

Agricultural Structures Supporting Livelihoods of Smallholder Farmers in Tshwane Metropolitan Municipality, South Africa

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Abstract

Smallholder farmers, directly or indirectly, depend on agricultural structures for their livelihoods. However, they have not been able to access these to their full potential. This study was conducted to analyse the impact of agricultural structures on the livelihoods of smallholder farmers and their role in farm productivity. A survey questionnaire with structured questions was administered to a sample of 50 smallholder farmers in Soshanguve, Winterveldt and Hammanskraal areas. Descriptive statistics were employed to analyse the data. The results showed that agricultural structures were not easily accessible to smallholder farmers in terms of the provision of agricultural support services. Fifty-six percent (56%) of the participants had not received agricultural advisory services from government departments. The study concluded that expanding access to various agricultural structures providing agricultural advisory services will have a positive impact on smallholder farmers' livelihoods as well as increasing the productivity of small farms.

Keywords: Agricultural Advisory Service, Agricultural Structures, Livelihoods, Smallholder Farmers

Introduction

In much of the developed and developing countries, smallholder farming continues to contribute significantly to agricultural production and food security (Thapa & Gaiha, 2011:4). Altman et al (2009:7) pointed that many countries have successfully supported small-scale agricultural production, particularly in Europe, Japan and Indonesia, often as partial contributors to household food baskets. However, the support currently rendered to the small-scale farming sector is not consistent with the visions espoused in political and policy statements (Hall & Aliber, 2010:17). Hart and Aliber (2012:1) explained that the support provided by the government to smallholder farmers promotes the adoption of new technologies but does not pay attention to the diversity of smallholder farmers in a range of circumstances. The authors explained that for new technologies to work, smallholder farmers

needed access not only to land, but technologies that suit their farming needs and appropriate agricultural extension support.

Few studies have focused on the third elements of sustainable livelihood framework (SLF), of which the transforming structures form part of this study (Manyelo, 2011:8; Dube, 2017:12). In the current study, the sustainable rural livelihood framework proposed by Scoones (1998:4), was adopted for analysis of agricultural structures. It draws special attention to core influences of structures and their interactions in relation to livelihoods and the productivity of smallholder farmers. The attention is solely given to agricultural structures for the purpose of describing and analysing its impact on the livelihoods of smallholder farmers in Tshwane Metropolitan Municipality (TMM).

Transforming structures are layers of public and private sector organisations that set and implement policy and legislation, deliver services, purchase, and perform all other functions that affect livelihoods and operate at different levels in society (DFID, 1999; Fouracre, 2001:2; Vermeulen *et al.*, 2008:14). Winters *et al* (2009:1436) stated that the public sector has the biggest influence on the success of people. The authors further highlighted that the influence is caused by the State's action, such as investment in infrastructure, provision of services to smallholder farmers, coordination, and efficiency of farming activities. It also includes the design of interventions, implementation and enforcement of laws, regulation, and interaction with the private sector.

Understanding and analysing of agricultural structures is the key to designing interventions that will improve the livelihood outcomes of the poor. Thus, providing the link between the poor at micro and macro levels will enhance success of the poor's livelihoods (Carney, 1998:1; Scoones, 1998:12). Noting from the literature, smallholder farmers are still faced with significant challenges, and it seems counter-intuitive to promote the sector in a semi-industrialised economy such as in S.A (Altman *et al.*, 2009:7). The declining agricultural performance and the supporting programmes involved, justifies the fact that extension and agricultural advisory services are currently inadequate for the present and future requirements and more importantly, they lack the skills to support the farming sector (Department of Agriculture, Forestry & Fisheries (DAFF), 2012:1; Hart & Aliber, 2012: par 13-14).

The level of agricultural structures with institutional support systems and agricultural productivity of smallholder farmers in TMM is not known, and evidence points out that supporting the sector is difficult and labour intensive as agricultural departments are unaware that they exist (DAFF, 2009:1; Hall & Aliber, 2010:17). For this reason, there is a need for further research. The studies that have been conducted do not directly analyse the impact of support from organisational structures (Manyelo, 2011; Dube, 2017; Ramanyimi, 2019). Therefore, the contribution of this study to smallholder farmers is to highlight the important role that can be played by agricultural structures if properly positioned to address the needs of the farming community.

Problem Statement

There is no evidence in literature on the role of agricultural structures in the livelihoods of smallholder farmers in the Tshwane Metropolitan Municipality (TMM). Therefore, this study aimed at analysing the impact of agricultural structures and institutional processes on the livelihoods of smallholder farmers and their role in productivity.

The research questions which the study answered in relation to the problem statement were:

- a) Which agricultural structures are providing smallholder farmers with agricultural advisory services?
- b) How accessible are agricultural structures to smallholder farmers?
- c) What influence do smallholder farmers have on the decision-making within agricultural structures?

Aims and Objectives

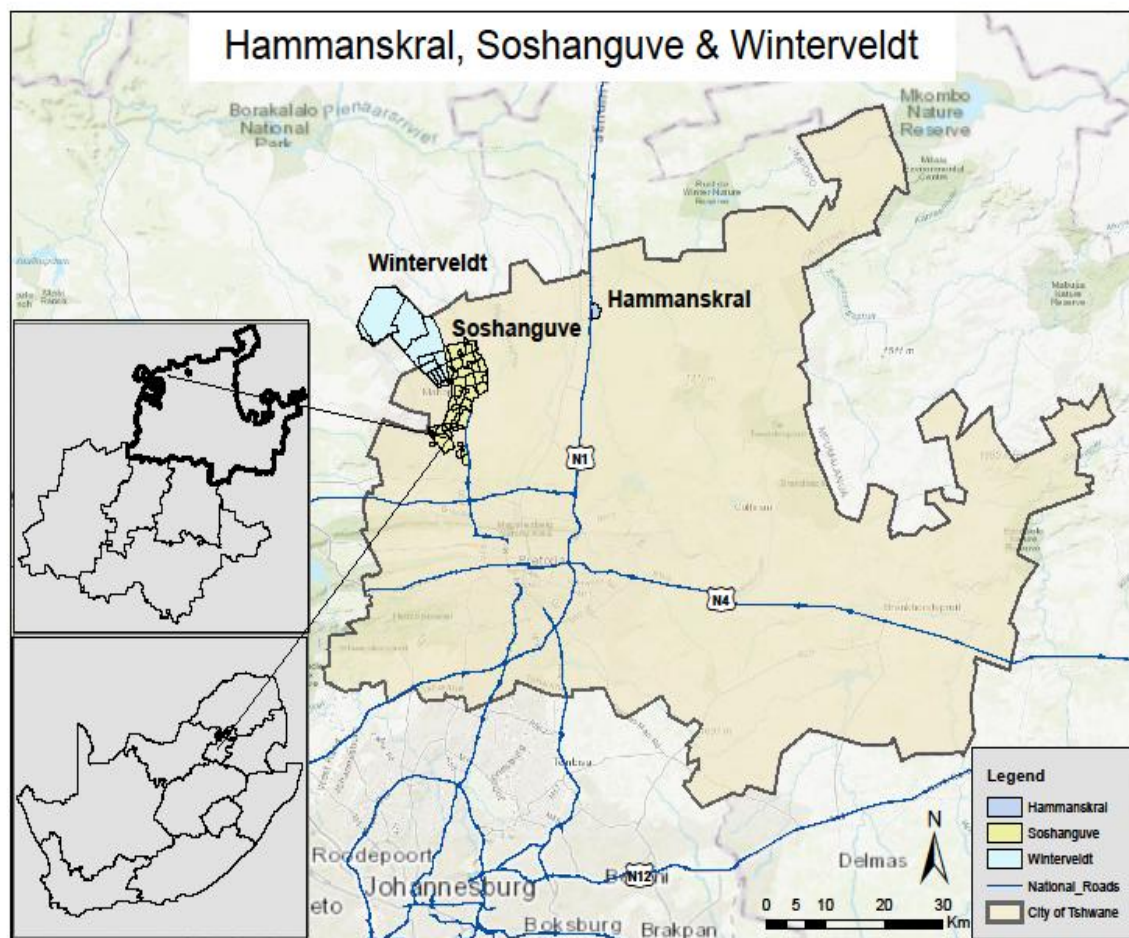
The specific objectives of the study were to:

- i. Identify agricultural structures that provide smallholder farmers with agricultural advisory services.
- ii. Assess the accessibility of agricultural structures to smallholder farmers.
- iii. Evaluate the influence of smallholder farmers on the decision-making role within agricultural structures.

Materials and Methods

Description of Study Area

The study was conducted in Gauteng Province of South Africa, in Pretoria under TMM which include, Hammanskraal, Winterveldt and Soshanguve as shown in Map 4.1. The metropolis covers an area of about 6 368 km², stretching for almost 60 km East/West and 70 km North/South (Statistics South Africa, 2011: par. 1-6). Winterveldt is a settlement situated 40 km to the north-west of Pretoria city centre and close to the decentralised formal 'Black' towns of Mabopane and Soshanguve (South African Cities Network, 2015). Hammanskraal is a peri-urban environment, situated in northern Gauteng, under the TMM (Van Niekerk, 2007:17; Census, 2011). Soshanguve is also a peri-urban area established in 1974 and about 45 km north-west of Pretoria. The farming set-up of the identified areas where farming is prevalent, constitutes small plots of land and support the statement by the Ethical Trading Initiative (2005:13) that smallholder farmers have small volumes of produce on relatively small plots of land.



Map 4.1: Map of the study area showing Hammanskraal, Winterveldt and Soshanguve

Data Collection

Data was collected through a structured questionnaire. Elements of the study population were identified using purposive sampling of all smallholders in Soshanguve, Winterveldt and Hammanskraal. The researcher targeted smallholder farmers who are involved in agricultural activities of both crop and livestock for inclusion in the sample because they had resources necessary for farming (Bernard, 2002; Tongco, 2007:147). Data were collected over a period of 3 months in October – December 2018 by the research team. The questionnaires were administered by the researcher physically or face-to-face.

Validity and Reliability or Trustworthiness of data

The data collection method used is commonly used by other researchers and reliability of the instrument has been established by other researchers (van Averbeke, 2007; Manyelo, 2011). The methods used can be employed by other researchers in the future to investigate unresolved issues identified in the outcomes of this study. To enhance validity and reliability of the instrument, pilot testing of the questionnaire was done, which ensures that all errors of whatever nature can be rectified immediately, at little cost to the research team (Delport & Roesternburg, 2011:195).

Data Analysis

Survey data were captured on a Microsoft Office Excel® spreadsheet. The data from the survey questionnaire were cleaned, coded, and analysed using Statistical Package for the Social Sciences (SPSS) version 25.

Results and Discussion

Agricultural structures providing smallholder farmers with agricultural advisory services

As illustrated in Table 4.1, 36% of the participants said agricultural associations were responsible for agricultural advisory service, as they provided them with farming inputs and provided workshops to alert smallholder farmers of any new information that might be useful. The results agreed with literature on associations as providing farmers with farming inputs, provision of assistance such as savings, processing and encouraging participation even in urban agricultural campaigns to be able to attain economies of scale in terms of size of supply and scope of agricultural produce (Louw *et al.*, 2008:304; Schmidt, Magigi, Godfrey, 2014:2). However, 64% stated they were not receiving anything as they had expected being assisted with inputs and marketing of agricultural produce. Similar results were noted in a study by Ortmann and King (2007:232), that the reason for poor performance might be the limited access to agricultural structures that help with access to capital to support small farm businesses, which is a major constraint to development of smallholder farmers in SA.

Table 4.1

Agricultural structures providing agricultural advisory services to smallholder farmers in Tshwane Metropolitan Municipality (2018: n=50)

Agricultural structures	Percentage (%) of farmers serviced	Percentage (%) of farmers not serviced	Total percentage (%)
Agricultural associations	36	64	100
Educational institutions	16	84	100
Government departments	44	56	100
No structure	28	72	100

Educational institutions provide agricultural advisory service to 16% of participants. This includes the provision of seedlings and students performing work integrated learning (WIL). The results are consistent with literature regarding the role of educational institutions, as they are known for providing agricultural education and agricultural advisory services (Christoplos & Kidd, 2000:11). The results also support the literature by Ortmann and King (2010:398), and Nandi, Gowdru and Bokelmann (2017:103), that agricultural and horticultural universities together with researchers have invested considerably in research regarding modern technology and participatory guarantee systems that have resulted in investigating practical ways of linking smallholder farmers to mainstream agricultural-food supply chains, such as supermarkets. However, educational institutions have low reach.

Government departments were responsible for providing agricultural advisory services to 44% of the farmers. The services provided include training, financial skills (saving income and profits), and provision of farming inputs (fertilisers). Ramanyimi (2019:64) also noted that assistance given to smallholder farmers, included the provision of basic agricultural production services. The study showed that the majority (56%) of smallholder farmers are not

reached by government agricultural advisory services providers as shown in Obisesan (2013:124) and Ramanyimi (2019:64).

A total of 28% of smallholder farmers were not serviced by any structure. These group of smallholder farmers are left on their own with no form of support from the service providers. This result is consistent with literature regarding inadequate agricultural advisory support services to smallholder farmers (African Centre for Biodiversity, 2018:7; Ramanyimi, 2019:71).

Accessibility of agricultural structures to smallholder farmers

Thirty-two percent (32%) of the participants indicated that they have access to self-help as shown in Table 4.2. These results are in line with what Shepherd (2007:24) revealed, that smallholder farmers who belonged to a farmers' group had greater chances of producing more, while at the same time improving produce quality and accessing extension services and inputs more easily. While Sinyolo and Mudhara (2018:1), pointed out that farmer groups particularly in S.A played a positive role in adoption of agricultural technologies and were regarded as preferred channels of providing support to smallholder farmers, most smallholder farmers in TMM do not have access to self-help group.

Table 4.2

Agricultural structures accessible to smallholder farmers in Tshwane Metropolitan Municipality (2018: n = 50)

Agricultural structures	Percentage (%) of farmers with access	Percentage (%) of farmers without access	Total Percentage (%)
Self-help groups	32	68	100
Farmers' associations	50	50	100
Cooperative-type organisations	24	76	100
Non-governmental organisations	22	78	100

Fifty percent (50%) of participants had access to farmers' associations. These results support literature, as smallholder farmers can easily access agricultural markets more effectively and in return, take advantage of organisational opportunities to overcome cash and investment constraints and improve their livelihoods, thereby contributing to decreasing poverty (Poole & de Frece, 2010:13).

Table 4.2 shows that 24% of farmers said cooperative organisations are accessible to them. These results are consistent with literature on cooperatives as the most common mechanism of engagement between smallholder farmers and regarded as the mechanism that helps attract finance and other support services, such as inputs and technical assistance provided by donors (Shepherd, 2007:9; Morakile, 2018:20). Ncube (2017:1) and Morakile (2018:20) highlighted that cooperatives have a central role to play as they are linked to the market structure that helps smallholder farmers to strengthen their bargaining position and provision of services.

Twenty-two percent (22%) said they had access to non-governmental organisations (NGOs) for support as shown in Table 4.2. These results are in line with the literature on NGO's accessibility to individual smallholder farmers, as their role was to provide support (Sikwela & Mushunje, 2013:2508; Okunlola, 2016:20). In addition, NGOs use farmer groups to provide support to the poor smallholder farmers with their food security and poverty reduction interventions (Sinyolo & Mudhara, 2018:1). Nyiraneza (2007:5) noted that NGOs are relatively

small, but they are flexible to farmers' needs. If their innovative approaches are scaled up and rapidly, they can address clients' needs.

Smallholder farmers' decision-making role within agricultural structures

Figure 4.1 shows that 20% of the participants can voice concerns in the agricultural structures that provide agricultural advisory services. This includes farmers raising concerns about the lack of communication within the organisations as highlighted by (Wilhemina *et al.*, 2010:96). Forty percent (40%) said that they were just ordinary members and only 4% mentioned other roles, which included being the treasury and chairperson of the organisations. According to the results, 36% said that they had no role to play within the agricultural structures, which could be due to inaccessibility of these structures to smallholder farmers or other factors. Wilhemina *et al* (2010:99), pointed that burdening organisations with a lot of administrative work and marketing issues are some of the factors. The authors further highlighted that these factors are beyond their capabilities, and sometimes hinders them reaching to smallholder farmers who need assistance in provision of agricultural support services to improve their livelihoods.

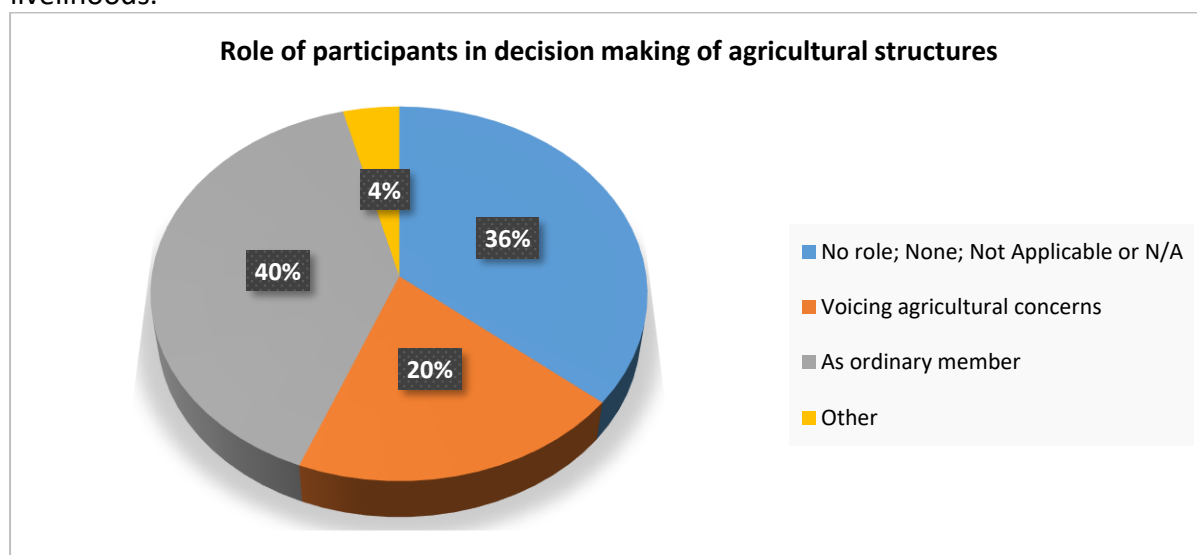


Figure 4.1: Role of participants in decision making of the agricultural structures.

Conclusion and Recommendations

The study revealed that the agricultural structures that provide agricultural advisory services to smallholder farmers have limited reach. The government advisory service providers, which are often the main source of agricultural advisory services for most smallholder farmers, could only reach 44% of the smallholder farmers. Although a small percentage of smallholder farmers indicated that within their communities, they had received assistance from agricultural structures such as self-help groups, cooperatives, cultural and religious groups, non-government organisations, stokvels or friends, this was not enough to support and enhance their productivity. Agricultural structures have also proved to be inaccessible to many smallholder farmers. Most smallholder farmers (50%) had access to agricultural associations. However, they do not have much decision-making roles in these agricultural structures.

The study recommends that both public and private sector organisation(s) that provide agricultural advisory services to smallholder farmers must ensure that platforms for smallholder farmers are created to participate in and influence decision-making processes.

The activities of agricultural structures must be clearly communicated to smallholder farmers in general. This could result in smallholder farmers having more access to the organisations and thus create options for smallholder farmers to receive agricultural advisory services from multiple organisations. Government agricultural structures as the main source of smallholder farmers' agricultural advisory services should lead these initiatives within the provincial extension forums where most agricultural structures are represented.

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