a crucial success variable involves that farmers make a paradigm shift from regarding themselves as employees working for someone else to viewing themselves as independent, autonomous farmers working for themselves, given that this results in increased ownership and, thereby, an increased sense of responsibility, dedication, diligence and concomitant farming success. As such, there appears to be significant value in emphasising this component during the training of farmers and introducing strategies to facilitate this mind-shift. Given that many farmers recruited into the MASDT project have spent significant portions of their lives being in the employ of others, it cannot be assumed that they will automatically be able to transition to a mind-set of ownership (and indeed, the interviews confirmed that several farmers on the MASDT project brought this 'outdated' mentality into their agri-businesses, which adversely affected their success). It is likely that sub-mentors as well as other senior and successful farmers taking part in the MASDT project can play an important role in this regard, both by acting as role models and by engaging in active discussions about this matter with emerging new farmers.
- Whilst the MASDT project already very effectively enhances farmers' motivation to perform, room exists for optimising or augmenting these strategies even more (given that they are associated with increased performance and psychological well-being). Specifically, various facets of the existing project can be examined in terms of how they could be adjusted to harness and maximise the principles of motivation further by:
 - o Promoting a sense of competence;
 - o Enhancing a sense of belonging and support further;
 - o Increasing farmers' sense of autonomy; and

- o Rewarding success (and not inadvertently adopting strategies that reinforce inadequate performance). This principle can be extended to reward and acknowledge successful farmers in ways that are visible to other farmers (especially to less successful ones), as this will likely serve to motivate those witnessing the rewards vicariously.
- Given the very high subjective significance of and improvements in subjective well-being reported by farmers who received recognition for their success, there seems to be significant potential for augmenting impact through the refinement and extension of existing awards/rewards schemes. It should be noted that these awards or forms of recognition need not necessarily involve any significant monetary component. Certificates reflecting the farmers' names, articles in printed or electronic media containing references to (and especially images of) successful farmers, award ceremonies, plaques, trophies and the likes are examples of strategies that would likely have a meaningful psychological impact. As a source of pride and a means to increase self-esteem and self-respect, to mention but a few, the psychological value of awards such as these should not be underestimated, especially in the context of relatively impoverished rural communities where such recognition is often sadly in short supply and, consequently, magnified in value when achieved. In addition to significantly increasing farmers' emotional well-being, these rewards will also serve to vicariously motivate other farmers.
- A need exists to address the concerns of some farmers in the Badplaas region. Additional investigations could be conducted to establish how the mentorship process and relationships in the region could be improved. Furthermore, the process of communication could be re-evaluated to identify possible challenges or obstacles that could account for the challenges reported by farmers (such as

not receiving feedback on the composition of soil samples and not receiving feedback on their account balances).

- The need to take care when selecting and training sub-mentors cannot be overemphasised, given that they fulfil a pivotal role in the success or failure of the programme. Whilst more focused research on the topic would be required to identify the most ideal characteristics of successful mentors and sub-mentors, preliminary findings do provide some indications in this regard. The most successful mentors appeared to be those who were directly interested in (and in some cases passionate about) sharing their knowledge, mentoring others and/or uplifting their communities. These individuals were often found to be fairly sociable with lots of ties to others in their communities. Conversely, a few sub-mentors, whilst being successful farmers themselves, seemed to be primarily concerned with their own agri-businesses, were inclined to want to 'keep to themselves' and were not particularly oriented towards mentoring others (despite having the required knowledge and skills to do so). These mentors were also reportedly less successful than their counterparts. Whilst an admittedly tentative and preliminary finding, this suggests that mentors and sub-mentors should be screened, not only for their farming-related knowledge and competence but also for their attitude and orientation towards mentoring others, as the latter would likely play a critical role in the sub-mentor's success (or lack thereof).
- Given the prevalence of water-related challenges adversely impacting farmers' yields, and the 'make or break' impact that water supply could have on farming ventures, it would appear that there might be value in providing additional focused training and mentoring on how to optimally and innovatively deal with this challenge in contextually appropriate ways.



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