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Tayisepi, Nicholas

University of Johannesburg

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Marula Nut Decortications Machine Development to Grow Industry and Sustain Rural Livelihoods in Chivi and Masendu Wards in Zimbabwe

N. Tayisepi & S. Mhlanga

Abstract

This research focuses on developing the entrepreneurial skills and capacities of the marginalised and disadvantaged groups (especially women and orphans) in countryside communities. It seeks to promote the development of sustainable community-based natural product enterprises and to provide guidance in developing and implementing programmes on developing entrepreneurship skills and culture at the community level by providing mechanisation technology for cracking Marula fruit nuts. The researchers seek to develop the concept of a Community-Based Enterprise (CBE), maintaining that it provides a potential strategy for sustainable local development. The research established that most people in rural areas depend on the forest and on other natural resources for their daily livelihoods. However, they generally use these resources in a subsistence mode, and hardly harness the optimum potential of the resource nor do they generate a good income and secure employment for themselves. Such a subsistence approach to using the products of natural resources is an attributed factor for the continuation of rural poverty and the degradation of the resource base. There is little incentive for these people to conserve and manage the resources. This led to the researchers' focus on the establishment of Marula natural products enterprises development as a basis for the generation of income and employment for local people, and the sustainable management of natural resources. Research has shown that the poorest communities need entrepreneurship skills to enable them to establish and develop sustainable natural product enterprises. Entrepreneurship development provides the natural resources-dependent communities with the skills and competencies necessary to address enterprise

challenges, and to tap into the opportunities in the long run through initiating enterprises with or without external support. Researchers have established that little work in Zimbabwe has been done to increase the rate of production in Marula nut cracking. The methodology used included conducting a survey and participatory workshops in the two zoom sites of Masendu and Chivi to establish the feasibility of using the Marula tree and fruit as the focal economic driver. The workshops provided pertinent information which will be vital in generating the Marula nut cracking machine design as a platform to fostering entrepreneurship for economic sustainability in the communities.

Keywords: appropriate technology, business development, entrepreneurship, Marula Decortications machine, poverty alleviation

Introduction

The promotion of rural enterprises is crucial for the achievement of broader development objectives, including poverty alleviation, economic development and the promotion of more democratic and pluralist societies in developing regions of the world, in particular Sub-Saharan Africa, the SADC region and Zimbabwe communities (Due, 2011). Transformation of countryside (rural) economies from subsistence to market orientation ones and diversification into activities based on the special advantages offered by locally available natural resources, for producing high value and value added commodities, is essential to improving the livelihood of the rural poor in the countryside regions of most developing economies (ANSAB, 2010). Poverty is a multifaceted phenomenon (Narayan-Parker, 2000) and to overcome it requires a holistic perspective. Our approach, accordingly, draws from theoretical solutions that will need to be broad-based, locally focused, and that derive from

interdisciplinary considerations from the fields of entrepreneurship, environmental management, and development studies.

Chivi District and Masendu Ward are drought-prone areas of high population density. The average annual rainfall is 530mm, with drought occurring on average three years out of five. Population density is up to 70 people per km². Average landholdings are 1.2 Ha per farmer. Subsistence agriculture is the mainstay of people's livelihoods. Other livelihood strategies include foraging fruit for sale from the woodlands; trading in clothes and food; the sale of agricultural surplus; gold panning; and crafts and pottery production. Remittances from migrant relatives are increasingly vital (Moyo et al., 2007; Goriwondo et al., 2008; Gukurume et al., 2011).

Extraction, processing and trade in non timber forest products (NTFPs) have the potential for improving the livelihood of low-income communal farmers and the general peasant population in the rural areas of most developing countries. The measurable economic value and services of NTFPs constitute an important reason for preserving forests from destructive uses and/or their conversion to other land uses (Malo et al., 2007). The products of horticulture and indigenous beekeeping, medicinal herbs, NTFPs, livestock products, silk, fibres, crafts etc, have a comparative advantage for rural inhabitants. Our research has found that these have the potential to provide income and employment opportunities locally through holistic and market oriented approaches in the rural and communal regions of Chivi District of Masvingo and Bulilima District of Matebeleland, South Provinces of Zimbabwe.

The underutilization of natural resources is in fact one of the main reasons for the persistence of rural poverty and degradation of the resource base in the country. In this context, the establishment of natural products enterprises provides tremendous opportunities (Aldekozea, 2006; Koziell, 2002). Thus this research seeks to enhance the market and income generating oriented economic utilisation of the Marula tree and its products by the

countryside communities of Masendu and Chivi as zoom sites. This is expected to improve the entrepreneurial capacity of the rural communities and to offer life enhancement to the community members involved. The project ultimately seeks to come up with a mechanisation platform for processing Marula nut kernels in business level quantities. Pursuant to this thrust, the researchers carried out surveys and conducted participatory workshops in the zoom site communities, to gather pertinent information regarding the communities' awareness levels of the commercial value of the Marula tree and the level of business they so far derive from the valuable tree. This information will be utilised in the consideration of the Marula decortications machine design as a business start-point.

Objectives: Addressing Millennium Development Goals (MDGs)

This research in essence seeks to contribute and address the following MDGs as part of the research objectives and goals in the zoom site communities of Chivi ward 21 and Masendu ward in Zimbabwe, initially, and ultimately across the whole country and the SADC region which boasts considerable Marula tree potential in Africa. Entrepreneurship based on sustainable Marula nut cracking technology development may result in poverty reduction and simultaneously address the following MDGs in the countryside communities:

Goal 1: Eradicate extreme poverty and hunger

Goal 2: Achieve universal primary education

Goal 3: Promote gender equality and empower women

Goal 6: Combat HIV/AIDS, malaria, and other diseases

Goal 7: Ensure environmental sustainability

Literature review

According to Wijngaarde (2006), human capital is the defining factor in the growth of the creative and entrepreneurship sector. Human capital requires skills and talent, entrepreneurial attitude, ingenuity and motivation. For human capital to produce growth it is necessary for development professionals to acknowledge the importance of creativity and innovation in the course of promoting sustainable development. Value creation and innovation through local business development are essential means for the alleviation of poverty and the preservation of the natural environment (Peredo & Chrisman, 2008). The two conditions for managing people with commercial acumen and the creative spirit are that Programme Promoters be open to creativity and recognise creative people, being aware that creativity knows no social barriers, and the recognition that diversity and inclusion are central to competitive advantage. Furthermore, Programme Promoters should have the ability to provide the physical and attitudinal support to create a comprehensive, collective work environment in which everyone can make more and better use of other people's knowledge. Creativity and creative communities may be the remaining enduring resources in the developing world (Jodhpur Symposium, 2005 cited in Wijngaarde, 2006). This was amply demonstrated in the workshops held in both Masendu and Chivi on the Marula tree and fruit utilisation.

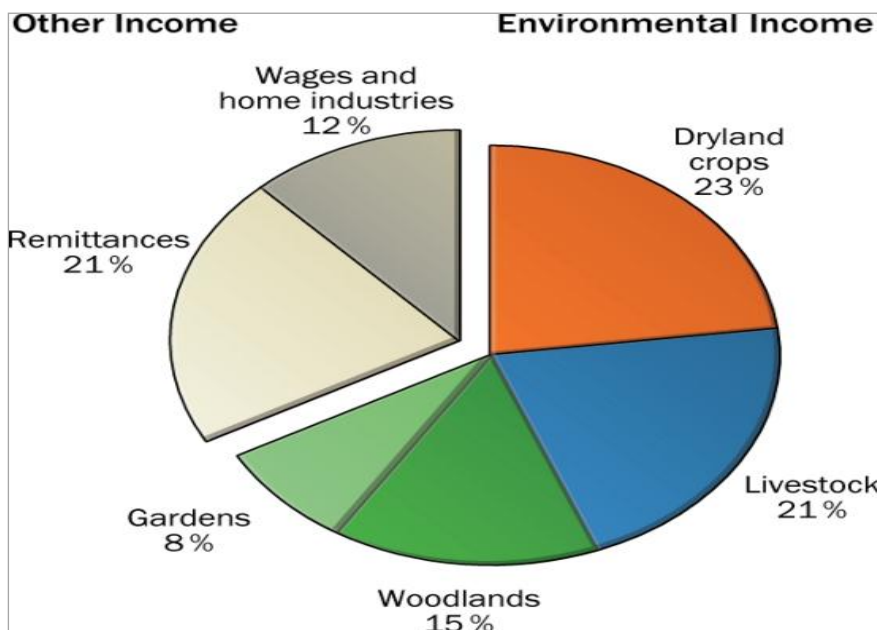
Biodiversity products

Communities and local enterprises which sustainably harness biodiversity as a means of income generation most frequently produce within the following categories: forest products; NTFPs such as rubber, resins, fruits, seeds, nuts; agricultural products such as landrace/native crops, indigenous seeds, major and minor crops, roots, shoots and tubers, fruits, honey, beeswax; horticultural and botanical products like ornamental flowers and medicinal plants; agroforestry products such as coffee, cocoa, cacao and other fruits; handicrafts and textiles like baskets, silk and cotton fabrics, and embroidered clothing; personal care and health

items like make-up, soaps, essential oils, medicinal plants and supplements; livestock products like green beef; and insect products such as butterflies. For marketing purposes, biodiversity-based products may also be categorized in three ways: by social group (women’s products, indigenous/traditional products, small farmers/fishers products); productive scale (community products); and applicable model (organic, fair trade, climate-friendly) (Aldekozea et al., 2006).

The level of household income distribution for the zoom sites are summarized in Figure 1.

Figure 1: Average Household incomes by source in Chivi and Masendu (Campbell et al., 2005)



In the parallel struggles for rural poverty reduction and the conservation of healthy ecosystems, increasing evidence over the past years suggests that poor, rural communities are seizing new opportunities to develop livelihoods based on sustainable environmental management and emerging niche-markets in agriculture, tourism, forestry, and other

biodiversity related activities. Communities the world over are leveraging the economic value of historically non-economic assets such as local culture and previously undervalued natural resources. Harnessing the currents of globalisation, these communities tap into the creativity of entrepreneurs and initiate collaboration with wholesalers, retailers, investors, product certifiers, and, ultimately, customers in complex value chains dubbed *Sustainable Local Enterprise Networks* (Wheeler et al., 2005).

Development agencies are observing these trends with interest and are calling for a focus on community and enterprise-based strategies in pursuit of the MDGs and other Multilateral Environmental Agreements (Rio Agenda, 2001). Markets have been even quicker to engage: demand for local products, including village life as a commodity in itself, has been growing for years. As eco-tourists come to visit from afar, poor communities have an opportunity to build, consolidate and rejuvenate their assets: indigenous culture, wilderness (nature), educational experiences and remoteness are in increasingly high demand. Markets for community-based enterprises and biodiversity-based local economies, while still relatively small, are growing. Success stories can be found in numerous sectors, including sustainable forestry and fishing, organic agriculture, ecotourism, and the production of cosmetics, medicines, latex leather, paper, fibre and other products derived from sustainably harvested herbs and plants. Globally, it is estimated that 22% of the forests found in developing countries are managed by local communities (Bray & Merino, 2004). Mexico alone has over 1000 communities managing forests on communal lands and it leads the world with 500,000 hectares of FSC-certified forests, run largely by community-based enterprises. By the end of the 1990s, it was estimated that the global organic foods market was worth 14.2 billion USD and was growing at a rate of 20-30% a year in the industrialized world, (Aldekozea et al., 2006 & Campbell et al., 2005). Eco-tourism accounts for only a small percentage of the global volume of package tours, but is growing at up to 20% annually

(WTO Research Programme on Ecotourism Generating Markets, WTO 1999). Non-agricultural rural livelihoods are opportunities for much needed employment and diversification of community incomes. Even at current levels, these markets employ millions, create critical new social capital among poor rural populations, and present a unique opportunity to integrate the protection of global biodiversity and ecosystems with demands for improved human security and well-being of the poor. If community-based biodiversity enterprises are an important solution in stemming the tide of adverse poverty and environmental degradation, some critical questions present themselves.

Designing for entrepreneurship development

Design principles for individuals at the bottom of the economic pyramid highlight some likely and unlikely sources of innovation from around the world, and raise other issues that need to be thought through for designs to make an impact on the ground (Due, 2011). Basil (2010), founder and CEO of *Villgro India*, an organisation that seeks to identify, incubate, and market innovations that have rural benefits, painted the big picture behind tackling poverty through innovations and social enterprises (Due, 2011). The three design principles for potentially successful rural community uptake are that:

1. The design should be ruthlessly affordable: for a given problem, introduce the product that provides a solution at an affordable price;
2. The design should localise value creation: products should create significant value, lead to asset accumulation, and boost the economies of villages. These goals can be achieved through local production of basic consumption goods or innovations that add value to products sold by households or village; and
3. The design should have no frills: product design should address a simple need; customers will not pay for unnecessary features at an additional cost.

Thus, the machine design will be guided by these considerations and adduced factors from the customers' voices. The machine is expected to improve the cracking production rate as compared to the current cracking technology shown in Figure 2 below.

Figure 2: Manual Decortications Process (Main subsisting cracking technology to date)

Courtesy: [Swazi secrets \(2009\)](#)



Small and Medium Enterprise potential

In Zimbabwe Small and Medium Enterprises (SMEs) in townships have as much potential as the Marula industrials in the growth-points. The setback has been lack of access to facilities and a marketing window just like the Marula markets to sell their products. Through the Indo-Zimbabwe programmes, Printed Circuit Boards, manufacturing machines, milling and lathe machine were donated but three years down the line they are still being under-utilized (Chronicle, 2012a). How many more institutions in Southern Africa have received donated machines which are underutilized? This has been the driving force behind the research in the development of machines that directly utilize these facilities.

The other area of potential has been on the marketing side. Small scale entrepreneurs in Belmont Industrial site, Bulawayo, Zimbabwe, have been complaining of being ripped off by big companies who have access to the market. In one example a grinding mill was bought from them for as little as US\$800, although the price in town is pegged at between US\$4000–4500 (Chronicle, 2012b). This is similar to the pricing system that has been there for Marula, and hence the need to develop shops in town where SMEs can display and market their goods.

Research methodology

A secondary literature review was undertaken to establish which areas in Zimbabwe had Marula trees. This was followed by non-probabilistic sampling methods based on background knowledge in previous projects that had been undertaken by the team. This led to the selection of Chivi ward 21 and Masendu as zoom sites for the project. Tools for gathering data were considered, leading to the utilisation of Focus Group Discussions (FGDs), during the workshops, since it would have required greater resources to visit each village and household in the zoom sites. An initial visit was made to the zoom sites a month before participatory workshops were conducted. This initial visit was also used to test the tool and a checklist that was used. Masendu zoom site was visited during October, 2011 while Chivi Ward 21 was visited during November, 2011. The Masendu participatory workshop had 22 participants who represented the six villages of the ward while the Chivi Ward 21 participatory workshop had 42 participants.

The justification for FGDs, during the two workshops held at the two zoom sites, was the age group of the main participants who were mainly old women. See Figures 3 and 4 for photos of the two workshops held.

The community surveys, conducted at the zoom sites, were done with the aid of a structured questionnaire which assisted in enhancing systematic data gathering by the research team.

Figures 3–5 : Participatory Workshop in Masendu, at the Cultural Centre





Marula machine building base findings and results

Figure 6: Participants at the workshops

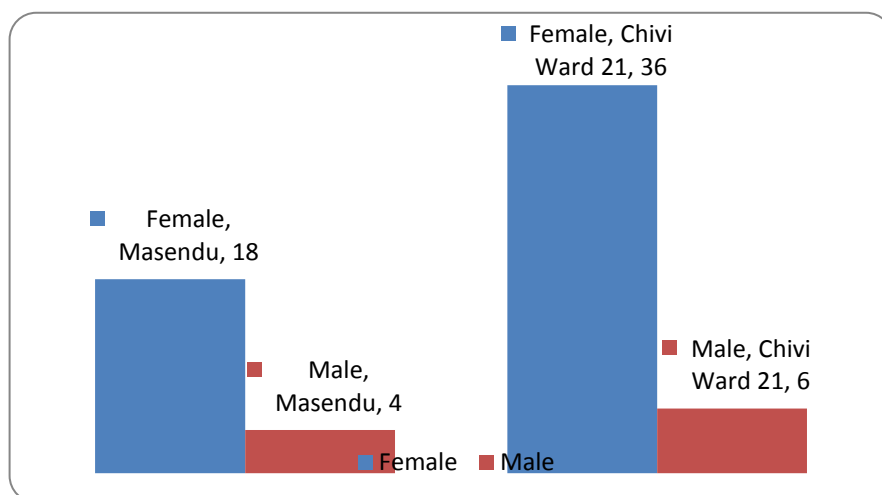


Table 2 summarises the main outcomes from the questionnaire-guided survey conducted during the workshops at the two zoom sites. The research questions were used in adducing data from the workshop participants at the Chivi and Masendu zoom site communities. The brief discussion of the findings and the results follow in the next section.

Table 2: Workshops and Survey findings results

Comparative Factors	Masendu Ward (Matabeleland South)	Chivi (Masvingo)
Ward (Community) Population level	17 000, Zimstats (2003)	21 000, Zimstats (2003)
Organised Marula	Attempt at organised utilisation	No organized platform for

utilisation activities in community	was noted from the availability of village based and categorised clubs	Marula utilisation is in place although at individual level there is prevalent use of Marula tree and products
Commercial/Business utilisation of the Marula	Limited through lack of sufficient volumes of kernels cracked as well as lack of predictable market	Limited through lack of sufficient volumes of kernels cracked as well as lack of predictable market
Sustainability and availability of trees	Trees grow naturally in the vleis and ownership is communal for vlei trees, but individual family based on crop field based trees	Trees grow naturally in the vleis and ownership is communal for vlei trees but individual family based on crop field based trees
Tree quantities boosting attempts	Efforts being made to boost number of trees with assistance of one NGO since 2007.	No efforts so far made to boost the trees population other than natural growth
Harvesting periods and Technology	January to March and fruits are picked from the ground. Taboo issues control harvesting methods	January to March and fruits are picked from the ground. Taboo issues control harvesting methods
Harvesting Capacity/ Outputs	2 x 210 litre drum of nuts is realised per tree on average	2 x 210 litre drum of nuts is realised per tree on average
Tree nuts hardness	Different trees have different nut hardness and people are aware of	Different trees have different nut hardness and people are

	which tree has hard nuts	aware of which tree has hard nuts
Nut kernels cracking (separating technology)	Manual using stones. One NGO group provided metal blocks for cracking, but there were reported no cracking improvements, but injury hazards from this development	Manual using stones. No other recorded cracking technology alternative had been indicated
Cracking Technology enhancement	They boil the nuts before cracking them. They realise that some oil is lost through boiling	They soak the nuts in water for an hour before cracking them. Boiling brings oil losses.
Distance range of trees from homes	600 m – 8 km	1 km – 9 km
Nut collection tools	sacks, wheel barrows and carts	sacks, wheel barrows and carts
Shells disposal	Shells of the nuts are used as chemicals for termites or grain borers.	Indeterminate answers were adduced off this question. No other use could be established
Other business from Marula tree and fruit	Marula drink brewed and sold	Marula drink is brewed by the women and the men enjoy it for free because it is believed to be taboo to sell the Marula brew.

Notably other uses of Marula derived from both communities survey and workshops are, inter alia, Marula butter, cooking sadza, recipe, medicines derived from the Marula tree bark, and stock feed.

Discussion of results

The villagers demonstrated great appreciation of the multi-use purpose nature of the Marula tree from medicine, pesticides and cosmetics through to stock feed, among others. In both communities they sell Marula kernels at between US\$1 and US\$1.20 per 1 x 300 ml mug (representing US\$160 per month per team). A snap survey in the commercial market in Bulawayo city shows that the kernels are sold for at least US\$3.90 for a 250 ml mug. This represents a marked margin of loss of income to the villagers (US\$624 per month per team): they fall prey to the unscrupulous buyers from town who collect the kernels at a cheap price from the villagers and then sell them in town at a premium price. What this implies is that there is need to put into place a market access facility where these people are assisted to access high value markets so that they get the best out of their own efforts.

The workshops and survey results projected an apparently positive business potential in Marula products in both zoom site communities. There is scope for entrepreneurship engagement in Marula products in both communities. Whilst they may have differences in their current level of engagement in the utilisation of the Marula products, there is clear realisation in the potential benefits to the communities, in income generation and employment creation, should they engage in structured Marula products entrepreneurship. The communities showed significant knowledge on the usefulness of the Marula tree and its products.

The zoom site communities are well aware (85%) that they are possibly being exploited by the town-based Marula kernel buyers who go and collect the kernels cheaply from them to sell in town at a premium price. They, however, lack the access to a fair value yielding market and they requested assistance in that regard. As a result the research team engaged colleagues in the Business and Commercial Faculty to develop a project proposal

plan to be used in educating the two zoom site communities in tandem with the development of the Marula nut decortications machine.

The results above show very interesting socio-cultural differences between the two communities but a discussion of these is beyond the scope of this current research which is intent on generating a concept for sustainable entrepreneurial development through Design Engineering for community beneficiation.

Discussions of results on cracking technology: On-going research

On-going research derives from the principal findings of the research outcomes to date. One of the key findings of the research effort is the fact that there is no systematic cracking technology in use so far and the realisation that there is potential loss of business because of the lack of this capacity in the zoom site communities. As such, one key requirement the communities projected strongly is the need for assistance with (currently non-existent) Marula nut-cracking technology. This is because, according to the workshop discussion outcomes and survey findings at the communities, it takes a very prolific Marula nut cracking team of 15 members each, 2 full weeks to fill 1x 20 litre bucket with Marula kernels. This is no matter how much demand there is. This means that because of a lack of appropriate cracking technology there is lost potential business. As a result less than 5% of the population that may potentially benefit from engaging in Marula products business is currently doing business in Marula products, although haphazardly and with no structured pattern.

The zoom site communities, as observed, have a considerable number of healthy big Marula trees. This implies that there is potential for the sustainability of running the Marula cracking enterprises with mechanisation, especially if the tree population can be increased by deliberately planting more (as had been attempted in Masendu, however erratically then). The weather patterns in the two zoom communities are good for the Marula trees, hence there is

potential for growing more forests of these trees. As a result, that creates more scope for business from the trees.

The key parameters of the machine have since been determined by the research team and the manufacturing of components is progressing well.

Discussion of results on community based entrepreneurship and poverty reduction potential of cracking machine design

Food security

Workshop interactions with the communities indicated to the research team that the communities are well aware of the drought-prone nature of their environments, as referred to in the introduction above. Regular loss of food security because of incessant droughts can be devastating for the poor local populations. Notably, as adduced from workshop discussion results, a large proportion of their food source is derived from natural foods drawn from the ecosystems within which they live. The WEHAB Working Group (2002) seems to support this observation in maintaining that even populations not regularly dependent on local food products will fall back on natural foods in times of scarcity because semi-domesticated and wild species provide a breadth of genetic resources that is critical for enabling food productivity, meeting the communities' food needs, and creating food varieties that are adapted to dynamic, local conditions. Projected quantifiable Marula products would serve an essential function as food security for the majority of the human population in these two countryside communities. Fundamentally, food security is dependent on the wise and sustainable use of entrepreneurship skills of the community populace. Mechanising the community's ability to produce the Marula kernels will enhance productivity and help towards food security in the communities at Masendu ward and Chivi ward 21.

Employment and income

Existing sustainable self-employment in the communities average 120 families in Masendu ward's 6 villages, and 5% of the workshop attendees in Chivi ward 21 respectively. No clearly determinate numbers could be established in Chivi Ward 21 thus it is akin to saying it is next to zero. New projected employment from the structured Marula business is 1200 people in Masendu and 1050 people in Chivi respectively.

The income produced from the sale of Marula kernel products is currently insignificant at US\$160 per month for a cracking team of 15 families, and is projected to be US\$16000 per month deriving from the machine's cracking capacity of a 20 litre bucket per hour over an 8 hour day and working through an average of 25 working days a month which is equivalent to US\$192000 per year. These are values based, prudently, on the current village level selling prices for the kernels. In real practice when the structured business process is taking place and the processes of entrepreneurship are commenced according to the ultimate goal of the project, the commercial selling price of US\$3.90 per 250 ml mug will be the base price of the kernels. Thus in real terms $80 \times 3.90 \times 8 \times 25 \times 12 = \text{US\$}748800$ per year will be the trade realisation from the Marula kernels business engagement in the respective communities when focusing on a cracking team of 15 people as a start base point.

Research findings, as observed in the communities and indicated during the workshops, are that fruit can be harvested in abundance during peak periods and preserved for other months of the year when out of season.

Health improvements

Having the community take good care of the medicinal Marula tree after realising more value from it helps improve the biodiversity in the zoom site communities. The majority of modern medicines derive from important information and raw materials found in natural ecosystems.

Society places much of its hope for uncovering new medicines to combat disease on biodiversity. Healthcare needs for the world's poor are met by traditional medicines and treatments extracted from natural sources. They suffer directly from the loss of biodiversity, since the cost of formal healthcare medicines is often prohibitive. The poor are also most affected by negative health consequences of disrupted ecosystems, including polluted air and water, scarce water and natural resources, and diseases that spread because of the disruption. A diversity of food sources is essential not just for food security but also for health improvement as well. The Marula tree is being used for medical care as well as for many other things by the communities in Chivi and Masendu although so far not in a well structured manner. Thus, it is projected that mechanizing kernels production will be the starting point of structured and sustainable entrepreneurship processes around the Marula tree and products, to the betterment of the health regime of the communities

Reduced vulnerability

Immortality, HIV/AIDS, floods, droughts, forest fires, and other natural hazards are intensified in frequency and impact or triggered by ecosystem degradation. The poorest populations are most vulnerable to environmental disruptions, which can leave them devastated without access to basic amenities such as shelter, food, and clean water (Koziell et al., 2002; Aldekozea, 2006). Other risks create social disruptions such as changes in the availability of natural resources, food, and water that can prompt or exacerbate conflict over access to natural resources, and negatively affect poor communities. Entrepreneurship based on locally available natural products provides a critical buffer to these natural disasters and ensures a level of security and productivity.

Quality of life

Employment pays better than the rest of the local economy and the availability of education and training is improved, providing personal development opportunities for children.

Furthermore, recreation opportunities for the local population are provided when the Marula juice, which should be extracted before the kernels are extracted from the nut, is promoted within a cluster or a village. This includes fair payment for value by the Marula drink-takers.

Currently, the Marula juice is not paid for in Chivi although women spend a lot of time preparing it.

Ecosystem and environmental services

The productive capacity of rural marginalised people is supported by a diverse array of ecosystem services that are public goods and are not traded in the economic marketplace.

These ecosystem services provide the fundamental basis for life and the productive activities of the majority of human enterprises. Entrepreneurship and creative industries are often associated with a high quality environment and the development of social responsibility which are attendant benefits of the mechanisation premised Marula-based entrepreneurship being developed at Masendu and Chivi.

Social inclusion, cultural diversity and spiritual value

Biodiversity and natural features form the foundation of the evolving religious beliefs, traditional knowledge, and social institutions at Masendu and Chivi local communities as is the case for many other communities in Zimbabwe and, indeed, in many African communities across the continent. These communities are enmeshed with the ecosystems within which they live, and this connection forms the basis of their collective identity and culture. The Marula tree and its products were found to be of significant cultural and spiritual value in Masendu and Chivi. As such, conflicts always arise around the purported violations

of these by some of the community members. This normally derives from the fact that these values are not standard across the society. This projects a much more economic sense of the value of the Marula tree, with the fruit of which people would now be doing business and this has led to the preservation of the tree, thus, enhancing the attendant cultural and spiritual values of the tree by the community. In short, new opportunities for work are opened to those who were excluded with the market-oriented utilisation of Marula. The creation and operation of community-based organisations (such as the Marula clubs) help strengthen the communities' ties. Ultimately, the majority of disadvantaged poor people in the zoom site in the communities are able to access the value of their heritage and use it to derive economic and social benefit.

Contribution to South Africa's township entrepreneurs

The following are lessons for the South African township entrepreneurs.

1. There is a need for a stronger relationship with neutral partners such as University Departments in all disciplines (marketing, engineering, sciences) since they provide mutual relationship as shown by the project that is aimed at benefiting the community.
2. There is a need to get access to information about the available facilities such as machinery and loans being provided by NGOs and Government. This is supported by the case in which equipment has been under-utilized for three years after being donated in Zimbabwe because of a lack of information flow.
3. There is a need for mutual understanding between Government Ministries on who owns and runs donated facilities since some equipment tends to be housed under Tertiary Education but under the custody of the Small and Medium Enterprise Ministry.

4. There is a need to provide a window for fair marketing for the Small and Medium Enterprises as seen by the big difference in the markup made by those who rip off the township or rural entrepreneurs.
5. There is a need for developing interrelationship between provinces in terms of their capability and the resources available to them. Provinces that have Marula can benefit by selling products under provincial agreements. This can be extended to other products such as teak furniture, grinding mills and carts to mention a few.

Conclusion

This paper set to present a community-based entrepreneurship platform and to discuss creative economic participation by marginalized communities using their locally available natural resources. The methodology in terms of participatory workshops was highlighted for the two zoom sites Masendu and Chivi Ward 21. Results show the knowledge that is available in the two communities that they are using in trying to survive. Still, over and above this, there is potential in terms of value-adding processes after the production rate of kernel nuts has been increased. The researchers maintain that in this emerging form of entrepreneurship, typically rooted in community culture, natural and social capital are integral and inseparable from economic considerations, thus transforming the community into an entrepreneur and an enterprise.

Thus, improving the access to more structured natural Marula products generation and utilisation by the disadvantaged groups in the community goes a long way towards improving the income generating capacity, and all the attendant benefits from the same, by the population in the target zoom sites in Masendu and Chivi because of the project.

The research outcomes strongly support the feasibility of the development of the Marula nut cracking technology as a platform Community-Based Enterprise (CBE) and, as such, the research team is currently in the process of fabricating the machine in collaboration with the indicated zoom sites. All other theoretical frameworks strongly favour this business development model for the benefit of entrepreneurship and small business development at local level.

It is important to note that whilst this project was done at the two zoom sites of Masendu and Chivi ward 21 in Zimbabwe, the sustainable Marula tree and fruit based entrepreneurship potential established by the research is applicable in any community which is gifted with the Marula trees. This is apparently the case with a number of SADC countries like South Africa, Swaziland, Botswana and Zambia to name just a few.

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Sustainability and Contribution of Agribusiness Enterprises in Sedibeng District Municipality: A Perspective of Pro-Poor Programmes

Loraine Boitumelo Mzini

Abstract

This paper reports the findings of the study conducted by the author from 2006 to 2009 on the role of urban agriculture for alleviating poverty in South Africa, with reference to the Sedibeng District Municipality (SDM). The study was performed as a thesis and arises from the high rate (currently 23%) of unemployment, underemployed and poverty in South Africa; resulting from a widespread of lack of skills and training and causing endemic poverty in many parts of the country. The post-apartheid South African government is acknowledged for its institutional reforms in socio-economic development aimed at alleviating poverty and unemployment. To address the high unemployment rate, initiatives such as the community food gardens projects were established to relieve households from poverty and unemployment traps. The longevity of these projects relies on reliable policy making and the participation of community members for sustainable livelihoods. These projects have expanded from household food providers to small agricultural enterprises.

The aim of this study was to enquire whether the community food gardens projects could progressively increase their contribution to economic growth by creating jobs and accessing external markets. In brief, it was found that the agribusiness enterprises in SDM were effective in alleviating poverty. The study revealed that these industries could also improve the economic position of families in SDM and create jobs for vulnerable groups there. The findings also indicated that agribusiness encourages the poor to invest and to increase their participation in the labour market. The results of this study were obtained

through the qualitative and quantitative techniques of questionnaires and participant observations. The qualitative and quantitative techniques were complemented by a literature review, interviews, questionnaires, field trips and photographic surveys.

Introduction

The democratic government of South Africa since 1994 is acknowledged for its institutional reforms in socio-economic development aimed at alleviating poverty and unemployment. Millions of South Africans are unemployed and underemployed, resulting from a widespread lack of skills and training and causing endemic poverty in many parts of the country. Many South Africans rely mostly on social protection schemes. These, however, lack incentives for poverty alleviation and sustainable livelihoods. In 2001, the then South African Department of Agriculture established the strategic agriculture sector plan towards economic development (Department of Agriculture, 2001). These new sectors targeted productive employment and decent work for all, which is evident in the Sedibeng District Municipality (SDM). The envisaged new sector was envisaged providing food and agricultural products and services locally and for export. Agriculture remains an important sector in the South African economy despite its small direct share of the total gross domestic product (Department of Agriculture, 2001).

The chief priority of the Millennium Development Goals (MDGs) is to eradicate extreme poverty and hunger. In terms of the MDGs, agribusiness is viewed as a vital sector contributing to economic prosperity. Urban agriculture involves growing food and fibre products in urban areas, and is characterised by both commercial and non-commercial operations. Agribusiness development consequently involves a large number of farmers who not only operate their respective farms individually but also cooperate with each other in a harmonious and orchestrated fashion. This study focuses on local agricultural production and

management of the community food gardens in SDM. The first part of this study looks at the research objectives and methods. The second offers an overview of agricultural development in South Africa, with reference to the SDM. The third part reports the study's findings and provides recommendations for agricultural sustainability.

Research objectives

This study formed derives from the mini-dissertation (2006) and thesis (2007–2009) conducted by the author. It investigated the sustainability and contribution of agricultural activities and agribusiness to SDM and examined the sustainability and contribution of government-led agribusiness projects in SDM. Government's policy framework for small-business development was analysed. The study also evaluated the environmental and social impacts of the various agri-industries, explored the involvement of the vulnerable communities in SDM, and identified the constraints and factors affecting the survival and performance of the sector.

Research methods

Qualitative techniques were used to conduct field research and participant observations. This approach allowed the author to interact with the participants and analyse the locations of the projects to validate the data and report the findings. Quantitative techniques were used for surveys. This approach allowed the author to analyse the content and to gather data about the previously collected information and about existing knowledge. The two techniques are complemented by a literature review, interviews, questionnaires and photographic surveys. The sample for this study consisted of the nine agribusiness enterprises in the three local municipalities of SDM. Provincial and local government also form part of the sample for this study. English–Sesotho/Nguni translations were used to enable the participants to respond to

the questions asked. Furthermore, the researcher consulted textbooks; journals and conference papers; government policy reports and documents on poverty alleviation; and internet sources to obtain information to support this study.

The study area

SDM is a Category C municipality in the Gauteng Province. It comprises three local municipalities: Emfuleni Local Municipality (ELM), Lesedi Local Municipality (LLM) and Midvaal Local Municipality (MLM). It includes the towns of Vereeniging, Vanderbijlpark, Meyerton and Heidelberg as well as the townships of Evaton, Sebokeng, Bophelong, Sharpeville and Ratanda, which have a rich political history and heritage (SDM, 2009: 5). The 2007–2011 integrated development plan estimated the total population of SDM as 843 006. SDM has a large population that is unemployed, with low literacy and skills levels, and poor health (SDM, 2008: 11).

Background on township industries

This study acknowledges the contribution made by the South African government in 1994 to broaden economic participation for its communities. The democratic era poses challenges and opportunities in extending economic participation to previously disadvantaged groups. However, poverty is still rife in the South African communities and entrepreneurial developments operate in different sectors to combating poverty and to support household members. The primary sector includes agricultural activities. The secondary sector involves households processing products obtained from the primary sector to make a living and profit. These activities include dress making, cooking, baking, arts, crafts, carpentry, steelwork and so on. Tertiary economic activities include services such as the shoe repairs, hair salons,

mechanical workshops, car washes, tourism, information and communication technology, and security services.

These operations are practiced widely, and there is great competition for profit. The activities are performed in spaza shops in houses, in temporary structures erected from reeds, plastic, cardboard or steel and umbrellas. They are also found in the intersections and transport hubs.

Promotion of entrepreneurship, small business and agribusiness

South Africa continues to be an important source of investments in Africa (Burger, 2012). In March 1995 the White Paper on national strategy for the development and promotion of small business in South Africa was released as a comprehensive policy and strategy for small business (DTI, 2005). The aim was to provide comprehensive support to small business and to improve the scope and quality of small business. Government aims to boost small enterprises, equalise income and wealth and create long-term jobs (Burger, 2012). Some of these business activities have been identified as key economic sectors which have excellent potential for growth (Burger, 2012). Different government departments are responsible to uplift the economic development of these activities. The promotion of entrepreneurship and small business remains an important priority of the government of South Africa and local governments are becoming increasingly involved in local economic development programmes. Local government is not only responsible for service delivery, but is also tasked with achieving socio-economic development and combating poverty (Kgafela, 2009: 1). It should focus on enhancing the quality of life for their communities (Hilliard & Wissink, 2000: 98). Some of the building blocks for a vibrant local economy include an effective regulatory environment for business, a sound resource base, an appropriate skills base, income circulation, good levels of investment, access to finance and markets as well, and

access to effective and consistent service delivery in support of a business environment (Richardson, 2005: 6).

The government has taken measures to ensure that small business development becomes a key policy focus. Such measures includes the commitment to ensure that small businesses progressively increase their contribution to growth and performance in the South African economy in critical areas such as job creation, equity and access to markets (DTI, 2005: iii). The government's response to poverty alleviation employs a range of strategies and approaches (Mzini, 2010: 84). In 2004, the SDM produced the Integrated Economic Development Plan (IDP) which elaborates a plan of action for economic development and integrates projects identified in the IDP, namely agriculture, industry, SMMEs, tourism, skills development and institutional development (Richardson, 2005: 41).

Agribusiness

In the early nineteenth century, agriculture was a self-contained industry, whereby families produced their own basic household requirements (Encyclopedia of Business, 2012) in their backyards. The Food and Agriculture Organisation of the United Nations (FAO) (2012) defines urban agriculture as an industry that produces, processes and markets food and fuel, largely in response to the daily demand of consumers within a town, city or location.

Some farmers surveyed operated their agricultural practices in unused lands, which are used for illegal dumping. Some used their local churches, clinics and schools to grow vegetables to provide income to their households. These practices are not sustainable, since farmers do not own the land. Sometimes church members or community members steal farmers' crops or animals graze on them in open land, and there is no water or sanitation provided. These activities might bring minimal food to the table but government intervention is required to sustain their livelihoods.

Agribusiness is viewed as a vital sector contributing to economic prosperity (Nainggolan, 2003: 5). Nishimur (2003: 15) indicates that “the agribusiness involves the agricultural input industry, agricultural production and management, the agricultural output industry and related industries”. On the other hand Oliver (2003: 1) views agribusiness “as a complex enterprise that integrates agricultural production which involves value-added processing, packaging, distribution, and marketing activities”. Taylor (2001: 3) further indicates that “the agribusiness is vertically integrated as it focuses on the production and marketing channels of the agribusiness industry”. Taylor (2001: 3) expands his definition to say that “the agribusiness extends its process from farm suppliers to farmers and ranchers, food processors, through food retailers, ending with domestic consumers or international markets.”

Agriculture is shaped not only by natural elements such as geographical location and climatic conditions but also by socio-economic and institutional factors (Oliver, 2003: 3). The purpose of the agricultural sector is to initiate and assist with efforts to create a business atmosphere that is conducive to the continuation and expansion of agricultural businesses for the benefit of all residents (Stewardship America, 2005: 2). For example, the South African government through the support of provincial and local government have developed policies and strategies to promote agribusiness to increase the economic base and enforce economic reliance upon community members.

Nainggolan (2003: 37) identifies the primary responsibilities of government in promoting broad-based agribusiness growth. The responsibilities can be grouped under four broad headings:

- The creation of a business climate conducive to agribusiness growth;
- The creation of a level playing field for small firms and farms;
- The strengthening of resource and support institutions; and

- The provision of needed investment infrastructure, public goods and human resource development.

The abovementioned roles rely on a robust partnership between government and community members for promoting agribusiness. One of the most serious constraints on economic development in South Africa is the widespread lack of skills and training. The situation is made even more serious by the growing skill intensity in formal sector employment (Mzini, 2010: 98). One of the key elements of government strategy is to broaden the base of economic empowerment by encouraging the growth of small enterprises, particularly black-owned businesses, as a vehicle for spreading the benefits of a more equitable reconstruction of the country's economy (PSCA International, 2006: 88).

Pro-poor strategy on agricultural development

The process of economic empowerment in South African agriculture starts with improved access to land and the vesting of secure tenure rights in people and to areas where these do not exist (DOA, 2001). The DOA (2001) indicated that "South Africa was characterised by high levels of poverty, especially in rural areas where approximately 70 % of South Africa's poor people reside." The pro-poor process in the agricultural sector aims to encourage South Africans to become successful in commercial farming and agribusinesses.

The SDM has programmes in place to address poverty within the municipality. Firstly, the Sedibeng Growth and Development Strategy, which is a tool to develop local partnership, to eradicate poverty, and to create employment by 2014. Secondly, the Pro-Poor Strategy which aims to tackle poverty in SDM through key actions relating to the following strategic objectives: strengthening access to social support and to service delivery processes, facilitation and increasing economic participation and institutional mainstreaming and coordination of a pro-poor approach (Richardson, 2005: 50). Poverty alleviation programmes

are guided by ethics and principles for ensuring adherence and accountability. Normally, the poverty alleviation projects are guided by norms, values and guidelines for adherence and conformity. In this regard Richardson (2005: 50) identifies the guiding principles for implementing poverty alleviation strategy in SDM: equity, participation, social inclusion, empowerment, convergence, additionality, and sustainable development.

These guiding principles aim to balance social inequities in race, class and gender. Economic development focus on empowering community members, therefore increasing community participation, is essential for increasing access to the economy and other services. These principles are developed to ensure that marginalised people are empowered to participate in the economy. These principles also aim to balance economic objectives with social and environmental justice considerations in line with Local Agenda 21 (Richardson, 2005:50).

Agricultural development in SDM

The survey found that the agribusiness arena lacked the characteristics of the united and prosperous agricultural sector; it was plagued by competitiveness and low profitability, skewed participation, low investor confidence in agriculture, and poor and unsustainable management of natural resources (DOA, 2001). Many enterprises discontinue their agricultural practices due to inadequate infrastructure and services to support sustainable land use and this often leads to poor and unsustainable management of natural resources.

The South African agricultural sector strived towards “equitable access and participation in a globally competitive, profitable and sustainable agricultural sector contributing to a better life for all”. Three key elements were expounded, namely: equitable access and participation, global competitiveness and profitability, and sustainable resource management (DOA, 2001). The equitable access and participation strategy attempts to

enhance equitable access and participation to agricultural opportunities, to deracialise land and enterprise ownership, and to unlock the full entrepreneurial potential in the sector. Its focus is on land reform, start-up support packages for new entrants to farming, partnership and promotion of the sector. It further aims to promote new entrants into the agricultural sector, and the focus will necessarily be on economic empowerment initiatives for black people, women, the disabled and youth of all races (DOA, 2001).

Employment and social protection are two critical avenues towards achieving pro-poor growth and the MDGs (OECD, 2009: 3) which are being pursued by community food gardens which are now being transformed to agribusiness. Social protection enables households to invest in productive activities and human capital, which raises their productivity and incomes (OECD, 2009:3).

Agricultural development in SDM is undertaken through a partnership by local government and the provincial government. The Gauteng provincial government proposed to establish a total of 1 200 food gardens for SDM local municipalities (300 in Emfuleni, 400 in Lesedi and 500 in Midvaal). The food gardens are intergovernmental projects aimed at providing interim relief measures to households and beneficiaries severely affected by food insecurity and the price escalation of basic food items by providing agricultural input and equipment for own food production (Richardson, 2005: 82). The programme provides agricultural input and equipment to the existing food security campaign, encourages household food production through improvement and crop intensification, promotes backyard mix farming and where appropriate, school gardens and urban community gardens (Richardson, 2005: 82).

Research results and discussion

This part of the study reports the findings around the sustainability and contribution of agribusiness programmes in SDM.

I. Sustainability

The importance of agriculture, especially in developing countries, is as a source of foodstuffs, support for agro-based industry, and in providing employment (Nainggolan, 2003:32).

Farmers' benefits include having assured produce markets, minimising production risks, transfer of knowledge on the latest farming technology, supply with crucial agricultural inputs, often on credit (Dannson, Ezedinma, Wambua, et al., 2004). Sustainability is about making the right decisions for individuals, communities, shareholders and, most significant of all, for the environment (Matthey, 2009). Sustainability can be measured against these factors. Sustained participation in the sector will be guaranteed only if people dispel the negative perception of agriculture as characterised by low profitability, indebtedness, security problems, consumer concerns for food safety, legitimacy issues and slow transformation (DoA, 2001).

Legislative framework for public participation

The study found that local government legislation for public participation exist in South Africa and globally. This is supplemented by the International Association for Public Participation (IAP2) which prescribes the guidelines and management of public participation process. The South African legislation consolidated and opened up new spaces for citizens to directly participate in their own governance. Such legislation is facilitated towards the active participation of members of the local community in the affairs of the municipality, including the formulation of integrated development plans and municipal budgets (Mzini, 2010: 191).

Governance

Good governance is a key element of sustainability (Matthey, 2009). Good governance enables institutions to be clear about what they do, communicate effectively and demonstrate leadership, offer transparent reporting and excellent performance management (Matthey, 2009). The strategic plan for South African agriculture which was developed in 2001 identified five core strategies towards the agricultural sector's sustenance. The outlined core strategies include good governance, integrated and sustainable rural development, knowledge and innovation, international cooperation, and safety and security (DOA, 2001).

Sustainability is a core part of business strategy. Matthey (2009) identifies five factors for sustainable business: governance, environment, social, health and safety, and finance. The governance of the agribusiness in the SDM is a legal entity and registered as non-profit organisations (NPO). The enterprises are managed under the guidelines of the Gauteng Department of Agriculture and Rural Development.

Environment

Sustainable agricultural methods protect the long-term health of soil, water, air, open space, wildlife, and fish resources (Matthey, 2009). It was interesting to find that the participants are knowledgeable about the sustenance of the environment and their resources are sustainable. Their fields use hydroponic tunnels, which pumps water to the plants. The supply of water is carefully measured. Often local businesses dump their waste in open field outside their yards, but the surveyed enterprises recycle and reuse their waste to produce fertilisers and to prepare for seed beds during the plant rotation process. It was also found that these enterprises also use organic production methods in their fields to eliminate chemical inputs in their produced goods.

Health and safety

Health and safety is a key element of our sustainability strategy (Matthey, 2009). The field work conducted indicates that protective outfits, such as boots, overalls, gloves and hats for sun protection are worn by the farmers. No injuries were reported. Clients are also safeguarded. Emergency signage and first-aid boxes, however, were not visible as stipulated in workplace legislation.

Financial viability

Financial viability is a key element of sustainability (Matthey, 2009). Where money matters, institutions tend to focus more on efficient use of resources and about designing new products that help their customers to be more sustainable (Matthey, 2009). The agribusiness enterprises source their funds through government programme budgeting. However, the funding is goal orientated and outcome based. Such investment should have returns and profit. The study found that the established enterprises have a good standing on their finances. The good thing about these institutions is that they have acquired financial management skills for planning and managing their funds. When these enterprises are established, all participants are trained in business management and project management. These are crucial to small businesses as they are able to use their funds sustainably and effectively. It was also discovered that the participants have record keeping procedures which enables them to record all their transactions for tax and auditing purposes. Participants indicated that it is a challenge to raise funds to survive and expand their business.

Infrastructure

Modern agricultural practices depend on improved resources to improve farm productivity. Normally smaller businesses lack adequate infrastructure and access to their secondary

services. Infrastructure enables farmers to increase farm productivity and improve profitability. While small farmers have access to land, in SDM the land used is public, municipal land which was reserved for agricultural basis. The agribusiness that operates in Bophelong-Muvhango is settled in the community development yard. Its practices are undertaken behind the building and accessible to clients. The agribusiness in Sebokeng is located at the skills development centre in Houtkop. Initially, the group operated in Kanana, but the area was too small, and the municipality allocated more land to produce crops. In Evaton garden farmers do not share their premises with anyone. In Palm Springs the business is performed in the clinic yard. There is also a wide area allocated to them with easy access for their clientele. There are two agribusiness centres in Sharpeville. One is situated in the Tshepiso section and the business is discontinued, the centre had hydroponic structures and they were burnt in a veld fire. In the Vuka section of Sharpeville, the project structure is still in place, however there is lack of participation by group members. Interestingly these farms are established along the main roads which are busy with transportation business and close to residential households.

Marketing

Marketing is defined as “the performance of all business activities involved in the flow of agricultural products and services from the point of initial agricultural production until they are in the hands of consumers” (Napitupulu, 2003: 6). The farmers use a direct selling approach for selling their crops. The study found that the agribusiness use the following methods to sell their produce: pick-your-own farms, roadside stands, home delivery services, e-commerce, weekly farmers’ markets and community-supported agriculture programmes (Lülfes-Baden, Spiller, Zühlsdorf & Mellin, 2008: 50). These systems have their disadvantages because the while farmers are selling, they cannot work the gardens and productivity lags.

Farmers' direct marketing of food is a widely neglected branch of modern agribusiness marketing (Lülfs-Baden et al., 2008: 50).

Customer base

This section examines distribution and customer satisfaction of the agribusinesses.

Distribution

Agribusiness in the SDM performs its activities in the form of "Backward Links" and "Forward Links" (Taylor, 2001: 3). Backward links refer to agricultural production businesses whose primary customers are farmers, farm service and suppliers (Taylor, 2001: 3). The enterprises in the SDM were found to be forward-linked as their business extends throughout the economy into everyone's life. These enterprises produce food and everyone consumes food on daily basis. It was indicated that their target groups are the households, crèches, and public employees from the public sectors in their vicinity.

Customer Satisfaction

Taylor (2001: 5) is of the opinion that the field of agribusiness is the customer base for many businesses across the state. Lülfs-Baden et al. (2008: 50) confirm that customer satisfaction is a necessary condition for success. The CFGs sell their produce to a small group of customers of whom most are regular buyers. This close, personal contact with the customers provides an opportunity to build up sustainable loyalty. But often farmers have difficulties defining their own position in competition and analysing their own strengths and weaknesses realistically (Lülfs-Baden et al., 2008:50)

Risk

Risk is defined as a potential negative impact to assets, investments, or profitability of investments in the agricultural industry that may arise from some present process or future event (Wroblewski & Wolff, 2010: 1). Zhang et al. (2007) divide agricultural risks into idiosyncratic and covariate (systemic) risk factors. Idiosyncratic risks affect individuals or households and include such things as illness or death of a family member. Covariate risks are factors that affect groups of households or a given geographical area including drought, political unrest, declining commodity prices, rising input prices, or market collapse.

Smallholder farmers face risks due to undercapitalisation and poor access to credit. Furthermore, agribusiness industries are confronted by risk in the form of climatic variation, pests, disease and price risks as well as natural disasters such as droughts and floods. Climatic variations weaken the development of these industries as they do not have insurance, and it becomes difficult for enterprises to start afresh if their equipment is lost or damaged in floods. These enterprises depend on the money received on regular, daily basis. Theft and vandalism of crops and equipment are other challenges since they do not have the resources to employ security staff.

II. Contribution to the economy

Contribution is measured according to the size and impact of the agribusiness industry. The contribution of agribusiness may be measured by the value added, employment, and gross sales (Taylor, 2001: 4). In this case the number of people employed and total sales are an indication for the industry size.

The role of agriculture

Agriculture is seen as an effective development strategy, although it is not accorded adequate attention by government policy. This study revealed that there is clearly a significant need for

food provision in SDM to poor households and community food gardens were established to address this. It was discovered that communities grow vegetables in their backyards, although some do not grow vegetables due to lack of space and limited water supply (Mzini, 2010: 192).

From family farm to agribusiness

The evolution from agriculture to agribusiness has brought with it numerous benefits. These include reduced drudgery for labourers, the release of workers for non-agricultural endeavours, a better quality of food and fibres, a greater variety of products, improved nutrition, and increased mobility of people (Encyclopedia of Business, 2012). These developments contribute to the country's economic growth and development. The key to this growth and development has been increased worker productivity, which in turn spurs creativity, new products and wealth. This translates into risk capital, new factories, new jobs, and increased consumer purchasing power (Encyclopedia of Business, 2012). Almost 50% of the participants grew up in the farmlands and they have made a contribution towards the sustainability of these enterprises as they are fully grown and functional.

Business sales

Production agriculture is the cornerstone of every country's agribusiness complex (Taylor, 2001: 4). Primary agriculture accounts for 4.5 % of the GDP of South Africa while the larger agro-food complex accounts for another 9%. Small farmers supply local and regional markets where large numbers of informal traders make a living. Furthermore, there are an estimated 3 million farmers, mostly in the communal areas of the former homelands, who produce food primarily to meet their family's needs (DOA, 2001).

Socio-economic review

Sedibeng is the largest of the three district municipalities in Gauteng in terms of population size and second largest in terms of economic contribution to Gauteng's GDP. SDM's

economy is dominated by the manufacturing sector, which contributes 28.2% to its GDP.

Sedibeng is also characterised by a trade surplus and 71.1% of its export base is comprised of base metals (Mzini, 2010:191).

Sustainable living/self-provisioning

The University of California Sustainable Agriculture Research and Education Program defines a "sustainable community food system" as a collaborative food system network that integrates the above sectors "in order to enhance the environmental, economic and social health of a particular place" (Reynolds, 2009: 1). In recent years there has been renewed public interest in urban agriculture for its potential contribution to ecological health and community food security (Reynolds, 2009: 1).

Distribution

Agribusiness products are sold in market and non-market outlets. Reynolds (2009: 7) indicates that agribusiness practices may benefit producers and the community at large. Reynolds (2009: 7) identifies six outlets as a basis to showcase the strength of local industries:

- products are consumed by self, household, or informal social networks;
- products are grown specifically for consumption in low-income communities and sold or given directly to consumers at little or no cost;
- products are used in community-based organisations' programmed activities (i.e., healthy cooking classes run by the organisation);

- products are sold at markets (including farmers' markets, direct sales to restaurants, and roadside stands);
- excess products are donated to third-party social agencies for community distribution (orphanage, crèches, schools); and
- unsold or unusable products are fed to livestock, composted, or disked into fields.

Employment

The MDG target for “productive employment and decent work for all” emphasises the importance of employment for reducing poverty (OECD, 2009: 11). Taylor (2001: 7) defines agribusiness as a hidden employer, which refers to jobs indirectly created by agribusiness or the indirect employment impact of agribusiness as measured by multiplier analysis (Taylor, 2001: 7). Jobs created in agribusiness may be full-time or part-time. Throughout the world, small businesses are playing a critical role in absorbing labour, penetrating new markets and generally expanding economies in creative and innovative ways (DTI, 2005: 3). Agribusiness enterprises can perform like large-scale farming which contributes to food security, employment and income for many, including smallholders, the rural unemployed, and the poor. It was found that the agribusiness in SDM employs more adults than youth. These adults had previous farming experience, but were jobless because of farm closures or forced removals. The development of the agricultural sector has contributed to their lifelong skills. They indicated a desire for youth to participate in agribusiness as they are the future leaders of the country.

Poverty alleviation programmes and projects

It was found that public participation is essential for good governance and may empower local communities. The study identified four programmes that are applied by the South

African government to alleviate poverty. The observations demonstrated that such programmes do succeed in alleviating poverty in SDM. Beneficiaries who completed their service in these projects declared that the programmes assisted them greatly. The current employed beneficiaries expressed their contentment as they can provide their families with the basic requirements.

Despite the fact that these projects last less than a year, the beneficiaries complete the projects with skills and knowledge. It can be concluded that the poverty alleviation programmes of government does promote self-reliance in SDM (Mzini, 2010: 192).

Entrepreneurship and small business awards

Various organisations in the public and private sectors, and certain publications, run annual award programmes to recognise successful entrepreneurs and small enterprises. Most of these awards are well publicised, helping to increase the profile of successful entrepreneurs and entrepreneurship in general (DTI, 2005:14). Members of surveyed agribusinesses entered such competitions as female farmer of the year, best-producing enterprise, and best-selling products. The researcher has formed a good relationship with these groups since they were the source of her output for data obtained in these premises. The researcher usually visits the enterprises to evaluate their success and offer advice.

In October 2011, the researcher visited the group in Sebokeng, and they reported that they had won awards for productivity and the best-selling entity. Every week, SABC2 airs an agricultural programme named AGRI-TV. Most of the surveyed enterprises have been interviewed on it about their practices and achievements. The author was delighted to see her hometown and contributors to her study and academic life being interviewed on national TV about their performance. It is important to recognise the successes of these enterprises as they contribute to economic growth.

Escaping reliance on social protection schemes

Social protection refers to policies and actions which enhance the capacity of poor and vulnerable people to escape from poverty and enable them to better manage risks and shocks. Social protection measures include social insurance, social transfers and minimum labour standards (OECD, 2009: 10). Usually community members will rely on grants from government to alleviate conditions of the vulnerable. The inception of agribusiness in the townships has reduced the reliance of communities on social protection schemes.

Recommendations

Agribusiness has undergone a profound structural transformation and technological upgrade in the past years to generate income and create jobs urgently needed by South Africa's growing population. Agribusiness needs to adjust to the pressures of rapidly changing consumer demand and new technology in to enable Africa to compete with other developing countries (Yumkella, 2010).

Policy approaches to micro-enterprises also need to be carefully considered. These firms are often part-time family operations oriented to a very local customer base and generating very low levels of income. Public resources must be used effectively to foster growth in other segments of agro-industry (Yumkella, 2010).

Sustainable strategy towards poverty alleviation

There is an ongoing debate about which types of poverty alleviation or employment creation schemes are sustainable and more helpful to the poor. In India, planners attempted to fight poverty by means of asset-based, self-employment and wage-employment schemes which

were proved successful. This study recommends that government consider these aspects in order to broaden the scope of poverty alleviation in South Africa (Mzini, 2010: 195).

Improving productivity and management of SMEs in the agribusiness sector

In that regard, there are a number of steps that can be taken towards achieving business success, such as:

- pursuing benchmarking, competitive comparison and best practices sharing at various levels;
- sustaining information dissemination programmes (e.g., television documentaries, radio broadcasts, publications and assistance from extension workers);
- continuing to strengthen IT and telecom infrastructure;
- encouraging networking and promoting links (i.e., tripartite partnerships between the government, farmers/SMEs and large companies);
- broadening training curricula to include basic management, people development, networking, market research and intelligence; and
- exploiting the use of national quality awards criteria as a framework (Tan, 2003: 8).

Public-private partnership

Governments need to devise policies that are conducive to agribusiness development.

Governments should provide support by acting as a catalyst for attracting investments in agribusiness, including the food processing sector, encouraging exports and creating a healthy atmosphere for the growth of the food processing and agro-based industries. The private sector should also be continuously encouraged to undertake initiatives while

governments act as a facilitator, motivator and regulator of investment and growth (Nainggolan, 2003: 34).

Public participation

The participation of young people in agribusiness needs to increase, as they will determine the future of economic growth and sustainable livelihoods. The integration of youth in the labour market should be promoted by adjusting existing employment policies accompanied by more targeted interventions (OECD, 2009: 26). The failure of the formal economy to generate sufficient employment opportunities for young people raises the spectre of social disaffection, rising crime and political instability. Developing countries' populations are becoming increasingly younger and about one third of the youth is unemployed or part of the working poor. In sub-Saharan Africa, 65% of the population is below 25 years of age. There is an urgent need to target youth employment (OECD, 2009: 26). The role of professional organisations in establishing business incubator centres at the regional level should also be encouraged.

Human resources development

The people involved in agribusiness are mostly poorly educated, lack professionalism and are not productive (Nainggolan, 2003: 41). An improvement in human resource quality can be expected to increase productivity and, consequently, competitiveness. Regular training should be provided for those involved in agribusiness.

Developing agribusiness terminals

To encourage agro-exports, government policy should develop agribusiness terminals on a one-stop service basis. Thailand has developed such a model, equipped with cold storage and

grading facilities. Through such a terminal, producers are able to meet potential buyers (Nainggolan, 2003: 41). Recently, Indonesia began designing a programme for building agribusiness terminals in some cities, which will be supported by sub-terminals that already exist in some production areas (Nainggolan, 2003: 41). Local townships lack storage systems for their produce, and such activities would be of great benefit for the enterprises.

Vocational training agricultural curriculum

“The productivity and employability of poor people can be significantly increased with well-tailored and recognised (certificated) vocational training, especially for workers in the informal economy” (OECD, 2009: 22). An agricultural curriculum should be offered in South Africa as the basic and higher education in SDM does not offer such learning areas. A primary asset and resource of poor people is labour. Improving and extending vocational training to develop appropriate skills is crucial to facilitating transitions to more productive jobs and therefore improves the employability of the work force. Vocational training thus needs to be scaled up and has to become a part of an overall employment and education policy (OECD, 2009: 22). Basic education and life skills development is vital for supporting the economic development process because it improves agricultural productivity and can facilitate the transition of workers from agricultural jobs to work in the secondary or tertiary sectors.

Employment performance and capacity building is therefore central to the success of poverty reduction strategies and to efforts to enhance development (OECD, 2009: 15). Continuous training is crucial to enable farmers to keep their performance and productivity at a high level.

Corporate social responsibility standards

Improving poor people's access to the labour market and decent employment requires concerted efforts by government, civil society, trade unions and the private sector. Businesses can complement these efforts by adhering to corporate social responsibility standards. To have the greatest impact on reducing poverty, all interventions aimed at labour market development, private sector-led growth and employment promotion need to take account of the constraints and opportunities in the informal economy and not just those found in the formal economy. Effective policy development processes have to be forward-looking and include planning of their implementation and the provision of means to monitor and evaluate them. Governments often develop policies or define laws relatively easily, but lack the right means and adequate human and institutional capacities to implement and enforce them (OECD, 2009: 15).

Sustainable livelihoods

Sustainable development is built on social cohesion as well as on sound economic management. Policies for high economic growth need to be accompanied by social, employment and other policies to ensure that poor people share the benefits of growth. Women, young people and people with disabilities can be disadvantaged and may need special measures to help them access the labour market better.

Conclusion

Post-1994, policies and institutions have been developed to foster an enabling environment for the creation and growth of small enterprises. The promotion of agribusiness can become a useful means of alleviating poverty and a major source of foreign exchange earnings. Agribusiness can be an important source of employment for many people.

Agribusiness industries in SDM were found to be effective in alleviating poverty. The study revealed that these industries can also uplift the economic reliance of families in SDM and create jobs for vulnerable groups in SDM. The findings indicate that agribusiness encourages the poor to make investments and can help the poor increase their participation in the labour market. The study identified a number of problems that hindered the performance of agribusiness enterprises, especially smaller ones. Small businesses also face the challenges encountered by larger industries, in which regulatory and legal risk, operational hiccups and operational risks exist. The study discovered that some government-initiated projects were discontinued due to ageing of beneficiaries and non-participating communities. Some, however, survived the business challenges affected by lack of resources caused by unsafe premises threatened by theft and vandalism. In some industries there is a lack of market access and transportation and customer retention. There is a lack of supporting facilities to store their produce. These institutions use farmers' direct marketing, whereby their produce is sold by means of farmer-to-consumer (households) marketing. Furthermore, the study revealed that these industries work as producers as well as retailers and this seems to delay the process of growth.

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