

Review

Understanding the small-scale agricultural sector as a precondition for promoting rural development in South Africa

Tshuma, M. C.

Rural Appropriate Technology Unit (RATU). Thornhill Road. P.O. Box 225, Mthatha, 5099, South Africa.

Received 2 August, 2012; Accepted 16 June, 2014

Economic development in South Africa (SA) has been an issue that has been on top of the government's agenda for many years now. Whilst SA as a nation is well endowed in terms of natural resources, the skewed distribution of these resources has left rural economies at a great disadvantage when compared to the urban ones. Questions have thus been asked about how best to address this imbalance and boost rural economies so that every citizen enjoys an adequate share of the nation's resources. One common suggestion for achieving this goal has been that of promoting smallholder agriculture, especially since this form of farming is dominant in the country's rural areas where at least 70% of the country's poorest households dwell. The basis for such an argument has been that smallholder agriculture can stimulate rural development as it is labour-intensive which in turn translates to high employment opportunities being created. The sector also dominates in the deepest corners of the nation where poverty is rife and their survival means enough food could be produced to sustain these households. A healthy smallholder sector has also been proven to facilitate backward and forward linkages between various industries with income flowing both ways. Nevertheless, the success of the smallholder sector is dependent on the removal of certain barriers that have, in some cases, forced some farmers to seek alternative livelihood strategies other than farming. This paper therefore seeks to discuss the characteristics of smallholder agriculture which are crucial to understand prior to using the sector to develop rural SA. It also brings to light some of the factors that have limited the growth of this sector and concludes by recommending a few solutions that could help eliminate or at least reduce the impact of these barriers.

Keys words: Smallholder farmers, poverty alleviation, economic development, rural income, employment creation.

INTRODUCTION

South Africa is one country that is characterized by high unemployment and poverty rates, particularly in its rural areas. In 2004, Landman *et al.* estimated that at least 40% of South Africans were still living in poverty, a

decade into democracy. A second decade of democracy later research findings suggest that the situation has not improved at all. Such high rates exist despite policies that the government has adopted since 1994 which have

*Corresponding author E-mail: mengazit@gmail.com, Tel: +27 (0) 47 532 4601 Fax: +27 (0) 86 518 254.

Author(s) agree that this article remain permanently open access under the terms of the [Creative Commons Attribution License 4.0 International License](https://creativecommons.org/licenses/by/4.0/)

focused on poverty alleviation, improving economic growth, relaxing import controls and reducing the budget deficit. One of the approaches used is the social security system which aims to assist those that are not economically active either due to disability, age or poor health. Since its implementation, the nation's social security system has remained a major source of income for millions of South Africans by helping the poor afford food, clothes and education (CASE, 2000). However, the challenge with this approach is that its impact depends on the amount the "taxman" takes from the employed. As such, it is necessary to explore other poverty alleviation strategies that do not necessarily disadvantage other people.

One such approach, which is the focus of this paper, is the revival of the smallholder agricultural sector which Eicher (1994) suggested could also be used as the best vehicle to get the entire agricultural sector moving, hence should be given adequate attention by policy makers and those in positions of influence. Delgado (1998) added by arguing that the smallholder agricultural sector is "simply too important to employment, human welfare, and political stability in Sub-Saharan Africa to be either ignored or treated as just another small adjusting sector of a market economy".

In terms of the structure of the agricultural sector in South Africa, Vojtech (2006) described it as being very dualistic in nature as it consists of both a well-developed commercial sector and a high number of smallholder farms. Sandrey and Vink (2008) argued that the latter is made up of few but very big, successful and profit minded farmers that are relatively well advanced in terms of technology, most of which is imported. The former, on the other hand, has a high number of setups emanating from almost every corner of the country.

This paper starts by defining the small-scale farmers in terms of their size, location, objectives, etc. The paper further reveals and discusses numerous challenges that literature has identified as hindering the success of the smallholder sector in SA and most developing countries. However, for purposes of developing the sector, it goes without saying that these challenges have to be dealt with as part of or prior to the implementation of any development initiative aimed at boosting the sector. As such, the paper concludes by suggesting a number of interventions that could help deal with these challenges.

DEFINING SMALL-SCALE FARMERS IN THE SOUTH AFRICAN CONTEXT

When defining small-scale farming in South Africa, Kirsten and Van Zyl (1998) believed that this concept is usually value-laden and creates wrong impressions hence is often viewed in a negative light. In their view, Kirsten and Van Zyl (1998) equated "small-scale" in South Africa with a backward, non-productive, non-commercial, subsistence agricultural sector that is found

in parts of the former homeland areas. It is generally associated with blacks who do not have the ability to become large-scale commercial farmers. Some agricultural economists have accepted this definition of small-scale farmers postulated by Kirsten and Van Zyl (1998) but with a bit of skepticism. As a matter of fact, they postulated that small-scale farmers should also be defined in terms of agricultural activity in whatever form. Thus, this sector is made up of those farmers whose main goal is to produce food for their families on a daily basis. Under such circumstances, only surplus is considered for sale in order to supplement their income and diversify their diet. However, to try to prove the validity of this definition, Ouattara and Graham (1990) and Baydas and Graham (1996) carried out a study in the Northern and Kwa-Zulu Natal Provinces where they compared small-scale business enterprises and small-scale farmers. Their results indicate that farming played a small role in terms of income; although a major proportion of small-scale farming households (and small business households) cultivate the land and produce crops. A similar state of affairs was also noted by Monde (2003) in the Eastern Cape Province.

Another context through which a small-scale farm can be defined is through its size. The general, but not necessarily correct, perception is that small-scale farmers are those who cultivate small pieces of land, usually one hectare in size or less. Whilst from a broad perspective this might be true, such an approach is made invalid if one looks at it from the efficiency and productivity point of view. Bravo-Ureta and Pinheiro (1997) explained the importance of small farms and asserted that these farms are multi-functional, more productive, more efficient and contribute more to economic development than larger farms. This means that there is a proven inverse relationship between farm size and its productivity. In other words, smaller farms are more productive and efficient but tend to lose their productivity as they grow in size.

Berry and Cline (1979) had earlier come to the same conclusion based on the fact that small farms generally use family labour which is personally committed to the success of the farm, unlike large farms that use relatively alienated hired labour which may not be as committed. Furthermore, Carter (1994) noted that the land to labour ratio is higher for large than small-scale farmers, which leads to decreasing output per hectare with respect to farm size. In short, it is clear from Kirsten and Van Zyl's (1998) argument that size is not a good criterion for defining small farms. These authors gave an example that a single hectare of irrigated peri-urban land suitable for vegetable farming or herb gardening has been proven to have a higher profit potential than 500 hectares of low quality land in the Karoo. With this in mind, their conclusion was that the level of net farm income does determine the farm size category and not the land size as believed by some people. Thus far, a number of possible

definitions for small scale farming have been highlighted. Even though none of them can be said to be “all-inclusive” and more relevant than the rest, when the term small-scale farm is used in the rest of the study, it should be interpreted against all the above arguments. The bottom line drawn by Kirsten and Van Zyl (1998) is that a small-scale farm is a concept relative to the particular ecological region and soil quality and also relative to the particular farming industry. Tomich, et al. (1995) also emphasized that small-scale farms should not be regarded simply as smaller versions of large farms since systematic differences in output and input intensities result from farm-size effects and have important policy implications.

Nevertheless, agriculture is usually seen as the backbone of most African countries. In fact, in as much as the commercial agricultural sector is important to any given economy, so is the small-scale sector in its own right simply because it reduces poverty and food insecurity at household level. For this reason, the definition of a small-scale farm is also important for the South African government from a policy point of view. Since the Department of Agriculture needs to identify its target group or clientele before intervening through its policies, Kirsten and Van Zyl (1998) suggested that the department should view a small-scale farmer as one whose scale of operation is too small to attract the provision of the services he/she needs to be able to significantly increase his/her productivity. It is these farmers that need government assistance and who should be empowered to form part of a new and vibrant agricultural sector.

SOCIO-ECONOMIC CHARACTERISTICS OF SMALL-SCALE FARMERS

There are a number of socio-economic features or characteristics that define small-scale farmers. Some of these have to do with their demographic characteristics, land holdings, ownership of capital resources and also their level of training and farming skills.

Demographic characteristics

In terms of demography, Feynes and Meyer (2003) described the small-scale farmers as usually the aged (both male and female), able-bodied women and children. Population-wise, Aliber and Hart (2009) put the number of female rural black farmers in South Africa at sixty percent (60%). Literature also suggests that members of the rural farming households that get formal education are rarely found in their homesteads participating fulltime in farming. Instead, they prefer to seek jobs in other sectors than staying at home to farm. Thus, the conclusion that could be drawn from this is that smallholder agriculture in South Africa is not only

dominated by women, but by women who also do not have much formal education. The majority of the few men found also do not have much formal education.

In absolute terms though, Aliber and Hart (2009) presented findings of a Labour Force Survey (LFS) done by Stats SA between 2001 and 2007 which show that younger people involved in subsistence farming outnumber older people but their numbers tend to decline with age. These findings were supported by Aliber and Hart (2009) who further argued that in South Africa in general, there are twice as many 15 to 19-years-old involved in agriculture than there are 55 to 59-years-old. For example, in the community of Kenton-on-sea in the Eastern Cape, Monde and Ansle (2008) discovered that 34% of the total population in this community was either below the age of 15 years or over 64 years, hence economically inactive. No household head was younger than 40 years or older than 95 years. In addition to this, Monde and Ainsle (2008) wrote that more than half of the household heads in that community were older than 64 years.

Land holdings

Land holding amongst smallholder farmers in general is usually very small. In several countries such as those in Asia, for example, Pookpakdi (1992) noted that the average size of land holdings has continued to fall over the years. According to Pookpakdi (1992), the average size of farms was seen to decline in several of these Asian countries between 1970 and 1980 from 0.92 down to 0.88 ha in Bangladesh, from 2.28 to 1.82 ha in India, from 0.64 to 0.59 ha in Indonesia and from 3.6 to 2.6 ha in the Philippines. At the same time, the number of smallholdings increased significantly. As for the South African situation, Vink and Van Rooyen (2009) revealed that between 2002 and 2006, the number of people in the country with land for agricultural purposes declined by 21%. In 2002, 1.8 million households had access to arable land but by 2006, only 1.4 million were still in possession of it (Vink and Van Rooyen, 2009). On the other hand, commercial farms were also declining in numbers during the same period not because the sector was losing its viability in the market but because farms were being merged into larger units of ownership and production (Vink and Van Rooyen, 2009). Vink and Van Rooyen (2009) further estimated that at least 97% of these households practice agriculture on their land. However, the land holdings vary between different individuals.

Fraser et al. (2003) analyzed the land holding situation in the Eastern Cape Province and concluded that some small-scale farmers actually do have access to arable land. However, due to their lack of proper resources with which to work the land, most of them tend to resort to cultivating home gardens in an attempt to provide some measure of food supplementation. Fraser et al. (2003)

further highlighted that such farmers remain unable to afford the purchasing of inputs even if they pool their financial resources amongst five households. In short, the reality is that those small-scale farmers in possession of land only have access to small pieces which they also rarely cultivate due to the unavailability of the means with which to work it.

Skills and training

In the opinion of Fanadzo (2012), small-scale farmers currently have limited access to training due to various factors such as their remote location, lack of education and training opportunities. According to Fanadzo (2012), there is training offered in some of the areas where the small-scale farmers are found but the unfortunate thing is that this little training available is focused almost exclusively on scaled-down versions of high-cost, high-risk commercial production practices. This therefore means that the trainings generally are not appropriate to the food insecure households that need training the most. In addition, the Water Research Commission (WRC) (2007) noted that such training is usually offered in institutions such as agricultural colleges which are rarely located in the deepest corners of rural areas where most small-scale farmers are found. As a result, most rural farmers are left without access to any training. Poverty and lack of basic education also play a role in determining the extent of participation in training programmes. The situation for those that can afford to visit training institutions is further exacerbated by the fact that training usually requires trainees to be away from their homes for periods of at least two weeks. According to WRC's (2007) conclusions drawn from studying the general situation in Limpopo, being away from home for such a long period of time made attending training workshops impossible, especially so for women responsible for food insecure households.

THE ROLE OF SMALL-SCALE FARMERS IN THE SOUTH AFRICAN ECONOMY

A lot has been said about the role that small-scale farmers can play in the economies of developing nations such as South Africa. Some proponents of this sector have advocated the starting point in supporting these farmers to be training them on the necessary farming skills so that their farming activities become sustainable. However, before any training of any nature is administered, benefits such as the growth in output and farmer efficiency likely to result from the success of such trainings should be understood. Questions like "what is the use of these small-scale farmers? Suppose they are taught new farming skills, what and how then is the nation going to benefit from investing in such farmers?" should be asked. To get answers to these questions, it is

of paramount importance to at least try and highlight a couple of positive roles played by the small-scale farming sector in African nations and South Africa in particular. Amongst other things, smallholder farmers help in poverty alleviation, employment and rural income creation and also through creating backward and forward linkages with other industries.

Poverty alleviation

Rao and Chotigeat (1981) argue that smallholder agriculture can contribute significantly to poverty alleviation by raising agricultural productivity and rural incomes. The point of small-scale farmers having the ability to raise agricultural productivity goes back to the inverse relationship between farm size and productivity debate. Literature from the likes of Bharadwaj (1974), Sobhan (1993), Deininger (1999) and Ellis (1993), just to mention but a few, suggests that the intensive application of labour inputs by smallholder farms compared to bigger, commercial ones makes them more efficient and productive. This is supported by the fact that the labour used in this small-scale sector is usually family labour that is motivated by the need to get more output from their land. Consequently, Netting (1993) and Moore et al. (1998) believe that such labour is more dedicated to farming than hired labour whose performance or level of dedication is determined mostly by the wage rate. The more wages the hired employees are offered, the more effort they tend to put in their activities.

In addition, Rosset (1999) is of the view that larger farms and land owners usually tend to leave much of their land idle, while small farmers tend to use their entire parcel. This on its own shows that small scale farmers have higher land use intensity which in turn implies that if they are allocated more land, such land will be used more productively rather than being left fallow as is often the case with large farms. This has been the basis for targeting smallholder farmers in SA and other developing nations such as Zimbabwe in their respective governments' Land Reform Programmes. These programmes have targeted the smallholder farmers whilst taking away land from the commercial farmers with the hope the former will become efficient in their production thereby resulting in them escaping the circle of poverty with their households.

In support of the notion that smallholder farmers can drive poverty out of rural economies, Feder (1985) explained that this sector actually helps reduce food prices because smallholder farms can be found even in the deepest corners of any nation where poverty levels are well pronounced. The ability of the sector to exist anywhere and produce more for less makes different types of goods not only available to the general public but also at very low and affordable prices. Part of the sector's success despite the farmers having limited pieces of land is a result of the small-scale farmers' adoption of

intercropping farming practices which allows farmers to utilize almost every piece of their fields and intensively produce a variety of crops on their small farms. According to Rosset (1999), this intercropping approach helps the domestic consumers have access to a variety of products at cheaper prices without propelling the depletion of soil nutrients unlike in the case of large-scale farms that produce limited varieties of crops due to monoculture.

Another interesting point to note about the role played by this sector in alleviating poverty is the way food is moved from the rural to the urban sectors. According to Mishra and Agrawal (2012) and de Haan (2000), most urban people tend to migrate to the urban areas for the sake of getting better paying jobs. However, such migrants always leave the majority of their family members back in the rural areas to farm. Due to the expensive cost of living in urban areas, most migrants tend to rely on the agricultural produce sent by the relatives they left behind in the rural areas for cheap food. Such is popular in most African countries and South Africa is not an exception. Kurwijila and Henriksen (2010) documented this pattern in Tanzania where the rapid expansion in urban centres stimulated by the rural-urban drift of young people seeking employment in urban areas has posed serious strains on the socio-economic services and food supplies that must be provided to meet the demand of the urban populations. As a result, this urban sector also depends on food supplies produced in the rural areas.

Contribution towards rural income

As stated earlier, the South African agricultural sector consists of both smallholder and commercial farmers but with the former dominating in terms of numbers (Oettle et al., 1998; Vojtech, 2006). The majority of the nation's smallholder farmers lack proper resources with which to cultivate their land in spite of their efforts to intensively farm annually (Rosset, 1999). This means that such farmers are able to produce for themselves, hence they do not have to spend much of their income on food. It should be recalled that in defining the small-scale farming, Kirsten and Van Zyl (1998) described these farms as being so small in size to an extent that their main priority is to produce just about enough food to feed their families. Therefore, since rural households produce their own food, there is not much of a need for them to use money to purchase food unlike those in urban centres who purchase everything they eat. Feder (1985) held the view that through the marketing of surplus produce, farmers stand to earn some income which could also help make them better off compared to if they were not farming at all.

Having these smallholder farms in great numbers also has its advantages too as agricultural products can be accessed from unlimited sources. This implies increased

competition amongst producers. Even though the final result of such stiff competition does not favour smallholder farmers, Dorosh and Haggblade (2003) explained that the existence of competitors selling similar products usually permits prices of tradable agricultural goods to fall in response to production increases. For the general public that consumes these agricultural products, lower prices translate to less money being spent on food, thus raising their real income. In consequence, Dorosh and Haggblade (2003) concluded that not only do the rural poor benefit most directly from agricultural growth, but also the urban poor too as falling food prices raise their real incomes as well. This is compared to few commercial farmers where there is low competition, hence higher prices normally prevail and the benefits are only for the select few at the expense of the majority consumers. Based on these arguments, one can argue that agriculture does not only enhance real income through lowering food prices but also improves nominal income too.

Employment creation

It has been proven by Van Zyl et al. (1996) that small scale farms have the potential to create employment even in the deepest corners of SA and any developing nation when compared to commercial farms. In their explanation, Van Zyl et al. (1996) pointed out that the latter usually make more use of machinery in production as compared to the poor, hence labour-intensive smallholder farmers. These small-scale farms have less wealth and access to credit markets that is why they use an input mix that relies much more on labour than capital thereby generating far more employment than their large counterparts. This view is shared by Welsch (1978) who had earlier documented that the small farm sector is more labour intensive and will serve to combine available labour with other production factors. However, it is worth mentioning that in some cases, some of these small-scale farmers do not hire any labour regardless of the demand. Instead, when labour demand is very high as is usually the case during weeding or harvesting, such farmers resort to labour exchange or what is known as "ilima" in Zulu and Xhosa (Tshuma and Monde, 2012). In terms of employment numbers, Vink and Van Rooyen (2009) put agriculture's contribution to employment for a large proportion of the economically active SA labour force between 8 and 9%.

Backward and forward linkages

According to Haggblade et al. (1989), growth of small farms allows for the growth of business activities created through forward and backward linkages. In other words, such growth generates economic growth through

production and consumption linkages. This same perception raised by Haggblade et al. (1989) was later shared by Van Zyl et al. (1996) who acknowledged the possibility of substantial increases in the demand for production inputs from other sectors emanating from gains in output caused by investments in any given sector of the economy. These authors argued that the resultant outcome of such changes will be backward linkages. Backward linkages also exist if farming households use the income they obtain from selling their produce to purchase more farming inputs (which is investment) or even spend it on other non-agricultural (another form of expenditure) such as television sets, private cars, etc. (Estudillo and Otsuka, 1999). By doing so, they support the manufacturing sector through agricultural income.

Dorosh and Haggblade (1993) suggested that the initial output gains also raise incomes and consequently spur consumer demand for other goods and services (forward linkages). Estudillo and Otsuka (1999) therefore concluded that there are some non-farm sectors that rely on agricultural produce for their survival. Thus, the agricultural sector, smallholder sector included, provide other sectors with raw materials

Distribution of social capital

Small farms are also important in terms of land ownership. Decentralized land ownership produces more equitable economic opportunity for people in rural areas, as well as greater social capital (Haggblade et al., 1989). This can provide a greater sense of personal responsibility and feeling of control over one's life. Berry and Cline (1979) define smallholder farmers as being usually characterized by their heavy reliance on family labour. Using this definition Rosset (1999) thus raises the point that making use of family labour implies that farming skills are therefore passed from one generation to another under family ownership structures. In other words, the farmers' children acquire farming knowledge and skills through practice as they grow. Furthermore, the nation's land reform programme seeks to give land to the poor, including farm tenants and workers, for agricultural purposes and this will play a big role in the equitable distribution of land within the country (Rugege, 2004; Lahiff, 2007).

CONSTRAINTS FACED BY SMALL-SCALE FARMERS

Despite the above-mentioned benefits that emanate from the smallholder farming sector, the majority of smallholder farmers are faced with a number of obstacles that hinder their productivity. Some successful commercial farmers started as smallholders but grew through various forms of support and their ability to

circumvent these barriers. Be that as it may, the majority of smallholder farmers are still faced with such constraints as lack of proper education, skills, capital, infrastructure, just to mention but a few.

Lack of adequate education

One of the biggest challenges noted by Murage (2006) that is faced especially in trying to change the attitudes of most smallholder farmers in South Africa is that the majority of them lack basic education. This makes them unable to make use of things like technology, negotiate with stakeholders for better prices, take advantage of telecommunication systems to acquire relevant information, just to mention but a few. As a consequence, Ozowa (1996) and Ahmed et al. (2012) are convinced that such farmers unwillingly become risk-averse hence prefer to continue using their old and less-productive ancient farming techniques than try the recently developed ones. Ozowa (1996) and Ahmed et al. (2012) therefore viewed such attitudes driven by lack of basic education as contributing towards the low level of adoption of agricultural production technology. In fact, evidence from Onuoha (2006) suggests that only those farmers with at least some education background tend to be more active in adopting new ideas than their illiterate and risk-averse counterparts. As the world changes together with its technologies, climate and farming approaches, most illiterate farmers have proven to opt for their tried and tested, though outdated, methods instead of adapting (Taher, 2006; Karanja and Ndubi, 2008).

Lack of finance

According to Thapa (2010), the majority of smallholder farmers cultivate small plots found at the back of their yards. Apart from this behaviour being caused by lack of physical resources such as tractors and farm implements, the small size of their plots is due to lack of proper arable fields. In community such as Zanyokwe, Monde et al. (2005) stated that residents have made progress towards getting title deeds for their land but other farmers such as those in Kenton-on-sea also in the Eastern Cape still cultivate municipal land as they lack land of their own (Monde and Ainsle, 2008). Without land as collateral, smallholder farmers in South Africa are finding it very difficult to access financial capital. Those that are employed in other sectors also struggle to finance their farms due to their low earning capacities (Tshikudu, 2005).

Failure to have access to financial capital often leads to less production as farmers cannot afford to purchase inputs for production purposes. Furthermore, without enough capital, it is almost impossible for any smallholder farmer to take advantage of favourable market conditions

such as increased demand. Mbilinyi (1997) provided evidence that financial constraints also manifest themselves in the form of very high interest rates on borrowed loans as financial institutions try to offset the risk that loans will not be repaid. Thus, those that have enough collateral to qualify for loans often find themselves struggling to repay their loans due to the high interest rates charged. In addition to these high rates, most financial institutions do not give farmers enough grace period to raise the money whilst using part of their earnings to keep their farm businesses running (Uganda Export Promotion Board (UEPB), 2004).

This, coupled with very high transaction costs has made smallholder farmers to struggle in their attempts to use their farms as their major source of livelihood. Delgado (1999) blamed these high transaction costs on farmers transporting their produce individually thereby losing their bargaining power. Moyo (2010) further advanced that smallholder farmers usually buy inputs like seeds and fertilizers in small quantities, hence do not enjoy economies of scale in their purchases. Jayne et al. (2007) and Moyo (2010) defined some of the transaction costs incurred by smallholder farmers as search costs and emanate as farmers collect and analyze market information.

Technological constraints

On the technological side, Morton et al. (1999) noted that smallholder farmers also suffer from an inadequate provision of technical information, limited use of modern production and value-adding technologies, and business management services. The UEPB (2004) and Parfitt and Barthel (2010) are of the opinion that at times technology is available to smallholder farmers but due to their limited skills and knowledge of improved agricultural technologies, the rate of their technology adoption is very slow, resulting in high post-harvest losses, poor quality products and generally low production levels.

Lacking this technology means farmers cannot gain in specific areas such as productivity of farming systems; small farm management techniques and production technology; the choice of breeds, crossbred and types of animals; effective control of diseases in rural areas; improved feed and fodder, etc. The inevitable result of this technological constraint is low farm production and productivity and the farmers' consequent loss of their animals and crops to various diseases.

Lack of information

Evidence from Ozowa (1996) seems to show that one of the major constraints faced by smallholder farmers is lack of very vital information. The vital information referred to includes information on product planning such as what crop and variety to grow at a given season with

marketability of such a crop as an important deciding factor. As suggested by Parrish et al. (2005), smallholder farmers also require information on current prices, forecast of market trends (to assist farmers in planning their market products) and sales timing (which assists farmers in ensuring that they do not cause a market glut). Using the results from his studies, Ozowa (1996) further came to a conclusion that information on improved marketing practices such as improved harvesting methods and on group marketing which enables small scale farmers to have organized sales of marketable surplus and bulk transport of produce is crucial if smallholder farmers are to perform well in any economy. Having all this kind of information is very difficult because of information asymmetry but in some cases, for example, information on loan facilities might be in existence but due to low levels of literacy farmers are mostly unaware it exists (Ozowa, 1996).

Sibale (2010) and Key and Runsten (1999) attributed this lack of vital information to the scattered and unorganized nature of smallholder agriculture and lack of communication tools in most developing countries. These factors are known to leave most farmers ignorant of potential markets and having to rely on extension workers, where they exist, otherwise it is by word of mouth, which in most cases the information is distorted or inaccurate (Sibale, 2010). According to UEPB (2004), media such as radio, newspapers and commentaries for market information also do contribute in information dissemination but these channels come with a number of shortfalls. UEPB (2004) further pointed out that information from these sources is often inaccurate, not targeted, not update and usually has no information about exports. At the end of the day, farmers who access this information do not benefit at all. Consequently, with agriculture being such a risky industry due to its heavy reliance on the volatile weather, small farmers risk losing their produce and money especially if they mistime their harvesting periods or fail to forecast on the likelihood of natural disasters such as drought occurring (Stringfellow et al., 1997).

Infrastructural constraints

Physical infrastructure in Machethe's (2004) view consists of communication links, electricity, storage facilities, transportation facilities and roads. Jari (2009) is of the view that all these different forms of physical infrastructure are vital for the success of the smallholder farming sector just as much as they are to all the other sectors in any economy. If these are not available or are in a bad state, then they force the transaction costs faced by the farmers to rise. Adams and Fitchett (1992) further maintained that the state of infrastructure in terms of roads in SA leading to the rural areas has negatively impacted on the progress of these smallholder farms. Furthermore, most of these roads are in very poor

conditions that impossible to use especially during the rainy season as they become very slippery when wet (Montshwe, 2006). With farmers not able to afford their own transport, they rely on hired transport which is very expensive due to the condition of the roads. Most transporters charge exorbitant prices so as to cover the maintenance costs of their trucks. This further eats into the small coffers of these farmers especially if they have a deadline such as taking their perishable produce to the market on time. Under such situations where farmers have neither the power nor time to negotiate, they are forced to part with much of their hard-earned cash.

In terms of storage facilities, agricultural products are very perishable, hence need proper handling between the time they are harvested and delivered to the market. Due to the perishable nature of agricultural produce, it is imperative that it is sold whilst still fresh in order to fetch higher returns. This further necessitates the availability of proper storage facilities to keep the quality of the produce, and ultimately the price, very high. However, Tshuma (2009) realized through his study in Zanyokwe that some farmers continue to lack the required storage and marketing facilities. Consequently, they rely on the "farm gate sales" strategy whereby crops are harvested only when an interested buyer has come to the farm to buy and collect them. Even though this has been the most adopted strategy by most smallholder farmer, Machingura (2005) disagrees since the same farmers could receive much higher prices by selling their goods in urban centres. Unfortunately, smallholders rarely have access to such better urban markets as the lack adequate knowledge about their existence and also face high transaction costs in their attempts to find out more about these markets and transport their produce.

CONCLUSION

To summarize their importance, small-scale farms enhance rural income distribution through providing profitable gains for farmers. They also reduce product prices for consumers as well as increase food transfers to those who are unable to engage in the productive economy. Through forward and backward linkages, small farms allow for development of the rural economy.

These and other contributions are responsible for Making the nation's first democratic government to embark on a land reform drive but, unfortunately, studies have since revealed that despite all these efforts, close to a quarter of farms transferred through the land reform programme have failed to produce anything since the transfer to new owners. The factors contributing to such a poor performance by smallholder farmers come in the form of technological, institutional constraints and infrastructural constraints and the farmers' lack of adequate education, finance and market information, just to mention but a few. The extent of these constraints

varies from place to place and from farmer to farmer. Nonetheless, most smallholders are failing to overcome the constraints in a way that would propel them into the commercial farming sector. As a result, such farmers will never be anything more than peasant farmers unless interventions are made to eradicate most, if not all, the limiting factors they face.

The majority of issues impeding the progress of smallholder farmers have something to do with the limited resources at the disposal of these farmers. In as much as the South African government can wish to assist, the fact remains that the number of these smallholders is too overwhelming to give them enough attention each. Perhaps the farmers should come together, share their individual resources and work collectively to achieve their common goals. The government and other relevant stakeholders can assist with such things as proper institutions and other necessary support structures and services.

To overcome the problem of high transaction costs, collective action could also play a vital role. On the issue of losses caused by lack of proper markets and storage facilities, assistance should be focussed on getting the farmers formal contracts with established markets such as food processors, super markets, fruit and vegetable shops just to mention but a few. Such formal arrangements will guarantee farmers a steady market with competitive rates. However, it should be noted that the success of such formal relationships is highly dependent on the farmers themselves being able to deliver adequate produce of high quality as and when expected by the buyers.

It should be recalled that the majority of smallholder farmers are found in the deepest corners of SA where their accessibility is a challenge. As a solution, proper infrastructure in the form of proper roads is likely to make it easier for farmers to bring in inputs and take out their finished products to suitable markets on time. In addition, easy accessibility can enhance the farmers' chances of getting assistance from various stakeholders as their progress can be easily monitored. Other forms of necessary infrastructure include providing adequate water bodies since any form of agriculture, be it livestock rearing or crop production, depends on water. Where necessary, electricity should be made available especially since agro-processing has already been proposed for adoption by agricultural cooperatives. This is because some agro-processing activities make use of electricity such as packaging and refrigeration of produce.

In conclusion, getting the smallholder agriculture sector to produce at satisfactory levels will require collective action from all role-players. Furthermore, it has been noted that some of the current beneficiaries of the land reform programme have actually been using their newly-acquired land for non-agricultural purposes, hence the consequent decline in overall production from the sector.

As such, stricter beneficiary selection and monitoring measures are needed to make sure that all those that get agricultural land use it specifically for agricultural purposes. This means the government, through its relevant local structures, should make sure the beneficiaries are all actively involved in agriculture after getting land whilst, on the other hand, other role-players such as funders and trainers work closely with the farmers on the ground to help them enhance their productivity. Support for all smallholder farmers should also be arranged in such a way that it continues until the farmers are fully established and actively involved in every aspect of their business, from procuring inputs to cultivating and tending their crops to harvesting and marketing them in the case of crop producers. This means that they should be nurtured to survive stiff competition from the already well-established commercial farmers and also to overcome the challenges discussed above. If this is done, then there is a higher possibility of them playing a significant role in promoting rural development, alleviating poverty and food insecurity at both the household and national levels.

Conflict of Interest

The author(s) have not declared any conflict of interest.

REFERENCES

- Adams DW, Fitchett DA (1992). *Informal Finance in Low-Income Countries*, Boulder: Westview Press.
- Ahmed SMS, Rayhan, Si Islam A, Zannath NE (2012). Customers' attitude towards agro based benefits provided by the telecommunication operators in Bangladesh. *Europ. J. Bus. Manage.* 4(1):70-83.
- Aliber M, Hart TGB (2009). Should subsistence agriculture be supported as a strategy to address rural food insecurity. *Agrekon*, 48(4):434-458. <http://dx.doi.org/10.1080/03031853.2009.9523835>
- Baydas M, Graham D (1996). The demand for financial services by the micro-enterprise sector in selected sites of the Northern Province and the former Kwa-Zulu homeland. Report prepared for the DBSA. Department of Agricultural Economics, Ohio State University PMid: 8991358.
- Berry RA Cline WR (1979). *Agrarian Structure and Productivity in Developing Countries*. John Hopkins University Press, Baltimore.
- Bharadwaj K (1974). *Production Conditions in Indian Agriculture*, Cambridge University Press, London Bravo-Ureta BE Pinheiro AE (1997). Technical, Economic and Allocative Efficiency in peasant farming: Evidence from the Dominican Republic. *The Develop. Econ.* 35(1):48-67.
- Carter MR (1994). Sequencing capital and land market reforms for broadly based growth. *Depart. Agric. Econ. Univer. Wisconsin, Madison* P. 379.
- CASE (Community Agency for Social Inquiry). 2000. Phasing in the Child Support Grant. A social impact study. Researched for the Department of Welfare. Johannesburg, CASE.
- De Haan A (2000). Migrants, livelihoods, and rights: The relevance of migration in Development policies. *Social Development Working P. 4*. Online: <http://www.eldis.org/vfile/upload/1/document/0708/DOC7584.pdf>. Accessed: 01/08/12.
- Deininger K (1999). Making negotiated land reform work: Initial experience from Columbia, Brazil and South Africa. Washington, DC: The World Bank.
- Delgado C (1999). Sources of Growth in Smallholder Agriculture in sub-Saharan Africa: The Role of Vertical Integration of Smallholders with Processors and Marketers of High-value Added Items. *Agrekon*, 38:165-189. <http://dx.doi.org/10.1080/03031853.1999.9524913>
- Delgado CL (1998). Sources of Growth in Smallholder Agriculture in Sub-Saharan Africa: The Role of Vertical Integration of Smallholders with Processors and Marketers of High Value-added Items. Paper presented at the Inter-Conference Symposium of the International Association of Agricultural Economists, Badplaas, South Africa, August 10-16.
- Dorosh P, Haggblade S (2003). *Growth Linkages, Price Effects and Income Distribution in Sub-Saharan Africa*. IFPRI, Washington DC. *J. Afr. Econ.* 12(2):207-235. <http://dx.doi.org/10.1093/jae/12.2.207>
- Eicher CK (1994). African Agricultural Development Strategies. In: Stewart, F, Lall, S, Wangwe S (eds.). *Alternative Development Strategies in Sub-Saharan Africa*. London: The Macmillan Press. PMCid:PMC1206131.
- Ellis F (1993). *Peasant Economics: Farm Households and Agrarian Development*, 2nd edition. Cambridge University Press, Cambridge
- Estudillo JP Otsuka K (1999). Green revolution, human capital and off-farm employment: changing sources of income among farm households in central Luzon, 1966-1994. *Econ. Develop. Cult. Change* 47(3):497-523. <http://dx.doi.org/10.1086/452417>
- Fanadzo M (2012). Revitalisation of smallholder irrigation schemes for poverty alleviation and household food security in South Africa: A review. *Afr. J. Agric. Res.* 7(13):1956-1969, <http://dx.doi.org/10.5897/AJARX11.051>
- Fraser GCG, Monde NVAN, Averbek W (2003). Food Security on South Africa: A case study of rural livelihoods in the Eastern Cape Province. In Lieb Nieuwoudt and Jan Groenewald (Eds), *The Challenge of Change: Agriculture, Land and the South African Economy*. University of Natal Press, Pietermaritzburg.
- Feder G (1985). The Relation between Farm Size and Farm Productivity: The Role of Family Labor, Supervision and Credit Constraints. *J. Develop. Econ.* 18:297-313. [http://dx.doi.org/10.1016/0304-3878\(85\)90059-8](http://dx.doi.org/10.1016/0304-3878(85)90059-8)
- Feynes T, Meyer N (2003). Structure and production in South African agriculture, in: Nieuwoudt L & Groenewald J (eds.). *The challenge of change: agriculture, land and the South African economy*. Pietermaritzburg: University of Natal Press.
- Haggblade S, Peter H, Brown J (1989). Farm-nonfarm linkages in rural Sub-Saharan Africa. *World Develop.* 17(8), 1173-1201. [http://dx.doi.org/10.1016/0305-750X\(89\)90232-5](http://dx.doi.org/10.1016/0305-750X(89)90232-5)
- Jari B (2009). Institutional and technical factors influencing agricultural marketing channel choices amongst smallholder and emerging farmers in the Kat River Valley. Unpublished Masters thesis, University of Fort Hare, Alice.
- Jayne TS, Mather D, Mghenyi E (2007). Principal challenges facing smallholder agriculture in Sub-Saharan Africa. Department of Agricultural Economics, Michigan State University, Michigan
- Karanja GM, Ndubi JM (2008). Enhancing impact through uptake and up-scaling of agricultural technologies and information: The KARI-ATIRI experience. Kenya Agricultural Research Institute, Nairobi, Kenya.
- Key N, Runsten D (1999). Contract farming, Smallholders, and Rural Development in Latin America: The organization of Agro-processing firms and the scale of out-grower production. *World Develop.* 27(2):381-401. [http://dx.doi.org/10.1016/S0305-750X\(98\)00144-2](http://dx.doi.org/10.1016/S0305-750X(98)00144-2)
- Kirsten JF, VAN ZYL J (1998). Defining small-scale farmers in the South African context. *Agrekon*, 37(4):560-571.
- Kurwijila RL, Henriksen J (2010). Milk supply to urban centres in Tanzania with particular reference to the city of Dar Es Salaam. Department of Animal Science & Production. Sokoine University of Agriculture, Morogoro, Tanzania.
- Lahiff E (2007). State, Market or the Worst of Both? Experimenting with market-based Land Reform in South Africa. Occasional Paper No. 30. Programme for Land and Agrarian Studies, University of the Western Cape.
- Machethe's C (2004). Agriculture and poverty in South Africa: can agriculture reduce poverty? Paper presented at the Overcoming

- Underdevelopment Conference held in Pretoria.
- Machingura, C (2007). An analysis of factors that can be used to identify successful smallholder farmers a case study of Mbhashe and Ngqushwa. Unpublished Masters thesis, University of Fort Hare, Alice.
- Mbiliinyi M (1997). The end of smallholder farming?: Gender and structural adjustment. Revised paper presented to TGNP Gender and Development Seminar Series.
- Mishra P, Agrawal P (2012). Urban poverty as a spillover of rural poverty: an empirical study with special reference to migration and job opportunities. *Int. J. Multidiscipl. Res.* 2(3):105-132.
- Moore LF, Collins J, Rosset, P, Esparza L (1998). *World Hunger: Twelve Myths*, 2nd Edition. Grove Press, New York.
- Monde N (2003). Household food security in rural areas of central Eastern Cape: The case of Guquka in Victoria East and Koloni in Middledrift Districts. Unpublished PhD thesis. University of Fort Hare, South Africa.
- Monde N, Chiduzu C, Brusch MO, Mnkeni PNS, Mtshali S, Dladla, R, Modi At, Mthembu BE, Van Der Stoep I Stevens J (2005). Best management practices for smallholder farming on two irrigation schemes and surrounding areas in the Eastern Cape and Kwa-Zulu Natal through participatory adaptive research: A Situation Analysis Report on the Zanyokwe and Tugela Ferry Irrigation Schemes. WRC Project NrK5/1477. Deliverable P. 2
- Montshwe BD (2006). Factors affecting participation in mainstream cattle markets by small-scale cattle farmers in South Africa. Unpublished MSc Agric thesis, University of Free State, Bloemfontein.
- Morton J, Coulter J, Miheso V, Staal S, Kenyanjui M, Tallontire A (1999). Internal provision of agricultural services through cooperatives and self-help groups in Kenya. Project R6117CA, Phase II. Chatham: NRI.
- Moyo T (2010). Determinants of participation of smallholder farmers in the marketing of small grains and strategies for improving their participation in the Limpopo River Basin of Zimbabwe. Unpublished MSc thesis. University of Pretoria, Pretoria, South Africa.
- Murage P (2006). Tackling poverty and food insecurity among smallholder farmers through organic trade. Paper Presented during the Regional Workshop on promotion production and trading opportunities for Organic Agriculture production in East Africa, Arusha- Tanzania.
- Netting R (1993). *Smallholders, householders: farm families and the ecology of intensive, sustainable agriculture*. Stanford, CA: Stanford University Press. PMID:8444616.
- Oettle N, Fakir S, Wentzel W, Giddings S, Whiteside M (1998). Encouraging sustainable smallholder agriculture in South Africa. Environment and Development Consultancy Ltd, Wales.
- Quattara K, Graham D (1996). Report prepared for the DBSA. Department of Agricultural Economics, Ohio State University, Ohio.
- Onuoha C (2006). Financial Analysis of Small – Scale Okra Production in Ebonyi State, Nigeria. Unpublished M.Sc Dissertation. Department of Agriculture, Abia State University, Uturu, Nigeria.
- Ozowa VN (1996). Information Needs of Small Scale Farmers in Africa: The Nigerian Example. Quarterly Bulletin of the International Association of Agricultural Information Specialists, IAALD/CABI: 40(1)-23-30
- Parfitt J, Barthel M (2010). Global food waste reduction: priorities for a world in transition. Project on Global Food and Farming Futures. Science review: SR56. The Government Office for Science, London, UK.
- Parrish BD, Luzadis VA, Bentley, WR (2005). What Tanzania's coffee farmers can teach the world: A performance-based look at the fair trade-free trade debate. *Sustain. Develop.* 13:177–189. <http://dx.doi.org/10.1002/sd.276>
- Pookpakdi A (1992). Sustainable Agriculture for Small-Scale Farmers: A Farming Systems Perspective. Kasetsart University, Bangkok, Thailand.
- Rao V, Chotigeat T (1981). The inverse relationship between size of land holdings and agricultural productivity. *Am. J. Agric. Econ.* 63(3):571-574 <http://dx.doi.org/10.2307/1240551>
- Rosset P (1999). Policy Brief No.4: The multiple functions and benefits of small farm agriculture. food first/the institute for Food and Development Policy Oakland, CA USA.
- Rugege S (2004). Land Reform in South Africa: An overview. *Int. J. Legal Inform.* 32(2):283-311.
- Sandrey R, Vink N (2008). Trade and innovation project case study 4: deregulation, trade reform and innovation in the South African agriculture sector. OECD Trade Policy Working P. 76. <http://dx.doi.org/10.1787/240428414841>
- Sibale E (2010). Strategies for commercialising smallholder agriculture. Online: <http://www.howwemadeitinafrica.com/strategies-for-commercialising-smallholder-agriculture/5676/>. Accessed: 01/08/12.
- Sobhan R (1993). *Agrarian Reform and Social Transformation: Preconditions for Development*. London: Zed.
- Stringfellow R, Coulter J, Lucey T, Mckone C, Hussain A (1997). Improving the access of smallholders to agricultural services in Sub-Saharan Africa: Farmer cooperation and the role of the donor community. Online: <http://www.odi.org.uk/nrp/20.html>. Accessed: 25/08/06.
- Taher S (1996). Factors influencing smallholder cocoa production : a management analysis of behavioural decision-making processes of technology adoption and application. Unpublished PhD thesis, Wageningen University, Netherlands.
- Thapa G (2010). Smallholder or Family Farming in Transforming Economies of Asia and Latin America: Challenges, and opportunities. Paper presented at the International Conference on Dynamics of Rural Transformation in Emerging Economies, April 14-16, 2010, New Delhi, India.
- Tomich TP, Kilby P, Johnston BF (1995). *Transforming agrarian economies: Opportunities seized, opportunities missed*. Cornell University Press, Ithaca.
- Tshikudu PP (2005). Irrigation and dry land fruit production. Opportunities and constraints faced by small-scale farmers in Venda. Unpublished MSc thesis. University of Pretoria, Pretoria
- Tshuma MC, Monde N (2012). A socio-economic impact assessment of a project to identify and implement best management practices at the Zanyokwe Irrigation Scheme at farm level. *Water SA*, 38(5):783-792.
- UGANDA EXPORT PROMOTION BOARD (UEPB) (2004). *Increasing Incomes through exports: market analysis and entry strategy for Uganda*, The Republic of Uganda,
- VAN ZYL J, Kirsten J Binswanger HP (1996). *Agricultural Land Reform in South Africa. Policies, Markets and Mechanisms*. Oxford University Press. Cape Town.
- Vink N, Van Rooyen J (2009). The economic performance of agriculture in South Africa since 1994: Implications for food security. Development Planning Division Working DBSA: Midrand. P.17,
- Vojtech V (2006). Review of agricultural policies in South Africa. Organization for economic co-operation and development, Pretoria, South Africa
- WATER RESEARCH COMMISSION (WRC) (2007). Revitalization of smallholder rainfed and irrigated agriculture in South Africa. Paper submitted in Local Actions at 4th World Water Forum (2006)
- Welsch DE (1978). Farming systems research to improve the livelihood of small farmers: Discussion. *Am. J. Agric. Econ.* 60(5):589-600. <http://dx.doi.org/10.2307/1240098>