

Impact of a Multi-Stakeholder Approach on Rural Livelihood and Socioeconomic Status of the Farming Community at Zanyokwe Irrigation Scheme, Amahlathi Local Municipality, Eastern Cape

Dumani, A.¹, Mbangcolo, M.M.², Mpambani, B.³, Mpengesi, X.⁴ and Titimani, M.⁵

Corresponding Author: A. Dumani. Correspondence Email: aziledumani@gmail.com

ABSTRACT

Access to finance and production inputs are some of the challenges that dominate the small-scale farming sector in South Africa. Public Private Partnerships (PPP) are among some of the alternatives that could be utilised to assist small-scale farmers. An informal partnership was initiated between the Department of Rural Development and Agrarian Reform (DRDAR), Rance Rural Development (RRD), and the farmers of Sidalukukhanya Agriculture Co-op (SAC) for pepper production at the Zanyokwe Irrigation Scheme. A study was conducted to evaluate the socioeconomic impact of this partnership. A questionnaire was administered to the members of SAC for data collection. Results showed that this PPP significantly improved the livelihood and socioeconomic status of SAC members farming at the Zanyokwe Irrigation Scheme. Through this partnership, approximately 13% of jobs are created in the field for the co-op members, while 6% are permanently employed in the processing factory. Similarly, 56% of seasonal employment intake occurred during planting and harvesting in the cropping fields at Zanyokwe Irrigation Scheme in Keiskammahoek. A further 25% of seasonal jobs were created through the processing of produce at the agro-processing factory in Stutterheim. Most

¹ Agricultural Advisor; Department of Rural Development and Agrarian Reform, Amahlathi Agricultural Office, PO Box 166, Stutterheim, 4930. aziledumani@gmail.com

² Deputy Director: Food Security, Department of Rural Development and Agrarian Reform, Independence Avenue, Private Bag X0040 Bhisho, Mongezi.mbangcolo@drdar.gov.za, ORCID: <http://orcid.org/0000-0002-7378-6839>

³ Scientific Manager: Horticulture Research, Department of Rural Development and Agrarian Reform, Döhne Agricultural Development Institute, Private Bag X 15, Stutterheim 4930, Eastern Cape, South Africa.

⁴ Agricultural Advisor; Department of Rural Development and Agrarian Reform, Döhne Agricultural Development Institute, Stutterheim, Eastern Cape, South Africa

⁵ Agricultural Advisor; Department of Rural Development and Agrarian Reform, Döhne Agricultural Development Institute, Stutterheim, Eastern Cape, South Africa

farmers increased their business by 20% and production skills by 80%. Therefore, this partnership has shown the potential to improve the livelihood and socioeconomic Status of Zanyokwe farmers.

Keywords: Multi-stakeholder approach, Socioeconomic, Farming community, Irrigation scheme

1. INTRODUCTION

In South Africa, smallholder irrigation schemes were developed to improve rural livelihoods through sustainable food production for food security and poverty alleviation; yet these development objectives remain unfulfilled (Fanadzo *et al.*, 2018). Irrigation schemes are among the vital tools that can be used to meet the world's fast-rising food demands (Salah *et al.*, 2007). FAO *et al.* (2017) indicated that global hunger increased in 2016, and the world's undernourished population increased to an estimated 815 million people from 777 million in 2015. Hence, poverty eradication is highlighted as part of the 2030 Agenda for Sustainable Development of the United Nations. However, the high cost of running an irrigation scheme results in low productivity. These costs include the cost of infrastructure development, human capacity development, production inputs, as well as mechanisation. As a result, the objectives of irrigation schemes, such as food production, poverty eradication, and job creation for the betterment and development of rural livelihoods, are often not met. Melvyn (2003) pointed to government bodies and their lack of financial support for the failure of irrigation schemes. Fanadzo *et al.* (2018) further stated that there is a contradiction between the national agenda and its high interest in smallholder farmer development, but it needs more financial support from the government to the sector. Rankin *et al.* (2016) support this by saying that while massive investments are required to unleash the potential of agriculture in irrigation schemes for sustainable development and poverty reduction, low public budgetary allocations to the sector result in low productivity growth.

According to Raidimi *et al.* (2017), the involvement of the public sector alone is insufficient to address the multi-faceted problems confronted by South African producers. This is mainly due to limited government resources. As such, the partnerships that bring together public, private, and civil society actors (PPPs) are highly encouraged as growth drivers for improving agricultural productivity and rural livelihood (Salah, 2007). Zagst (2012) defined PPPs as a

formal partnership between public and private institutions to address sustainable agricultural development objectives, where the public benefits from the partnership are clearly defined, investment contributions and risks are shared, and active roles exist for all partners. Hence, various stakeholders' involvement and the strengthening of existing PPPs are crucial for the future of agricultural development. Raidimi *et al.* (2017) emphatically stated that a multi-stakeholder system's combined strength and synergies would naturally benefit farmers by applying and transferring new technologies to maximise their profit, which would address food security challenges and improve rural livelihoods. According to Mitchell (2008), partnerships between the public and private sectors are a promising approach to meeting various sustainable development goals within the country and should be explored to ensure food security. In his State of the Nation Address (2020), the president of the Republic of South Africa mentioned that the "government cannot solve the South African economic challenges alone" and noted that the economy had not grown at any meaningful rate for over a decade. This necessitates an inclusive economic growth approach to conquer the fight against poverty. Hence, Rance Rural Development (RRD), EC-DRDAR, and Sidalukukhanya Agric Co-op farmers (SAC), farming at Zanyokwe irrigation scheme, joined hands to reduce poverty, create jobs, and ensure food security in the rural communities through pepper production. This study seeks to evaluate the impact of this partnership on the rural livelihood and socioeconomic status of the farming community at ZIS.

1.1. Objectives of the Study

This study:

- Evaluated the impact of a multi-stakeholder partnership on rural livelihoods;
- Assessed the socioeconomic status of the farming community of Zanyokwe; and
- Demonstrated the impact of PPPs on agricultural productivity.

2. METHODOLOGY

2.1. Study Location

The study was conducted at the Zanyokwe Irrigation Scheme (Figure 1) (S32°40'55.032", E27°9'9.681") in Keiskammahoek, Eastern Cape, South Africa. The scheme is owned by the community members, with each member owning portions of land ranging from one to two hectares (Ha) per household. The land is under traditional authority. The total land size is about 420 Ha, and the whole area is under irrigation. Farming is a significant economic activity

practised in Keiskammahoek. The irrigation scheme plays a pivotal role in sustaining crop production within the area. Hence, farmers produce various crops for economic purposes and to sustain their livelihoods.

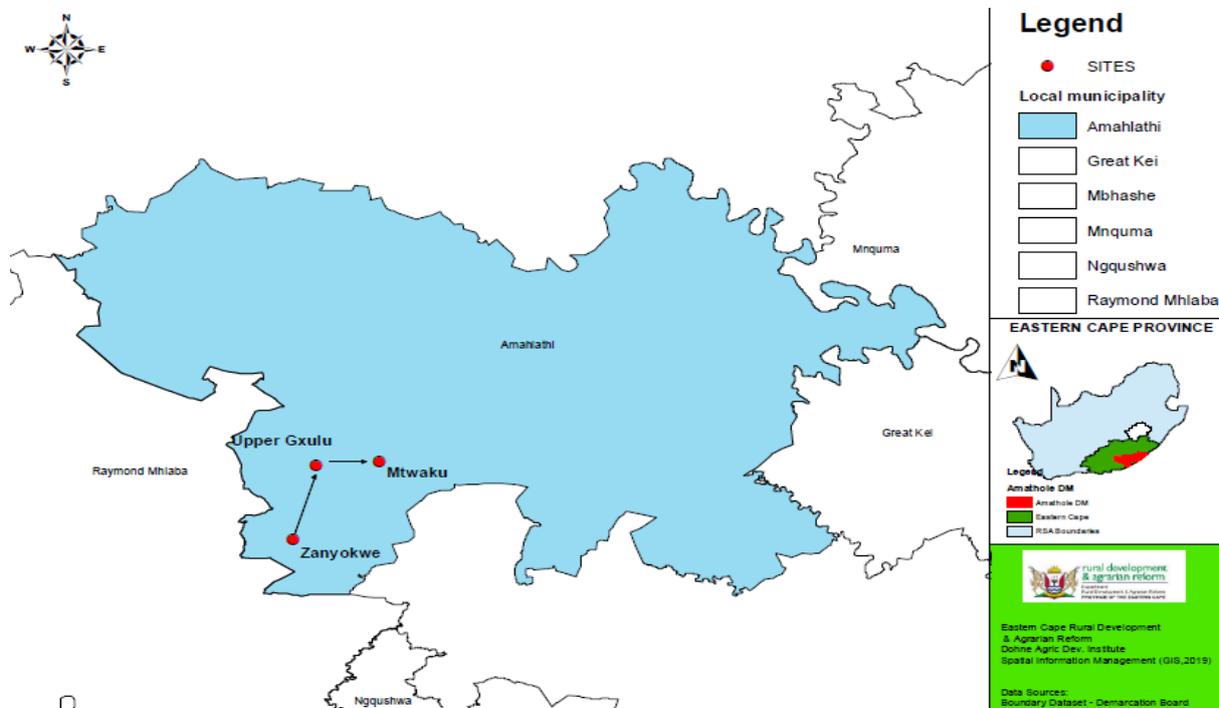


FIGURE 1: Map of Amahlathi Local Municipality showing Zanyokwe Irrigation Scheme in Keiskammahoek

2.2. Data Collection

Although Zanyokwe Irrigation Scheme is a vast area with multiple crop production activities within the scheme, this study focused on the Sidalukukhanya Co-operative (Co-op) (SAC), which comprised of eighteen members, and each member contributed a portion of land towards the formation of the Co-op. SAC is currently in partnership with DRDAR and RRD for peppers' production; their beneficiation model is 50:50 profit share. Hence, the study was conducted to evaluate the impact of this partnership on rural livelihood and the socioeconomic Status of Co-op members and their households. Primary data was collected through a survey (Mdiya *et al.*, 2021) using a structured questionnaire as the primary data collection tool. The questionnaire was divided into sections to answer the main research questions. It covered the demographic characteristics, such as age, gender, marital status, education, employment, and skills of the Co-op members (Chimonyo *et al.*, 2020). The questionnaire was administered during face-to-

face interviews to 12 project participants randomly sampled and carried out in IsiXhosa (the native vernacular of the people) to reduce misinterpretations and ensure confidence (Mdiya *et al.*, 2021).

2.3. Data Analysis

Gathered data was entered, verified, coded, and cleaned using the Microsoft Excel package to ease the handling of both string and coded variables. The coded data were then exported into the Statistical Package for Social Sciences (SPSS 20.0) for descriptive analysis.

3. RESULTS AND DISCUSSION

3.1. Demographics of Sidalukukhanya Co-op

The survey revealed that the Co-op's land is 100% owned by the farmers, who inherited it from past generations. However, this is communal land under the traditional authority regarding land tenure. Concerning the demographics of the Co-op, Figure 2 shows that most of the members are women. It is important that women lead the executive committee. Thus, women are directly involved in the decision-making aspects of the project. Interestingly, Koppen *et al.* (2017) note that research shows that women are the pioneers of small-scale farming and have been the land's dominant cultivators throughout history. Dube (2012) also reported that about 60% of women farm in the irrigation schemes, and those women hold high positions in the committee.

The average age of respondents and most Co-op members are middle-aged (67%), with the elderly holding around 33%. Regarding age, there is potential sustainability of the project; however, Co-op members also need to introduce their children to farming for succession and long-term sustainability of the project. Hofferth (2003) argued that older people have rich experiences in social and physical environmental aspects that influence farming. It was observed that most of the respondents were married, followed by single and widowed members, while a few were divorced.

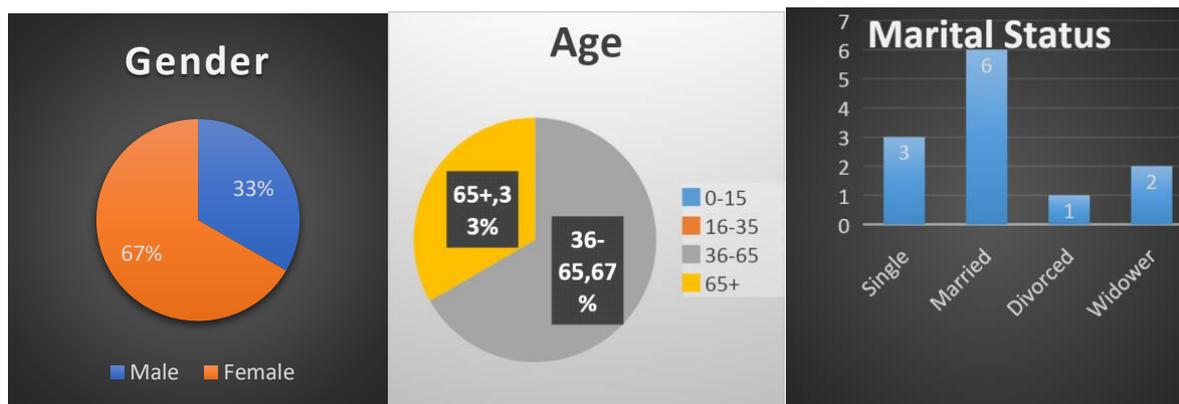


FIGURE 2: Demographics of the Co-op Members

The education level of the members in this PPP is presented in Figure 3 below. The results showed that all the members attended school, although 83% ended their education at Grade 9, with only 8% reaching the secondary education level (Grade 10-12). While none of the members held a post-matric qualification, they are literate, able to read and write and most importantly, read the terms and conditions written in the partnership contract. According to Dube (2012), education is important in farming as it enables the farmer to process information easily and use it to make informed decisions. Furthermore, education allows farmers to perform tasks more efficiently, enhance productivity and quality, and rapidly adapt to an ever-changing environment and improved technologies. Paddy (2003) also stated that education is crucial in farming as it influences the awareness of possible advantages of modernised agriculture through technological inputs, reading of agricultural literature, such as input instructions, and overall improved decision-making.

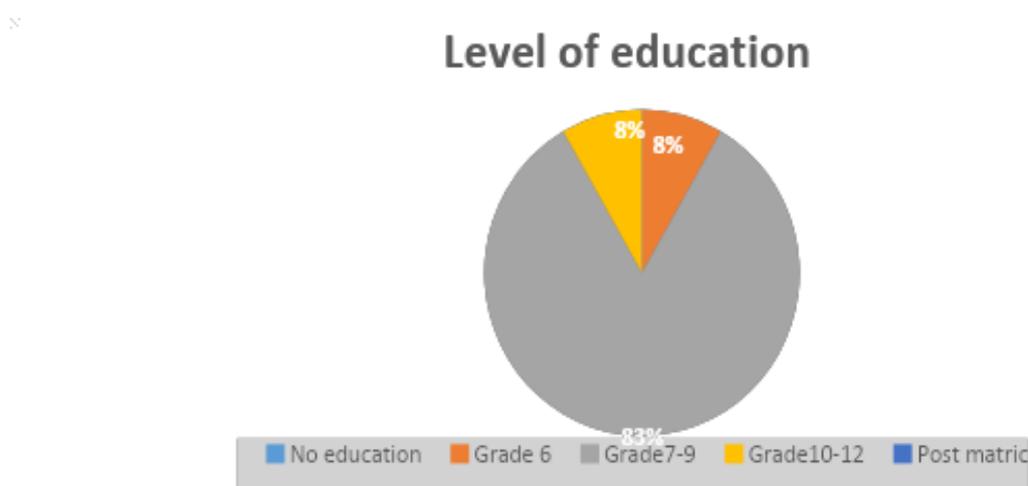


FIGURE 3: Education Status of Sidalukukhanya Farmers Co-op

3.2. Impact of the Partnership on Socioeconomic Status and Rural Livelihood

3.2.1. Jobs Created Through Partnership

The results in Figure 4 indicated that the partnership played a pivotal role in creating both permanent and seasonal jobs. Through this partnership, employment opportunities for unskilled, semi-skilled, and skilled labour in the rural communities of Amahlathi Local Municipality have been realised. As shown in Figure 4, approximately 13% of jobs were created in the field for the Co-op members, while 6% were permanently employed in the processing factory. Similarly, 56% of seasonal employment intake was required during the planting and harvesting periods in the cropping fields at Zanyokwe Irrigation Scheme in Keiskammahoek. At the same time, a further 25% of seasonal jobs were created through the processing of produce at the agro-processing factory in Stutterheim. Dube (2012) reported that PPPs in agriculture had encouraged the economically active population, which led to improved rural livelihoods in rural communities. Warnars *et al.* (2008) stated that agricultural-based PPPs have economic multiplier effects, including employment opportunities for farm workers, produce transporters, and retailers selling farm inputs to meet the production surge. Similarly, Mhalila (2007) reported that agriculture PPPs contributed immensely to livelihood improvement, improved socio-economy, and food security in rural areas, creating a situation where people no longer depended on government food relief parcels.

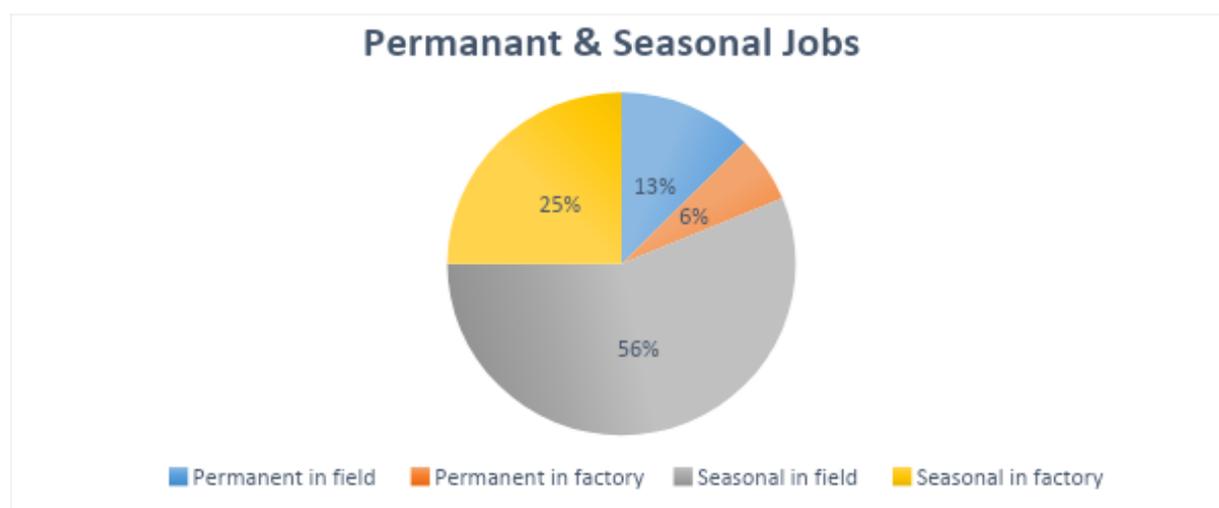


FIGURE 4: Permanent and Seasonal Employment Jobs Created Through the PPP

3.2.2. Skills Attained Through the Partnership

The results of this study (Figure 5) showed that farmers participating in the partnership were capacitated with various skills such as management, record keeping, financial, and technical skills to improve their socioeconomic status. As indicated, the study focused on growing peppers, and most farmers were trained in chilli pepper production to ensure high-quality produce. Additionally, some farmers were trained in managerial and financial skills to improve the supervision in the Co-op. This, in turn, enabled them to supervise workers during the peak period of the season (planting and harvesting). Dube's (2012) study focused on Gweru Irrigation Scheme and reported a significant impact on improving lives in communities participating in the partnership.



FIGURE 5: Skills Obtained by Farmers Through the PPP

3.2.3. Impact of Partnership on the Livelihoods of Sidalukukhanya Co-Op Farmers

The results (Figure 6) showed that the farmers of the Co-op benefited in various ways from the partnership. These include financial stability from the produce profit share, jobs created in the value chain of chilli pepper, and benefitting the local community. The Co-op members indicated that they could buy household assets, pay children's school fees, extend their houses and purchase livestock. Rankin *et al.* (2016) reported that the income earned by smallholder farmers participating in PPPs enables them to live a better quality of life. Dube (2012) stated that farmers in irrigation schemes could build better houses and furnish their homes. Warnars *et al.* (2009) also reported that among the benefits of PPPs in irrigation schemes is the substantial contribution to the food security and economic progress of African rural

communities. This, in turn, gives rural households greater purchasing power for essential commodities, including improved access to healthcare services and education.

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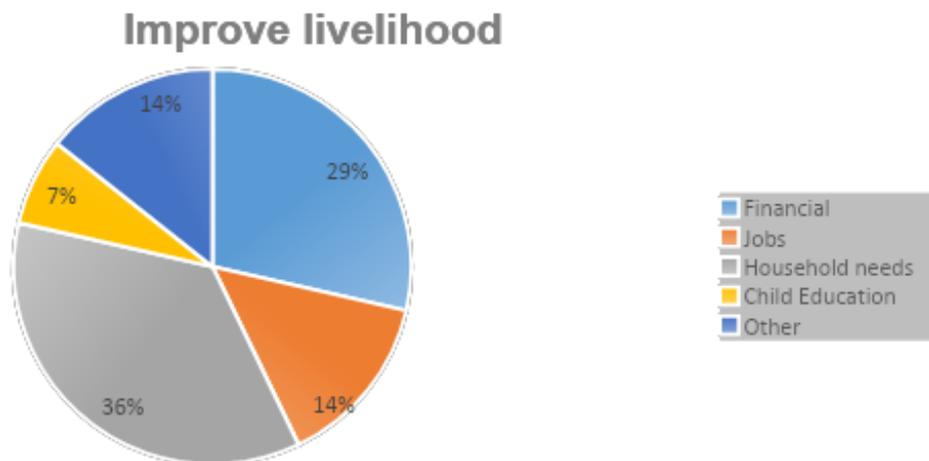


FIGURE 6: Impact of Partnership on Farmer's Livelihoods

4. SWEET CHILLI PEPPER CROP AS THE PPP "ECONOMIC BACKBONE"

4.1. Growing Practices

The economic backbone of the PPP is horticulture, predominantly sweet chilli pepper cropping. The crop is a member of the *Solanaceae* plant family, scientifically known as *Capsicum annuum L*, and is commonly known as sweet chilli or bell pepper by locals. Sweet peppers originate from Central and South America, where numerous species have been used for centuries (Manrique, 1993). The crop grows well under warm summer conditions and is sensitive to cold and frost (DAFF, 2013). The optimum temperature requirements for the growth and development of sweet chilli peppers range from 20 - 27°C. The crop drops flowers in high temperatures above 32°C (Sajan *et al.*, 2001).

Sweet peppers grow well when planted in deep, fertile, and well-drained soils (DAFF, 2013), making it necessary to do a soil test to determine the soil's nutrient content. Peppers grow best in a soil pH between 6.0 and 7.0. The soil pH should be adjusted to near neutral (7.0) for maximum yields (Anon, 2000). The demands of pepper vary with the stage of development; however, transplants must be watered to root level to ensure good establishment. Before planting, thorough soil preparation is done with the aid of a tractor, and ridges are established to create rows. The black landscape fabric plastic is laid on ridges for weed suppression and

moisture conservation. At planting, transplants are dipped in fungicide for fungal control. One transplant is placed per station, planted at 350 mm spacing between plants in double rows and a spacing of 800 mm allocated between rows for pathways to accommodate 80 000 plants/ha. To maximise crop yields, agronomic activities, such as watering, hand weeding, and insecticide applications, are administered until the crop is ready for harvest. At harvest, the fruit is hand-picked, and 25 tons/ha is regarded as the average yield. The harvested crop is then stored in a cold room to maintain quality.

5. CHALLENGES ENCOUNTERED BY FARMERS:

- The increased frequency of droughts is a major challenge highlighted by the farmers. As a result, the area allocated to chilli peppers was reduced from 18 Ha to 12 Ha in this season due to water shortages from the water source (Sandile Dam);
- Farmers have no direct market access with the end user of the produce; and
- Inadequate access roads within the scheme to accommodate the easy transportation of produce.

6. FUTURE PLANS

The private partner (RRD) plans to exit the primary production stage of the project and allow the farmers to produce the peppers on their own. However, RRD aims to be the potential market for the farmers by buying their produce for processing.

7. CONCLUSION AND RECOMMENDATIONS

The respondents mentioned many success stories associated with the partnership. Moreover, respondents indicated that the training acquired from this partnership was vital and would enable them to continue producing even if the partner exits in the future. The partnership significantly contributed to the livelihoods and socioeconomic status through job creation for the farmers and the local community around Zanyokwe Irrigation Scheme and other areas of Amahlathi Local Municipality. Hence, partnerships of this nature are recommended to expand to other irrigation schemes in the province to ensure food security and improve rural livelihoods throughout the Eastern Cape province.

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